

Emotional anticipation of future vocational transitions

A person-centered approach

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Résumé

Parmi les événements de vie majeurs que nous sommes amenés à vivre, les transitions éducatives et professionnelles y occupent une place importante et, naturellement, nous les anticipons dans une large mesure. Cependant, peu d'études se sont penchées sur les nombreuses émotions que nous ressentons à la perspective de ces transitions et leurs conséquences, la façon dont elles se dérouleront, et les comportements que nous mettrons en place pour s'y adapter. À cette fin, les objectifs de la présente thèse sont au nombre de quatre. Premièrement, nous explorons les différentes combinaisons d'émotions susceptibles d'émerger à la perspective de trois grandes transitions éducatives et professionnelles : (a) la transition de l'enseignement secondaire à l'enseignement supérieur, (b) la transition de l'enseignement supérieur au marché du travail, et (c) la transition du chômage à l'emploi. En raison de la nature exploratoire de notre première question de recherche, notre deuxième objectif investigate les différences et similitudes de ces combinaisons d'émotions en fonction des transitions étudiées, du genre, du contexte institutionnel, et à travers le temps. Troisièmement, nous étudions plusieurs antécédents de ces différentes combinaisons d'émotions d'anticipation. Parmi les antécédents qui ont été investigués, nous retrouvons ceux liés à la carrière tels que le statut décisionnel et l'adaptabilité de carrière et ceux liés aux émotions tels que les évaluations cognitives, l'affect, et la régulation des émotions. Enfin, nous examinons les effets comportementaux de ces différentes combinaisons d'émotions en termes d'intentions de planification et d'effort. Dans l'ensemble, cette thèse apporte plusieurs implications en mettant en évidence les combinaisons d'émotions orientées vers le futur que les individus éprouvent lorsqu'ils anticipent des transitions éducatives et professionnelles importantes, un domaine de recherche qui est rare à la fois en orientation scolaire et professionnelle, ainsi que dans le domaine des émotions. D'un point de vue pratique, la mise en évidence de plusieurs combinaisons d'émotions d'anticipation – et des différences et similitudes entre plusieurs groupes ou contextes – a des implications pratiques pour le suivi et le conseil en orientation, la mise en œuvre d'interventions, et les pratiques mises en place à l'école et à l'université, ainsi qu'au sein des services d'emploi et des entreprises. Enfin, l'examen des antécédents et des conséquences comportementales des différentes combinaisons d'émotions d'anticipation souligne l'importance de tenir compte des processus d'anticipation lorsque les individus se préparent et font face à des transitions éducatives et professionnelles majeures.

Abstract

Most future educational and career transitions represent major life events that individuals anticipate to a considerable extent, possibly with multiple emotions at the same time. However, few studies have examined the emotions that individuals experience when they anticipate a future educational or career transition, imagine how it will occur, the consequences it will have for them, and visualize their coping efforts. The aims of the present dissertation are fourfold. First, we explore individuals' combinations of multiple future-oriented emotions at the prospect of three major educational and career transitions: (a) the transition from high school to higher education, (b) the transition from higher education to the job market, and (c) the transition from unemployment to employment. Due to the rather exploratory nature of our first research question, our second objective pertains to the replication of these combinations and the investigation of similarities between several groups of individuals based on (a) gender, (b) institutional context, and (c) the temporal distance before the transition. Third, we examine several antecedents of individuals' combinations of future-oriented emotions. These antecedents ranged from career-related constructs such as career decidedness and career adaptability to affective mechanisms such as cognitive appraisals, trait affect, and emotion regulation. Finally, we examine the behavioral effects of future-oriented emotions in terms of anticipated vocational planning and effort. Overall, the present dissertation brings several implications in highlighting the combinations of future-oriented emotions that individuals experience when anticipating important vocational transitions, a research strand that is scarce both in vocational and emotion research. From a practical point of view, the evidence of several combinations—and the differences and similarities among several groups or contexts—carries practical implications for designing and implementing career-related interventions. Finally, examining antecedents and outcomes of future-oriented emotions combinations underlines the importance of taking emotional anticipation processes into account when individuals prepare for and cope with major educational and career transitions.

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Part I

General introduction

General introduction

All animals are on a voyage through time, navigating toward futures that promote their survival and away from futures that threaten it. Pleasure and pain are the stars by which they steer.

Gilbert & Wilson (2007, p. 1351)

Educational and career transitions such as the transition to university, the school-to-work transition, the first employment, or the transition from work to retirement represent critical and normative events in individuals' lives. Indeed, transitions disrupt day-to-day routines, imply drastic changes in one's identity and adaptations to new roles. Unsurprisingly, individuals anticipate these transitions to a considerable extent, sometimes for years before they actually occur (Anderson et al., 2012; Louis, 1980; Schlossberg, 2011), possibly with multiple emotions at the same time (Ersner-Hershfield et al., 2008). Indeed, the experience and anticipation of these life events are stressful and emotional due to the numerous challenges that individuals have to prepare for and cope with: relinquishing former roles as a student or an employee, socializing into new environments, transforming daily habits, developing new study or work routines, investing new roles and acquiring adapting sets of skills and attitudes. From a vocational developmental perspective, successful career preparation and adaptation to educational and career transitions can have a lasting impact on individuals' careers and future professional trajectories (Nagy et al., 2018; Nicholson, 1984; Schlossberg, 2011).

Research on the role of emotion and stress during educational and career transitions is relatively scarce (Hartung, 2011; Kidd, 2004). Most existing studies focused on stable individual differences such as emotional intelligence (J. D. A. Parker et al., 2004; J. D. A. Parker, Saklofske, et al., 2005), alexithymia (Kerr et al., 2004; J. D. A. Parker, Austin, et al., 2005), emotion regulation (Srivastava et al., 2009; L. Wang et al., 2017), or trait affectivity (Côté et al., 2006; Crossley & Stanton, 2005; da Motta Veiga & Turban, 2014; Turban et al., 2013). Besides trait characteristics, some research has considered state affect and emotions, but these studies were specific to some situations or events (e.g., job search; Bonaccio et al., 2014; Kreemers et al., 2018; Song et al., 2009). However, little research has examined the emotions that individuals experience when they anticipate a future educational or career transition, imagine how it will occur, the consequences it will have for them, and visualize their coping efforts (Skinner & Brewer, 2002; Van Boven & Ashworth, 2007). These emotional experiences at the prospect of upcoming events have been coined as *future-oriented* emotions (H. Baumgartner et al., 2008). This lack of research is unfortunate when considering that individuals heavily rely on their future-oriented emotions as a basis for making decisions (Mellers et al., 1997; Mellers & McGraw, 2001), as well as to initiate and regulate their behaviors and coping efforts (Aspinwall & Taylor, 1997; Baumeister et al., 2007; H. Baumgartner et al., 2008; Taylor et al., 1998).

The anticipation of future educational and career transitions is characterized by some degree of uncertainty associated with the presence of both positive and negative outcomes (H. Baumgartner et al., 2008; Smith & Ellsworth, 1985). Students might not know whether they will keep in touch with friends from high school or will make new friends at university. Young job seekers might not be certain of finding a job in the near future or if they will fit into their new roles as workers. Upcoming transitions entail both possible positive and negative events that are likely to induce both positive and negative emotions at the same time (Ersner-Hershfield et al., 2008). Despite evidence that individuals hold multiple and changing appraisals about stressful events (Lazarus & Folkman, 1984) and that individuals tend to experience both positive and negative emotions at the same in a wide range of situations (Larsen & McGraw, 2014), most research on emotions has investigated positive and negative emotions separately. Notably, the impact of both positive and negative emotions on behavioral outcomes is highly dependent on their co-occurrence (Fernando et al., 2014). These caveats since motivated several calls for a person-centered investigation of emotions allowing to investigate the individual combinations of both positive and negative emotions (i.e., emotion profiles; Fernando et al., 2014; Moeller et al., 2018). We argue here that investigating the co-occurrence of both positive and negative future-oriented emotions at the same time brings a more nuanced picture of how individuals emotionally anticipate educational and career transitions and what are the antecedents and outcomes of individuals' combinations of future-oriented emotions.

The present dissertation addressed four research questions: (1) *“How individuals emotionally anticipate important educational and career transitions?”* (2) *“What are the differences in emotional anticipation according to gender, institutional contexts, and the temporal distance before the transition?”* (3) *“Do career-related and emotion-related antecedents influence profiles of emotional anticipation?”* and (4) *“What are the differences in planning and effort intentions between profiles of emotional anticipation?”* To address these four research questions, we focused our attention on three important educational and career transitions: (i) the transition from high school to higher education, (ii) the transition from higher education to work, and (iii) the transition from unemployment to employment. We believe that answers to these four questions would allow researchers and practitioners alike to better understand and sustain individuals' efforts to better prepare for and cope with educational and career transitions. In the present dissertation, we intend to lay out an overarching framework of emotional anticipation of educational and career transitions, address the unexplored facets of emotional anticipation using a person-centered approach, and provide some tentative answers originating from our research.

The present dissertation is divided into four sections. The first section, composed of four chapters, will address the theoretical foundations of our framework of emotional anticipation of educational and career transitions. The first chapter will tackle the broad concept of educational and career transitions and outline the vocational transition framework adopted in the present dissertation. The second chapter will review the existing literature and empirical work on emotional anticipation (i.e., future-oriented emotions). The third chapter will address the complexity of individuals' emotional worlds and present the promises of a person-

centered approach in shedding light on the complexity of individuals' emotional anticipation. In the fourth chapter, we will review the main objectives, theoretical contributions, and practical implications of the dissertation.

The second, third, and fourth sections of this dissertation are composed of two empirical chapters each and deepen our understanding of our research questions while focusing on the transition from high school to higher education (Part II), the transition from higher education to the job market (Part III), and the transition from unemployment to employment (Part IV). Chapter 5 will longitudinally examine high school students' profiles of emotional anticipation at the prospect of their transition to higher education, the stability of these profiles, the extent to which high school students remain or make transitions between profiles, and the impact of two career-related antecedents: career decidedness and career adaptability. Chapter 6 will attempt to replicate and broaden the findings from Chapter 5 in a large sample and will investigate the differences in emotional anticipation according to gender, educational track (academic vs. vocational), and the temporal distance before the transition. In the third section, Chapter 7 will replicate the findings of Chapter 6 but among higher education students' anticipating their transition to the job market. Chapter 8 will focus on the role of trait affect and emotion regulation strategies on higher education students' emotional anticipation and investigate differences in job search planning and effort intentions. The third section will deal with the transition from unemployment to employment among job seekers. Chapter 9 will explore job seekers' profiles of emotional anticipation at the prospect of finding a job and the differences between men and women in a large sample. Finally, Chapter 10 will address job seekers' profiles of cognitive appraisals related to job search and their associated emotional anticipation of finding a new job.

In the fifth section, we will summarize the main findings of our research and shed light on the main contributions and implications for both theory and practice that emanate from the present dissertation. Should readers carry through the present manuscript, they should have gathered a holistic, though detailed, knowledge of the main processes at hand when individuals emotionally anticipate educational and career transitions. Doing so, we hope to raise awareness that individuals neither coldly envision future events important to their well-being nor experience emotions in a vacuum and feel either good or bad. Embracing the complexity of individuals' emotions, we believe, has the potential to deviate from the general belief that positive and negative emotions are always good or bad. Ultimately, we hope that our research will contribute to the vast body of research and practice devoted to helping individuals to prepare and adapt to educational and career transitions.

Chapter 1

A vocational transition framework

In this chapter, we review the definitional elements of transitions, a concept that has been defined and studied in many various ways in the literature. As the present thesis focuses its attention on educational and career transitions, we then present the numerous changes that have occurred in how careers unfold in today's context. We highlight why considering the changing nature of careers is important for the study of emotional anticipation. Building upon recent work on career transitions (Sullivan & Al Ariss, 2021), we review the five main perspectives that have been previously adopted in the literature: (a) the career stage perspective, (b) the decision-making perspective, (c) the adjustment perspective, (d) the relational perspective, and (e) the identity perspective. We conclude this first chapter by highlighting a critical scientific gap that we focus on in the present dissertation: the study of emotional anticipation of educational and career transitions. Finally, we outline how the current research aligns with the five perspectives reviewed in the chapter.

Chapter 1

A vocational transition framework

Career transitions are defined as events or nonevents in the career development process causing changes in the meaning of the career, one's self-assumptions, and one's view of the world.

O'Neil, Fishman, & Kinsella-Shaw (1987, p. 66)

Transitions represent important life events that cause individuals to modify their life roles, social relationships, routines, and assumptions (Anderson et al., 2012; Elder, 1994). From a developmental perspective, transitions characterize turning points between periods of stability (Levinson, 1986; Louis, 1980). Whether anticipated, unexpected, or representing a nonevent, transitions are those ambiguous situations involving a time of crisis and uncertainty, along with unique challenges and opportunities for growth and developmental adjustment simultaneously (Schlossberg, 1984). According to Louis (1980), a transition is “the period during which an individual is either changing roles (taking on a different objective role) or changing orientation to a role already held (altering a subjective state)” (p. 330). Even though the conceptualizations and perspectives about transitions are plentiful, as we shall see below, several core features of transitions can be delineated (Louis, 1980; Schlossberg, 1984; Wanberg & Kammeyer-Mueller, 2012). In this chapter, we present the broad definitional features of transitions, specifically aim our attention at educational and career transitions, review the broad research perspectives on transitions, and develop our research objective related to the emotional anticipation of transitions.

1. Definitional features and the process of transitions

The first core definitional feature of transitions involves changing circumstances that disrupt individuals' routines, roles, and relationships (Bussolari & Goodell, 2009; Schlossberg, 1984). As a time of discontinuity between periods of stability, transitions necessarily involve loss (Brammer & Abrego, 1981; Conroy & O'Leary-Kelly, 2014). While this second definitional feature is evident in extreme transitions such as the death of a relative or unemployment, loss is also inherent to other transitions such as entering the job market or retirement. Changes in relationships, identity, comfort, or security often provoke a sense of loss. As a consequence of these changes, usual and habitual decision-making and functioning become ineffective in new situations, leading to experiences of discomfort, distress, anxiety, or even helplessness (Bussolari & Goodell, 2009). In turn, these affective experiences signal a need for adjustment and lead to the third core definitional feature of transitions: they necessarily involve individual coping (Brammer, 1992). Addressing, making sense of, and adapting disrupted routines, roles, and relationships is inherent to how individuals cope with

transitions (Brammer & Abrego, 1981). Whether individuals have to relinquish former identities and engage in identity development or enact different roles than previously held, they are inevitably confronted with the necessity to cope with changes; and coping with these changes is likely to bring about gains and losses (Anderson et al., 2012). In turn, successfully adapting to transitions should thus result in a sense of restored equilibrium, happiness, or contentment and a sense of mastery over disruptions and changes.

The study of transitions originated in the work of developmental researchers on bereavement (Brammer, 1992). For example, Hopson (1981) adapted the grieving process to life transitions (see Figure 1). The model depicts a developmental perspective of the different stages through which individuals pass through when experiencing a transition: first shock, provisional adjustment, inner contradictions, inner crisis, and reconstruction/recovery. Transitions generally involve a shock response that determines individuals' emotions and thoughts in distinct ways depending on the valence of the transition (positive event vs. trauma or loss). The first shock response usually leaves place to a phase of provisional adjustment. Individuals experience either a honeymoon effect with feelings of overconfidence or denial and minimization processes that provide individuals some temporary relief from suffering. This second stage is followed by a period in which individuals realize the full extent of the changes they are experiencing and become aware of the contradictions between their perceptions of the situation and the situation itself. Losing confidence and, sometimes, depression are characteristics of this stage, which leads to a time of crisis. The last phase of reconstruction and recovery comprises the collection of coping and meaning-making efforts made by individuals.

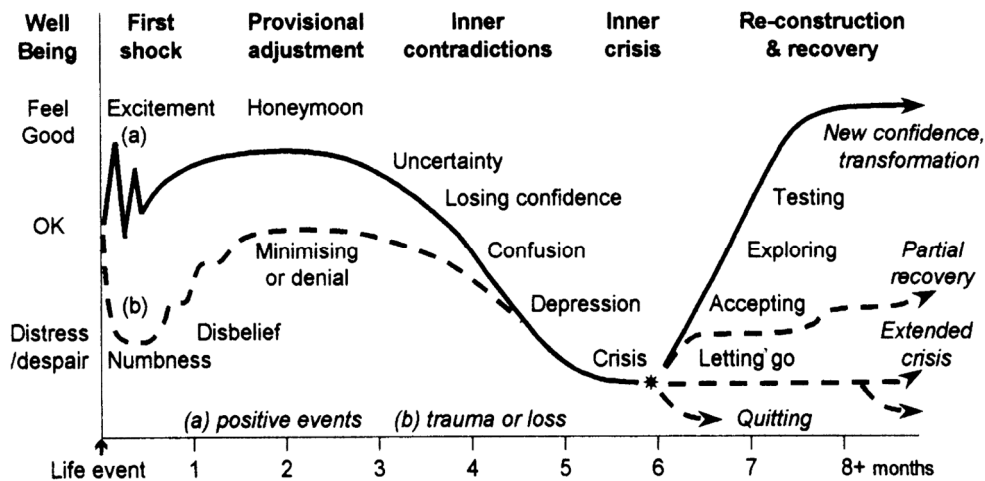


Figure 1. Phases and features of the Transition Cycle.

Source: Adapted from Hopson (1981) by Williams (1999)

Even though Hopson's (1981) model is tantalizing, it suffers from several limitations, such as its linearity in describing the sequential steps of the transitional process, the

questionable adequacy of generalizing the grieving process to all transitions, and the limited empirical evidence for supporting it (Brammer, 1992; Nicholson & West, 1989). Still, it illustrates the core definitional elements that we reviewed above and the dynamic nature of adapting to transitions. In the present dissertation, we focused on educational and career transitions, for which a foreword about the drastic changes that have occurred in the world of work over the past decades is warranted. Therefore, the next sections describe the nature of today's careers and transitions, present the major perspectives that have studied these transitions, and delineate in more detail the specific focus of this dissertation: the emotional anticipation of educational and career transitions.

2. Transitions in educational and career paths

Individuals' educational paths and careers involve plenty of transitions. A career, defined as the evolving sequences of work experiences over the individual's life course (Arthur et al., 1989), is, therefore and by definition, the sequence of individuals' career transitions over their life course. While educational transitions refer to the transitions one is experiencing during his or her educational path (e.g., the transition from high school to higher education), career transitions are limited to the transitions one is experiencing during his or her professional career. Even though educational transitions have been primarily studied in educational fields, several scholars argue that individual career development begins as soon as childhood and adolescence (Hartung et al., 2008; Hirschi, 2010a; Porfeli & Lee, 2012) and encompasses work and nonwork transitions throughout the lifespan (Nagy et al., 2018; Zacher & Froidevaux, 2020). In the present dissertation, we adopt such a perspective and use the term *vocational transitions* to embrace the broader scope of educational and career-related transitions individuals experience during their life course.

An increasing scholarly argument has advanced the dramatic changes in today's world of work, individual realities, attitudes, and behaviors that have complexified how careers unfold. Contemporary careers are portrayed as turbulent paths that unfold outside traditional boundaries and have become boundaryless (Arthur & Rousseau, 1996), protean (Hall, 2002), or post-corporate (Peiperl & Baruch, 1997). As a consequence, educational and career transitions have been argued to be on the rise (Biemann et al., 2012). At the same time, changes in individuals' attitudes and behaviors have also been witnessed such that individuals are compelled to take the responsibility of their careers, develop their career agency (Hall, 1996; Sullivan & Baruch, 2009), and embrace the new career view of achieving career success through numerous transitions and flexibility (Inkson et al., 2012). This new career view thus focuses on adapting one's identity to new realities and roles and continuously acquiring transferable knowledge and skills during transitions and across the lifespan (Direnzo & Greenhaus, 2011; Savickas, 2005).

In explaining these changes, the development of information technologies (Schwab, 2016), economic factors such as globalization, and organizations' resulting strategies to remain competitive (e.g., merging, downsizings, layoffs, etc.) have been put forth. In the 'old deal,' individuals' careers were embedded in hierarchically ordered organizations, offered a

clear organizational ladder for their employees, and were organized following an ordered and strict division of labor. Psychological contracts were mainly based on loyalty and security. Employees provided diligent work and were loyal and committed to their organization in exchange for job security, along with a clear ladder of steady upward moves in terms of income, level, and status (Arthur & Rousseau, 1996). The development of the ‘new career’ in the previous decades has resulted in employment relations rather contractualized and project-based and the decrease of lifelong employment and employee loyalty. As a result, psychological contracts are better represented by organizations offering possibilities of development and learning in exchange for employees’ flexibility. While positive aspects of these developments have been underlined (e.g., employee freedom and independence; Arthur & Rousseau, 1996; Hall, 1996), adverse consequences such as job insecurity, negative stress, anxiety, and low job satisfaction have also been advanced (Inkson et al., 2012; Nicholson, 1996).

Changes that occurred in how careers unfold are not without consequences for both individuals’ anticipations of future career events and the scholarly attention devoted to transitions. On the one hand, individuals are aware of the increasing number of transitions in one’s career as well as the expectations of agency, lifelong learning, and adaptability and develop expectations that are consistent with their perceptions of the job market (Nurmi, 1991; Savickas, 2013; Sin et al., 2016; Vanhercke et al., 2014). On the other hand, as we shall see below, different perspectives have addressed the study of transitions in the career development literature and tackled, to some extent, these career changes. Such a review will allow us to outline the missing piece in the study of transitions which we focus on in the present dissertation: that emotions, and more specifically future-oriented emotions, are scarcely investigated in the literature related to vocational transitions.

3. An overview of the different perspectives on vocational transitions

Vocational transitions have always been pivotal in the career development literature (Byington et al., 2019; Lee et al., 2014; Sullivan & Al Ariss, 2021; M. Wang & Wanberg, 2017), and the changing nature of careers has dramatically increased research on this topic (Fouad & Kozlowski, 2019; Spurk, 2021). Scholars from various disciplines have addressed career transitions such as educational transitions (Benner, 2011; Pascarella & Terenzini, 2005; van Rens et al., 2018), the school-to-work transition (Ng & Feldman, 2007; Saks, 2014), organizational entry (T. N. Bauer et al., 2007; Ellis et al., 2015; Fang et al., 2011), turnover (Bilgili et al., 2017; Hom et al., 2017; Rubenstein et al., 2017), job loss (Gowan, 2014; Wanberg et al., 2016), job search (Kanfer et al., 2001; Liu et al., 2014; van Hooft et al., 2020), the transition from employment to entrepreneurship (Terjesen et al., 2016), and retirement (Beehr, 2014; Topa et al., 2018; M. Wang & Shi, 2014). Very recently, Sullivan and Al Ariss (2021) reviewed the existing literature and identified five major theoretical perspectives revolving around career transitions: (1) the career stage perspective, (2) the decision-making perspective, (3) the adjustment perspective, (4) the relational perspective, and (5) the identity perspective. We review these perspectives below.

3.1 The career stage perspective

From the career stage perspective, career transitions are considered predictable events that unfold throughout the life span and compose specific stages of individuals' development. One of the most prominent theories of the career stage perspective is the life-span life-space theory developed by Super (1957, 1980). Super theorized that four major career transitions and four developmental stages occurred across the lifespan. The school-to-work transition represents the first transition that individuals encounter and corresponds to the transition from the exploration phase—characterized by self-examination and education—to the establishment stage in which individuals will become employed and find their professional niche. During this stage, individuals seek to develop their skills and move the organizational ladder upward or across organizations. During the maintenance stage, individuals may continue their upward progression in their career while engaging in learning and activities and updating their skills. Finally, the disengagement stage is associated with the preparation of exiting the labor force and retiring. As initially focusing on upward progression, the career stage perspective focused on the training and career development of the workforce through the organizational ladder. Additionally, this perspective contributed to the study of factors that facilitate career success (Eby et al., 2003; Ng et al., 2005; Verbruggen, 2012) and the barriers that impede career advancement, such as glass ceiling or discrimination (M. S. Baumgartner & Schneider, 2010; Powell & Butterfield, 2015).

Additionally, the consideration of distinct roles of student, worker, spouse, parent implied in the career stage perspective, and developmental theories, in general, have given rise to numerous research investigating the intersection and connections between life roles (Savickas, 2005). The increased life expectancies of workers have also led researchers to focus on the later career stages and the intersection between several caring roles such as those of spouse, grandparent, member of an elderly community.

However, research applying the career stage perspective has overlooked other types of transitions in individuals' careers, such as lateral moves or demotions (Sullivan & Al Ariss, 2021). Furthermore, they tend to apply a rather normative view of idealized careers characterized by predictable transitions that all workers experience at specific time points in their life (Rubin & Berntsen, 2003). As a consequence, although the career stage perspective has heavily influenced the field of career development, it can be argued that it remains unequipped to fully account for the numerous changes in how careers now unfold.

3.2 The decision-making perspective

The decision-making perspective focuses on investigating the numerous factors that influence individuals' decision-making processes concerning career transitions. Research from this perspective has been dominated by rational-economic decision-making theories and focused primarily on the factors influencing individuals' decisions to choose occupations during the school-to-work transition (M. Wang & Wanberg, 2017), to turnover (Hom et al., 2017; Rubenstein et al., 2017), or to retire (Beehr, 2014). Even though the first developments of this perspective focused on the antecedents of a few career transitions, research from the

career decision-making perspective broadened its scope in encompassing, for example, a social-cognitive view of career choice and preferences (e.g., self-efficacy beliefs, outcome expectations; Lent, 2004). As we argued earlier, though, today's careers have become more complex and boundaryless. More recent streams of research have thus complemented these approaches with chance or chaos mechanisms (Hirschi, 2010b; Kindsiko & Baruch, 2019; Peake & McDowall, 2012; Pryor & Bright, 2007). In their study of PhD graduates' academic careers, Kindsiko and Baruch (2019) showed that chance events significantly impacted graduates' careers depending on their ability to recognize, anticipate, and act in response to these chance events. The inherent uncertainty associated with complex transitions and career decisions has also motivated the inclusion of emotional processes in decision-making research, such as the emotional aspects of career decision-making difficulties (Saka et al., 1993, 2008) or the role of emotional intelligence on career decision-making processes (Di Fabio & Kenny, 2011; Di Fabio & Palazzeschi, 2009). However, limitations of the decision-making perspective involve the general assumption that individuals mainly make transitions voluntarily and an emphasis on individual factors and agency rather than institutional or structural factors (Sullivan & Al Ariss, 2021).

3.3 The adjustment perspective

As we already introduced, when facing a transition, individuals make adjustment efforts over time in order to adapt to the numerous changes associated with the transition (Anderson et al., 2012; Latack, 1984; Nicholson, 1984, 1990; Schlossberg, 1984; Takeuchi, 2010). Building upon the stressful nature of transitions and the related coping literature, several influential models have been developed to explain how individuals cope with career transitions. Below, we review two of these models. These streams of research have focused both on individuals' adaptation strategies (Griffin & Hesketh, 2003; Nicholson, 1984; Van der Horst et al., 2017) and organizational tactics designed to facilitate individual adjustment (D. G. Allen, 2006; D. G. Allen & Shanock, 2013; Saks et al., 2007). Notably, in her stress model of transitions, Latack (1984) proposed that individuals adapt and cope with transitions by engaging in proactive coping to reduce stressors, use cognitive reappraisal strategies to change the perceived stressfulness of the transition, or manage their emotions. As the adjustment perspective is dominant in the literature on transitions and in our research, we detail below two influential models: Schlossberg's transition framework and Nicholson's transition cycle model.

3.3.1 Schlossberg (1984)

In her well-known transition framework, Schlossberg (1984) defined the factors that influence how individuals approach and adjust to transitions (see Figure 2). Approaching dimensions involves the type of transition (anticipated, unanticipated, or nonevent), the context in which it occurs (Fouad & Bynner, 2008), and the subjective impact of the transition (e.g., relationships, routines, assumptions, roles). When adjusting to transitions, Schlossberg's (1984) 4 S's model describes four sets of factors that influence the ability of an individual to deal with and adjust to a transition. The *Situation* refers to the circumstances

and features surrounding the transition. These features involve the trigger of the transition (i.e., what set off the transition?), its timing (i.e., how the transition is positioned within the individual's clock?), the elements of individual control (i.e., what aspects of the transition can one control?), the presence of role changes, the duration of the transition, the previous experience one has with similar transitions, the concurrent stress one is experiencing, and the assessment or appraisal of the situation itself. The *Self* refers to the individual's appraisals of own characteristics such as socioeconomic status, gender, age, health, ethnicity, and psychological resources such as self-efficacy, values, or resilience. The *Support* dimension refers to the different sources (e.g., intimate relationships, family, friends, institutions) and types (e.g., instrumental, emotional) of support individuals can rely on when adjusting to transitions. Finally, the *Strategies* involve the set of coping strategies that individuals make use of in order to adjust and adapt to the transition adequately. Importantly, what matters is rather the individual's perception of the transition rather than the actual change. Said otherwise, the individual's appraisal of the transition is a key ingredient of the model, and the stress appraisal process (Lazarus & Folkman, 1984) is inherent to Schlossberg's model (Anderson et al., 2012).

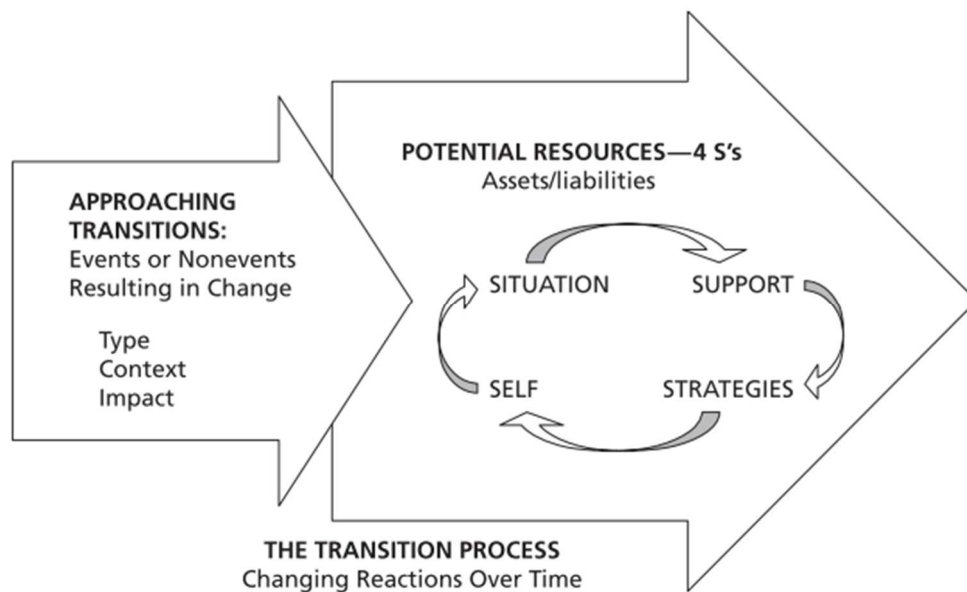


Figure 2. The individual in Transition. Source: Anderson et al. (2012; p. 39)

3.3.2 Nicholson (1990)

The transition cycle model, developed by Nigel Nicholson (1984, 1990), represents one of the most influential models of occupational transitions. The model of transition cycle provides a non-prescriptive model which can be applied to a variety of transitions. The transition cycle is delineated into four distinct phases: preparation, encounter, adjustment, and stabilization. The *Preparation* phase corresponds to the specific period in which individuals anticipate the transition, set their expectations, and seek to attain a satisfactory

state of readiness to face a transition. Accordingly, this first phase represents the very foundation upon which individuals will rely to master the tasks of future phases (Nicholson & West, 1989). The *Encounter* phase refers to the short-lived moment when individuals take stock of the transition, confront their expectations to their everyday experience of the transition, and look out for potential sources of adjustment, meaning, and support in the environment. The *Adjustment* phase deals with the individual's efforts to adjust and cope with the transition. Several objectives are of importance during this phase: building social relationships, gaining confidence in the new environment, and integrate the self into the new role (Nicholson, 1990). Finally, the *Stabilization* phase corresponds to the moment when individuals reach a sense of balance, engagement, and confidence resulting from successful adaptation to the transition.

Three principles guide the four phases of the transition cycle: recursion, disjunction, and interdependence. The first principle of recursion refers to a feature of transitions that is often underlined: that transitions occur in a continuous movement through the lifespan and that transitions come one after another. The *recursion* principle also implies that distinct transition cycles can occur in parallel, with each cycle possibly located at a different phase. The second principle of *disjunction* characterizes the four phases as qualitatively distinct with different psychological mechanisms and processes. Finally, the third principle of *interdependence* reflects the links existing between the four phases, such that the (un)successful execution of the tasks associated with each phase can substantially facilitate or impede the execution of the subsequent stages.

3.4 The relational perspective

As Blustein (2004) asserted, “people do not make their career decisions in a relational vacuum” (p. 605). Indeed, career transitions have been underlined as socially embedded phenomena, and numerous studies have examined how individuals' social network influence their decisions and adjustment related to career transitions (Blustein, 2001; M. C. Higgins, 2001; Motulsky, 2010; Schultheiss, 2003). For example, it is partly through observing and interacting with others that individuals make decisions about which job and organizations to choose (M. C. Higgins, 2001). Social networks also have importance in providing role models that guide people through the uncertainty of transitions and giving support. An extensive stream of research has examined the determinant role of mentors in guiding protégés in their career development and during career transitions. For example, numerous studies have investigated the role of mentors in helping individuals socialize during organizational entry, advance throughout the organizational ladder, and share knowledge and resources related to one's job (T. D. Allen et al., 2004; Eby et al., 2013). Apart from the beneficial role of mentors, several studies have also looked over at other important figures such as peer mentors or mentors from a lower rank (Chandler et al., 2011; M. C. Higgins & Kram, 2001; Molloy, 2005).

Research has also studied the beneficial role of social networks for work and careers, such as, for instance, the role of networking behaviors in facilitating job search processes and success (D. W. Brown & Konrad, 2001; Forret, 2014; Wanberg et al., 2000), upward mobility

(Forret & Dougherty, 2004; Jonczyk et al., 2016), and organizational socialization (Morrison, 2002). Not only enjoying assistance from a diverse social network can provide career opportunities, but it has also been argued that it can provide increased cognitive flexibility (M. C. Higgins, 2001). Relationships can, for example, give access to new ways of thinking, viewpoints, or expertise to individuals who are changing careers. However, relationships with others can sometimes have a negative or a limiting impact on career transitions, such as when parental support is lacking or insufficient in helping students to develop their higher education and employment goals (Cordeiro et al., 2018), or when toxic mentoring impairs individuals' upward mobility or transitions to other organizations (Eby et al., 2004). Despite the relational and social nature of career transitions, research in this area of interest is still in its infancy as most research rather adopts an autonomous perspective on individual career management (Motulsky, 2010).

3.5 The identity perspective

In our western societies, the professional roles that individuals take on during their lives are central to their identity construction (Arvey et al., 2004; Clot, 1999; Dubar, 2000; Paullay et al., 1994). The way individuals construct and create self-narratives about who they are and how they enact their self to their work roles is thus an important topic in career development and career transitions (Balleux & Perez-Roux, 2013; Savickas, 2005; Savickas et al., 2009; Zittoun, 2009). On the one hand, experiencing identity changes is likely to trigger career transitions, such as in the case of women quitting the labor force when becoming pregnant (Hennekam, 2016). Social identities such as gender or ethnicity are also likely to influence career transitions, as in the case of glass ceiling or discrimination (Powell & Butterfield, 2015). For instance, repeatedly stigmatized job seekers might develop the identity of discouraged workers, which, in turn, can lead to the abandonment of job search efforts and a transition out of the labor force (Heslin et al., 2012).

Career transitions, by themselves, can also trigger important identity construction processes and changes (Sullivan & Al Ariss, 2021; Zittoun & Perret-Clermont, 2001). Ibarra and Barbulescu (2010) proposed that, during transitions, identity work is needed to maintain an authentic self in spite of the changes individuals are experiencing, and, in turn, “instate a sense of continuity between who they have been and who they are becoming” (p. 136). Three characteristics of the transition influence identity work. These include the radicality and the magnitude of the changes during the transition, the normativity of the transition during a prototypical life course, and the desirability of the transitions. Interestingly, Ibarra and Barbulescu (2010) adopted a relational and social perspective on their narrative theory of transitions. They advanced that taking into account the social episodes in which individuals' narratives take place has an impact on how individuals will make use of these narratives for their identity work. Social episode characteristics include the visibility of the interaction (e.g., private vs. public), the stakes involved (e.g., interacting with high-status colleagues), and the social relationships involved. In their model, individuals' process of adaptation is enacted by their self-narratives and repertoires, and that successful adaptation can be achieved through revising old and developing new self-narratives and repertoires. During narrative identity

work, successful stories, those who maintain self-coherence, and are deemed socially legitimate, are more likely to be retained, embellished, and rehearsed during the transitional process. By generating successful and unsuccessful stories, individuals alter their repertoires, which blend together in creating new and enduring stories that help individuals internalize a new identity. For example, Ibarra (2004) described how individuals were engaged in the process of testing “alternative selves” in a trial-and-error learning process for future selves when transitioning from one job to another. Similarly, Conroy and O’Leary-Kelly (2014) advanced an identity transformation model in which individuals go through the phases of detachment from an old oneself, a liminal state focusing on the resolution of inherent uncertainties associated with the transition, and the enactment of a new oneself when transitioning from one job to another. In their model, emotion occupies a central place in which emotions signal the loss of identity and influence how individuals will enact a new sense of self (Conroy & O’Leary-Kelly, 2014).

3.6 A unifying perspective: career construction theory

Transitions have been widely studied using the framework of career construction theory (Savickas, 2005). Because of its broad understanding of individuals’ career development and because it encompasses all the perspectives previously reviewed, we review its core tenets in greater detail. Career construction theory provides an overarching model of career development, which delineates how individuals develop their vocational self-concepts throughout the lifespan and integrate them into work roles (Savickas, 1997, 2005, 2013). Initially, the theory emanates from the work of Donald Super and his life-space life-span developmental theory (Savickas, 1997; Super, 1957, 1980) and accounts for the developmental processes in one’s career development. Individuals’ decision-making and behaviors are also considered in career construction theory. As such, focusing on career construction as individuals’ attempts to implement their self-concepts into their work roles shifts the attention from what decisions individuals take to how they match their vocational self-concepts with their career decisions (Savickas, 2005). At the same time, the theory acknowledges, though reconceptualizes, the vast body of research related to the development of interests, vocational choice, and vocational personality types (e.g., Holland’s RIASEC model; Holland, 1997). From the adjustment perspective described above, the theory also incorporates an overarching model of individuals’ adaptation processes to career traumas, tasks, and transitions (Hirschi, Herrmann, et al., 2015; Savickas et al., 2009).

The central construct of the theory, career adaptability, occupies a central place in the model and denotes the set of psychosocial, self-regulatory, and malleable competencies individuals rely upon to manage the tasks, changes, and traumas related to career transitions (Savickas, 2005; Savickas & Porfeli, 2012). From a developmental perspective, these resources can accumulate over time as individuals go through career stages, gain education, training, and succeed in the completion of career tasks, and experience career transitions (For a review, see Johnston, 2018; Rudolph et al., 2017). In times of uncertainty and radical career changes, individuals make use of their career adaptabilities to plan their career effectively, engage in career exploration behaviors, and mobilize human and social capital when needed

(Rossier, 2015; Rudolph & Zacher, 2021; Zacher, 2015). A model of career adaptation, therefore, depicts individuals' differences related to their adaptive readiness and willingness to deal with career tasks and transitions under the term *adaptivity*. Adaptivity (e.g., core self-evaluations, emotional intelligence, cognitive intelligence, affectivity, etc.) is argued to influence the development of career adaptability throughout the lifespan and the experience of career tasks and transitions. Career adaptability, in turn, is argued to influence *adaptation responses*, that is, the set of capacities, attitudes, beliefs, and behaviors that translate one's adaptability into action (e.g., career exploration behaviors, self-efficacy beliefs, coping behaviors, etc.). Ultimately, this net of influence is likely to allow one's to attain *adaptation results*, suggesting the successful completion of career tasks or the successful adaptation to career transitions (e.g., career satisfaction, vocational identity, objective and subjective career success, etc.). Numerous studies have examined the role of career adaptability in career transitions, such as career satisfaction, turnover intentions, organizational entry, job change, career identity, employability, and entrepreneurship intentions (For a meta-analysis, see Rudolph et al., 2017). The accumulation of evidence of the beneficial role of career adaptability has led researchers to consider it as a meta-competency helping individuals to respond to career changes and craft sustainable careers (Buyken et al., 2015).

Career construction theory has put a great emphasis on individuals' relational and identity processes during career transitions. Indeed, it proposes a broad theoretical framework into how individuals negotiate and construct their careers, as well as their identity, through narratives with others, to incorporate their self with their life roles, thereby considering the importance of multiple identities and roles into how individuals construct their careers (Savickas, 2005). In this matter, this view is aligned with the propositions and findings of Ibarra and colleagues (Ibarra, 2004, 2005; Ibarra & Barbulescu, 2010).

4. The emotional anticipation of vocational transitions

As our review above shows, many scholars have devoted a great deal of time, attention, and scrutiny to understand how people develop throughout the transitions occurring in one's lifetime, how people make decisions related to these transitions, how they adjust, how they share with and are supported by others during these transitions, and engage in identity and narrative mechanisms in constructing personal meaning and roles. Nonetheless, as we hinted at in the introduction and shall delve into throughout this dissertation, a key missing element in the study of educational and career transitions stands out and motivated our inquiry. First, despite repeated calls for the inclusion of emotion in careers (Hartung, 2011; Kidd, 1998, 2004) and the increased attention to it in recent years, the study of emotion in careers and transitions remains scarce. More specifically, very few studies have investigated how individuals emotionally anticipate educational and career transitions. Existing evidence mostly investigated the influence of affective constructs mainly considered as personality traits such as emotional intelligence (Emmerling & Cherniss, 2003; Parmentier et al., 2019; Pirsoul et al., 2021), trait affectivity (Multon et al., 1995), or career anxiety (Dickinson & Tokar, 2004; Vignoli et al., 2005). In addition, most research has been relatively

decontextualized as they focused on career development constructs without necessarily considering the transitions individuals were facing at hand.

Such gaps in the literature are evidenced to some extent when looking at the number of publications related to emotions and future-oriented mechanisms in the career development literature (see Figure 3). If the role of emotions has been quite neglected before the 2000s, a significant rise in the number of publications has been observed since then, especially during the last decade. However, we can see that emotion has not attracted as much research attention as career decision-making, used here as a comparison for its centrality in the career development literature. More strikingly, future-oriented mechanisms still represent an under-researched area, even though an increase can be observed throughout the last two decades. However, as we shall extensively advocate in the next three chapters, such inquiry bears potential theoretical contributions and practical implications.

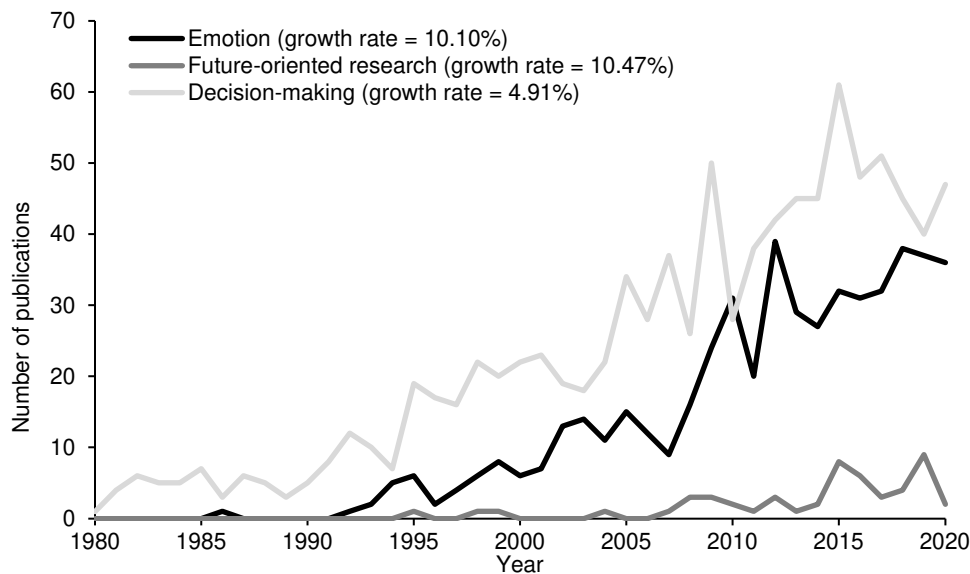


Figure 3. Publications on emotional, future-oriented, and decision-making processes (in Title, Abstract, and Keywords) within the career development literature per year (1975–2020) according to Web of Science¹

From the different perspectives on transitions delineated above (Sullivan & Al Ariss, 2021), the present dissertation attempted to adopt several of them. First, the investigation of three distinct major vocational transitions provides a unique opportunity to compare the

¹ Search queries were (a) emotion*, positive affect*, negative affect*, and trait affect*, (b) anticipation, future-oriented, future orientation, future time, future thought, future thinking, future cognition, future planning, future sel*, and future work sel*, and (c) decision-making, career indecision, indecision, indecisiveness, decidedness, and decision making. All searches were restricted to the following journals: *Journal of Vocational Behavior*, *Journal of Career Development*, *Journal of Career Assessment*, *Career Development Quarterly*, *Career Development International*, *International Journal of Educational and Vocational Guidance*, *Australian Journal of Career Development*, *Journal of Employment Counseling*. Date of search: June 24, 2021. Growth rates were provided by the *Bibliometrix* software.

differences in emotional anticipation and to address how individuals emotionally anticipate transitions throughout their development from adolescence to adulthood. The investigation of individuals' emotional anticipation of other transitions (e.g., retirement) represents a fruitful avenue for research, as we shall argue in the last section of this thesis. Importantly, such an endeavor could facilitate the adoption of a broad developmental perspective of emotional anticipation throughout the lifespan. Notably, longitudinal designs are generally well suited to investigate developmental processes as comparing different transitions might not be sufficient to disentangle cohort and period effects. In Chapter 5, we propose such longitudinal evidence using a cohort-sequential longitudinal design among high school students at the prospect of the transition to higher education. Although being limited to a specific transition, it provides an additional developmental feature of our approach.

Second, the decision-making perspective can be considered limited in the present dissertation. Indeed, we focus on three vocational transitions that might be considered of less volitional nature. In other words, the transitions which we focus on represent highly normative transitions individuals are expected to make, especially with regards to the transition to higher education or the transition to the job market, an issue we will address in the discussion. A decision-making perspective is nonetheless adopted in our research through the investigation of the impact of career decidedness on emotional anticipation (Chapter 5).

By investigating the impact of emotional anticipation on individuals' behavior (Chapter 8 and 10), the adjustment perspective was considered to a considerable extent in our approach. Additionally, we integrated career construction theory in investigating the role of career adaptability on emotional anticipation in Chapter 5 as well as in another study we conducted but was not included in the dissertation (see Appendix B; Parmentier, Pirsoul, et al., 2021).

Finally, the relational and identity perspectives were not addressed per se in the present dissertation, an issue we will address in the discussion and future perspectives in the last section. Notably, however, we adopted a relational perspective on high school students' social sharing of emotions at the prospect of an anticipated transition in a study that was not included in the dissertation (see Appendix A; Vignoli et al., 2020). We will expand further on these results and the future research avenues related to the relational and identity perspectives in the last section of the manuscript.

In Chapter 2, we will look into the concept of emotional anticipation and future-oriented emotions. Chapter 3 will focus on the complexity of individuals' emotional experience and present our methodological approach—a person-centered approach—as a way to address the complexity of individuals' emotional anticipation at the prospect of vocational transitions.

In this first chapter, we introduced the concept of transitions, offered some elements of contextualization to how career transitions unfold in today's context, reviewed the existing research perspectives related to career transitions, and presented the focus of our research – the emotional anticipation of educational and career transitions – and how it fitted with the research perspectives reviewed above.

We highlighted three definitional characteristics of transitions:

- I. Transitions represent periods of *change* that disrupt individuals' roles, relationships, routines, and assumptions;
- II. Transitions necessarily involve *loss* and the ineffectiveness of habitual decision-making and functioning;
- III. Transitions require individual *coping*.

In the context of careers, transitions have been argued to be on the rise due to numerous technological, societal, and demographic changes. These changes have impacted how organizations' efforts to remain competitive (e.g., downsizing, short-term contracts, innovation) and individuals' efforts to adapt to these changes (e.g., endorsing an agentic view of their careers, engaging in lifelong learning, abandoning a loyalty-security contract, and adopting a more contract-based psychological contract).

Career transitions have been widely and variously studied in the literature. Five distinct perspectives have been reviewed:

- a. The *career stage* perspective focuses on the important transitions that occur in one's lifetime and describes the stages that characterize one's career development;
- b. The *decision-making* perspective focuses on the numerous factors that influence how individuals choose occupations and make decisions about important transitions;
- c. The *adjustment* perspective focuses on the coping aspect of transitions and describes the processes through which individuals develop, engage, and maintain their coping efforts;
- d. The *relational* perspective advocates that transitions are socially embedded and that understanding how individuals adjust to transitions necessarily involve the study of social networks and support;
- e. The *identity* perspective takes on the processes through which individuals take stock of the changes to their identity and attempt to construct new identities and integrate new roles to give meaning to transitions.

If transitions have been studied in various ways, very few studies have investigated the periods before transitions and how individuals emotionally anticipate those transitions. We argued, as a conclusion, how our approach to the study of emotional anticipation was related to the five perspectives reviewed above.

Chapter 2

Feeling into the future

In this chapter, we address the emotional anticipation of future events. To this aim, we first review the broad array of evidence related to how people think about the future (i.e., prospection mechanisms and functions) and react physiologically to future events. Second, we delve into the future-oriented emotions that individuals experience at the prospect of future events and distinguish two forms of emotional anticipation: anticipatory and anticipated emotions. We lay out three differences that distinguish these two forms of emotional anticipation: (a) their phenomenological nature, (b) the role of uncertainty, and (c) the range of discrete emotions that compose them. Building upon an overarching appraisal framework, we then detail the cognitive conditions through which distinct future-oriented emotional states are produced. We conclude our definition of future-oriented emotions by presenting recent findings that investigated the daily experience, the main characteristics, and the functions that individuals assign to their future-oriented emotional experiences. Fourth, we review the diverse body of research on the behavioral effects of emotions, focusing sequentially on the main mechanisms through which emotion guides behavior and the specific behavioral effects of anticipatory and anticipated emotions. In the final section of the present chapter, we review the existing evidence related to career hope and career anxiety, two future-oriented affective constructs that have been studied in the career development literature.

Chapter 2

Feeling into the future

Alfred Hitchcock, the master of suspense, once said, “There is no terror in a bang, only in the anticipation of it.” In describing his theory of heightening suspense in films, Hitchcock touched on a topic that has long interested researchers: that anticipating a stressful event is itself stressful.

Waugh et al. (2010; p. 169)

Our emotional experiences pervade our everyday life (Trampe et al., 2015). While we experience a broad range of emotions in reaction to past or present events, a substantial part of our emotional life is filled with reactions to the future (H. Baumgartner et al., 2008; Ortony et al., 1988; Van Boven & Ashworth, 2007). For example, anxiety, an emotional reaction associated with the prospects of future negative events, represents the most studied and prototypical example of emotional reactions to the future (MacLeod & Byrne, 1996; Miloyan et al., 2019; Wu et al., 2015; Zaleski, 1996). Van Boven and Ashworth (2007) suggested and empirically demonstrated that the anticipation of future events, in fact, evokes more intense emotions than the retrospection of past events. These differences in evocation are argued to result from (1) the role of uncertainty in future events compared to past events, (2) the extreme expectations individuals hold about future outcomes and their associated future emotional reactions, and (3) the extensive mental simulation towards the future related to action readiness tendencies of emotions that make individuals ready for action. The importance of future-oriented emotions is also underlined in research demonstrating that people make use of their future-oriented emotional reactions as a basis for making decisions (Mellers et al., 1997; Mellers & McGraw, 2001), initiating coping efforts (Aspinwall & Taylor, 1997; Skinner & Brewer, 2002), and regulating their behaviors (Baumeister et al., 2007).

The present chapter introduces and reviews the existing evidence related to emotional anticipation, also called future-oriented emotions. Prospecting the future is a remarkable human ability (Gilbert & Wilson, 2007). Undoubtedly, not only do we feel about the future, but we also react physiologically, think, and behave in response to and during the anticipation of future events. Consequently, we first review the broad array of (neuro)physiological, cognitive, and behavioral correlates related to the anticipation of the future. Although being relatively outside the scope of our research, these reactions are closely intertwined with future-oriented emotions and thus warrant a brief review. Second, we will define future-oriented emotions and detail the differences that distinguish anticipatory and anticipated emotions, the two types of future-oriented emotions. Third, we will present the appraisal framework in which future-oriented emotions have been conceptualized. This will allow us to lay out the distinct emotional states related to emotional anticipation and the discrete

approach of emotions that has been used in our research. Fourth, the behavioral consequences of future-oriented emotions will be detailed. Finally, we will conclude this chapter by reviewing the existing evidence related to career hope and career anxiety, two future-oriented affective constructs that have been studied in the vocational and career development literature.

1. How do people think about future events?

As humans, we have the remarkable ability to travel through time; unfortunately, not as the pop and the sci-fi culture would suggest. Instead, we are able to use our memory and mentally transport ourselves into the past, but we also use our prospective ability to transport ourselves in the future (Baumeister et al., 2016; Michaelian et al., 2016; Seligman et al., 2013). When doing so, we are able to think about upcoming events and tasks, generate hypothetical—even impossible—scenarios, set goals related to these hypothetical scenarios and lay out plans. These capabilities have been referred to as *prospection*, *prospective thinking*, *episodic foresight*, or *episodic future thinking* (Bulley et al., 2016; Schacter et al., 2017; Szpunar et al., 2014). Far from being trivial, it seems that individuals devote a great deal of their time into the future and do so frequently (e.g., every 16 min; D’Argembeau et al., 2011).

In proposing a taxonomy of our cognitions related to the future, Szpunar (2014) distinguished four forms: (a) *simulation* (i.e., the construction of a mental representation of a specific event), (b) *prediction* (i.e., the estimation of the likelihood of a specific event), (c) *intention* (i.e., the setting of a goal or an intended action), and (d) *planning* (the identification of the steps for achieving a goal). When asked to report the content of their future thinking, people mostly report planning an action (52.5%) and being engaged in decision making or goal setting (17.5%; D’Argembeau et al., 2011); a finding recently reproduced using naturalistic experience sampling studies (Baumeister et al., 2020).

Another notable finding relates to the demonstration that similar brain regions (i.e., a hippocampal-cortical network) are recruited when individuals are either using their retrospective memory or prospecting the future (Buckner & Carroll, 2007; Schacter et al., 2007). Such a finding suggests that people do not create futures out of nowhere but make use of their semantic knowledge to generate future scenarios. However, compared to memories, imagined future events are generally more emotionally positive (D’Argembeau & Van der Linden, 2004; Newby-Clark & Ross, 2003); a positivity bias considered adaptive in nature as it may encourage people to explore further the environment and seek out new goals (Cacioppo & Gardner, 1999).

Taken together, the existing evidence related to *prospection* consistently advocates its benefits for individual adaptation in terms of effective decision-making and behavior regulation (e.g., temporal discounting), emotion regulation (e.g., anticipated emotions, as we shall see below), social relationships (e.g., social sharing), and the construction of a coherent sense of identity (e.g., self-defining future projections; Duffy & Cole, 2020; Schacter et al., 2017; Suddendorf & Corballis, 2007). While we could not review the vast body of research

related to prospection, our brief review underscores the ubiquitous importance of thinking about the future.

2. How do people react to future events?

Besides cognitive mechanisms related to the future, anticipating future events has been associated with specific neurological and physiological activity. Regions of neurological activity during anticipation include the amygdala and the prefrontal cortex (De Raedt & Hooley, 2016; Schulkin et al., 1994). The physiological activity comprises the detection of elevated heart rate (Ditzen et al., 2007), specific cardiovascular activity (Epstein & Clarke, 1970; P. J. Feldman et al., 2004; Fredrickson et al., 2000; Gramer & Sprintschnik, 2008), cortisol responses, and associated activations in the hypothalamic-pituitary-adrenal axis (Kirschbaum et al., 1992; Mikolajczak et al., 2008), and, to some extent, immunological modifications (Breznitz et al., 1998).

Consistent with our introductory quote, research showed that anticipating future events evokes emotional and physiological reactions similar to experiencing actual stressful events. Said otherwise, simply anticipating a future event is experienced as if it was currently lived. For example, Spacapan and Cohen (1983) obtained anticipatory stress responses similar to stress responses when faced with the actual stressor. In their study, participants who were expecting to submerge their own hands in ice water showed decreased their tolerance to frustration and increased blood pressure, a response similar to an actual stressor. These findings were replicated with cardiovascular responses (Gramer & Reitbauer, 2010; Waugh et al., 2010). Additional research supported this assumption as several studies have shown that anticipatory cortisol stress response explains unique variance over and above online and reactive cortisol stress response to stressful events. Anticipatory, rather than reactive, stress responses have been shown to represent important explanatory mechanisms among several groups such as individuals with early life adversity (Hardie et al., 2002), posttraumatic stress disorder (Bremner et al., 2003), phobia (Alpers et al., 2003), resilience (Mikolajczak et al., 2008), and alexithymia (de Timary et al., 2008).

Above the unique variance explained by anticipatory stress, taking the anticipatory patterns of stress into account is also critical in understanding how individuals subsequently react when actually facing the anticipated stressor (Pulopulos et al., 2018). In their study, Pulopulos et al. (2018) showed that interindividual differences in the physiological markers of stress anticipation predicted cortisol levels during the stressful event. These findings are consistent with Gaab and colleagues (2003, 2005), who demonstrated that anticipatory stress appraisal was associated with decreased cortisol responses when individuals were actually confronted with the stressor. These empirical findings are in line with several theoretical models that suggest that proactively anticipating and preparing for the future contributes to the successful management of efforts needed to deal with the context in question when it arises (Braver, 2012). Said otherwise, cognitive efforts generated during the anticipation of future events impact the efforts necessary to process and deal with the emotional event later on. In their Neurocognitive Framework for Regulation Expectation, De Raedt and Hooley

(2016) suggested that individuals who proactively anticipate stressful events display endured prefrontal activation, which leads to decreasing amygdala activation and, in turn, improve anticipatory stress regulation. A process that, in turn, results in a reduction of the efforts needed to successfully deal with the stressor (Vanderhasselt et al., 2014). In another line of research, Turan and colleagues demonstrated the sensitization effect of the anticipation of the future (Turan, 2015; Turan et al., 2015). As opposed to a habituation effect, individuals who displayed a larger cortisol response during the anticipatory phase of an initial stressor (i.e., giving a speech) showed progressively increased anticipatory cortisol levels across repeated multiple exposures to the same stressor. This last finding brings important implications in the context of career transitions as the repetition of adverse and stressful career tasks might lead to chronic maladaptive emotional anticipation.

Anticipating future events can sometimes be so physiologically activating and dreadful that people prefer to shorten the anticipation phase as much as possible and experience the stressful event earlier than expected (Berns et al., 2006; Loewenstein, 1987). However, in most cases, the anticipation of a stressful event and the resulting physiological reactions are considered adaptive in nature as it allows individuals to initiate physiological, psychological, and behavioral adjustments to ease the confrontation with the anticipated stressor (Schulkin, 2011; Schulkin et al., 1994; Turan, 2015; Turan et al., 2015). This view is consistent with the proactive coping literature suggesting that the anticipation of a future stressor can motivate people to accumulate personal resources, screen the environment for opportunities and information to deal with the stressor, and to initiate proactive coping (Aspinwall & Taylor, 1997). These adaptive processes help explain why individuals are prone to internal and environmental cues allowing them to anticipate future events (Averill et al., 1977; Lanzetta & Driscoll, 1966): they open the possibility to cope with—and possibly avoid—the upcoming stressor.

As we introduced, the broad array of cognitive, (neuro)physiological, and behavioral reactions to future events can be conceived relatively out of our scope. However, we argue that reviewing this evidence was critical for two main reasons. First, it establishes the anticipation of the future as an important mechanism in individuals' survival and adaptation to stressful events. Second, it allows us to situate future-oriented emotions in a broader perspective in understanding how emotions, cognitions, and behaviors are intertwined. Next, we present and define future-oriented emotions.

3. How do people feel at the prospect of future events?

Two distinct types of future-oriented emotions have been conceptualized in the literature (H. Baumgartner et al., 2008; Loewenstein & Lerner, 2003). On the one hand, *anticipatory emotions* represent online and current affective reactions that individuals experience due to the prospects of desirable and undesirable future events (e.g., hope or fear). For example, one might feel hope or confidence after his or her examinations that he or she will successfully graduate once the deliberations are completed. In the same fashion, one might feel dreadful here and now at the prospect of not finding a job once on the job market. On the other hand,

anticipated emotions refer to individuals' expectations about their future emotional reactions to imagined desirable or undesirable future events once they have happened. For example, one might anticipate feeling proud or relieved when imagining successful graduation or believe that if he or she had to fail in finding a job once on the job market, he or she would feel very disappointed and sad. Before proposing an appraisal account of these two types of future-oriented emotions and reviewing their behavioral effects, we present below their main differences.

The three main features that distinguish anticipatory from anticipated emotions are displayed in Table 1 (H. Baumgartner et al., 2008). The first difference is phenomenological in nature. Anticipatory emotions are online and current emotional reactions to possible future events. For example, university students might feel anxious today about the prospect of not finding a first job once on the job market due to financial and economic crises or poor employment prospects for young job seekers. Anticipated emotions, in contrast, originate from pre-factual thinking about imagined positive and negative outcomes of future events (Perugini & Bagozzi, 2001; M. D. Robinson & Clore, 2001). Similar to counterfactual thinking, pre-factual thinking involves the elicitation of if-then rules related to the future (e.g., if this happens, I will feel like this). Instead of being real affective responses, anticipated emotions are rather construed as affective beliefs—or predictions—about the future emotions that individuals think they will feel during imagined future events. In this sense, they represent what has been coined as affective forecasts (Gilbert & Wilson, 2007; Wilson & Gilbert, 2003) and are closely linked with the prospective mechanisms reviewed at the beginning of this chapter. For example, when visualizing successfully finding a job that matches their interests and values, our former university students might anticipate the pride and happiness they would feel should that positive situation happen in the future. However, even though anticipated emotions fall under the scope of cognitive processes, it has been suggested that they can be affectively experienced (H. Baumgartner et al., 2008; Bechara & Damasio, 2005; Kruschwitz et al., 2018).

Second, while anticipated emotions represent affective forecasts about imagined situations that have occurred in the future, anticipatory emotions are affective responses to the *prospects of future events* (Ortony et al., 1988). For this very reason, the role of uncertainty about the future occupies a predominant position in the emergence of anticipatory reactions—per se, the perception of uncertainty partially causes the emotion (Lazarus & Folkman, 1984; Smith & Ellsworth, 1985). Consequently, the perceived likelihood of occurrence of the future event is argued to predict anticipatory emotions (H. Baumgartner et al., 2008). This exemplifies again how a particular form of cognitive prospection, in this case, prediction, is linked with people's future-oriented emotions. In the case of anticipated emotions, mental simulation and pre-factual thinking processes imply that one is imagining that the future has already (or not) happened. Consequently, anticipated emotions do not involve any uncertainty in their emergence as one is asking oneself how it would feel if the imagined situation actually happened.

The third distinction pertains to the range of emotions between anticipatory and anticipated emotions, and into we will go deeper in the next section. Specifically, anticipatory

emotions represent the subset of emotional reactions that individuals can experience in response to future events, that is, the emotional responses related to the *prospects* of future events (Ortony et al., 1988). In contrast, the mental simulation and pre-factual thinking inherent to anticipated emotions make theoretically possible the emergence of any discrete emotion. However, as we shall see below, a subset of discrete emotions can be delineated in the context of goal-directed behavior and vocational transitions.

Table 1. Features of anticipatory and anticipated emotions

	Anticipatory emotions	Anticipated emotions
Phenomenological nature	Emotional reactions <i>here and now</i> at the prospect of positive and negative outcomes in the future	Affective predictions about emotions that will be experienced in the future
The role of event likelihood	Subjected to reality constraints, especially with regard to the uncertainty associated with the future	Free from reality constraints due to the mental simulation process
Range of affective states	Restricted	Theoretically unlimited

3.1 An appraisal account of future-oriented emotions

Several emotions related to the future have been delineated (H. Baumgartner et al., 2008). This work built upon the literature on emotions as discrete components resulting from cognitive appraisals (Lazarus, 1991; Ortony et al., 1988; Smith & Ellsworth, 1985) and, to a lesser extent, as from the literature on emotions as broad dimensions (J. A. Russell, 1980; Watson & Tellegen, 1985). Appraisals refer to subjective evaluations of events or situations that can either be real, recalled, anticipated, or even fictitious. For example, Scherer (1984, 2009) proposed that several appraisal dimensions were used to evaluate the relevance of an event: (un)pleasantness, goal obstructiveness/conduciveness, low or high power, self-(in)congruence, and moral badness/goodness, among others. In their cognitive structure theory of emotion, Ortony et al. (1988) developed an appraisal account of how particular appraisals of events, objects, or actions give rise to emotions. Their model is of particular interest in the context of emotional anticipation, as we shall argue below (H. Baumgartner et al., 2008). While event-based emotions are construed as affective reactions to desirable or undesirable events and their consequences (joy, happiness, and distress, sadness, respectively), prospect-based emotions refer to affective responses to anticipated events which hold possible implications for the self. Agent-based emotions are affective reactions in which the action of an agent is judged upon its praiseworthiness or blameworthiness. The conceptualization of these emotions within the theoretical framework of future-oriented emotions is reviewed below. A full description of the measurement of emotional anticipation in the empirical chapters is described in Appendix C.

3.1.1 Anticipatory emotions

Anticipatory emotions refer to the subset of emotions that result from reacting to the prospect of anticipated desirable and undesirable future events (see the top section of Table 2). These emotions have been referred to as *prospect* emotions by Ortony et al. (1988). Two broad families of anticipatory emotions have been delineated: hope and fear emotions. Hope and fear are here considered as prototypical anticipatory emotions and construed as families constituted of other discrete emotions such as excitement, anticipation, feelings of optimism, confidence, eagerness, enthusiasm, interest for positive anticipatory emotions and emotions such as apprehensiveness, anxiety, nervousness, worry, dread, fright, scared, stressed for negative anticipatory emotions (Carver et al., 2010; Lazarus, 1991; Ortony et al., 1988; Plutchik, 1980; Snyder, 2002). Of note, anticipation (i.e., hope) and fear are opposite in Plutchik's (1980) circumplex model of primary emotions.

Table 2. An appraisal account of anticipatory and anticipated emotions

Appraisal of future event		
<i>Anticipatory emotions</i>		
Status of future event	Desirable	Undesirable
Unconfirmed	<i>Pleased about the prospect of a desirable event (e.g., hope)</i>	<i>Displeased about the prospect of an undesirable event (e.g., fear)</i>
<i>Anticipated emotions</i>		
Status of future event	Desirable	Undesirable
Confirmed	<i>Pleased about the confirmation of the prospect of a desirable event (e.g., happiness)</i>	<i>Displeased about the confirmation of the prospect of an undesirable event (e.g., distress, sadness)</i>
Disconfirmed	<i>Displeased about the disconfirmation of the prospect of a desirable event (e.g., disappointment)</i>	<i>Pleased about the disconfirmation of the prospect of an undesirable event (e.g., relief)</i>
Appraisal of agent's action		
Identity of agent	Praiseworthy	Blameworthy
Self	<i>Approving of one's own action (e.g., pride)</i>	<i>Disapproving of one's own action (e.g., shame, guilt)</i>

Adapted from Ortony et al. (1988)

3.1.2 Anticipated emotions

Although theoretically, any discrete emotions can be anticipated through mental simulation processes, Baumgartner et al. (2008) proposed that a specific subset of anticipated emotions could be delineated within the context of goal-directed behavior based upon the work of Ortony et al. (1988). First, some emotions refer to reacting to the anticipated confirmation of disconfirmation about a desired or undesired future event, resulting in happiness or satisfaction and distress or sadness, respectively. For instance, anticipated satisfaction results from confirmed expectations about a desirable future (e.g., finding a new job). To some extent, the confirmation of desirable and undesirable events is similar to event-based emotions such as joy and distress, for which only the outcomes are important, whatever the expectations were (Ortony et al., 1988). In other words, a positive event will result in happiness or joy even if it was not expected. Expectations about desirable and undesirable

futures can also lead to disappointment or relief. Disconfirmed positive events will lead to disappointment, whereas disconfirmed negative events will lead to relief. Lastly, individuals are engaged in goal-directed behaviors to some extent when anticipating, preparing, and coping with educational and career transitions (Anderson et al., 2012). Consequently, agent-based emotions with the self as the subject are also likely to arise when one is visualizing what one has or has not done to bring about positive outcomes or forestall negative ones. In this case, affective reactions resulting from approving or disapproving one's own actions range from pride to shame/guilt, respectively.

3.2 The frequency, characteristics, and perceived functions of future-oriented emotions

Before moving on to the behavioral effects of (future-oriented) emotions, we develop in greater detail the findings of one of the very few studies that have jointly studied anticipatory and anticipated emotions. In a daily diary study, Barsics et al. (2016) provided interesting findings concerning the frequency, characteristics, and perceived functions of future-oriented emotions. In the first part of the study, they first asked participants to record the episodes of future-oriented emotions they experienced during three consecutive days. For the second part of the study, participants were asked to report in detail ten episodes of future-oriented emotions in detail upon their return to the lab.

The authors first provided findings related to the occurrence of episodes of future-oriented emotions originating from the first part of the study. They found that episodes of future-oriented emotions are quite frequent in daily life (i.e., 28 episodes per day on average), occur in various situations (e.g., home, work, transportation), can be both related to specific events (49% of occurrences) or nonspecific events (45% of occurrences). Interestingly, most reported occurrences were related to events occurring later the same day (31%), within one week (14%), and between one month and one year (17%). Overall, occurrences of future-oriented emotions were perceived as helpful to plan actions (40%), engage in intention formation (21%), regulate emotions in the present (i.e., reassure oneself about the future; 21%), regulate emotions in the future (e.g., preparing oneself to deal with anticipated emotions; 17%), making decisions (10%). Both occurrences of anticipatory and anticipated emotions tended to be slightly positive in nature.

Second, they analyzed the average ratings of positive and negative anticipatory and anticipated emotions during these occurrences with regards to their main characteristics. On average, individuals experienced similar levels of both positive and negative anticipatory emotions, whereas they tended to experience more positive anticipated than negative anticipated emotions, which is consistent with the positivity bias previously described (Newby-Clark & Ross, 2003). While positive emotions were found to be experienced with visual imagery, negative emotions were more related to inner speech, a result that was found for both anticipatory and anticipated emotions. No significant differences were found, however, for several other characteristics. Specifically, positive and negative emotions were rated equivalently with regards to their intentionality (i.e., voluntary or spontaneous), personal importance, relation to identity, and recurrence in their life. However, they found

that negative anticipatory emotions were more triggered by the environment than positive anticipatory emotions, whereas no differences between positive and negative emotions were found for this specific characteristic. Interestingly, negative anticipatory emotions (e.g., fear at the prospect of a future event) were rated as more helpful in handling a current situation compared to positive anticipatory emotions, whereas both positive and negative anticipated emotions were rated as equally helpful to handle daily situations. Another notable finding relates to the perceived probability of sharing emotions with others. Positive emotions were more likely to be shared with others compared to negative emotions, a finding that applied to both anticipatory and anticipated emotions. In terms of emotion regulation, participants rated as more likely to suppress negative than positive emotions (for both anticipatory and anticipated emotions). Finally, positive anticipatory and anticipated emotions were more related to more probable events than negative anticipatory and anticipated emotions.

Third, Barsics et al. (2016) analyzed the average ratings of positive and negative (both anticipatory and anticipated) emotions with regards to their main functions. With regards to the behavioral functions, positive and negative anticipated emotions were rated as equivalently helpful in making decisions, planning, or set intentions. Negative anticipatory emotions were perceived as more helpful in guiding decision-making compared to positive anticipatory emotions. However, both positive and negative anticipatory emotions were perceived equivalently helpful for planning and intention formation. Interesting findings pertained to the perceived functions of future-oriented emotions as facilitating emotion regulation. For both anticipatory and anticipated emotions, positive future-oriented emotions were rated as more helpful in regulating one's emotions in the present compared to negative future-oriented emotions. In other words, feeling hopeful at the prospect of successful graduation from university, an anticipatory emotion, or anticipating feeling happy if one effectively graduate, an anticipated emotion, help in regulating one's emotions in the present related to today's concerns (e.g., regulate the negative emotions related to studying for exams). However, a reversed pattern was found for future-oriented emotion regulation. In this pattern, negative future-oriented emotions (i.e., both anticipatory and anticipated) were rated as more helpful in regulating one's emotions related to future concerns. In other words, feeling anxious at the prospect of unsuccessful graduation, and expecting to feel sad and guilty should one fail his or her exams, are perceived as helping to deal with the future situation and the associated emotions.

The main limitation of Barsics et al.'s (2016) study is that they compared positive and negative emotions (for both anticipatory and anticipated emotions) but did not compare anticipatory and anticipated emotions directly. In consequence, they do not provide evidence, for instance, for a distinct role of anticipated emotions for behavioral and emotional functions, compared to anticipatory emotions. However, they offer valuable evidence for the role of future-oriented emotions in individuals' lives in terms of frequency, how they are experienced (i.e., visual imagery vs. inner speech), how important these future-oriented emotions are (e.g., in handling situations), how likely they are to regulate them (e.g., through social sharing and suppression), and, perhaps most importantly, their functions for goal pursuit and emotion regulation. In the next sections, we review the large evidence that relates

emotion to behavior, anticipatory emotions to behavior, anticipated emotions to behavior, and the little evidence that investigated the effects of both anticipatory and anticipated emotions on behavior simultaneously. The last section of the present chapter is devoted to the study of future-oriented affective constructs (i.e., career hope and anxiety) in the career development literature.

3.3 Behavioral effects of future-oriented emotions

Despite the initial view that decision-making is mainly a cognitive process in which people evaluate the potential consequences of their choices and choose the course of actions that will maximize the utility of consequences, emotions have been increasingly incorporated in decision-making theories. Since classical findings on the impact of affect on judgments and choice (Lerner & Keltner, 2000; Schwarz, 1990) and the impact of emotional deficits on the quality of decision-making (Damasio, 1994), emotion is now said to profoundly influence everyday decisions and shape our behavior (Bagozzi et al., 1998; Lerner et al., 2015). For example, in their communicative theory of emotions, Oatley and Johnson-Laird (1987) proposed that emotion sustains individuals in the management of their goals by communicating which part of the goal structure requires attention. In their control-process theory of emotions, Carver and Scheier (1990) adopted a similar view. They proposed that individuals routinely monitor and self-regulate their behaviors through emotion. Individuals are able to prioritize goals and efforts with positive emotions communicating steady progress towards goals, thus inviting to maintain efforts or disengage from accomplished goals. Complementarily, negative emotions indicate that current goals are not progressing or are blocked toward completion by internal or external barriers, and thus motivate increases in effort. Likewise, the classical work on action tendencies by Frijda (1986) supports this role of emotion as placing individuals in a state of action readiness. For instance, the emotional experience of fear is generally associated with avoidance tendencies and induced by appraisals of uncontrollable events and individual lack of control.

Only recently, researchers have begun to argue that the impact of emotion on behavior is rather explained by anticipation and feedback mechanisms – such as the anticipation of positive and negative outcomes – rather than direct causation (Baumeister et al., 2007). For example, people rely on how they anticipate feeling in response to future positive and negative outcomes, as well as the probability of occurrence of these positive and negative outcomes, as a basis for making their decisions (Loewenstein & Lerner, 2003; Mellers et al., 1997; Mellers & McGraw, 2001). In the context of goal pursuit, the emotions elicited by the prospects of goal success and failure are important predictors of motivation to pursue that specific goal (Bagozzi et al., 1998, 2000; H. Baumgartner et al., 2008).

In their dual-process model of emotions, Baumeister et al. (2007) reviewed the existing literature between emotion and behavior and proposed to distinguish the impact of “automatic effect” and “conscious emotion.” While the former is quick, automatic and can directly influence behavior, the latter is slower, requires more cognitive resources, and is available in one’s awareness. As argued by the authors, conscious emotion is too slow to influence behavior directly. Thus, its function would rather be to set the stage for individuals’

ability to anticipate future emotional reactions and, consequently, the capacity to influence one's behavior in driving individuals to attain desired emotions and avoid undesired ones. For example, behaviors that lead to regret and create feelings of guilt identify the pattern of behaviors with a negative affective residue. This affective residue can subsequently be used to inform decisions directly. At the same time, when individuals detect situations in which the identified pattern of behaviors that led to regret and guilt, they might anticipate those exact feelings and regulate their behaviors to avoid the situation. As Baumeister et al. (2007) put it: "Emotion provides feedback about recent actions and, by implication, about the adequacy of current if-then rules on which those actions were based. (...) Positive emotions generally validate the existing rules because those emotions signify that what the person did turned out well, and so the existing rules were presumably effective. (...) Negative emotions signal the one's behavior was not successful, and hence they suggest that the if-then rules need to be revised" (p. 173).

In two direct tests of these assumptions, Van der Schalk et al. (2012) asked participants to anticipate an upcoming bargaining game. They had to share a fixed amount of money with a (false) counterpart and were placed in four independent conditions. They had to anticipate that they will equally share the money, whereas, in the other condition, they had to anticipate being unequal in their sharing. Across both conditions, participants were asked to report the extent to which they anticipated either feeling proud or regret. Their findings showed that participants offered more money to their counterparts in conditions in which they were asked how proud they would feel if they imagined equally sharing their money, or in which they were asked how regretful they would feel if they imagined sharing their money unequally. These levels were compared to conditions in which participants were asked how proud they would feel if they imagined sharing their unequally or how regretful they would if they imagined sharing their money equally. Their findings show that when people make decisions, not only do they strive to maximize their gains, but they also strive to feel good (and avoid feeling bad). These findings have also been replicated on anticipated fear and guilt by Nelissen et al. (2011). In a recent meta-analysis, DeWall et al. (2014) supported Baumeister et al's claim and showed that only 22% of empirical evidence related to the emotion-as-direct-causation perspective was found significant, whereas 87% of tests of the emotion-as-feedback perspective were found significant, although being less frequently empirically tested.

As we argued above and we reiterate here, the human capacities to think and to feel about the future act in concert to drive individuals from their current situation toward an imagined future, a proposition that can be found in diverse scientific streams of psychology (Aspinwall & Taylor, 1997; Fiske & Taylor, 1991; Lazarus & Folkman, 1984). In addition to the general argument on the role of emotions on behaviors, we review the evidence linking anticipatory and/or anticipated emotions to behavioral outcomes in the next three sections.

3.3.1 Behavioral effects of anticipatory emotions

Lazarus (1991) suggested that both hope and fear might be linked with behavioral effects. While emotion theories have not identified clear action tendencies related to hope (Frijda,

1986), an approach tendency and a higher probability to remain committed to the desired outcome have been argued to follow from hope (Lazarus, 1991; Snyder, 2002). On the other hand, fear has received much more research attention and has been consistently associated with a desire to avoid aversive states (Frijda, 1986; Lazarus, 1991; Roseman, 1996), which is subsequently positively linked with attitudes, intentions, and behavior. Therefore, while positive anticipatory emotions are likely to be associated with behavioral intentions aimed at materializing a desired future, negative anticipatory emotions should be associated with behavioral intentions intended to avoid an undesired future. This view has also been the core tenets of the proactive coping literature, which argues that the negative emotions following the appraisals of upcoming future events give rise to ongoing proactive coping efforts to forestall the negative consequences implied by the anticipated stressor (Aspinwall & Taylor, 1997). Despite a primary focus on negative emotions in the proactive coping literature, Skinner and Brewer (2002) showed the role of both challenge and threat/hindrance appraisals of anticipated stressful situations in eliciting positive and negative emotions, which, in turn, influenced proactive coping efforts.

3.3.2 Behavioral effects of anticipated emotions

Previous research has also put forth empirical evidence that anticipated emotions can motivate behavior (Miloyan & Suddendorf, 2015). Most empirical evidence related to anticipated emotions originates from planned behavior theory (Ajzen, 1991). Following critiques about the absence of emotion in the theory (Conner & Armitage, 1998; Perugini & Bagozzi, 2001; Webb & Sheeran, 2006), several studies have shown that anticipated emotions are positively related to the formation of intentions and behavioral expectations, even when controlling for other behavior-related constructs such as past behavior, attitudes, norms, and perceived control (D. Parker et al., 1995; Perugini & Bagozzi, 2001; Richard et al., 1995, 1996). For example, Parker et al. (1995) found that anticipated regret lowered behavioral probabilities to perform driving violations. Likewise, Richard et al. (1995) showed that negative anticipated emotions such as worry and regret predicted behavioral expectations related to sexual intercourse or the use of condoms over and above the components of the theory of planned behavior. In another example, Richard et al. (1996) demonstrated that anticipated emotions influence students' intentions to eat junk food, use soft drugs, go out late while drinking alcohol, and study hard. Finally, meta-analytic efforts further revealed that anticipated emotions increased the explained variance of intentions 5 to 7% after controlling for attitudinal, normative, and behavioral components of the theory of planned behavior (Rivis et al., 2009; Sandberg & Conner, 2008).

3.3.3 Behavioral effects of both anticipatory and anticipated emotions

To date, very few studies have jointly examined anticipatory and anticipated emotions. In proposing and bringing evidence for their conceptual framework of future-oriented emotions, Baumgartner et al. (2008) investigated the impact of both anticipatory and anticipated emotions on behavior in the context of the millennium transition in 1999–2000 and the highly anticipated harmful consequences following date change. Seven weeks before

the millennium transition, participants were asked to indicate how they felt at the prospect of the millennium transition and its potential consequences as a measure of anticipatory emotions. They were also asked to imagine that the transition had had positive (negative) consequences for them and to indicate how they think they would feel in the imagined situation to measure positive and negative anticipated emotions, respectively. They found that both anticipatory and anticipated emotions independently and complementarily influenced the formation of behavioral intentions geared at avoiding or limiting the possible negative outcomes of the transition, which, in turn, influenced actual behavior measured 2 months later. Controlling for subjective perceptions of outcome likelihood and trait anxiety, their model explained 38% of the variance in behavioral intentions and 13% of the variance in behavior. In the context of binge drinking, Carrera et al. (2012) showed that both anticipatory and anticipated emotions predicted binge-drinking behavior. However, they found distinct roles for the two types of future-oriented emotions. Specifically, they found that while anticipated emotions were more predictive of behavioral intentions, as contended in the theory of planned behavior, anticipatory emotions rather predicted behavioral expectations (i.e., the subjective probability that the behavior will be actually performed in the future). In a recent meta-analysis, Xu and Guo (2019) showed that both anticipatory and anticipated emotions were significantly associated with intentions and behaviors related to health issues. Of particular interest, anticipated emotions were shown to have a greater impact on intentions ($r = 0.38$) and behaviors ($r = 0.48$) than anticipatory emotions ($r = 0.25$ and 0.18 , respectively).

4. Future-oriented affect in the vocational literature

Future-oriented affective mechanisms have already grasped researchers' attention in the vocational psychology literature. However, previous research did not build upon the conceptual framework of future-oriented emotions but rather adopted a trait-like approach with constructs such as career hope or career anxiety (Hirschi, 2014; Vignoli, 2015). Career hope, as a first observation, is not construed as an emotion in the career literature. Building upon a positive psychology perspective, it has been defined in a cognitive way as a dispositional psychological and motivational resource and capability in deriving pathways to desired goals and motivate oneself via agency thinking (Snyder, 2002). These differences in conceptualization are important to consider to evaluate the empirical evidence related to future-oriented affective constructs; however, the debate is somewhat out of the scope of the present dissertation (see Aspinwall & Leaf, 2002; Bruininks & Malle, 2005, for critiques of Snyder's non-emotional conceptualization). In the career development literature, work and career hope has been positively related career planning (Hirschi, 2014; Kenny et al., 2010), career decision-making self-efficacy beliefs (Juntunen & Wettersten, 2006), vocational identity (Diemer & Blustein, 2007; Juntunen & Wettersten, 2006), general and work-related well-being (Luthans et al., 2007), work engagement (Ouweneel et al., 2012), and self-esteem (Yakushko & Sokolova, 2010). Among students and employees, Hirschi (2014) showed that career hope was positively related to career planning, career decidedness, and career self-efficacy, which, in turn, influenced career engagement, as well as job and life satisfaction. In

a set of studies, Hirschi et al. (2015) also found that career hope predicted students' career exploration over and above the impact of social support and generalized self-efficacy. Several studies also showed similar results within the career construction framework in European and Asian samples (In, 2016; Jia et al., 2020; Santilli et al., 2017). In academic and work environments, Yotsidi et al. (2018) reviewed the existing evidence on the links between hope and academic performance, job performance, well-being, job and life satisfaction, self-efficacy, and creativity, among others. Career hope is deemed particularly important in sustaining individuals' career development as demonstrated by the implementation of career development programs focused on hope constructs. Building upon Hope-Action theory, Yoon et al. (2019) showed that an intervention aimed at improving refugees' career hope had a positive impact on developing hope-action competencies (e.g., self-reflection, goal setting and planning), general self-efficacy, and job search clarity.

Defined as the tendency to perceive future career situations as threatening, career anxiety has been extensively studied in the vocational psychology literature, especially in the context of career indecision and career exploration. Indeed, several studies suggested that individuals with higher anxiety had a tendency to experience career decision-making difficulties (Campagna & Curtis, 2007; Fuqua et al., 1987; Germeijs et al., 2006; Saka et al., 2008; Saka & Gati, 2007). Among adolescents specifically, career anxiety has been construed as a three-dimensional construct (Vignoli & Mallet, 2012): fear of failing in one's academic or professional career, fear that one's parents might be disappointed in one's career choices, and fear of moving away from family and friends. Among high school students, Vignoli et al. (2005) explored the links between general anxiety, career anxiety, and career exploration while taking gender differences into account. Among girls, they found that while generally anxiety was negatively related to career exploration, the specific dimension of fear of failure had a positive impact on career exploration. These findings were not found for boys for whom, however, the fear of disappointing parents positively related to the diversity of sources mobilized within the exploration process. More recently, Vignoli (2015) showed that career anxiety was positively related to career indecision and career exploration, over and above the variance explained by trait anxiety. In their cross-sectional study, they further showed that career anxiety mediated the relationship between career indecision and career exploration. Complementing previous results with a longitudinal study in an Asian context, Park et al. (2017) showed that higher levels of anxiety were associated with lower initial levels of career exploration but were related to an increase in career exploration over time, which, in turn, decreased career indecision. Their findings shed light on the contrasting relations between anxiety and indecision when comparing cross-sectional and developmental studies.

As our brief review shows, future-oriented affective constructs have already been examined in the career development literature. However, we argue that the existing evidence remains limited for three main reasons. First, as we outlined in the first chapter, most studies have studied vocational behaviors in a rather decontextualized way, not considering the specific transitions individuals face or anticipate. Second, most studies on career hope and career anxiety have exclusively focused on a trait or dispositional perspective, considering hope and anxiety stable individual differences in these constructs across situations. Third,

several ambiguous results were found, especially regarding career anxiety. While career anxiety has been positively related to career decision difficulties, it was sometimes negatively related. The study of Park et al. (2017) suggested, in this matter, that taking longitudinal relations into account could disentangle such ambiguous effects. As this chapter suggested, both anticipatory and anticipated emotions, as well as both positive and negative future-oriented emotions, have complementary and distinct influences on individuals' behaviors. As we will argue in the next chapter, it is through the consideration of all these facets (i.e., positive and negative, anticipatory and anticipated) of emotions that one can provide a more complex understanding of how individuals anticipate specific anticipated career transitions (i.e., our first research question) and understand the impact of emotions on behaviors (i.e., our fourth research question). Specifically, the next chapter will address the case of mixed emotions, the co-occurrence of multiple emotions at the same time, and present the overarching methodological and analytical approach of our research—the person-centered perspective—as a suited approach to investigate individuals' combinations of multiple future-oriented emotions.

In this second chapter, we introduced the cognitive, physiological, and emotional processes at play when people anticipate the future.

First, we presented the capacity to mentally transport ourselves in the future, named *prospection*, as a remarkable ability composed of four distinct forms: simulation, prediction, intention, and planning. We briefly reviewed evidence that people engage frequently in these forms of *prospection*, that similar brain regions are recruited when remembering past events and *prospecting* future events, and that *prospection* has important benefits for individuals' adaptation, behavioral regulation, emotion regulation, social relationships, and identity.

Second, we reviewed the broad array of (neuro)physiological research that demonstrates that the anticipation of a future event is similarly experienced as it was currently lived. We further showed that understanding anticipatory reactions is important in order to fully understand how people deal and cope with anticipated stressors when they actually occur.

In the third section of this chapter, we introduced and defined the concept of emotional anticipation, or equivalently, future-oriented emotions. Two distinct forms of future-oriented emotions have been conceptualized. *Anticipatory* emotions are emotional reactions experienced here and now at the prospect of a future event (e.g., fear at the prospect of not finding a job). *Anticipated* emotions are affective beliefs about the emotions one expects to experience during imagined future events (e.g., anticipating feeling guilty in the future when imagining being rejected by a prospective employer). These two forms are distinct on three dimensions: (a) their phenomenological nature (i.e., real affective responses vs. affective beliefs), (b) the role of uncertainty in anticipatory emotions only, and (c) the range of discrete emotions (i.e., restricted vs. theoretically unlimited).

We then presented recent findings that show how frequent the experience of future-oriented emotions is in individuals' daily life, their main characteristics, how people are likely to regulate them (e.g., social sharing, suppression), and their perceived functions in terms of behavioral regulation, goal pursuit, and emotion regulation.

Emotion and behavior/decision-making have a long history of theoretical and empirical inquiry. Only recently, however, the role of emotion on behavior has been argued to act through mechanisms of anticipation. We reviewed the evidence related to these trends and the evidence that links specifically anticipatory and anticipated emotions to behavior.

In the last section of this chapter, we presented the existing literature on career hope and career anxiety, two future-oriented affective constructs that have been studied in the career development literature. The existing literature has consistently shown the benefits and risks associated with career hope and career anxiety. However, we underlined the limitations of the existing evidence in terms of decontextualization with regard to specific career events and the reliance on dispositional or trait perspectives. We concluded in arguing that investigations the complex interactions among both positive/negative and anticipatory/anticipated emotions are likely to contribute to a better and more nuanced understanding of how individuals emotionally anticipate future vocational transitions.

Chapter 3

Mixed emotions and the promises of a person-centered perspective

In this chapter, we delve into an issue that has been much debated in the literature: that individuals experience multiple emotions at the same time. First, we review the existing debate revolving about the underlying conceptualization of positive and negative emotions. Next, we will present recent developments that show relatively convincing support for the co-occurrence of multiple emotions at the same time, referred to as mixed emotions, in a variety of situations and using a variety of methods. In the remainder of the chapter, we will outline three main limitations that retained our attention in the existing literature and warranted the use of an alternative approach. Specifically, a person-centered approach, which seeks to identify specific combinations of future-oriented emotions, will be presented along with several substantive and methodological issues that are characteristic of it. We conclude this chapter by reviewing the few studies that have investigated individuals' combinations of multiple emotions using a person-centered approach.

Chapter 3

Mixed emotions and the promises of a person-centered perspective

Fear keeps pace with hope. Nor does their so moving together surprise me; both belong to a mind in suspense, to a mind in a state of anxiety through looking into the future. Both are mainly due to projecting our thoughts far ahead of us instead of adapting ourselves to the present. Thus it is that foresight, the greatest blessing of humanity has been given, is transformed into a curse. Wild animals run from the dangers they actually see, and once they have escaped them worry no more. We however are tormented alike by what is past and what is to come. A number of our blessings do us harm, for memory brings back the agony of fear while foresight brings it on prematurely.

Seneca, 60 AD

It is generally difficult to describe our emotional experiences with a single word. Our life and daily choices are indeed complex. Most of our decisions involve multiple components and are likely to drag us or pushing us toward different directions. An upcoming exam might be challenging and threatening at the same time. The prospect of finishing high school can be bittersweet (Ersner-Hershfield et al., 2008). Whether defined as emotional complexity, mixed emotions or emotional granularity, scholars have used multiple concepts to denote the complexity and multitude of our emotional experiences (see Grossmann & Ellsworth, 2017, for a review). In the present dissertation, we focus on *mixed emotions*, that is, the co-occurrence of both positive and negative emotions at the same time, which are likely to arise in a variety of situations (Larsen & McGraw, 2014).

The present chapter is organized as follows. First, we delineate the conceptual elements of mixed emotions and present the actual debate underlying the study of mixed emotions. Consistent with the cognitive appraisal framework about future-oriented emotions used in the present research, we outline how the co-occurrence of appraisals can explain the co-occurrence of multiple emotions. Next, we review the existing empirical evidence related to mixed emotions in terms of their prevalence in a variety of situations and their dynamics in daily life originating from experience sampling evidence. In the last section of the present chapter, we present some limitations of the existing approaches and methods used to study mixed emotions. We advocate that these limitations warrant further research using a person-centered approach that investigates the combinations of multiple future-oriented emotions. At the end of the chapter, we thus define and present latent profile analysis, the specific person-centered approach in the present research. We specifically raise the importance of replicating profiles across transitions, groups, contexts, and time, an issue that has both theoretical and practice significance. We conclude the present chapter by reviewing the existing evidence related to mixed emotions using a person-centered approach.

1. Conceptual elements

Over the past decades, research has focused on positive and negative emotions rather independently from each other. This research has mostly investigated emotions and affect from a variable-centered perspective in which the unique average relations of positive and negative emotions with antecedents and outcomes were examined for the entire sample (Fernando et al., 2014). This focus overlooked the possibility that emotions may combine and co-occur simultaneously within individuals, a possibility that has been extensively empirically demonstrated (Larsen et al., 2001; Larsen & McGraw, 2014; Trampe et al., 2015; Watson & Stanton, 2017). For example, a student might feel enthusiastic at the prospect of his or her transition to higher education as well as sad and anxious at the outlook of losing friends and managing new learning tasks (Larsen et al., 2001).

1.1 An enduring debate

This reasoning falls within the scope of a 40 years-old intense debate that takes its roots in the very inception of the field of psychology with Wilhelm Wundt (see Larsen & McGraw, 2014, for a review). This intense debate revolved around two seemingly opposite viewpoints (see Larsen & McGraw, 2014, for a review). On the one hand, the bipolar view argues that the valence of emotions is a psychologically irreducible dimension of core affect and contend that positive and negative emotions are the two mutually exclusive anchors of a single continuum, alongside the orthogonal continuum of arousal (D. P. Green et al., 1999; J. A. Russell & Carroll, 1999). Russell's (1980) circumplex model of affect sticks to such a viewpoint and has received much attention from researchers. On the other hand, the bivariate perspective argues that positive and negative emotions are rather independent from each other. Researchers from the bivariate view argue that both dimensions have different etiologies and function through distinct biobehavioral mechanisms (Cacioppo & Berntson, 1994; Larsen et al., 2001; Watson et al., 1999), allowing them to co-occur simultaneously. The model of the structure of affect of Watson and Tellegen (1985) represents the most influential tenet of this viewpoint.

Some research endeavored to reconcile the two views and showed that the bipolarity vs. bivariate hypothesis is dependent on a multitude of factors. At the measurement level, research pointed to the role of the choice of items (Yik et al., 1999), the response scales (J. A. Russell & Carroll, 1999), or the measurement errors (D. P. Green et al., 1993) in modifying the relationship between positive and negative emotions. At the analytical level, the time frame used to assess emotions or the level of analysis has also been identified as important (Brose et al., 2015; Diener & Emmons, 1984). Since the origins of the debate about the nature of the structure of affect, scholars have adopted a static and universal view on emotions. Since then, however, scholars have begun to develop more dynamic emotional theories and produced empirical evidence on both between-person differences and within-person changes in the relation between positive and negative emotions across time and situations (Barford et al., 2020; Dejonckheere et al., 2021; Ong et al., 2017; Rafaeli et al., 2007; Watson & Stanton, 2017). As we shall see below, these recent developments have

brought convincing support for the co-occurrence of mixed emotions both in terms of individual differences in the propensity to experience mixed emotions (i.e., affective synchrony; Rafaeli et al., 2007) and in terms of within-person changes depending on situational characteristics (Dejonckheere et al., 2021; Scott et al., 2014). Even though the debate is enduring, these recent developments helped resolve some of the inconsistencies and differences between these seemingly opposite viewpoints (see Larsen, 2017b).

1.2 An appraisal account of mixed emotions

As argued earlier, cognitive appraisal theories propose that distinct emotions emerge as a consequence of events appraised on multiple components sequentially or simultaneously (Lazarus, 1991; Moors et al., 2013; Scherer, 2009; Smith & Ellsworth, 1985). This multifaceted conceptualization of cognitive appraisals has been suggested to be highly consistent with the co-occurrence of multiple emotions (Shuman et al., 2013). In the context of future-oriented emotions, future events are characterized by some degree of uncertainty that is partly responsible for the emergence of future-oriented emotions (H. Baumgartner et al., 2008; Lazarus & Folkman, 1984; Smith & Ellsworth, 1985). Concurrently, both possible positive and negative outcomes can be anticipated following future events, and, simultaneously, individuals develop multiple goals related to the future (Mejía & Hooker, 2017). The complexity of multiple appraisals related to the future makes, therefore, plausible the emergence of multiple future-oriented emotions simultaneously as distinct features of the future might be appraised as both consistent and inconsistent with one's motives (Roseman, 2017; Shuman et al., 2013).

In their theoretical framework, Shuman et al. (2013) proposed three mechanisms explaining that appraisals could produce mixed emotions. First, conflicts within an appraisal may arise, for example, when a unique event might induce both goal obstructiveness and conduciveness at the same time. These conflicts in appraisal are particularly likely to arise in the context of vocational transitions. In the example of college graduation of Larsen and colleagues (2001), while students can appraise the transition as consistent with autonomy motives as they will become more independent, the transition can also be appraised as inconsistent with affiliation motives as students anticipate changes in existing relationships with loved ones and peers. Second, different appraisals might co-occur (and possibly conflict with each other). For example, appraisals of displeasure and goal conduciveness can co-occur. During transitions, future employees can anticipate situations perceived as unpleasant (e.g., presenting oneself in front of new colleagues) and goal-conducive (e.g., socializing in the work group), potentially leading to mixed future-oriented emotions. A classic example also relates to the co-occurrence of challenge and control/power appraisals in motivating proactive efforts compared to the co-occurrence of threat and uncontrollability appraisals (Lazarus & Folkman, 1984). Third, associations between appraisals and stimuli arise from different processing levels (i.e., sensory-motor, schematic, and conceptual levels; van Reekum & Scherer, 1997), which can also conflict and produce mixed emotions. For example, an individual might experience mixed emotions at the prospect of quitting a full-time but unfulfilling job as the transition might be appraised as conducive to long-term

conscious goals (conceptual level) while at the same time obstructing basic needs of food and shelter (sensory-motor level) due to the prospect of unemployment.

2. Empirical evidence

Existing empirical evidence now brings relative convincing support for the co-occurrence of emotions (Larsen & McGraw, 2014). Many studies showed that situations appraised as complex or ambivalent are those situations particularly likely to induce mixed emotions (see Berrios et al., 2015a, for a meta-analysis). For example, it has been demonstrated that individuals tend to experience mixed emotions in a variety of situations such as house move or graduation from college (Ersner-Hershfield et al., 2008; Larsen et al., 2001), and learning (Moeller et al., 2018). In consumer research, Williams and Aaker (2002) found that participants were likely to feel both happy and sad at the same time when viewing advertisements. Other situations that have been the focus of previous research include cigarette craving (Veilleux et al., 2013), interpersonal interactions (Schniter et al., 2015), charity fundraising (Bennett, 2015), or music and films (Mather & Ready, 2020). A qualitative investigation from Heavey and colleagues (2017) examined the narrative descriptions related to the experience of mixed emotions in several situations. Taking the work context as an example, people described some emotional experiences such as feeling “happy and relieved to be leaving work but the happy feeling was merged together with the bummed feeling about having to come back to work” (p. 107). Finally, mixed emotions have received most research attention in the context of goal pursuit as individuals generally strive for multiple, sometimes conflicting, goals (Berrios et al., 2015b; Mejía & Hooker, 2017). Indeed, setting and working goals are fundamental part of human development (Adams et al., 2017) and, during the course of their lives, individuals identify, make progress, receive feedback, and prioritize their multiple goals in order to direct their personal resources effectively, a process likely to induce mixed emotions (Carver & Scheier, 1990; Lazarus, 1991; Mejía & Hooker, 2017).

Empirical evidence has also been put forth by diary and experience sampling studies. Several studies reported that individuals experience mixed emotions in 30 to 50% of occurrences (Scott et al., 2014; Trampe et al., 2015), suggesting a very high prevalence of mixed emotions in everyday life. When considering only specific pairs of emotions such as happy and sad, and occurrences of moderate-to-high emotions, studies found a lower rate of about 5–15% (Kööts et al., 2012; Riediger et al., 2009, 2014; Schneider & Stone, 2015; Watson & Stanton, 2017). Beyond the bare level of co-occurrence, some combinations are more likely than others. Watson and Stanton (2017) found that individuals had more frequent instances of mixed emotions than single emotions and experienced mixed emotions of the same valence more frequently (e.g., anger with disgust or sadness). Experiencing multiple positive emotions was more frequent (27%) than multiple negative emotions (3%), with only 5% of mixed emotional experiences with both positive and negative emotions. When positive and negative emotions co-occurred, Watson and Stanton’s (2017) findings showed that high-arousal positive emotions (e.g., happy) were more likely to co-occur with high-arousal negative emotions, such as fear, than low-arousal negative emotions (e.g., sadness). Scott et

al. (2014) further showed that mixed emotions were far more likely to arise in the presence of stressors than in their absence and that purely negative emotional experiences were extremely rare, suggesting that stressful situations eliciting negative emotions generally do not come without some positive emotions. These results are consistent with experiments showing that purely negative stimuli or events bring about more mixed emotions than purely positive ones (Hui et al., 2009; Hunter et al., 2008). More recently, Barford and colleagues (2020) showed that mixed emotions were more likely to arise from temporary bursts of negative emotions against relatively stable levels of positive emotions, bringing support for the positivity mood offset suggesting that people tend to experience moderate levels of positive emotions most of the time (Diener et al., 2015; see also Chapter 2). Against this level of positive emotions, individuals then experience temporary bursts of negative emotions—thus experiencing mixed emotions—in response to everyday stressors.

3. Toward a person-centered perspective on emotion

Despite the vast literature on (mixed) emotions has greatly contributed to our understanding of individuals' emotions, it remains quite limited and gives a partial view of the phenomenon for three main reasons.

First, most of the debate has relied on analyses of positive and negative emotions *across* individuals using a variable-centered approach (e.g., correlations, regressions). Variable-centered approaches seek to identify the average relations among a set of variables that is applicable to all participants at the sample-level. Indeed, most of the existing research has relied on the study of positive and negative emotions across individuals using correlation coefficients, despite conceptual and statistical arguments of their inadequacy to address mixed emotions (Larsen, Hershfield, et al., 2017). Another frequently used measure of mixed emotions that is favored in light of the conceptual and theoretical considerations on mixed emotions is the MIN index (Larsen, Hershfield, et al., 2017; Schimmack, 2001). MIN scores are calculated as the minimum of both positive and negative emotions and provide an indication of the intensity of mixed emotions. However, even MIN scores offer limited accounts of emotional experience as these two measures describe the bare intensity of mixed emotions but fail to describe *how* (i.e., the specific combinations) multiple emotions co-occur, that is, their pattern or combination and the relative intensity of their co-occurrence. Variable-centered approaches can therefore hide heterogeneity in the levels and shape of emotions and thus misrepresent individuals' emotional experiences.

Second, the existing evidence has focused on studying these associations either individually or while controlling for other emotions. Indeed, a variable-centered approach considers that affect and emotions operate equivalently for all individuals and does not take into account the possibility that the functioning of some emotions might depend on other emotions simultaneously experienced (Fernando et al., 2014). Even though interaction effects are possible in variable-centered research, they become very quickly impractical due to power issues and the difficulty to disentangle higher-order interaction terms when the number of variables becomes increasingly high (D. J. Bauer & Shanahan, 2007).

A last limitation of variable-centered research is that it generally assumes linear relations between emotions and outcomes. However, some research suggested that the relationship between emotions (e.g., anxiety) and behavior might be curvilinear (Aspinwall & Taylor, 1997; Keeley et al., 2008; Lam et al., 2014). These caveats gave rise to calls for analyses of emotional experiences *within* individuals (Fernando et al., 2014; Moeller et al., 2018; Siemer et al., 2007).

3.1 Characteristics of person-centered approaches

Along with experience sampling and network analyses (Dejonckheere et al., 2021; Moeller et al., 2018), person-centered approaches are good candidates to address these limitations. Person-centered approaches are *typological* methods that explicitly relax the assumption of population homogeneity implied in the variable-centered approach (i.e., average correlation coefficient applied to the entire sample). Latent profile analysis, the specific person-centered method used in our research, seeks to identify subpopulations, referred to as profiles, that display distinct configurations on a set of interacting variables (i.e., future-oriented emotions; Hofmans et al., 2020; Morin et al., 2020; Spurk et al., 2020). In that sense, person-centered analysis allows researchers to investigate the associations between emotions without creating interaction terms nor assuming linear relationships with outcomes.

In latent profile analysis, profiles are differentiated upon their level, shape, and scatter. Level describes profiles in terms of the mean scores of the profile indicators, from low to high levels. Shape describes profiles in terms of different forms (i.e., the patterns of high and low mean scores on the profile indicators). Scatter describes profiles in terms of differentiation between profile indicators (i.e., very high level on one indicator along with mean levels of other indicators). Contrary to algorithmic person-centered approaches such as classical clustering, latent profile analysis relies on latent variable modeling and thus offer several advantages: the inclusion of covariates, the modeling of longitudinal changes, the consideration of measurement error, the availability of statistical tests and indices of model fit, and the estimation of variable associations.

3.2 Replicating and investigating profile similarity

The person-centered approach suffers from the same limitations as the variable-centered approach with regards to generalizability of one's findings. As such, the replication of profiles across transitions, groups, contexts, and time is an important endeavor for both research and practice as we shall argue below.

The issue of replication is especially important given that person-centered research tends to rely on exploratory and inductive research paradigms. Indeed, as Morin et al. (2018) put it, person-centered approaches are exploratory methods that researchers can use for both exploratory and confirmatory purposes. As we have attempted to argue in the previous and the current chapter, our approach proposes a paradigmatic shift in how we consider emotional experience and the co-occurrence of multiple future-oriented emotions. As such, the lack of

previous evidence that could guide our inferences makes difficult the layout of specific and clear-cut hypotheses that delineates the number, the shape, and the sizes of future-oriented emotions profiles. Such an approach would match with an ‘abductive reasoning’ in which research inquiry is conducted with theoretical foundations that lay ground for the research rationale and objectives but with researchers’ openmindedness to sometimes small but nonetheless important surprising discoveries (Bamberger & Ang, 2016).

In addition, person-centered methods are also exploratory from an analytical perspective (Morin et al., 2018). Indeed, conventional goodness-of-fit indices which allow researchers to evaluate the adequacy between one’s model and data are not available, and researchers rely on a profile enumeration process in which profile solutions are contrasted in a process that is both data- and theory-driven (Morin et al., 2020). The data-driven part of the process involves the interpretation of fit indices with their decrease indicating best-fitting models, whereas the theory-driven part involves the interpretation of the substantive meaning and value brought up by the profiles. To illustrate the two elements constituting the exploratory process of person-centered approaches, Morin et al. (2018) used a “fishing expedition” analogy. In their analogy, they contrast dynamite fishing which corresponds to an endeavor in which researchers check whatever comes up from their intensive analytical efforts, and fly fishing, which would correspond to valuable exploratory research in which researchers carefully direct their efforts to places based on *a priori* and theoretical reasoning and select the appropriate baits according to their expectations. Such an approach is consistent with repeated calls to encourage researchers to become more open to exploratory and inductive studies (Jebb et al., 2017; Spector et al., 2014).

The replication of profiles across transitions, groups, contexts, and time is also important from a practical perspective. As we shall argue in the next chapter, replicating and establishing the validity of profiles can suggest their rightful use as a guide for the design and implementation of educational and career-related interventions (Olivera-Aguilar & Rikoon, 2018). The replication of profiles across time can be useful, for example, in selecting the appropriate time window for intervention, an issue that will be addressed, for example, in Chapter 5 (see the next chapter for a complete description of the empirical chapters).

Taken together, these issues related to the exploratory nature of person-centered approaches make replication efforts particularly critical to address the construct validity and the generalizability of profiles. To these ends, Morin et al. (2018) proposed the following steps: (1) demonstrating the theoretical value of profiles, (2) showing meaningful relations with key antecedents and outcomes, and (3) replicating profile solutions across samples, groups, and time. Undoubtedly, these substantive-methodological elements complement the theoretical and practical arguments that motivated the research questions of our studies. In the next section, we review the existing evidence that investigated the combinations of emotions in various contexts using a person-centered approach.

3.3 The study of (mixed) emotions using a person-centered approach

A few studies have explored individuals' combinations of multiple emotions using a person-centered approach in a variety of contexts. For example, Martinent and colleagues (2013; 2017) found several profiles of affect before (i.e., anticipatory) and during sport competitions among athletes. Overall, they found distinct and meaningful profiles between which athletes transitioned over time. They also found that the profiles were related to perceived control over the competition and stress. In the academic context, empirical evidence has brought support for the existence of achievement emotions profiles among school and university students (Ganotice et al., 2016; K. A. Robinson et al., 2017, 2020; Tze et al., 2020). For example, Ganotice et al. (2016) found four profiles among Asian students in the general context of high school and in the Mathematics course: (1) High Positive, (2) High Positive and Negative, (3) Moderate Positive and Negative, and (4) High Negative. They further showed that the High Positive and the High Positive and Negative profiles were the most adaptive profiles in terms of school achievement, motivation, and math achievement. Recently, Robinson et al. (2020) investigated emotion profiles during science classes and also found four profiles: (1) a Negative, (2) a Positive, (3) a Moderate-Low Deactivated, and (4) a Moderate High All emotions profile. Their findings further showed the predictive value of control and value appraisals and the impact of emotion profiles on career intentions related to science and grade point average. Among university students, Tze et al. (2020) went further and examined students' academic emotions profiles and their stability during a two-semester course. They found three profiles (positive, negative, and mixed emotions) with relatively few transitions over time. The positive emotions profile and an ascending profile (from mixed emotions to positive emotions) displayed the highest achievement at the end of the course. In a context of intergroup relations and helping behaviors, Fernando et al. (2014) showed that individuals who reported both sympathy and other social emotions were highly oriented toward helping others while those reporting only sympathy reported the lowest ratings of desire to help. Importantly, these results contrasted with their variable-centered results that sympathy was positively correlated with helping behaviors. These findings further show that the impact of emotions on behaviors can be highly dependent on their co-occurrence with other emotions. In a laboratory experiment, Siemer et al. (2007) showed that participants' emotion profiles in reaction to an ambiguous negative experience were concurrent and naturally aligned with specific sets of cognitive appraisals of the situation. In the work context, Sandrin et al. (2020) recently showed the emergence of five distinct profiles of positive and negative affect along with self-perceptions of their impact on job performance. Profiles were relatively stable over time and were meaningfully associated with work-family conflict, absenteeism, and turnover intentions. Finally, Zampetakis et al. (2016a) provided compelling evidence of emotion profiles in the context of emotional anticipation at the prospect of new venture creation among potential young entrepreneurs. In their study, they found four distinct profiles of anticipated emotions: (1) High positive emotions, (2) Moderate positive emotions, (3) Mixed emotions, and (4) Negative and Mixed emotions. Overall, they found a very high level of mixed emotions across their profiles. Complementary to the evidence reviewed above focusing on current

affect and emotions, their findings bring convincing support for the co-occurrence of anticipated emotions as well (see also, Zampetakis et al., 2015, 2016b).

In this third chapter, we expanded on the complexity of individuals' emotional lives and focused on mixed emotions, the co-occurrence of multiple emotions at the same time.

We presented that the possibility that individuals could experience multiple emotions at the same time lied in an enduring debate within the emotion literature. On the one hand, the bipolarity view considers that positive and negative emotions represent irreducible dimensions of core affect and are the two dimensions of a single continuum. As a consequence, the experience of happiness makes impossible the experience of sadness. On the other hand, the bivariate view considers that positive and negative emotions are independent factors that are tied to distinct biobehavioral mechanisms, and thus, are independent from each other. As a consequence, individuals can experience happiness and sadness at the same time.

In explaining the mechanisms that lead individuals to experience multiple emotions simultaneously, we recruited an appraisal account. This view advocates that the complexity of everyday life, the pursuit of multiple goals, and the co-occurrence of multiple appraisals regarding daily emotional events makes likely the co-occurrence of multiple emotions. In the context of future events, we specifically underlined the role of uncertainty and the possibility of both positive and negative outcomes in the future as a determinant of multiple future-oriented emotions.

Next, we examined the extant literature on mixed emotions that consistently showed that individuals do experience multiple emotions in a variety of situations (e.g., house move, graduation day). The development of diary and experience sampling studies also helped understand the frequency of mixed emotions in daily life and their daily dynamics.

In the last section of the chapter, we stressed out three limitations that raised our attention in the existing literature and were mostly related to the exclusive use of variable-centered approaches. First, the existing literature on mixed emotions rather focused on the *intensity* of mixed emotions, and failed to consider *how* individuals experienced multiple emotions, that is, their combinations, or emotions profiles. For the second and third limitations, we highlighted that variable-centered approaches were impractical to elucidate interaction and non-linear effects.

As a way to address these limitations, we presented the approach we used in the present dissertation: a person-centered approach. Using latent profile analysis, such an approach considers the heterogeneity of the population and seeks to identify combinations, or profiles, that are distinct on a set of interacting variables, in our case, future-oriented emotions. We defined latent profile analysis and characterized its features in terms of its interpretation (i.e., levels, shape, scatter) and the underlying theoretical process. As an exploratory process, person-centered approaches make particularly critical the investigation and replication of profiles across transitions, groups, contexts, and time.

We concluded in reviewing the existing literature that examined individuals' profiles of emotions using a person-centered approach.

Chapter 4

Objectives of the present dissertation

Chapter 4

Objectives of the present dissertation

Throughout the previous chapters, we have stressed several elements that motivated our research questions and set the stage for the empirical chapters of the present dissertation.

In the first chapter, we reviewed the diverse definitions and perspectives about transitions and, more specifically, educational and career transitions. Many scholars have devoted a great deal of time, attention, and scrutiny to the processes at stake when individuals face vocational transitions; we highlighted, however, two missing elements in the existing literature. First, less research attention has been paid to the periods before transitions and how individuals anticipate educational and career transitions. Second, we stressed the lack of research about emotions during these phases of anticipation. At the end of the first chapter, we introduced the focus of our research: the emotional anticipation of vocational transitions.

In the second chapter, we defined emotional anticipation by reviewing the theoretical framework of future-oriented emotions. On the one hand, anticipatory emotions are the emotions one is experiencing here and now at the prospect of a future event. On the other hand, anticipated emotions are the emotions one expects to feel when imagining positive or negative future events. We also reviewed the broad array of cognitive, physiological, emotional, and behavioral processes at stake when individuals anticipate the future, a necessary endeavor to understand the role of future-oriented emotions in individuals' adaptation to transitions. Even though future-oriented affective mechanisms have already attracted researchers' attention in the career development literature, we underlined the limitations of the existing evidence: its lack of contextualization with transitions and its dominant focus on trait and dispositional affective constructs.

In the third chapter, we stressed a third literature gap: the complexity of everyday life events, including anticipated transitions, make likely the co-occurrence of multiple emotions simultaneously. We reviewed the theoretical and empirical debates revolving around the nature of mixed emotions. Importantly, we argued that examining their co-occurrence and the individual combinations could add valuable information about the role of future-oriented emotions at the prospect of educational and career transitions. We further claimed that the person-centered approach—the overall empirical and analytical framework of the present dissertation—was particularly well suited to investigate the combinations of future-oriented emotions at the prospect of vocational transitions. Additionally, we highlighted the importance of examining the relationships between profiles, their antecedents, and their outcomes as well as the replication of profiles across time, transitions, groups, and contexts.

Now that we have attempted to lay out the theoretical underpinnings of our research, we detail the research questions as well as the theoretical contributions and practical implications of the present dissertation (see Figure 4).

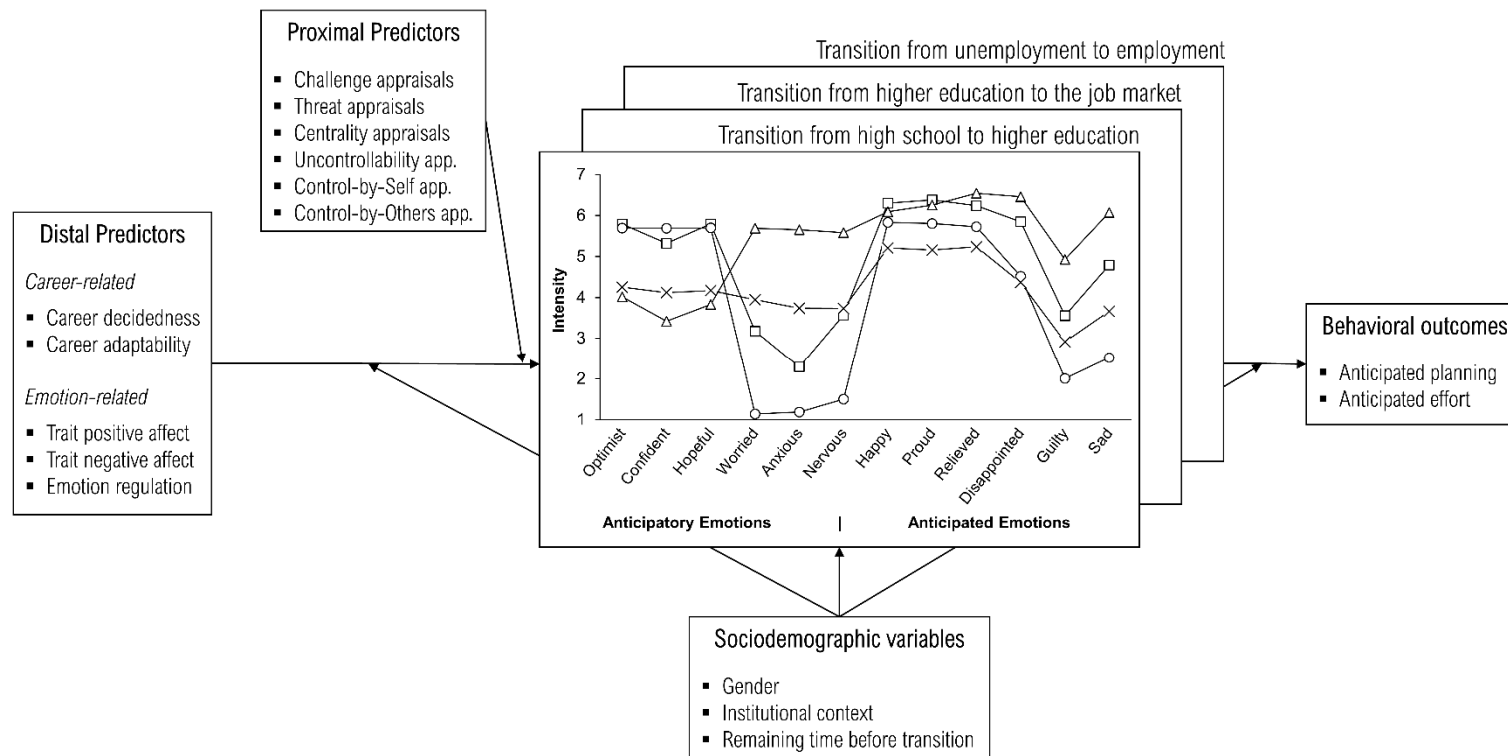


Figure 4. Summary of the research questions

1. Presentation of the research questions and the empirical chapters

Below, we detail the four research questions and provide a brief description of the empirical chapters of the present dissertation (see Table 3).

Research question 1: What are the profiles of future-oriented emotions at the prospect of the transitions from high school to higher education, from higher education to the job market, and from unemployment to employment that vary quantitatively (in level) and qualitatively (in shape)?

Research question 2: To what extent the profiles of future-oriented emotions at the prospect of the transition from high school to higher education, from higher education to the job market, and from unemployment to employment replicate and are similar across transitions, groups, contexts, and time?

Research question 3: Do career decidedness, career adaptability, trait affect, emotion regulation, and cognitive appraisals influence the likelihood of memberships into profiles of future-oriented emotions at the prospect of the transition from high school to higher education, from higher education to the job market, and from unemployment to employment?

Research question 4: Do profiles of future-oriented emotions at the prospect of the transition from high school to higher education, from higher education to the job market, and from unemployment to employment exhibit differences in anticipated planning and effort?

Chapter 5 examined high school students' profiles of anticipatory emotions at the prospect of the transition from high school to higher education in a two-wave longitudinal design encompassing their last year of high school. Even though this study is limited in its scope as it focused exclusively on anticipatory emotions, its longitudinal design represents one of its strengths. Indeed, we examined to what extent high school students' profiles of anticipatory emotions replicated and were similar between the beginning and the end of the last year of high school. Additionally, we examined the stability of these profiles and, more importantly, to what extent students were likely to make transitions between profiles of emotional anticipation. Chapter 5 also contributes to our third research question that pertains to the investigation of antecedents. In this study, we investigated the impact of two career-related antecedents—career decidedness and career adaptability—on profile membership.

In Chapter 6, we addressed one of the limitations of the previous chapter and encompassed the full scope of emotional anticipation not only among 12th graders but also among 9th, 10th, and 11th graders. We examined high school students' profiles of both anticipatory and anticipated emotions at the prospect of their transition following high school. We used a large sample in order to provide evidence for our second research question and examined how profiles replicated and were similar among boys and girls, academic and vocational students, and across grades (reflecting the temporal distance before the transition).

In Chapter 7, we replicated the approach used in Chapter 6 but applied it to the second transition we focus on: the transition from higher education to the job market. We examined

higher education students' profiles of future-oriented emotions at the prospect of the school-to-work transition. Again, we used a large sample to investigate the extent to which profiles replicated and were similar among women and men, university and college students, and according to the temporal distance before the transition.

In Chapter 8, we replicated the findings of Chapter 7 and examined university students' profiles of future-oriented emotions at the prospect of the school-to-work transition. However, we focused our attention on the antecedents and outcomes of profiles of emotional anticipation (research questions 3 and 4). We examined whether trait affect and emotion regulation strategies (i.e., cognitive reappraisal and suppression) were predictors of profile membership and whether differences in anticipated job search planning and effort could be found between profiles. This chapter represents the most comprehensive evidence of the present dissertation as we also investigated differences between women and men. In that sense, the chapter is the only one to address all our research questions simultaneously.

In Chapter 9, we began to address the transition from unemployment to employment and examined job seekers' profiles of future-oriented emotions at the prospect of finding a (new) job. In this chapter, we again adopted a similar approach to Chapter 6 and Chapter 7; an interesting strength of these three chapters to compare emotional anticipation across the three transitions. In a large sample, we sought to examine whether profiles of emotional anticipation replicated and were similar among women and men and according to educational level (i.e., high school vs. higher education degree).

In Chapter 10, we extended our investigation and examined a core tenet of our approach. Indeed, we aimed at providing evidence for the links between co-occurring job-search cognitive appraisals and the co-occurrence of future-oriented emotions. To this end, we examined job seekers' profiles of primary and secondary appraisals (i.e., threat, challenge, centrality, control-by-self, control-by-others, and uncontrollability appraisals). We also investigated whether these profiles were characterized by distinct combinations of future-oriented emotions and different levels in job search planning and effort.

Table 3. Summary of empirical chapters

	Profiles	Replication and similarity	Antecedents	Outcomes	Details
<i>The transition from high school to higher education</i>					
Chapter 5	Anticipatory emotions	During the last year of high school	Career decidedness, Career adaptability	—	Two-wave longitudinal study (N = 541)
Chapter 6	Anticipatory and anticipated emotions	Gender, Educational Track, Temporal distance	— ^a	—	Cross-sectional study (N = 1,361)
<i>The transition from higher education to the job market</i>					
Chapter 7	Anticipatory and anticipated emotions	Gender, Institutional type, Temporal distance	— ^a	—	Cross-sectional study (N = 2,882)
Chapter 8	Anticipatory and anticipated emotions	Gender	Trait affect, Emotion regulation	Job search planning and effort intentions	Cross-sectional study (N = 1,277)
<i>The transition from unemployment to employment</i>					
Chapter 9	Anticipatory and anticipated emotions	Gender, Education	— ^a	—	Cross-sectional study (N = 1,316)
Chapter 10	Anticipatory and anticipated emotions	—	Profiles of job search appraisals	Job search planning and effort intentions	Cross-sectional study (N = 503)

Note. ^a Even though we did not examine the specific impact of antecedents, the investigation of profile similarity across groups and contexts is similar to considering these variables as antecedents of profiles.

2. Theoretical contributions and practical implications of the present dissertation

The present dissertation bears several contributions to the literature and implications for practice.

2.1 A preventive approach of transitions

Despite the vast body of research devoted to the study of transitions, research is still scarce concerning the anticipation of transitions. This lack of research is surprising when considering, for example, influential models that consider the periods before transitions such as Nicholson's (1990) transition cycle model, Schlossberg's (1984) transition framework, or when looking at the attention in the career development literature devoted to individuals' career preparation (Skorikov, 2007; Stringer et al., 2011). By focusing on the future-oriented emotions, our research adopts a preventive approach that offers a novel perspective on the periods that precede vocational transitions and augments our understanding of career development processes before normative and career events. The present contribution is particularly evident when considering the cognitive, physiological, and emotional processes that occur before emotional events and steer the individual towards effective decision-making and behaviors to bring about desired outcomes and alleviate negative ones (see Chapter 2). From a practical point of view, a preventive approach undoubtedly opens the way for educational and career-related interventions and practices guided by the specific combinations of future-oriented emotions, a matter on which we focus below in the fifth and last contribution.

As argued in Chapter 1, individuals are aware of the expectations of agency, employability, and lifelong learning put on them in the management of their careers. The prospects of the increasing number of transitions, the technological, societal, and organizational changes occurring and impacting the unfolding of careers, and the unemployment prospects, especially among youth (Eurostat, 2021), are particularly likely to influence individuals' emotional anticipation. In light of the work and employment challenges that also lie ahead (Schwab, 2016; Sullivan & Al Ariss, 2021), adopting a preventive approach is of utmost importance to address how individuals adjust to vocational transitions, a topic which we will elaborate on further in the discussion.

2.2 A complex picture of emotional anticipation

The present research responds to repeated calls for a greater inclusion of emotion in career development theory and research (Hartung, 2011; Kidd, 1998, 2004). While doing so, we shed light on the importance of considering individuals' emotions in career development and complemented previous work on career hope and career anxiety (Hirschi, 2014; Vignoli, 2015). Importantly, our focus on how multiple emotions interact and combine within profiles

and our focus on specific career events address some of the limitations of the career development literature that we stressed out in the previous chapters.

Second, our research also responds to calls for a complex picture of individuals' multiple emotional experiences using person-centered approaches. If previous person-centered research has already stressed the importance of examining the combinations of multiple emotions in various situations such as learning (Tze et al., 2020), prosocial behaviors (Fernando et al., 2014), at work (Sandrin et al., 2020), or during performance-related negative feedback (Siemer et al., 2007), to the best of our knowledge, no studies have investigated the profiles of both anticipatory and anticipated emotions at the prospect of vocational transitions. Notably, the work of Zampetakis et al. (2016a) might represent an exception, but they did not study anticipatory emotions and focused exclusively on anticipated emotions in the context of venture creation among university students. Importantly, such research inquiry contributes to the existing knowledge on (mixed) emotions (Larsen, Coles, et al., 2017). First, our future-oriented perspective extends the current literature on mixed emotions related to the future and shows how it can apply to specific future-oriented events. Second, our person-centered perspective brings interesting avenues not only for investigating the quantitative degree of mixed emotions but also their specific combinations. As such, it complements the development of naturalistic experience sampling studies (Barford et al., 2020; Eisele et al., 2020) that, despite their intrinsic methodological advances, still represent costly methods both in time and participants' burden.

Overall, the emergence of multiple profiles that exhibit distinct combinations of future-oriented emotions would support the importance of considering the complexity of individuals' emotional experiences at the prospect of future events. Indeed, differentiating profiles of emotional anticipation contributes to a more holistic and realistic representation of individuals' emotions that extends above the observation and the impact of positive and negative emotions taken separately. Actually, the classification inherent to person-centered approaches is convenient and relevant for both counselors and managers alike as it is congruent with their efforts to tailor their practices, guidance, and interventions based on the type of clients or employees they encounter (Hofmans et al., 2020; Macrae & Bodenhausen, 2000; Zyphur, 2009).

For example, our findings could suggest both researchers and practitioners go beyond the valenced dimension of individuals' emotional experience (e.g., he is stressed, she is upset), and consider the complexities of multiple emotions, how they might be congruent or represent ambivalent feelings that could not be addressed by simply proposing him to calm down and asking her to think about positive things. As we shall argue below, evidencing such complex emotional experiences could also suggest departing from the general belief that positive and negative emotions are always good and bad. As a consequence, teachers, institutions, counselors, managers, and parents could embrace such a complex picture of emotional anticipation and avoid attempts to apply standardized and generic activities irrespectively of individuals' complex emotional anticipation of future transitions. More specifically, highlighting the complexity of emotional anticipation could target practitioners' attention to the existence of maybe small but particularly at-risk profiles of students. Such

evidence could help teachers, parents, counselors, managers to pay close attention to specific forms of emotional anticipation, evaluate the relevance of generic practices or interventions to these specific at-risk profiles, and, if needed, develop and apply tailor-made practices or interventions. In sum, in place of the timely and costly interpretation of the complex relations and interactions between variables originating from variable-centered results, the classification of students into profiles that naturally emerge in the data allows counselors and practitioners to easily identify and target specific groups who share similar emotional combinations.

2.3 A look at the diversity of emotional anticipation

First, the investigation of differences and similarities of profiles across time, transitions, groups, and contexts holds the fundamental implication of validating the construct validity of profiles which represents a critical prerequisite given the exploratory nature of person-centered approaches (Hofmans et al., 2020; Morin et al., 2018, 2020; Olivera-Aguilar & Rikoon, 2018; Spurk et al., 2020; Woo et al., 2018). Second, such investigation also bears an important theoretical contribution. Indeed, the paradigmatic shift in person-centered approaches departs from considering that groups and contexts under study are homogeneous. In variable-centered methods, model parameters (e.g., correlations, regression coefficients, means, etc.) are applied indistinctively to the entire group. Person-centered approaches, in contrast, assume the heterogeneity of these groups and contexts and specifically propose to investigate the nature of their heterogeneity. The example of gender, on which we focus in several empirical chapters (Chapters 6, 7, 8, and 9), is particularly insightful in this matter.

Applying a variable-centered approach to women's and men's emotional experiences implies an important paradigmatic shift. At the level of scores of emotions, it considers the homogeneity of all women and men, and then, as in the case of independent-samples difference tests, computes the global difference between those gender-wise homogeneous mean scores (e.g., *all* women, on average, experience more negative emotions than *all* men). One particularly damaging caveat of such perspective is that it reduces all women (or men) to exclusively high or low levels of emotions. However, what we argue in the present dissertation is that the groups of women and men, taken here as an example, are not necessarily homogeneous. It might be possible, as contended by a person-centered approach, that latent subgroups exist in the data and are distinct with regards to their emotional anticipation (e.g., *some* women do experience more negative emotions than *some* men; but *some other* women maybe experience fewer negative emotions than *some other* men). Such an approach has the main advantage of considering that the belief that men and women display great differences in emotional experience might, indeed, result from quantitative differences (as also contended by a variable-centered approach), but also result from qualitative differences. For example, suppose a subsample of women reports particularly high levels of negative emotions whereas most women do not display higher negative emotions than men. In that case, a variable-centered approach that looks at raw quantitative differences might overlook such subtle differences and lead the researcher to conclude significant differences between women and men. In that matter, if some profiles display extreme levels

on particular emotions or if some profiles are composed of a large proportion of individuals, these *qualitative* differences are likely to inflate the quantitative differences found between men and women when analyzed exclusively from a variable-centered perspective. In sum, we argue that looking at the replicability and similarities of profiles between several groups is a fruitful approach to take the heterogeneity of those groups into account and provide a better look at distinct combinations of future-oriented emotions. Notably, the issue raised here also applies to the investigation of similarities across time, transitions, samples, and contexts.

From a practical point of view, it is likely to inform about the relevance of tailor-made interventions based on the specific profiles of emotional anticipation found in some groups and not in others. Evidence of similarity between groups, in contrast, might motivate the implementation of generic interventions irrespective of group membership. An additional implication of our profile similarity approach concerns the investigation of profile similarity and stability over time. Indeed, evidence for the stability of profiles over time would substantiate specific temporal windows in which one could implement interventions likely to be effective.

2.4 Delimiting the scope of emotional anticipation

As we consistently argued in the theoretical chapters, the study of emotional anticipation of vocational transitions is scarce and needs further inquiry. As we argued above, the scarcity of research and the recent developments stressing the complexity of emotional experience invites the repeated investigation of profiles of emotional anticipation (i.e., *how* individuals emotionally anticipate vocational transitions). Yet, the scarcity of research also requires to fully understand the *scope* of emotional anticipation, that is, the network of relations between antecedents, profiles of emotional anticipation, and outcomes (Research Questions 3 and 4).

First, delimiting the scope of emotional anticipation can advance the existing evidence in emotion theory and research. On the one hand, if cognitive appraisals have been widely studied in relation to emotions experienced in the here and now (Moors et al., 2013; Smith & Ellsworth, 1985), few studies have explored the mechanisms and role of cognitive future-oriented appraisals and their relationships with future-oriented emotions and coping (Skinner & Brewer, 2002). Such pieces of evidence, however, bear important implications as they have been considered at the theoretical level (e.g., Lazarus & Folkman, 1984), and the future-oriented perspective is particularly relevant to envision the application of reappraisal interventions or the elicitation of emotion regulation strategies occurring before the onset of a stressful event, considered as particularly efficient (De Raedt & Hooley, 2016; Gross & Thompson, 2007). At the behavioral level, we have underlined that most studies have tested the assumptions related to the direct-causation hypothesis. Such a hypothesis has been complemented by the emotion-as-feedback hypothesis, which holds that emotion influences behavior through feedback and anticipation mechanisms (Baumeister et al., 2007). The former has been extensively studied but showed less robust results compared to the latter that demonstrated more consistency but has been less investigated (DeWall et al., 2014). Our

research thus provides additional tests of an understudied mechanism through which emotion can influence behavior.

Second, delimiting the scope of emotional anticipation can advance the existing evidence in vocational psychology and career development. On the one hand, most studies have adopted a trait or dispositional approach to emotions and related mechanisms such as emotional intelligence, trait affect, trait career anxiety. As a consequence, the investigation has rather focused on their outcomes (e.g., decision making) rather than their antecedents. As we will argue, particularly in Chapters 5, 8, and 10, the cognitive appraisal framework of the present research brings an interesting and robust framework for investigating the antecedents of future-oriented emotions. For example, the role of career decidedness and career adaptability, two career-related important constructs, on future-oriented emotions have been investigated in Chapter 5, building upon an overarching appraisal perspective. The role of emotional intelligence and career adaptability on future-oriented emotions has also been investigated in a study related to the present dissertation (see Appendix B; Parmentier, Pirsoul, et al., 2021). The role of trait affect and emotion regulation has been investigated in Chapter 8. The role of teachers, parents, and peers on emotions related to an anticipated transition during high school has also been the focus of a related study (see Appendix A; Vignoli et al., 2020). At the behavioral level, the present research brings particularly important contributions. Indeed, the existing evidence related to negative affective traits and emotions (e.g., career anxiety, negative affect) has resulted in inconsistent and contrasting findings. In the context of job search, for instance, while some studies have found a negative relationship between negative affect and job search behaviors (e.g., Crossley & Stanton, 2005), other studies failed to replicate such a finding (Côté et al., 2006), and some others, even found a positive relationship (Kim & Lee, 2021). As argued in Chapter 3, similar inconsistent findings have also been found for career anxiety. Our research proposes two perspectives that might disentangle such inconsistent findings. First, variable-centered results are particularly impractical in examining interaction effects when the number of indicators increases and in investigating non-linear effects. In investigating the combinations of interacting emotions, our person-centered perspective provides a naturalistic view of interacting emotions (i.e., do profiles characterized by distinct interaction patterns of emotions emerge?), and non-linear patterns (i.e., the emergence of profiles characterized by different, sometimes extreme, levels of negative emotions). The first perspective is consistent with previous research that demonstrated that the impact of specific emotions (e.g., sympathy) was highly dependent on their co-occurrence with other social emotions (e.g., shame) in predicting social behaviors (e.g., sign a petition against asylum seekers' detention; Fernando et al., 2014). The present perspective is also consistent with propositions that the influence of emotions and behavior might indeed be curvilinear (Aspinwall & Taylor, 1997; Keeley et al., 2008; Lam et al., 2014). For instance, it might be possible that individuals that experience anticipatory anxiety will be willing to engage in vocational behaviors only if these anticipatory feelings of anxiety are accompanied by positive anticipated emotions whose explanatory power on behaviors has been argued to be higher. The second perspective brought up by our research relates to its future-oriented approach. Indeed, most studies have investigated the reactive reactions to stressors, omitting the proactive coping efforts

individuals might undertake before the occurrence of a stressor (Aspinwall & Taylor, 1997). Such a future-oriented perspective is important in disentangling the influence of emotions on vocational behavior since the anticipation of a stressor is associated with the accumulation of personal resources, as well as the availability of more options and a greater time window to adopt behaviors likely to alleviate or avoid the impact of future stressors. In this present case, the relationship between negative emotions and behaviors is more likely to be positive (Aspinwall & Taylor, 1997).

2.5 Understanding and sustaining adaptive emotional anticipation

As a conclusion to the theoretical section and before moving on to the empirical chapters, we would like to emphasize an overarching contribution of the present dissertation: that our research can contribute to understanding and sustaining adaptive emotional anticipation and, ultimately, the successful adaptation to vocational transitions. Such a contribution has been inferred throughout the four main implications that we outlined above. Guiding research inference and the development of practical interventions *before* vocational transitions was the main rationale underlying the first contribution related to our preventive approach. Guiding research inference and the development of practical interventions fueled by a complex and holistic understanding of individuals' emotional anticipation of vocational transitions was addressed in the second contribution. Guiding research inference and the development of practical interventions based on robust and diversity-informative evidence was the focus of the third contribution. Finally, guiding research inference and the development of practical interventions that consider what influences and what is influenced by individuals' emotional anticipation was presented in the fourth contribution.

Now that we have presented the theoretical underpinning of our research, delineated our four research questions, and argued that the present research holds important contributions and implications for both theory and practice, the next three sections present our empirical investigations.

Part II

The transition from high school to higher education

Chapter 5

Anticipatory emotions at the prospect of the transition to higher education

A latent transition analysis

While some attention has been devoted to the study of emotions in vocational psychology, research on the emotional anticipation of future career events is scarce. Using latent transition analysis, we investigated profiles of anticipatory emotions at the prospect of the transition to higher education during the last year of high school. We also investigated two career-related antecedents of profile membership and transitions between profiles: career decidedness and career adaptability. Our results shed light on three distinct profiles. First, most students experienced mostly positive anticipatory emotions with few negative anticipatory emotions (i.e., a *positive dominant* profile). Second, students in the *mixed* emotions profile displayed high levels of both positive and negative anticipatory emotions. Third, students in the *negative dominant* profile experienced mostly negative anticipatory emotions. Our results also showed that the *positive dominant* profile was relatively stable and that the *mixed* and the *negative dominant* profiles related to more transitions across time. With regard to the antecedents, our results demonstrated that students with higher career decidedness and career adaptability were more likely to belong to the *positive dominant* profile. When looking at transitions between profiles, students with high career decidedness and career adaptability were more likely to remain in or transition to the *positive dominant* profile. Identifying students with different anticipatory emotions profiles and the nature of transitions between these profiles have implication for implementing tailored career interventions and educational practices.

Reference

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Chapter 5

Anticipatory emotions at the prospect of the transition to higher education

A latent transition analysis

1. Introduction

The transition from high school to higher education can be a stressful experience as students face numerous challenges: developing career awareness and exploration, contemplating potential educational and career paths, adjusting to a new learning environment, and developing adaptive study habits (Christie, 2009; Hartung et al., 2005; Porfeli & Lee, 2012; Trautwein & Bosse, 2017). Coping with these challenges not only has an impact on academic success and retention but also on motivation, learning, and well-being (for a review, see Noyens et al., 2017). From a vocational developmental perspective, successful career preparation and adaptation to the transition to higher education can have a long-lasting impact on students' career development and future professional trajectories (Hartung et al., 2005; Porfeli & Lee, 2012). In Belgium, where the present study was conducted, the educational and societal system expects high school students to choose a specific field of study by the end of high school. Students have significant flexibility in their vocational decisions as the system is an open free-access system with neither competitive selection process nor application forms for most programs and relatively low tuition costs. Consequently, the last year of high school entails many changes, and anticipating graduation and its numerous challenges is likely to induce strong emotional reactions (Nurmi, 1991).

Previous research has yielded critical insights about the role of emotions and stress (e.g., Postareff et al., 2017), and personal accounts of these emotions (e.g., Christie, 2009) in explaining students' adaptation to the transition to higher education. Affective individual characteristics such as emotional intelligence (J. D. A. Parker et al., 2004), alexithymia (Kerr et al., 2004), or emotion regulation (Srivastava et al., 2009) have also been identified as critical factors during the transition. However, aside from research on future-oriented affective dispositions such as career hope or anxiety (Santilli et al., 2017; Vignoli, 2015), we are aware of no studies that have investigated these *anticipatory* emotions felt when adolescents anticipate their transition to higher education, imagine how it will occur, the consequences it will have, and visualize how they will behave (H. Baumgartner et al., 2008; Gilbert & Wilson, 2007). From a future-oriented perspective, focusing on anticipatory emotions allows one to adopt a preventive approach and augment our understanding of vocational behavior and processes *before* normative life and career events. As such, the anticipation of positive and negative future outcomes is argued to act as the main mechanism through which emotions impact behavior and proactive coping (Aspinwall & Taylor, 1997;

Baumeister et al., 2007). In the context of preparing students for their transition after graduation, the possibility that anticipatory emotions could provide insightful information ventures to the design and implementation of emotion-focused educational and career guidance programs (e.g., Hodzic et al., 2018).

While potentially very stressful, the transition to higher education might also entail positive emotions: enthusiasm or excitement at the prospect of making new friends, following interesting courses, or developing new skills and interests. As such, the transition to higher education has been identified as particularly likely to induce *mixed emotions*—the experience of both positive and negative emotions at the same time (Ersner-Hershfield et al., 2008; Larsen et al., 2001). Indeed, growing evidence suggests that positive and negative emotions do not exist in isolation but rather co-occur within individuals (Larsen & McGraw, 2014), thereby calling for methods that allow such an intraindividual investigation like experience sampling designs (Trampe et al., 2015) or network analyses (Moeller et al., 2018). Using a person-centered approach, the present study extended this line of inquiry and investigated high school students' profiles of anticipatory emotions and transitions between profiles from the beginning to the end of the last year of high school. By providing a more realistic account that goes beyond the specific facets of positive or negative emotions taken separately, profiles offer a holistic picture of emotional experience that could augment our understanding of the role of emotions in career development, a somewhat neglected area in the literature (Kidd, 2004). Investigating the stability of—and transitions between—profiles further adds to the study of the developmental processes at stake during the anticipation of life and career events.

Given the impact of emotions and stress on students' adaptation to the transition, understanding the factors that play a role in students' emotions is an important endeavor. Building on appraisal theories of emotion as an overarching framework (Moors et al., 2013; Roseman, 2013), appraising the transition as relevant and conducive to career goals, and appraising personal resources to prepare for and adapt to the transition are likely to influence anticipatory emotions. An additional objective of the present study was to investigate two career-related antecedents that have been identified in the vocational literature to reflect these appraisals: career decidedness and career adaptability. On the one hand, career decidedness refers to how adolescents have confirmed and committed to a selected career choice (Crites, 1978). Career decidedness is one of the core aspects of career decision-making and occurring during the last phases of the decision-making process and, in this matter, provides a relevant construct for investigating adolescents' career readiness (Hirschi & Läge, 2007). Originating from career construction theory, career adaptability refers, on the other hand, to self-regulatory resources that sustain individuals to prepare for and cope with career-related tasks and transitions (Savickas, 2013). Career adaptability refers to an individual's readiness to master present and prepare for future career-related challenges through the use of four related competencies: being concerned about the future (e.g., planning), having control over life (e.g., decision-making), demonstrating curiosity about self and occupational careers (e.g., exploring), and building confidence in constructing a future and deal with career problems (e.g., problem-solving; Savickas, 2013). A vast corpus of research has shown the beneficial role of career adaptability—including emotions and well-being—in helping individuals to cope

with career transitions and situations (for a meta-analysis, see Rudolph et al., 2017). The relevance of the career adaptability construct has been well established among high school students and adolescents (Hirschi, 2009). For example, research has demonstrated the impact of career adaptability on important consequences, such as academic and life satisfaction (Hirschi, 2009; Wilkins et al., 2014), as well as students' vocational identity and achievement (Negru-Subtirica et al., 2015; Negru-Subtirica & Pop, 2016).

The present study contributes to vocational research and practice in several ways. We advance the study of emotional processes in vocational behavior, an area that is still neglected despite repeated calls for the inclusion of emotions in vocational theory and research (Hartung, 2011; Kidd, 2004). Moreover, grounded in a future-oriented emotional perspective, this study offers a novel view on the period that precedes important educational and vocational transitions (Nurmi, 1991), a perspective that has the potential to help better understand how individuals prepare for and adapt to transitions (Nicholson, 1984). In this regard, focusing on important career antecedents also adds to the literature on the individual factors and meta-competencies that sustain important career behaviors (Hirschi & Läge, 2007; Rudolph et al., 2017). From a practical point of view, the future-oriented perspective constitutes a promising preventive approach among high school students that could inform the design and implementation of effective interventions targeting specific groups of students based on their emotional anticipation profiles. Finally, the person-centered approach used in this study offers novel perspectives about our understanding of emotional experiences. Differentiating profiles of anticipatory emotions offers a realistic representation that goes beyond the separate examination of constructs. The classification of students based upon their anticipatory emotions is not only consistent with research on the co-occurrence of multiple emotions (Larsen & McGraw, 2014), but also aligned with counselors' categorical way of thinking and their efforts to tailor their practices based on the type of client they are attempting to help (Hofmans et al., 2020).

1.1 Anticipatory emotions

While we experience a broad range of emotions related to present or past events, we also experience emotions at the prospect of future events (Ortony et al., 1988; Van Boven & Ashworth, 2007), which has been coined as anticipatory emotions (H. Baumgartner et al., 2008). Anticipatory emotions are a kind of future-oriented emotions and refer to emotions currently experienced at the prospect of an event that could occur in the future (e.g., fear if students think their chances to succeed in higher education are scarce; Baumgartner et al., 2008; Ortony et al., 1988). Anticipatory emotions have been conceptually and empirically distinguished from anticipated emotions, which refer to individuals' beliefs about how they think they will feel during imagined future events through a process known as affective forecasting (e.g., anticipating feeling sad if one imagines not making new friends at university; Gilbert & Wilson, 2007). Anticipatory emotions are based on prospects of a future event that could have either positive or negative consequences. Accordingly, the likelihood of the event and its consequences are part of anticipatory emotions; the degree of uncertainty causes anticipatory emotions (Moors et al., 2013). This partly explains why the anticipation

of future events is a more evocative and powerful driver of emotions than retrospection of past events (Van Boven & Ashworth, 2007).

Anticipatory emotions comprise the subset of emotions called *prospect* emotions (Ortony et al., 1988) and refer to emotions that result from reacting to the prospect of anticipated desirable or undesirable future events. Hope and fear are considered the two most prototypical anticipatory emotions, although they are further conceptualized as broad families of emotional states (H. Baumgartner et al., 2008; Ortony et al., 1988). Hope is considered as a pleasant affective reaction about the prospect of a desirable event and is argued to affect thoughts and behaviors towards goal attainment (Snyder, 2002). Hope emotions comprise several emotional facets such as excitement, optimism, confidence, or enthusiasm. In contrast, fear involves reactions in response to an anticipated situation perceived as being threatening and includes several facets such as worry, anxiety, nervousness, tension, and stress (Ortony et al., 1988). However, even though hope and fear—and their facets—are considered to be prototypical, the variety of appraisals, resources, and goals in the face of the transition increases the likelihood that other emotions emerge, such as interest at the prospect of learning new things, enthusiasm in becoming an independent adult, pride in developing a student identity in a chosen and beloved academic field. This variety of emotional experiences provides a rationale for investigating specific emotions rather than general positive and negative emotions.

Although not labeled anticipatory emotions, future-oriented affective mechanisms have already grasped researchers' attention in the vocational psychology literature (Hirschi, 2014; Vignoli, 2015). Existing empirical evidence has shown the positive correlations between career hope and vocational identity (Juntunen & Wettersten, 2006), career decidedness (Hirschi, 2014), career planning (Hirschi, 2014; Kenny et al., 2010), career self-efficacy beliefs (Hirschi, 2014; Juntunen & Wettersten, 2006), career exploration (Hirschi, Abessolo, et al., 2015), and career behaviors (Hirschi, 2014). Similarly, empirical evidence has shown correlations between, for example, career anxiety and career indecision (Fuqua et al., 1987; Vignoli, 2015), career exploration (Vignoli, 2015), and career decision-making (Germeijs et al., 2006).

1.1.1 Mixed anticipatory emotions and their co-occurrence

Whether people can experience positive and negative emotions at the same time—what is called *mixed emotions*—has been at the heart of a passionate debate that takes its roots in the very inception of the field of psychology with Wilhelm Wundt (for a review, see Larsen & McGraw, 2014). On the one hand, opponents argue that the valence of emotions is a psychologically irreducible dimension of core affect and contend that positive and negative emotions are the two mutually exclusive anchors of a single continuum (J. A. Russell & Carroll, 1999). On the other hand, proponents argue that positive and negative emotions are rather independent from each other, operate through different mechanisms, and thus can co-occur and combine together, as it is contended, for example, by the model of Watson and Tellegen (1985). Existing empirical evidence now brings relative convincing support for the co-occurrence of emotions (Larsen & McGraw, 2014). For example, it has been demonstrated

that individuals tend to experience mixed emotions in a variety of situations such as moving house (e.g., nostalgia and excitement), graduation from college (e.g., anxiety and determination; Ersner-Hershfield et al., 2008; Larsen et al., 2001), and learning (e.g., stress and enthusiasm; Moeller et al., 2018). Empirical evidence has also been put forth by diary and experience sampling studies showing that, although rarely, individuals tend to experience mixed emotions across situations (e.g., 11–34% of occurrences; Barford et al., 2020; Trampe et al., 2015).

However, most existing research has relied on the study of positive and negative emotions *across* individuals using correlation coefficients. Besides conceptual and statistical arguments of their inadequacy to address mixed emotions (Larsen, Hershfield, et al., 2017), correlation coefficients offer somewhat limited accounts of emotional experience as they only describe the relative size of the association between positive and negative emotions. They fail to describe *how* positive and negative emotions co-occur, that is, the patterns and the relative intensity of their co-occurrence. These caveats gave rise to calls for intraindividual analyses of emotional experience *within* individuals (Moeller et al., 2018) and motivated the person-centered approach adopted in the present study.

1.2 The present study and research questions

We used latent profile and transition analysis (LPA–LTA) to investigate the combinations of high school students’ anticipatory emotions at the prospect of their transition to higher education and the longitudinal transitions between profiles between the beginning and the end of the last year of high school. Complementary to variable-centered methods, person-centered approaches are *typological* methods that consider the patterns or configurations of variables describing various types of individuals (Hofmans et al., 2020; Spurk et al., 2020). Profiles are differentiated upon their level and shape. Level describes profiles in terms of how students feel either positive or negative anticipatory emotions, from low to high levels. Shape describes profiles in terms of different forms (e.g., high levels of positive *and* low levels of negative anticipatory emotions). Contrary to algorithmic approaches such as classical clustering, latent profile analysis relies on latent variables modeling and thus offers several advantages: inclusion of covariates, modeling longitudinal changes, accounting for measurement error, and statistical tests of model fit. We formulated our first research question as follows:

Research question 1. How many profiles of positive and negative anticipatory emotions that vary quantitatively (in level) and qualitatively (in shape) emerge in the data?

We expected the emergence of several differentiated and distinct patterns of anticipatory emotions. First, compared to negative emotions, people tend to report moderate and stable levels of positive emotions (Diener et al., 2015). Second, daily diary studies showed that negative emotions seem to be less intense and more fluctuating than positive emotions depending upon the emergence of negative events (Scott et al., 2014; Trampe et al., 2015). Besides, purely negative emotional states seem to be very rare (Scott et al., 2014). We thus expected that most of the profiles would be characterized by higher levels of positive

emotions than negative emotions and that profiles would be differentiated mainly upon fluctuating negative emotions. Furthermore, we expected the emergence of profiles characterized by mixed emotions, that is, both positive and negative emotions at the same time. However, given the lack of prior evidence on anticipatory emotions in the context of the transition to higher education, we left our research question relatively open to reflect the exploratory and inductive nature of our research. This is consistent with the general approach of person-centered analyses (Hofmans et al., 2020; Spurk et al., 2020).

The second objective of this research was to explore the longitudinal within-person transitions between profiles from the beginning to the end of the last year of high school, and the associated research question was delineated below. Career development theories make the explicit assumption that developmental tasks are necessary and transitional in nature and that their successful completion should allow the individual to progress in their career development and career readiness or maturity to face the transition (Crites, 1978; Super, 1980). Concurrently, the unsuccessful completion of these developmental tasks should provoke heightened negative emotions as students approach the transition. Accordingly, the (un)successful completion of developmental tasks should, to some extent, provoke some changes—and, thus, transitions—in students' emotional anticipation of the transition.

Research question 2. To what extent do students transition between profiles between the beginning and the end of the last year of high school?

The final objective of this study was to investigate the extent to which career decidedness and career adaptability predicted profile membership, on the one hand, and the transitions between these profiles, if any, on the other hand. Appraisal theories offer interesting explanations of how motivation and cognition through appraisals cause emotions (Moors et al., 2013; Roseman, 2013). Emotions are experienced and differentiated following individuals' evaluations of events according to a set of appraisals. During appraisals, individuals assess the importance and meaning—according to their goals, past experiences, and beliefs—of an event and respond to it at an emotional level if appraised as relevant. Scherer (2001), for instance, suggests that the extent to which the event is relevant to the individual (e.g., important and relevant for person's goals and needs), has implications or consequences (e.g., negative versus positive), offers some coping potential to the individual, or is compatible with internal or external standards, will elicit and differentiate emotional responses. Decidedness of future career goals and the perceptions of coping potential are thus pivotal in how individuals feel and experience emotions.

More strongly career decided individuals should thus appraise their upcoming transition as more relevant to them and as more conducive to achieving their career goals than students with lower levels of career decidedness. They thus should approach the transition with more positive emotions. In contrast, the transition to higher education should entail more uncertainty and threat for more career undecided individuals because of the urgency to choose an educational path to pursue. They thus should approach the transition with more negative emotions such as fear, anxiety, and stress. In the same vein, career decidedness should also influence students' transitions between profiles. Students who were already

decided at the beginning of the year should either remain stable in a profile characterized by elevated positive emotions or transition to such a profile if they were in another profile at the beginning of the year (e.g., a profile characterized by elevated negative and low positive anticipatory emotions). These assumptions are in line with research in vocational psychology that showed how emotions relate to career decision-making processes (Anghel & Gati, 2019; Park et al., 2017; Saka et al., 2008). Empirical evidence showed, for example, that career decision-making difficulties—among them, career indecision—are generally positively associated with feelings of anxiety, stress, and even depression (Anghel & Gati, 2019; Fuqua et al., 1987; Germeijs et al., 2006; Vignoli, 2015), while being negatively associated with feelings of happiness and hope (Zhou & Xu, 2013).

Hypothesis 1a: High levels of career decidedness will be associated with a high probability to belong to profiles characterized by high levels of positive and low levels of negative anticipatory emotions.

Hypothesis 1b: High levels of career decidedness will be associated with stability in—and transitions to—profiles characterized by high levels of positive and low levels of negative anticipatory emotions.

Similarly, individuals who appraise that they have coping potential over their upcoming transition should experience more positive emotions than individuals who do not appraise the event as controllable (Scherer, 2001). Career adaptability, defined as a set of self-regulatory resources that enable individuals to prepare for, cope with, and manage career transitions as well as career-related issues, fits nicely these appraisals of coping potential (for a review, see Rudolph et al., 2017; Savickas, 2013). Therefore, students with higher levels of career adaptability should have a higher likelihood of belonging to profiles characterized by higher levels of positive and low negative anticipatory emotions. Similarly, these students should remain in these profiles or transition to these profiles from profiles characterized by a more negative outlook toward the transition to higher education. These hypotheses are consistent with previous research that showed that emotions and affect represent self-regulatory processes. Emotions and affect may act here as mediating mechanisms that enable individuals to put their career adapt-abilities into action and achieve desirable work outcomes, such as higher job satisfaction and lower work stress (Fiori et al., 2015). In the same vein, Santilli and their colleagues (2017) showed that individuals with higher levels of career adaptability displayed higher levels of career hope, leading to better life satisfaction. According to the career construction framework (Savickas, 2013), students' career adaptability influences emotions, and these emotions, in turn, act as adapting responses and drive individuals in their career-related goals and efforts, ultimately achieving adaptation results (see also, Aspinwall & Taylor, 1997).

Hypothesis 2a: High levels of career adaptability will be associated with a high probability to belong to profiles characterized by high levels of positive and low levels of negative anticipatory emotions.

Hypothesis 2b: High levels of career adaptability will be associated with stability in—and transitions to—profiles characterized by high levels of positive and low levels of negative anticipatory emotions.

2. Method

2.1 Participants and procedure

We collected data among two different cohorts measured one year apart. However, for both cohorts, the measurement time points pertained to the same developmental window, that is, the last year of high school (i.e., 12th grade). Data are part of a larger cohort-sequential study among 11th and 12th grade high school students followed over two years. Thus, the data used in the present study correspond to the last two measurement time points for the first cohort and the first two measurement points for the second cohort (see Table D1 for a visual representation of the design). Cohort-sequential designs are a form of planned missing designs that take multiple single cohorts at different time points, each one starting at a different period or age (Rhemtulla & Hancock, 2016). Importantly, this focus allowed us to maximize the statistical power of our analyses, alleviate the risks associated with attrition effects, and avoid validity threats due to cohort-specific characteristics. Data at the beginning (Time 1) and the end of grade 12 (Time 2) were collected during November and May. To ensure the quality of our sampling, data were collected in 13 different schools with varying levels of socioeconomic status and region. School principals were contacted to participate in the present study, and after having presented the study's objectives in classrooms, we collected 1,509 e-mail addresses from students who volunteered for the study. Students were then invited to participate in an online survey and were assured of both the anonymity and confidentiality of their participation, and invited to give their informed consent. In Belgium, high school or secondary education refers to international grades 7 through 12 and is divided into three educational types: general, technical, and vocational secondary education. Almost 80% of students enter into higher education after graduating from high school. The higher education system is split up between two types of institutions: colleges offering professional bachelor programs with a limited number of academic bachelor programs and universities offering broader bachelor- and master-level academic programs.

Among students of Cohort 1, a total of 172 students participated at the beginning of 12th grade, and 148 students participated at the end of 12th grade, with 109 students completing both time points. Among students of Cohort 2, 315 and 169 students participated at the beginning and the end of 12th grade, respectively, with 134 completing both time points. A total of 541 students completed at least one of the two time points and were included in the final sample (see the online supplements for further details on dropout analyses). Of the total sample, 37.5% and 66.1% were girls for Cohort 1 and Cohort 2, respectively, and the mean age was 17.43 years ($SD = .89$).

2.2 Measures

All constructs included in this study were measured at each time point using Likert-type scales ranging from 1 to 5. Details concerning the measurement analyses of the constructs can be found in the online supplements. Reported reliability coefficients are averaged across time points.

2.2.1 Anticipatory emotions

We measured positive anticipatory emotions with five items: excited, strong, enthusiastic, proud, and determined ($\alpha = .86$). Likewise, negative anticipatory emotions were measured with five items: jittery, upset, scared, nervous, and afraid ($\alpha = .87$). The choice of these emotions was based on the conceptualization of *prospect* emotions by Ortony et al. (1988), which comprise two broad emotion families revolving around Hope emotions (*excited* and *enthusiastic*) and Fear emotions (*jittery*, *upset*, *scared*, *nervous*, and *afraid*). We also included *agent*-based emotions that capture one's affective reactions to how one deals with the anticipated future event with the self as an agent (*strong*, *proud*, and *determined*; Ortony et al., 1988). Following Baumgartner et al. (2008), the instructions for the emotional induction were as follows: “*Stop for a moment and take the time to think about the studies you will start in a few months and the job you will do later. How do you feel right now at the prospect of your transition from secondary school to higher education?*”

2.2.2 Career decidedness

Career decidedness was measured with a single item designed for this study: “*Do you already have a clear idea of the job you would like to do later?*” Although this measure consisted of a unique item, this method has already been used in career research (Urbanaviciute et al., 2014) and provides a basic and direct way to examine students' current career decisional status.

2.2.3 Career adaptability

Career adaptability was assessed with the French version of Career Adapt-Abilities Scale (Johnston et al., 2013; $\alpha = .93$). This measure consists of 24 items and is composed of separated sub-scores for 4 career-adaptabilities: concern ($\alpha = .85$; e.g., “*Preparing for the future*”), control ($\alpha = .88$; e.g., “*Counting on myself*”), curiosity ($\alpha = .82$; e.g., “*Exploring my surroundings*”), and confidence ($\alpha = .89$; e.g., “*Taking care to do things well*”).

2.3 Analytical strategy

Statistical analyses were conducted using the *Mplus* 8 robust maximum likelihood estimator (MLR) with full information maximum likelihood (FIML) and followed a five-step strategy. The first step involved dropout and preliminary analyses and longitudinal measurement invariance analyses to assess the equivalence of our constructs across cohorts and across time points. The nesting of the data (i.e., students within schools) was

systematically taken into account in our analyses using the sandwich estimator for robust standard errors as implemented in *Mplus*.

Second, we performed time-specific LPA on anticipatory emotions using a stepwise procedure from a 1- to a 6-profile solution. Contrary to classical LPA, we focused on the discrete emotion terms rather than the higher-order constructs of positive and negative emotions in order to finely assess the differences on the specific emotions across profiles. Accordingly, these models used full structural equation modeling and were equivalent to factor mixture models (Lubke & Muthén, 2007). All models were estimated with factor mean and factor variances fixed to 0 and 1, respectively, for model identification and longitudinal invariance. Item intercepts were freely estimated across profiles, with factor loadings and item residuals constrained to be equal across profiles and time points to respect measurement invariance. Alongside fit statistics, researchers are invited to select parsimonious models, ensure that the profiles make sense theoretically, carry substantive meaning, are not redundant, and composed of more than 1% of the total sample when deciding on the number of profiles to retain (Nylund et al., 2007). All LPAs were performed using 20,000 random sets of starting values and 500 iterations, the 2000 best solutions being retained for optimization. These values were 40,000, 500, and 2,000 for longitudinal LPA. Several fit statistics were used to evaluate each profile solution: the Akaike Information Criterion (AIC), the Consistent AIC (CAIC), the Bayesian Information Criterion (BIC), the sample-size adjusted BIC (SABIC), and entropy. The best profile solution should display smaller AIC, CAIC, BIC, and SABIC values compared with other profile solutions and an entropy greater than .70 (ranges from 0 to 1). Following recommendations from simulation studies (Nylund et al., 2007), we privileged the values associated with the BIC and CAIC.

In the third step, we replicated the profile enumeration in a longitudinal LPA setting and we applied a sequential strategy following a procedure developed by Morin and Litalien (2017). The sequential steps examine whether the same number of profiles can be established in each time point (i.e., *configural*) and if they are similar with regards to the means and the variances of the indicators (*structural* and *dispersion*), and the sizes of the profiles (*distributional* similarity). Latent transition analyses generally impose that the same profiles (in terms of their number and their means) are modeled at each time point. This assumption is likely to be too restrictive in many real cases and led researchers to distinguish longitudinal LPA from latent transition analyses (Morin & Litalien, 2017). The preliminary step of longitudinal LPA is important to assess the construct validity of the profiles across time before taking the within-person transition probabilities into account. This rationale is similar to testing longitudinal measurement invariance across time before assessing structural relations between constructs in a variable-centered approach.

Fourth, we performed latent transition analyses including the within-person transition probabilities across time points. Finally, we investigated the impact of antecedents on profile memberships and transitions using multinomial logistic regressions following procedures developed by Morin and Litalien (2017) and Muthén and Asparouhov (2011).

3. Results

Details on the preliminary analyses and the time-specific LPAs are available in the online supplements. The means, standard deviations, and bivariate correlations are displayed in Table D2. Measurement invariance analyses showed that all constructs were reliably measured and equivalent across cohorts and time points (see Table D3). The profile enumeration and the associated fit indices are displayed in Table D4. Overall, results supported a 3- and a 4-profile solution for Time 1, and a 3-profile solution for Time 2. Contrary to longitudinal LPA, these analyses were not able to take the longitudinal invariant parameters into account and thus provided only partial information.

3.1 Longitudinal latent profile analyses

From the time-specific LPA, we replicated the profile enumeration in a longitudinal setting. In the first step designed to investigate the number of profiles in each time point (i.e., configural similarity), we sequentially compared models with varying combinations of profiles across each time point. From a 1-profile solution in each time point, we sequentially compared competing models while gradually adding profiles to each time point.

Table 4. Longitudinal latent profile enumeration fit statistics

Profiles across time points		LL	fp	SCF	AIC	BIC	SABIC	CAIC	Entropy
1	1–1	–9603.32	68	1.0829	19342.63	19634.58	19418.73	19702.58	1
2	2–1	–9515.86	79	1.0926	19189.72	19528.90	19278.13	19607.90	.815
3	1–2	–9564.10	79	1.1348	19286.19	19625.37	19374.60	19704.37	.496
4	2–2	–9445.28	90	1.0966	19070.55	19456.96	19171.27	19546.96	.665
5	3–2	–9407.08	101	1.1082	19016.16	19449.80	19129.19	19550.80	.680
6	2–3	–9402.13	101	1.0662	19006.27	19439.90	19119.29	19540.90	.692
7	3–3	–9358.39	112	1.1102	18940.78	19421.64	19066.11	19533.64	.702
8	3–4	–9268.62	123	1.3326	18783.24	19311.34	18920.89	19434.34	.654
9	4–3	–9115.91	123	1.0870	18477.81	19005.90	18615.45	19128.90	.739
10	4–4	–9094.67	134	1.0926	18457.33	19032.65	18607.28	19166.65	.740

Note. LL = log likelihood; fp = free parameters; SCF = scaling correction factor; AIC = Akaike information criteria; BIC = Bayesian information criteria; SABIC = sample-size adjusted BIC; CAIC = Consistent AIC.

Results of the longitudinal LPA profile enumeration are displayed in Table 4. Longitudinal latent profile enumeration fit statistics. Consistent with the results from time-specific LPA, the 3–3, 3–4, and the 4–3 solutions appeared as optimal models with regards to the fit statistics. However, a thorough investigation of these models showed that the last three solutions of Table 4 were statistically improper. More specifically, besides the emergence of very small profiles smaller than 1% of the total sample, we also observed that one item intercept had been fixed across profiles during the iteration process due to a non-significant loading with its higher-order construct. Furthermore, these solutions showed problems of convergence and non-replicated best log-likelihood values that raised local maxima issues. Contrary to classical LPA, the models estimated in this study used full

measurement models and are thus more prone to these kinds of problems due to the number of estimated parameters (Lubke & Muthén, 2007). When excluding these problematic solutions, the 3–3 solution was statistically proper, yielded meaningful and well differentiated profiles fully consistent with our expectations and time-specific LPA and thus emerged as the best solution. This model of configural similarity was thus retained for subsequent analyses.

Table 5. Longitudinal similarity fit statistics between profiles at time 1 and time 2

Models of similarity	LL	fp	SCF	AIC	BIC	SABIC	CAIC	Entropy
Configural	–9358.39	112	1.11	18940.78	19421.64	19066.11	19533.64	.70
Structural	–9397.05	82	1.07	18958.11	19310.17	19049.87	19392.17	.69
Dispersion	–9420.04	70	1.05	18980.08	19280.62	19058.42	19350.62	.69
Distributional	–9421.54	68	1.06	18979.09	19271.04	19055.18	19339.04	.70
Predictive								
Free relations with predictors	–9256.02	94	1.25	18700.04	19102.75	18804.36	19196.75	.74
Invariant relations with predictors	–9256.84	90	1.28	18693.67	19079.24	18793.55	19169.24	.74

Note. LL = log likelihood; fp = free parameters; SCF = scaling correction factor; AIC = Akaike information criteria; BIC = Bayesian information criteria; SABIC = sample-size adjusted BIC; CAIC = Consistent AIC.

Before carrying out the interpretation of the profiles, we compared this model of configural similarity to constrained models of structural, dispersion, and distributional similarity (see Table 5). When comparing these models of profile similarity, we followed Morin et al.'s (2016) recommendations suggesting a decrease in at least two of the fit statistics for the model of similarity to be retained. Accordingly, results showed that the structural, dispersion, and distributional models yielded a better fit to the data. In other words, our results highlighted that the same number of profiles, with equivalent means, variances, and sizes could be identified across time. We thus retained this model of distributional similarity for interpretation and latent transition analyses (see Figure 5 and Table 6).

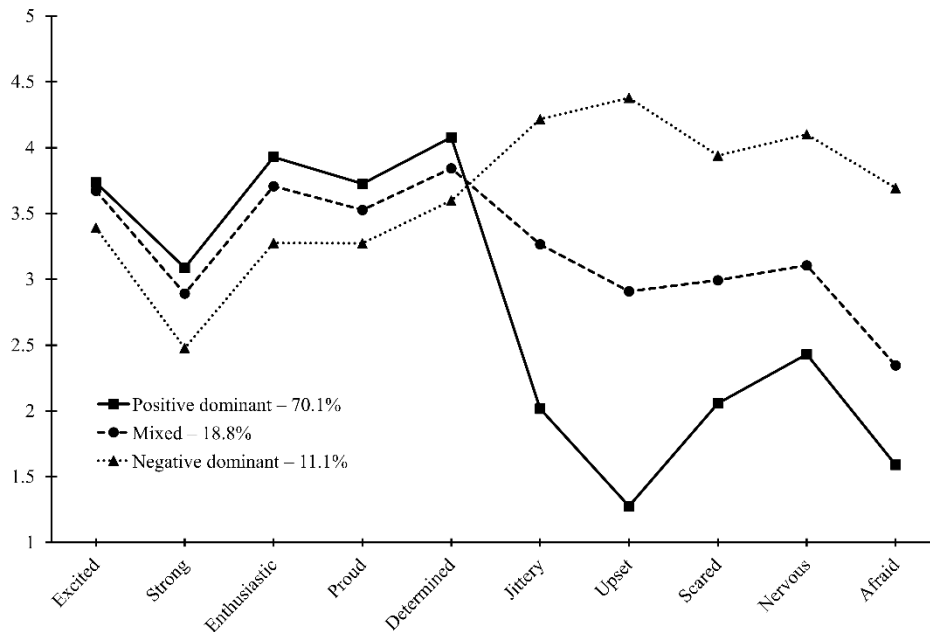


Figure 5. Final longitudinal LPA solution with distributional similarity

3.2 Description of profiles

The first and largest profile (70.1%) was characterized by high levels of positive along with very low levels of negative anticipatory emotions. Compared to other profiles, this profile notably exhibited a compensatory pattern of positive and negative anticipatory emotions and was thus labeled *positive dominant*. The second profile exhibited both high levels of positive and negative anticipatory emotions. This *mixed* profile was composed of 18.8% of the total sample. The smallest and third profile (11.1%) was composed of students experiencing more negative anticipatory emotions and less positive anticipatory emotions than the other profiles. For these reasons, we labeled it the *negative dominant* profile. Two complementary observations are noteworthy when looking at the patterns of positive and negative anticipatory emotions across profiles. First, while students exhibited very low variability in positive anticipatory emotions as demonstrated by their high proximity in Figure 5, negative anticipatory emotions displayed sharp differences across profiles. Second, the patterns of positive anticipatory emotions were very similar across profiles with high levels of enthusiasm and determination and lower levels of other emotions (e.g., strong). However, patterns of negative anticipatory emotions exhibited greater differences between profiles. Emotions such as scared, nervous, and afraid were higher for the *positive dominant* profile, whereas emotions such as jittery and upset were more prevalent in the *negative dominant* profile. As for the *mixed* profile, negative anticipatory emotions were less differentiated, except for the emotion afraid.

3.3 Latent transition analyses

Even though the relative sizes of the profiles were stable across time points as demonstrated by the distribution similarity model previously retained, a relatively high proportion of transitions between profiles occurred across time (see Table 6). The *positive dominant* was the most stable profile over time, with a probability of .798 to remain in the same profile between the beginning and the end of grade 12. Among students who were in the *positive dominant* profile at the beginning of grade 12, 15.2% and 4.9% of those students transitioned to the *mixed* and the *negative dominant* profiles, respectively. Contrary to the *positive dominant* profile, the *mixed* and the *negative dominant* profiles were less stable, with only 36.4% and 37.0%, respectively of students who remained in the same profile across time. For students with a *mixed* profile at the beginning of grade 12, 43.5% of them transitioned to a *positive dominant* profile while 20% transitioned to a *negative dominant* profile. Interestingly, the majority of students who belonged to the *negative dominant* profile (50.6%) transitioned to the *positive dominant* profile while only 12.4% of them transitioned to the *mixed* profile.

Table 6. Latent transition probabilities between profiles across time points

Beginning of Grade 12	End of Grade 12		
	Positive dominant	Mixed	Negative dominant
Positive dominant	.798	.152	.049
Mixed	.435	.364	.200
Negative dominant	.506	.124	.370

3.4 Antecedents of profiles

Two complementary investigations of the impact of antecedents on profiles were endeavored. First, we modeled the impact of antecedents on profile membership at each time point. As suggested by Morin and Litalien (2017), we compared a model in which the antecedents freely predicted profile membership at each time point to a model in which the impact of antecedents on profile membership was equivalent in both time points. This last model yielded the best fit to the data (see the bottom part of Table 5) and was retained for interpretation. Our results showed that both career adaptability and career decidedness predicted profile membership. High levels of both career adaptability and career decidedness were associated with a higher probability to belong to the *positive dominant* compared to the *negative dominant* profile ($\beta = 0.62$ and $\beta = 0.98$ for career adaptability and career decidedness, $p < .001$). A similar pattern was found when compared to the *mixed* profile ($\beta = 0.81$ and $\beta = 1.24$ for career adaptability and career decidedness, $p < .01$). In contrast, neither career adaptability ($\beta = -0.19$, $p = .508$) nor career decidedness ($\beta = -0.26$, $p = .216$) differentiated membership between the *mixed* and the *negative dominant* profiles. To investigate the potential impact of socio-demographic variables (i.e., gender, grade repetitions, and parents' marital status), we compared a model in which these variables were allowed to predict profile membership (AIC = 18144.53, BIC = 18578.03, SABIC = 18254.26, CAIC = 18680.03) to a model in which the regression coefficients of these variables were constrained to zero (AIC = 18136.42, BIC = 18518.91, SABIC = 18233.24,

CAIC = 18608.91). The latter model exhibited lower values on fit indices and was thus retained, suggesting that the impact of socio-demographic controls was negligible.

The impact of antecedents was also modeled on the within-person transitions between profiles. Differences in within-person transition probabilities for different values of the antecedents are displayed in Table 7. Our results showed that, compared to transition probabilities at the mean values of the antecedents, higher levels of both career adaptability and career decidedness (1 SD above the mean) had a significant impact on transition probabilities between profiles. Following procedures developed by Muthén and Asparouhov (2011), differences in transition probabilities were also expressed in odds ratio (OR) describing the probability to transition to another profile compared to the probability to remain in the same profile. Compared to students who remained in a *positive dominant* profile, high levels of career adaptability were associated with a lower probability to transition to the *mixed* profile (OR = 0.609, $p < .05$) and to the *negative dominant* profile (OR = 0.216, $p < .05$). In other words, students with high levels of career adaptability had a higher probability of remaining in the *positive dominant* profile across time. However, career adaptability did not significantly influence transition probabilities for students who were in the *mixed* or the *negative dominant* profile at the beginning of Grade 12, as demonstrated by the small changes of transition probabilities for these profiles displayed in Table 7. Similarly, students in the *positive dominant* profile at the beginning of the year had lower probabilities of transitioning to the *mixed* (OR = .597, $p < .001$) and to the *negative dominant* profile (OR = 0.546, $p < .001$) when they had higher levels of career decidedness. No significant impact was found for the transitions of students who were in the *mixed* profile at the beginning of Grade 12. Finally, students who were in the *negative dominant* profile had a higher probability to transition to the *positive dominant* profile when they were career decided (OR = 6.795, $p < .01$), but not to the *mixed* profile (OR = 5.958, $p = .439$).

Table 7. Latent transition probabilities between profiles across time points for different values of the antecedents

<i>For career adaptability = 0</i>		End of Grade 12	
Beginning of Grade 12	Positive dominant	Mixed	Negative dominant
Positive dominant	.754	.212	.034
Mixed	.271	.403	.326
Negative dominant	.397	.147	.456
<i>For career adaptability = 1</i>		End of Grade 12	
Beginning of Grade 12	Positive dominant	Mixed	Negative dominant
Positive dominant	.847	.145	.008
Mixed	.350	.349	.302
Negative dominant	.407	.275	.318
<i>For career decidedness = 0</i>		End of Grade 12	
Beginning of Grade 12	Positive dominant	Mixed	Negative dominant
Positive dominant	.761	.177	.062
Mixed	.360	.384	.256
Negative dominant	.577	.301	.122
<i>For career decidedness = 1</i>		End of Grade 12	
Beginning of Grade 12	Positive dominant	Mixed	Negative dominant
Positive dominant	.845	.117	.038
Mixed	.391	.438	.0171
Negative dominant	.672	.307	.021

Note. Latent transition probabilities are reported at the mean (i.e., 0) and one standard deviation above the mean (i.e., 1) for each predictor.

4. Discussion

The transition from high school to higher education is characterized by stressful challenges that adolescents anticipate to a considerable extent (Nurmi, 1991). The present study investigated the profiles of anticipatory emotions at the prospect of high school graduation, their stability, and transitions across the last year of high school. Additionally, we explored whether students' career decidedness and career adaptability predicted profile membership and transitions between profiles. From a future-oriented perspective, investigating profiles of anticipatory emotions and their antecedents provides insights for helping students cope with and adapt to the transition.

Our results yielded three distinct profiles that differed in their combinations of positive and negative anticipatory emotions. The *positive dominant* profile comprised the vast majority of students and exhibited mainly positive anticipatory emotions with relatively low negative anticipatory emotions. A *mixed* profile composed of almost a fifth of the sample displayed both positive and negative anticipatory emotions. Higher levels of negative anticipatory emotions characterized the third and smallest *negative dominant* profile. Whereas the *positive dominant* profile exhibited some unipolarity between positive and negative anticipatory emotions, the pattern for the *negative dominant* profile suggested that negative anticipatory emotions do not come necessarily without positive anticipatory

emotions. Thus, this profile also exhibited mixed emotions to some extent—even though negative anticipatory emotions were dominant in their emotional experience. Our results are consistent with research suggesting that people tend to report stable and moderate levels of positive anticipatory emotions across situations and individuals, what has been called the positive mood offset (Diener et al., 2015). Experience sampling studies also confirmed this pattern and further showed that negative emotions were less frequent and intense and that purely negative emotional experiences were less common than mixed emotions (Scott et al., 2014; Trampe et al., 2015). In a recent study, Barford and colleagues (2020) provided compelling evidence that mixed emotions generally arise with momentary upsurges of negative emotions against a relatively steady baseline of positive emotions. Thus, these studies are consistent with our finding that profiles were mostly differentiated upon negative anticipatory emotions, rather than distinct levels of positive anticipatory emotions.

The present study sheds light on the complexity of students' emotional experiences at the prospect of anticipated career events such as transitioning to higher education (Ersner-Hershfield et al., 2008; Larsen et al., 2001). Above responding to calls for research on the role of emotions in vocational psychology (Kidd, 2004), the future-oriented perspective adopted in the present study further highlights the importance of considering how individuals approach important future career events and the interrelations with career development processes before these events. Importantly, given the impact of future-oriented emotions on subsequent behavior and proactive coping (Baumeister et al., 2007; H. Baumgartner et al., 2008), future research should investigate the behavioral outcomes and proactive coping efforts of distinct profiles of anticipatory emotions.

The present study advances our understanding of the anticipation of future career events across time. Our second objective pertained to investigating the stability of—and the within-person transitions between—profiles. Our results showed that the 3-profile solution was very stable at the sample-level between the beginning and the end of the last year of high school. Specifically, the profiles displayed the same means, within-profile variances, and had the same relative sizes as demonstrated by our investigations of longitudinal profile similarity. This result conveys valuable implications for both research and practice as the stability over profiles is a prerequisite in establishing the content validity of profile solutions and substantiates the proper use of profiles for targeting specific or at-risk students based on their anticipatory emotions (Hofmans et al., 2020). When looking at the longitudinal within-person transitions between profiles, our results showed that, while most students in the *positive dominant* profile at the beginning of the year tended to remain in that profile across time, students in the two other profiles exhibited more changes in anticipatory emotions across time. Most students in the *mixed* and the *negative dominant* profiles tended to transition to the *positive dominant* profile, with few students remaining or transitioning to another profile. From a developmental perspective, this would suggest that even though career-related tasks such as contemplating potential educational and career paths can lead to anxiety at first, these challenges represent necessary and normative tasks that, once accomplished and complete, can yield a positive pattern of anticipatory emotions (Porfeli & Lee, 2012; Vignoli, 2015). Additionally, the stability of the positive dominant profile further highlights the benefits of

securing a positive outlook at the prospect of the transition to higher education as early as the beginning of the last year of high school. Overall, our results underscore the importance of considering the months that precede the transition to higher education as a critical developmental period for high school students.

Our third objective was to examine the impact of two career-related antecedents—career decidedness and career adaptability—on profile membership and latent transitions between profiles. On the one hand, the multinomial logistic regression results supported our hypotheses and showed that both career decidedness and career adaptability predicted profile membership. Overall, higher levels of career decidedness and career adaptability were associated with a higher probability of belonging to the positive dominant profile than the mixed or *negative profile*. On the other hand, results regarding the impact of antecedents on transitions between profiles were similar but only partially confirmed our hypotheses. High levels of career decidedness were associated with a higher probability to remain in the *positive dominant* profile and associated with higher probabilities to transition from a *negative dominant* profile to a *positive dominant* profile. However, career decidedness did not predict transitions from the *mixed* profile. These results are notable as they draw attention to career decision-making processes as normative and necessary developmental tasks directly linked to emotional anticipation of the transition to higher education (Hirschi & Läge, 2007). These results also echo previous research showing that being career decided provides students with meaning and purpose toward future career goals and contributes to personal growth and individual well-being (Uthayakumar et al., 2010).

High levels of career adaptability were associated with a higher probability of remaining in the positive dominant profile but did not significantly influence transitions from the *mixed* or the *negative dominant* profile, contrary to our hypotheses. This pattern of results is inconsistent with a conceptualization of career adaptability as self-regulatory resources that students can rely upon when facing and coping with stressful career tasks and transitions. In that sense, the activation of career adaptability resources is, therefore, argued to vary according to students' regulation needs (Rossier, 2015; Zacher, 2015). Despite this apparent inconsistency, our results are, in fact, reasonably consistent with the proactive coping literature (Aspinwall & Taylor, 1997). While, in many stress and coping models, resources act as moderators in coping with extant and online stressors, resources play a more central role in the first phases of proacting coping such that the accumulation of resources rather influence how one is appraising the future event and evaluating the need for proactive coping efforts. Consequently, higher levels of career adaptability should be associated with a lower probability to consider the transition as stressful but explain little for students who already consider the transition as stressful, as our results showed. This is mainly due to the temporal distance that makes any active coping with the anticipated stressor less useful, compared to the accumulation of resources, when the stressor is still temporally distant in the future. However, as the temporal proximity of the anticipated event comes closer, it is likely that students will make increasing use of their career adaptability resources to face with online stressful career tasks, as previously suggested (Rossier, 2015; Zacher, 2015). In this view, the timing of the coping process is critical for inferring the role of individual resources in

coping with anticipated stressful events (Aspinwall & Taylor, 1997). Still, the measurement time points used in the present study limit our ability to disentangle such processes. A fine-grained longitudinal investigation of the use of career-related resources in anticipation of future career tasks provides important avenues for future research. Taken together, these results highlight both career decidedness and career adaptability as important factors in adolescents' career development (Hirschi, 2009; Hirschi & Läge, 2007) and their role in successfully preparing and adapting to career transitions (Rudolph et al., 2017).

4.1 Limitations and future research

Several limitations may have affected the quality of our findings. Some limitations pertained to the quality of our sampling, both in terms of composition and size. While we collected data in several schools and accounted for this nesting in our analyses, we nonetheless relied on a convenience sample, and we thus are cautious about generalizing our results to the population of high school students or to other countries—especially those with different prospects at the end of high school. Besides, our sample size may appear somewhat small with regards to reported standards in latent profile analysis (Nylund et al., 2007; Tein et al., 2013). Thus, replication efforts are needed to ascertain and confirm the profiles of anticipatory emotions found in this study, especially given the exploratory approach generally implied in person-centered studies (Hofmans et al., 2020; Spurk et al., 2020).

Second, though the design of our study may be longitudinal, emotions are defined as malleable and transactional constructs, and the large time span of our study might limit our ability to disentangle anticipatory emotional processes at stake. However, comparing the beginning and the end of the school year appeared to us as a preliminary and necessary step given the lack of prior evidence on anticipatory emotions. In this regard, investigating students' anticipatory emotions through daily diary studies and experience sampling studies might be interesting and might bring a more convincing and nuanced picture while addressing complex measurement issues associated with mixed emotions (Barford et al., 2020).

Third, it could be argued that our results might be highly dependent on the measure of emotions chosen in the present study (J. A. Russell & Carroll, 1999). Measures of emotions are numerous and sometimes rely on different theoretical assumptions, as it is especially the case in the mixed emotions literature (Larsen & McGraw, 2014). However, it could be interesting to replicate the present study with different measures of emotions such as the state-form PANAS or with measures differentiating between valence and arousal as contended in the circumplex model of affect (J. A. Russell & Carroll, 1999; Watson & Tellegen, 1985). Interesting routes for future research also lie in investigating the combinations of both anticipatory and anticipated emotions as they have been identified as complementary but distinct antecedents of behavioral outcomes (H. Baumgartner et al., 2008).

Related to this, extending the range of antecedents and including behavioral outcomes of profiles of anticipatory emotions provide additional avenues for research. Variable-centered approaches have already shown the wide range of contextual, situational, and personal factors

that determine the structure and the experience of emotions, but it is less certain how these relations occur when analyzed in a person-centered approach. For example, these research efforts could underscore the importance that school, peers, and family play in high school students' emotions towards anticipated transitions (Vignoli et al., 2020), as well as their role in the subsequent preparatory and vocational behaviors elicited by their anticipative reactions.

4.2 Implications for practice

Apart from increasing the theoretical understanding of the nature of emotional anticipation, fruitful implications for practice emanate from the present study. By providing evidence for differentiated and distinct profiles of anticipatory emotions, this study brings critical insights in facilitating the detection of at-risk students and offers the lens of anticipatory emotions to work on several issues related to career decision-making and preparation for the transition. As such, the qualitative distinctions observed in our profiles underline the various ways that students emotionally anticipate the transition from high school to higher education. Therefore, teachers, institutions, counselors, and parents should appreciate this diversity and escape attempts to prescribe specific standardized activities to help all students better prepare for the transition (e.g., telling all students to explore career options). As an example, the present study showed that negative emotions were more likely to come along with positive emotions for students in the *negative dominant* profile, contrary to students in the *positive dominant* profile who exhibited more exclusive patterns of emotions. In this specific example, counselors could, therefore, differentiate their approach in building resources for positive anticipatory emotions while at the same time, understanding what contributes to specific negative anticipatory emotions.

The investigation of transitions between profiles also adds knowledge for the implementation and the timing of interventions designed to help students to better anticipate the transition to higher education. First, our results indicate that interventions as soon as grade 11, for example, could be effective in helping students since the *positive dominant* profile was found to be very stable across time points. This suggests that students who have developed their resources in positively anticipating the transition at the beginning of grade 12 tended to keep their positive emotions throughout the last year of high school. Second, our results also indicate that interventions targeting students in the *mixed* or the *negative dominant* profile would be very effective, as demonstrated by the high proportions of transitions between profiles. These interventions could be specifically devoted to helping students to transition to the *positive dominant* profile. These avenues for practice are especially true as the present study identified career decidedness and career adaptability as antecedents of the transitions between profiles. Apart from emotion-focused interventions (Hodzic et al., 2018), interventions and counseling aimed at facilitating career decision-making and building self-regulatory resources are likely to help students to better prepare and cope with the transition, as it has already been suggested for the school-to-work transition (Koen et al., 2012).

5. Conclusion

When it comes to educational and career transitions, neither do we coldly envision and prepare for the future nor do we experience positive and negative emotions in isolation. Instead, we experience strong positive *and* negative emotions when anticipating how the transition will occur and its consequences for our well-being and career future. The present study sheds light on three distinct profiles of anticipatory emotions at the prospect of transitioning to higher education: a *positive dominant*, a *mixed*, and a *negative dominant* profile. These profiles were relatively stable in their shape and level across time, and students exhibited relatively high proportions of transitions between these profiles from the beginning to the end of the last year of high school. Finally, the present study showed that career decidedness and career adaptability predicted both profile membership and the transitions between profiles.

Chapter 6

Emotional anticipation of high school graduation

Similarity of profiles across gender, educational track, and grade

The transition from high school to university or work represents a major transition that adolescents anticipate to a considerable extent, possibly with multiple emotions at the same time. The present study investigated adolescents' emotional anticipation profiles at the prospect of high school graduation and examined whether these profiles were similar across gender, educational track, and grade using a person-centered approach. Our results shed light on profiles that were distinct in level and shape and found stable across grades: a *Positive Anticipatory–Positive Anticipated* emotions profile, a *Mixed Anticipatory–High Anticipated* emotions profile, a *Mixed Anticipatory–Low Anticipated* emotions profile, a *Negative Anticipatory–High Anticipated* emotions profile, and a *Positive Anticipatory–High Anticipated* emotions profile. Contrasting with variable-centered results, differences across gender and educational track were found to be rather qualitative in nature (i.e., different profile shape and profile prevalence) than quantitative (i.e., differences in emotional levels). Our findings offer important insights in understanding adolescents' anticipation of important life and educational transitions.

Reference

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Chapter 6

Emotional anticipation of high school graduation

Similarity of profiles across gender, educational track, and grade

1. Introduction

The transition following high school graduation represents an anticipated critical life and career event for adolescents (Anderson et al., 2012; Nurmi, 1991). Transitions represent turning points between two periods of stability during which individuals experience important role changes (Anderson et al., 2012; Levinson, 1986; Louis, 1980). Whether going to university or directly entering the job market, students appraise the transition as stressful and emotional as they face many challenges such as developing career awareness and exploration, adjusting to a new learning or job environment, and developing adaptive study or work habits (Christie, 2009; Trautwein & Bosse, 2017). The multitude of challenges, the pursuit of different goals, and the passage from one stable period to the other have been argued to produce multiple strong emotional reactions simultaneously (Ersner-Hershfield et al., 2008; Larsen et al., 2001; Lazarus, 1991). When anticipating their transition, students might experience anticipatory anxiety at the prospect of failing exams and enthusiasm at the prospect of making new friends during higher education. At the same time, students may also imagine how their transition will feel. They might anticipate feeling happy and proud when imagining successful socialization at university or work, and if unsuccessful, they might anticipate feeling disappointed and sad.

Much work has already shed light on the role of emotions—and individual affective differences—among adolescents at the end of high school (Brissette et al., 2002; Christie, 2009; Conley et al., 2014; Kerr et al., 2004; J. D. A. Parker et al., 2004; Postareff et al., 2017; Srivastava et al., 2009). However, the literature has mainly overlooked the emotions that students experience at the prospect of anticipated life and educational events, namely future-oriented emotions (H. Baumgartner et al., 2008). Such a lack of evidence is unfortunate given that the anticipation of positive and negative future outcomes and emotions is argued to act as one of the main drivers of behaviors (Aspinwall & Taylor, 1997; Baumeister et al., 2007). Simultaneously, the literature has primarily relied on a variable-centered approach investigating the average relationships between positive or negative emotions with outcomes for the entire sample. This approach remains relatively limited and gives a partial view of reality as it overlooks the heterogeneity in the levels and shapes of students' emotional experiences. Indeed, the numerous hopes and fears associated with high school graduation

and the following transition are likely to induce *multiple* emotions simultaneously (Ersner-Hersfield et al., 2008; Lazarus, 1991; Shuman et al., 2013). To this end, a different, yet complementary, approach is to adopt a person-centered perspective that offers the possibility of considering the combinations of *multiple* emotions experienced by students (i.e., an emotion profile) at the prospect of the end of high school (Fernando et al., 2014). Person-centered approaches are typological methods that seek to identify subpopulations, called profiles, who display different configurations on a set of interacting variables (Morin et al., 2020; Spurk et al., 2020).

Using a person-centered approach, we investigated adolescents' profiles of future-oriented emotions at the prospect of high school graduation and the associated educational (i.e., transition to university) or career (i.e., transition to the job market) transition. To the best of our knowledge, the present study represents the first attempt to assess students' profiles of both anticipatory and anticipated emotions simultaneously. Therefore, the construct validity of profiles is a crucial endeavor to ascertain their theoretical value and their proper use as a guide to research inferences and career-related interventions (Morin et al., 2016; Olivera-Aguilar & Rikoon, 2018). In this context, the replication of profile solutions across samples and groups represents a key element (Morin et al., 2020). Our second objective pertained to the careful investigation of differences and similarities in adolescents' emotional profiles across gender, educational track, and grades.

The current study brings important contributions in different ways. First, we adopt a future-oriented and preventive approach on how students emotionally anticipate their transition. From this perspective, we complement earlier work that showed the role of affective mechanisms in helping students to prepare for and cope with upcoming transitions and inform the design of both emotion- and career-related interventions (Hodzic et al., 2018; Motlova & Honsova, 2021; J. D. A. Parker et al., 2004). Second, we respond to calls for a more comprehensive picture of students' multiple emotional experiences using person-centered approaches (Fernando et al., 2014; Ganotice et al., 2016) and offer a typological picture of emotional experiences likely to better identify at-risk students about the anticipation of their future transition. Importantly, person-centered results are naturally aligned with counselors' and practitioners' willingness to design effective interventions based on clients' and students' types with distinct needs (Macrae & Bodenhausen, 2000). Finally, the examination of differences and similarities based on gender, institutional track, and grade has the potential to investigate the generalizability of future-oriented emotions profiles and to inform the relevance of some profiles, and related interventional needs, for distinct groups of interest.

1.1 Future-oriented emotions

The anticipation of future events is associated with strong emotional reactions (Van Boven & Ashworth, 2007), what has been referred to as future-oriented emotions (H. Baumgartner et al., 2008). Two distinct yet complementary forms of emotions encompass the range of individuals' emotional reactions at the prospect of future events: anticipatory and anticipated emotions. On the one hand, anticipatory emotions refer to currently

experienced emotions at the prospect of a future event (Ortony et al., 1988). On the other hand, anticipated emotions are affective beliefs about the emotions one expects to experience in the future (Wilson & Gilbert, 2003). Two critical features distinguish anticipatory emotions from anticipated emotions. First, anticipatory emotions are currently experienced and, per se, represent real affective responses to possible future events. In contrast, anticipated emotions correspond to affective beliefs—or affective forecasts (Wilson & Gilbert, 2003)—based on pre-factual thinking about imagined positive or negative events and their consequences (M. D. Robinson & Clore, 2001). In other words, anticipated emotions are the product of a mental simulation process about a future event and beliefs about how one will react in the future. Second, because anticipatory emotions are currently experienced affective responses at the prospect of a possible event, uncertainty about the future and the likelihood of the anticipated event is part of—and partially causes—the anticipatory emotion (Moors, 2013). In contrast, as the product of one's mental simulation, anticipated emotions do not involve uncertainty because one is imagining whether a future event has occurred or not.

Specific future-oriented emotions have been differentiated (H. Baumgartner et al., 2008). Anticipatory emotions comprise the subset of emotions that have been defined as *prospect* emotions by Ortony et al. (1988). These emotions result from reacting to the prospect of desirable or undesirable future events and, respectively, are prototypically referred to as anticipatory hope and anticipatory fear. Importantly, anticipatory hope and fear are construed as broad families of emotional states and comprise facets such as excitement, confidence, or enthusiasm for anticipatory hope, and worry, anxiety, nervousness for anticipatory fear. Several anticipated emotions have also been delineated in the context of goal-directed behaviors, and thus, are consistent with future transitions (H. Baumgartner et al., 2008; Ortony et al., 1988). First, predicting the confirmation or the disconfirmation of a desired or undesired event will likely produce differentiated emotions. A (dis)confirmed desired event will likely bring about satisfaction or happiness and disappointment, respectively. In contrast, the confirmation of an undesired event will probably generate fears-confirmed emotions such as distress, and the disconfirmation of an undesired event will induce relief. Second, agent-based emotions related to one's actions and behaviors are likely to arise since one is likely to visualize one's actions and behaviors concerning imagined future events. Consequently, (dis)approving one's actions will lead to guilt and pride, respectively.

1.2 Profiles of future-oriented emotions

The possibility that people can experience multiple emotions at the same time, which has been referred to as mixed emotions, has been debated for several decades (Larsen & McGraw, 2014). However, existing empirical evidence now brings convincing support for the co-occurrence of multiple emotions (Larsen, Coles, et al., 2017). The experience of multiple emotions can arise in various contexts and situations such as learning (Ganotice et al., 2016), moving to a new house (e.g., nostalgia and excitement), and graduation from college (e.g., anxiety and determination; Ersner-Hershfield et al., 2008). Diary and experience sampling studies have shown that individuals experience mixed emotions across situations (Trampe et

al., 2015; Watson & Stanton, 2017). Person-centered approaches are well suited to investigate the patterns or combinations of multiple emotions among students. Indeed, variable-centered approaches implicitly infer that emotions are correlated to each other similarly for all individuals. Consequently, these approaches overlook that naturally-occurring groups of individuals might be defined by distinct emotional patterns. Person-centered approaches move away from a focus on average relations and relax the homogeneity assumption of model parameters. Instead, person-centered approaches address the heterogeneity of individuals' emotional combinations by grouping individuals in groups called classes or profiles that share the same pattern or combination (Morin et al., 2020). Using latent profile analysis (LPA), we adopted a person-centered approach to explore the combinations of students' emotional anticipation at the prospect of high school graduation. Profiles are differentiated upon their level and shape. Level describes how students feel either positive or negative emotions, from low to high levels. Shape describes profiles in terms of different forms (e.g., high levels of positive *and* low levels of negative anticipatory emotions).

Research Question 1. How many profiles of emotional anticipation at the prospect of the transition following the end of high school years that vary quantitatively (in level) and qualitatively (in shape) emerge in the data?

Previous work has already brought convincing empirical evidence regarding the co-occurrence of multiple emotions within school and learning contexts using a person-centered approach. Ganotice et al. (2016) exhibited distinct academic emotions profiles both in the general context of high school and specifically in mathematics among Asian students. They found four profiles: (1) high positive emotions, (2) high positive and negative emotions, (3) moderate positive and negative emotions, and (4) high negative emotions. They examined the effects of emotion profiles on learning outcomes. Their findings suggested that the High positive and the High Positive and Negative emotions profiles were the most adaptive with regard to school achievement, motivation, and math achievement. More recently, Robinson et al. (2020) used a similar approach to achievement emotions for science classes among high school students and found four profiles: (1) a Negative, (2) a Positive, (3) a Moderate-Low Deactivated, and (4) a Moderate-High All emotions profiles. They further showed that control and value appraisals predicted distinct patterns of emotions, which, in turn, were significantly associated with career intentions related to science and grade point average. Finally, Parmentier et al. (2021) showed that students exhibited three distinct profiles of anticipatory emotions at the prospect of the transition to higher education: (1) a positive dominant, (2) a negative dominant, and (3) a mixed emotions profile. Overall, these studies suggest that students tend to experience multiple emotions in a high school context, whether related to specific courses, the school context, or anticipated future transitions. However, no study had combined both anticipatory and anticipated emotions simultaneously in investigating students' emotional profiles. It thus remains unclear how the previous findings would spread in the present context. We left our research question relatively open to reflect the rather exploratory nature of our research question, consistent with the person-centered approach (Morin et al., 2020; Spurk et al., 2020). Still, consistent with the previous studies

reviewed above, we expected the emergence of distinct profiles characterized by either dominant positive or negative emotions, referring to high levels on all positive or negative emotions; a deactivated profile, characterized by particularly low levels on all emotions; a moderated profile, characterized by moderate levels on all emotions; and a high all emotions profile, characterized by high levels on all emotions.

1.3 Differences according to gender, educational track, and grade

Person-centered approaches suffer from the same limitations as the variable-centered approach with regards to generalizability. Additionally, the exploratory perspective implied by person-centered research makes it critical to systematically assess the construct validity of the profiles to ascertain that the profiles are meaningful in their own right and can be expected to generalize across samples and time (Morin et al., 2016). The investigation of similarity of profiles in different groups is important to ascertain that the profiles are not related to the extraction of spurious profiles or a statistical artifact, provide evidence for the relevance and generalizability of the profiles in distinct groups of students, and argue that person-centered approaches are useful in the study of emotional anticipation profiles (Morin et al., 2016, 2020). The exploration of differences between groups of interest is also essential from a practical point of view. It is indeed important to address the similarity between person-centered solutions to support their use as guides for the development of intervention strategies directed at distinct profiles of students (Olivera-Aguilar & Rikoon, 2018). In the present study, we examined the extent to which profiles were similar across distinct students' subpopulations based on (1) gender, (2) educational track, and (3) grade.

Research Question 2. To what extent are profiles similar in number, shape, resemblance, and size across gender, educational track, and grades?

These three variables have been chosen as previous research has demonstrated that they influenced emotions and how students anticipated the transition following high school graduation. During childhood and adolescence, many studies have documented that girls tend to express more positive emotions, internalizing emotions and symptoms, such as sadness and anxiety, and self-conscious emotions such as guilt and shame, compared to boys (Alfeld-Liro & Sigelman, 1998; Ge et al., 1994; Jose & Ratcliffe, 2004; Matud, 2004; Nolen-Hoeksema & Girgus, 1994; Orth et al., 2010; Pomerantz et al., 2002). In contrast, boys tend to express more externalizing emotions such as anger (Archer, 2004). Within the school context, research showed that girls tend to develop school burnout more than boys (Salmela-Aro et al., 2008). However, recent meta-analytic findings report null to small effect sizes regarding emotions between boys and girls and bring caution in the magnitude of gender differences (Chaplin & Aldao, 2013; Else-Quest et al., 2012), consistent with the gender similarities hypothesis (Hyde, 2005). In addition to gender, whether students follow an academic track (leading to higher education) or a vocational track (leading to apprenticeship or work) is likely to influence how they emotionally anticipate their transition. Indeed, different educational paths and associated career opportunities shape differently students' goals, temporal orientations, and beliefs associated with future goals such as commitment,

perception of barriers, expectations of success, and feeling of self-efficacy (Klaczynski & Reese, 1991; Malmberg & Trempała, 1997). For example, compared to academic students, vocational students generally report a higher number of immediate professional and adult preparatory goals such as gaining independence from parents, getting a job, and have a family, as they usually enter the job market after high school (Klaczynski & Reese, 1991). At the same time, they reported fewer career preparatory goals such as continuing education, being successful, and establishing a career. Finally, the third covariate that deemed additional scrutiny was school grade. From a vocational developmental perspective, the high school years include many career development tasks such as the crystallization of career goals, the commitment to a career choice, and engagement in preparation for a chosen career path. All of which thus develop until adolescents graduate from high school and might influence students' emotional anticipation (Hartung et al., 2005; Porfeli & Lee, 2012). From a cognitive appraisal account of emotions, as students approach the transition, the distinct features—both positive and negative—of the transition might become more salient, increase appraisals of urgency, and thus influence how they anticipate the transition (Dejonckheere et al., 2021; Scherer, 2001). The remaining time before the transition represents a core feature of the transition appraisal process within Schlossberg's Transition Framework (Anderson et al., 2012). In the present study, we decided to focus on the four last years of high school as the two first might be too temporally distant for students to experience similar emotional anticipation levels.

2. Method

2.1 Participants and procedure

Data were collected among 1,361 high school students from Grade 9 to Grade 12 – which correspond to the four last years of high school – in 19 different schools in [country]. Agreement to participate voluntarily and informed consent was obtained from participants. Being a prerequisite for profile similarity analyses (Olivera-Aguilar & Rikoon, 2018), data collection efforts were specifically designed to balance the sample proportions of gender, educational track, and grade. Concerning gender, 729 were girls (53.7%), 628 were boys (46.3%), and four participants omitted to indicate their gender. About 55% of students followed an academic track leading to higher education, and 45% followed a vocational track leading to apprenticeship or job market. Grade proportions were 24.2%, 26.3%, 23.2%, and 26.3% for Grade 9, Grade 10, Grade 11, and Grade 12, respectively.

2.2 Measures

To measure anticipatory and anticipated emotions, we adapted the original scale developed by Baumgartner et al. (2008). The discrete perspective on emotion and the person-centered approach adopted in the present study motivated the adaptation of the scale to restrict and balance the number of positive and negative, anticipatory and anticipated emotions. Indeed, the number of profile indicators is argued to have a significant influence on statistical power (Nylund et al., 2007; Tein et al., 2013). Such an adaptation resulted in

the addition of two emotional states for anticipatory emotions (i.e., hopeful and nervous) and the selection of specific emotional states in accordance with our discrete approach delineated above for anticipated emotions. Importantly, the set of emotions is very close to the original scale (H. Baumgartner et al., 2008) and involves 12 emotional states equally distributed in the four dimensions of positive anticipatory, negative anticipatory, positive anticipated, and negative anticipated emotions.

For anticipatory emotions, students were asked to indicate how they felt here and now at the prospect of the transition with the following instructions: “After completing your studies, you will probably enter the job market and search for a first job. At that time, your goals, your interests, and your personal and professional projects may take a variety of forms. Please indicate you feel *here and now* at the prospect of your transition from secondary school to higher education (or work).” On 7-point Likert scales, students rated the extent to which they felt optimistic, confident, hopeful, worried, anxious, and nervous. Anticipated emotions were assessed by two separate (i.e., positive and negative outcomes) instructions: “Now please imagine that you have made the transition from secondary school to higher education (or work). Please indicate how you think you will feel if the months following your entry into higher education (or job market), and what you will have done by then, will have had positive (or negative) consequences for you and allowed (or prevented) you to reach some of your personal and professional goals.” Students were asked to rate how happy, proud, and relieved for anticipated positive emotions in the positive imagined situation and how disappointed, guilty, and sad they would feel in the negative imagined situation. The order of positive and negative imagined situations was presented at random.

3. Results

We conducted the analyses using *Mplus* 8. Descriptive statistics and difference tests across groups are displayed in Table 8. Except for optimism and hope, boys and girls showed significant differences in all anticipatory and anticipated emotions. Girls reported more intense negative anticipatory and anticipated emotions. However, girls reported being less confident than boys. Significant differences were also found when comparing students following an academic vs. a vocational track. Academic students reported more intense emotions, except for anticipatory confidence and anticipated pride and relief. For grade, most anticipatory and anticipated emotions, except for anticipated happiness, pride, and guilt, showed significant increases from Grade 9 to Grade 12.

Profiles of future-oriented emotions were first investigated using LPA for each group separately, distinguishing gender (boys and girls), educational track (academic and vocational track), and grade (Grade 9, Grade 10, Grade 11, and Grade 12). The profile enumeration process for group-specific LPAs and the rationale for model selection are described in the online supplements. The fit statistics associated with the profile enumeration across gender, educational track, and grades are displayed in Table E1, Table E2, and Table E3, respectively. Across groups, our results supported a 4-profile solution, thereby suggesting configural similarity across gender, educational track, and grade.

Table 8. Descriptive and comparison statistics of emotions across groups

	Gender			Educational track			Grade				
	Boys	Girls	<i>t</i> -test	Academic	Vocational	<i>t</i> -test	Grade 9	Grade 10	Grade 11	Grade 12	<i>F</i> -test
<i>Anticipatory emotions</i>											
Optimistic	4.82 (1.46)	4.86 (1.36)	−0.50	4.96 (1.29)	4.68 (1.54)	3.55***	4.71 (1.52)	4.75 (1.43)	4.76 (1.37)	5.12 (1.26)	6.45***
Confident	4.78 (1.33)	4.13 (1.42)	8.49***	4.38 (1.31)	4.48 (1.53)	−1.21	4.43 (1.42)	4.49 (1.44)	4.24 (1.48)	4.53 (1.31)	2.71*
Hopeful	5.26 (1.57)	5.09 (1.64)	1.95	5.25 (1.54)	5.07 (1.69)	2.08*	4.99 (1.69)	5.31 (1.57)	5.00 (1.61)	5.35 (1.55)	4.93**
Worried	3.20 (1.68)	3.92 (1.75)	−7.75***	3.81 (1.66)	3.32 (1.83)	5.13***	3.37 (1.69)	3.37 (1.75)	3.73 (1.79)	3.88 (1.75)	7.46***
Anxious	3.29 (1.66)	3.93 (1.81)	−6.63***	3.78 (1.72)	3.45 (1.82)	3.38***	3.35 (1.77)	3.55 (1.73)	3.70 (1.81)	3.92 (1.75)	6.26***
Nervous	3.46 (1.84)	4.22 (1.86)	−7.50***	4.01 (1.79)	3.69 (1.98)	3.06**	3.68 (1.84)	3.77 (1.94)	4.01 (1.91)	4.01 (1.84)	2.68*
<i>Anticipated emotions</i>											
Happy	5.87 (1.16)	6.07 (0.97)	−3.46***	6.03 (1.02)	5.91 (1.12)	2.05*	6.04 (1.02)	6.02 (1.09)	5.92 (1.05)	5.93 (1.10)	1.13
Proud	5.80 (1.23)	6.01 (1.07)	−3.33***	5.91 (1.10)	5.91 (1.20)	0.06	5.85 (1.13)	5.92 (1.18)	5.91 (1.16)	5.91 (1.15)	0.51
Relieved	5.54 (1.40)	5.72 (1.32)	−2.40*	5.68 (1.30)	5.57 (1.44)	1.41	5.72 (1.25)	5.52 (1.44)	5.52 (1.48)	5.77 (1.26)	3.12*
Disappointed	5.46 (1.78)	6.05 (1.29)	−6.94***	5.92 (1.38)	5.60 (1.74)	3.86***	5.70 (1.61)	5.59 (1.72)	6.07 (1.29)	5.79 (1.53)	5.64***
Guilty	4.20 (2.05)	4.56 (1.99)	−3.29***	4.50 (2.01)	4.26 (2.05)	2.12*	4.37 (1.97)	4.38 (2.10)	4.48 (2.00)	4.35 (2.03)	0.27
Sad	4.67 (2.03)	5.73 (1.55)	−10.88***	5.49 (1.64)	4.93 (2.07)	5.52***	5.26 (1.88)	4.96 (2.02)	5.38 (1.75)	5.38 (1.75)	3.96**

Note. Reported statistics are means and standard deviations. * $p < .05$. ** $p < .01$. *** $p < .001$.

3.1 Profile similarity analyses

Starting from the configural similarity model previously established in the group-specific LPAs, we sequentially compared configural, structural, dispersion, and distributional similarity models for gender, educational track, and grade. Results of profile similarity analyses for gender, educational track, and grade are available at the top, center, and bottom parts of Table 9, respectively. From the model of configural similarity, which models the same number of profiles in each group, we compared a model in which the means of the profile indicators were constrained to be equal (i.e., structural similarity), a model in which the variances of the profile indicators were held equal (i.e., dispersion similarity), and a model in which the relative sizes of the profiles were similar across groups (i.e., distributional similarity). The Akaike Information Criterion (AIC), the Consistent AIC (CAIC), the Bayesian Information Criterion (BIC), and the sample-adjusted BIC (SABIC) were used for model comparison with decreasing statistics indicating the similarity model to be retained. We privileged the BIC, SABIC, and CAIC as these were recommended, the AIC being oversensitive in detecting profile dissimilarity (Morin et al., 2016; Olivera-Aguilar & Rikoon, 2018). Besides, researchers are strongly encouraged to consider theoretical and practical issues when considering the profile similarity between groups, especially when these profiles are likely to target specific groups for interventions.

Table 9. Multigroup Profile Similarity Fit Statistics

Models of similarity	LL	fp	SCF	AIC	BIC	SABIC	CAIC	Entropy
<i>Gender</i>								
Configural	-28,397.46	127	1.291	57,048.93	57,710.98	57,307.55	57,837.98	.879
Structural	-28,556.14	79	1.385	57,270.28	57,682.11	57,431.16	57,761.11	.878
Partial structural	-28,444.26	103	1.259	57,094.53	57,631.47	57,304.28	57,734.47	.880
Dispersion	-28,481.16	91	1.229	57,144.32	57,618.70	57,329.63	57,709.70	.879
Distributional	-28,467.07	100	1.269	57,134.14	57,655.45	57,337.79	57,755.45	.879
<i>Educational track</i>								
Configural	-29056.52	255	1.273	58623.04	59951.61	59141.58	60206.61	.923
Structural	-29147.22	171	1.273	58636.45	59527.37	58984.18	59698.37	.920
Dispersion	-29213.92	147	1.291	58721.84	58721.84	59020.76	58868.84	.910
Distributional	-29222.36	141	1.285	58726.73	59461.30	59013.50	59602.35	.909
<i>Grade</i>								
Configural	-29880.38	511	1.248	60782.75	63446.61	61823.38	63957.61	.950
Structural	-30175.48	223	1.280	60796.95	61959.46	61251.08	62182.46	.930
Dispersion	-30200.31	163	1.203	60726.62	61576.35	61058.56	61739.35	.930
Distributional	-30225.79	145	1.236	60741.58	61497.5	61036.90	61642.47	.929

Note. LL = log likelihood; fp = free parameters; SCF = scaling correction factor; AIC = Akaike Information Criteria; BIC = Bayesian Information Criteria; SABIC = Sample-size Adjusted BIC; CAIC = Consistent AIC.

For gender, the structural similarity model produced increased fit statistics for AIC and SABIC and decreased fit statistics for BIC and CAIC, thus bringing mixed evidence for a

model of structural similarity. A partial structural similarity model that constrained only two profiles to be structurally equivalent between boys and girls fitted the data better. We then compared models of partial dispersion and distributional similarity, but they did not fit the data better. Thus, the partial structural similarity model was retained for further interpretation (see). Given these differences between boys and girls, the following profile similarity analyses were conducted while controlling for gender.

For educational track, results showed that the structural similarity model fitted the data better than the configural similarity model, suggesting that boys (girls) in the academic track exhibited the same means of emotions than boys (girls) in the vocational track. However, neither the dispersion nor the distributional similarity model provided a better fit to the structural similarity model, suggesting that both within-profile variances and profile sizes differed between academic and vocational students.

For grade, results showed that the structural, dispersion, and distributional similarity models fitted the data better than the configural similarity model, demonstrating the similarity across grades in terms of means, variances of the emotions, and profile sizes. We thus retained the distributional similarity model as the best description of the data.

3.2 Description of profiles

Profiles of emotional anticipation from high school graduation for girls and boys are depicted in Figure 6.

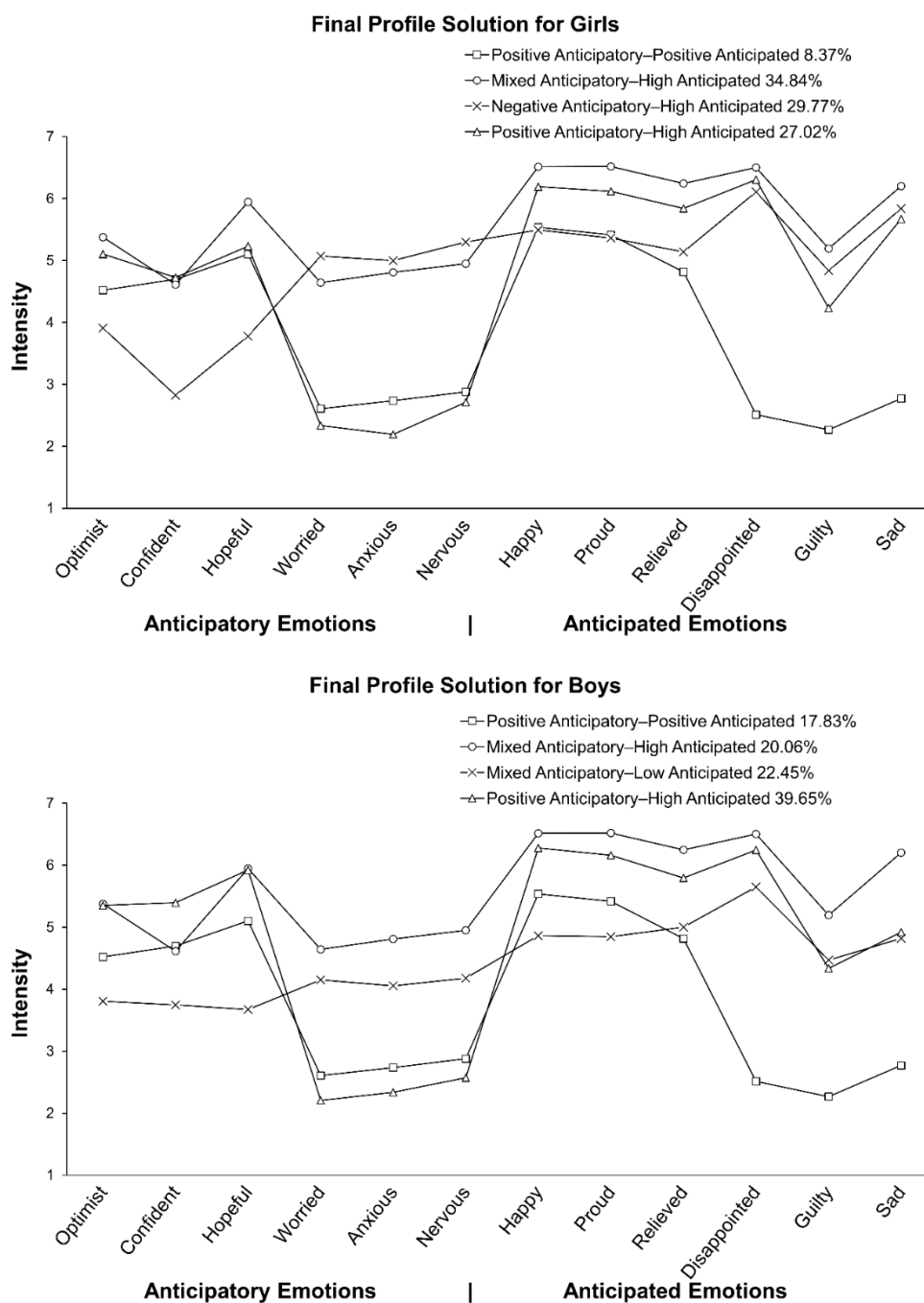


Figure 6. Final LPA solution with partial structural similarity for girls and boys

Consistent with the partial structural similarity model, the first and second profiles are invariant across gender. The other two are different between boys and girls. For boys, the

first profile was characterized by moderately high positive anticipatory emotions and very low negative anticipatory emotions. About anticipated emotions, this first profile was characterized by moderate positive anticipated emotions (i.e., anticipated happiness, pride, and relief) and very low negative anticipated emotions (i.e., anticipated disappointment, guilt, and sadness). To take into account these features, we labeled this profile *Positive Anticipatory–Positive Anticipated*. The second profile consisted of students who reported high positive anticipatory emotions and, although to a lesser extent, also high negative anticipatory emotions. Interestingly, a compensatory pattern was observed among positive anticipatory emotions, with confidence being similar in magnitude to negative anticipatory emotions. At the same time, they reported high levels of both positive and negative anticipated emotions. For these reasons, we labeled this profile as *Mixed Anticipatory–High Anticipated*. The third profile also showed co-occurrence of positive and negative emotions, both for anticipatory and anticipated emotions but to a lesser extent. Compared to other profiles, this third profile exhibited lower levels of positive and negative anticipated emotions; although, the *Positive Anticipatory–Positive Anticipated* profile has the lowest levels of negative anticipated emotions. To reflect these features and distinguish it from the *Mixed Anticipatory–High Anticipated* profile, this profile was labeled *Mixed Anticipatory–Low Anticipated*. The fourth profile was composed of students who demonstrated high positive anticipatory emotions with low negative anticipatory emotions similar to the first profile. In contrast, this fourth profile showed both high positive and negative anticipated emotions (except for anticipated guilt). To denote the similarity and singularity of this profile compared to the first profile, we labeled it *Positive Anticipatory–High Anticipated*.

The first (i.e., *Positive Anticipatory–Positive Anticipated*) and second (i.e., *Mixed Anticipatory–High Anticipated*) profiles were similar between boys and girls in terms of their means, as shown in Figure 6. Contrary to boys, the third profile among girls was composed of students who reported relatively low levels of positive anticipatory emotions and high levels of negative anticipatory emotions. This third profile showed moderate levels of positive, and high levels of negative, anticipated emotions. We labeled it *Negative Anticipatory–High Anticipated* to reflect these differences and underline the differences with other profiles. Interestingly, this third profile was particularly distinct from overall patterns found among boys. Again, note the specific pattern for guilt. The fourth profile exhibited a very similar pattern with the *Positive Anticipatory–High Anticipated* profiles found among boys. Accordingly, we used the same label to reflect this similarity. Still, profile similarity analyses did not show that these two profiles were similar. Interestingly, the two profiles are particularly distinct about specific emotions such as anticipatory confidence, anticipatory hope, and anticipated sadness. These results suggest that emotional anticipation differences between boys and girls are due to profile differences (i.e., *Mixed Anticipatory–Low Anticipated* vs. *Negative Anticipatory–High Anticipated*) along with differences in intensity for specific emotions.

We interpreted profile membership across both gender and educational track given our profile similarity results (see Figure 7). For the profiles that are invariant across gender, differences between academic and vocational students were similar, although differences in

profile prevalence were also found between boys and girls. Specifically, the *Positive Anticipatory–Positive Anticipated* was more prevalent among vocational students (and boys) than academic students (and girls). In contrast, the *Mixed Anticipatory–High Anticipated* was more prevalent among academic (and girls) than vocational students (and boys). Among girls, academic and vocational students were similarly prevalent in the *Negative Anticipatory–High Anticipated*. A slightly higher number of vocational students were in the *Positive Anticipatory–High Anticipated* compared to academic track. Among boys, academic students were more prevalent in the *Mixed Anticipatory–Low Anticipated* compared to vocational students, whereas vocational students were more prevalent in the *Positive Anticipatory–High Anticipated* compared to academic students.

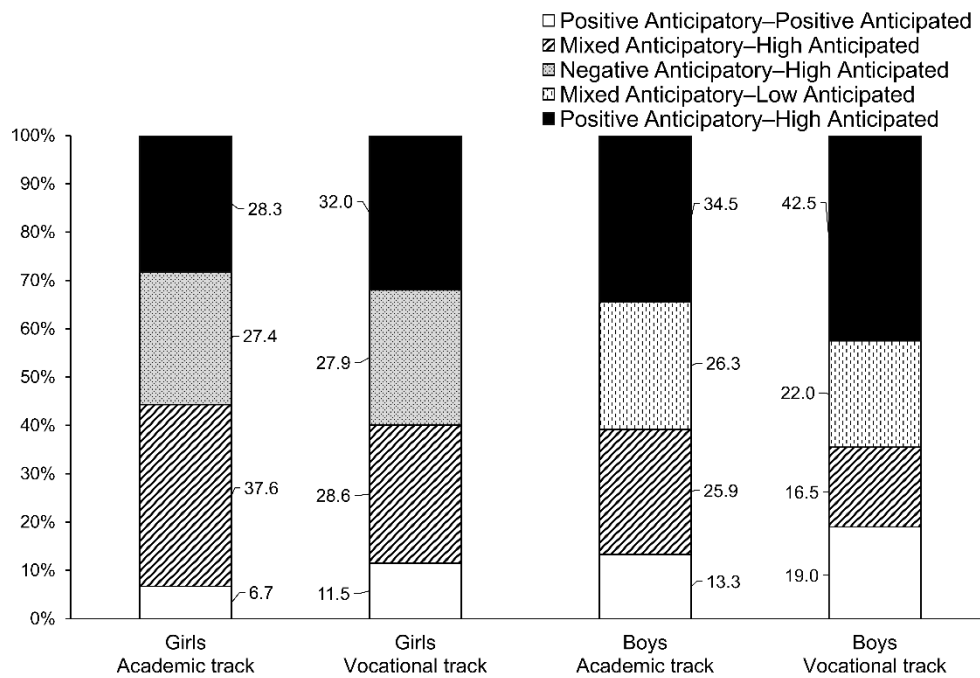


Figure 7. Profile membership across gender and educational track

For grades, our results showed that profiles were fully invariant with regard to their means, variances, and profile sizes. The proportions in each profile thus correspond to those reported above.

4. Discussion

Grounded in a future-oriented emotional perspective, the present research highlights the graduation from high school and its associated educational transition as a major period of emotional turmoil for most adolescents. Using a person-centered approach, the present study aimed to explore students' profiles of emotional anticipation at the prospect of high school graduation and investigated profile similarity across gender, educational track, and grades.

Our results showed the emergence of profiles of emotional anticipation that differed both in level and shape in all groups under our scrutiny. Our findings echo previous correlational, person-centered, and experience sampling research showing that individuals tend to experience multiple emotions simultaneously and that individuals differ in the co-occurrence between these emotions (Ganotice et al., 2016; Larsen et al., 2001; Larsen, Coles, et al., 2017; Parmentier, Dangoisse, et al., 2021; Trampe et al., 2015). While some students tended to display a somewhat bipolar-and exclusive-pattern of emotions, such as students in the *Positive Anticipatory-Positive Anticipated emotions* profile, many students reported multiple emotions at the same time, as was mostly the case in the *Mixed Anticipatory-High Anticipated* and *Mixed Anticipatory-Low Anticipated emotions* profiles. Our findings also bring important implications for research on future-oriented emotions. Little research has jointly considered both anticipatory and anticipated emotions (Barsics et al., 2016; H. Baumgartner et al., 2008) and, to the best of our knowledge, the present study is the first to adopt a person-centered approach on the two facets of future-oriented emotions. Interestingly, our findings showed critical differences in profiles when comparing anticipatory and anticipated emotions. At the quantitative level, our results showed that anticipatory emotions are experienced at a relatively lower level compared to anticipated emotions. This finding is consistent with the theoretical and conceptual features of anticipatory and anticipated emotions. Anticipatory emotions are construed as real and current affective reactions at the prospect of a future event, whereas anticipated emotions refer to affective beliefs about the experience of future emotions in imagined future situations (H. Baumgartner et al., 2008). In line with our findings, previous research has extensively demonstrated the biases and the individual tendency to overestimate one's affective experiences in the future (Wilson & Gilbert, 2003). These biases and overestimation are further argued to act as adaptive mechanisms for individuals (Miloyan & Suddendorf, 2015). A second interesting finding relates to the co-occurrence of anticipatory and anticipated emotions. Our findings revealed that anticipated emotions were more likely to co-occur than anticipatory emotions. Indeed, most profiles exhibited relatively high levels of both positive and negative anticipated emotions. Only the *Positive Anticipatory-Positive Anticipated emotions* exhibited a bipolar pattern for anticipated emotions. This finding is consistent with previous variable-centered results (H. Baumgartner et al., 2008) and suggests that both positive and negative anticipated emotions are coordinated due to the overarching goal to attain good outcomes and avoid bad outcomes at the same time in imagined situations. Said otherwise, individuals tend to expect the best from positive imagined outcomes while preparing for the worst about negative imagined outcomes (Aspinwall et al., 2005).

As Morin and colleagues (2016) argued, investigating profile similarity across several groups of key interest is particularly important for generalizability issues and informing the design and implementation of interventions. Our second objective pertained to the investigation of profile similarity across gender, educational track, and grade. Among boys, four distinct profiles emerged: (1) a *Positive Anticipatory-Positive Anticipated emotions* profile, (2) a *Mixed Anticipatory-High Anticipated emotions* profile, (3) a *Mixed Anticipatory-Low Anticipated emotions* profile, and (4) a *Positive Anticipatory-High Anticipated emotions* profile. The *Positive Anticipatory-Positive Anticipated emotions* and

the *Mixed Anticipatory–High Anticipated emotions* profiles were similar in shape among boys and girls. However, the *Mixed Anticipatory–Low Anticipated emotions* profile did not emerge among girls, and a *Negative Anticipatory–High Anticipated emotions* profile emerged, instead. This pattern of findings suggests qualitative differences between boys and girls in their emotional experience when anticipating high school graduation. Interestingly, the *Positive Anticipatory–High Anticipated emotions* profile was relatively similar in shape between boys and girls. However, quantitative differences were found with girls reporting lower levels of anticipatory hope and confidence, and higher levels of anticipated sadness. Besides shape differences, profiles were dissimilar between boys and girls in terms of prevalence. Among boys, the most prevalent profile was the *Positive Anticipatory–High Anticipated emotions*, followed by the *Mixed Anticipatory–Low Anticipated emotions*, the *Mixed Anticipatory–High Anticipated emotions*, and the *Positive Anticipatory–Positive Anticipated emotions* profile. In contrast, the *Mixed Anticipatory–High Anticipated emotions* and the *Positive Anticipatory–High Anticipated emotions* profile were the most prevalent among girls. Importantly, one-third of the sample of girls belonged to the *Negative Anticipatory–High Anticipated emotions* profile, which did not emerge among boys. Finally, almost one-fifth of the boys belonged to the *Positive Anticipatory–Positive Anticipated emotions* profile, whereas only about one-tenth of girls belonged to this profile. Overall, our findings suggest that differences in emotional experience between boys and girls are mainly driven by qualitative differences in emotional patterns as demonstrated by different profiles (i.e., *Mixed Anticipatory–Low Anticipated emotions* vs. *Negative Anticipatory–High Anticipated emotions* profile) and different profile prevalence between boys and girls. Different psychological mechanisms can explain such differences. First, Brody et al. (2016) argue that girls and men differ when they are children and that these gender differences are amplified or exacerbated by gender role socialization. Indeed, it is expected from girls to express their emotions, whereas boys have to be in control of their emotions. It is a potential explanation why a *Negative Anticipatory–High Anticipated* profile emerged among girls but not among boys. In addition, the differential vulnerability hypothesis has also been developed and argues that women tend to perceive some situations as more stressful than men (McDonough & Walters, 2001; Roxburgh, 1996). Quantitative differences in emotion levels were also found but were less prevailing and specific to anticipatory hope and confidence, and anticipated guilt and sadness, especially in the *Positive Anticipatory–High Anticipated emotions* profile. When contrasting person-centered and variable-centered results (i.e., *t-tests*; see Table 8), our findings strongly suggest extreme caution when interpreting quantitative differences between boys and girls on specific emotions since our person-centered results showed that qualitative differences mostly prevail.

Overall, our results bring new insights into gender differences with regard to emotional experiences. Despite slight differences (i.e., *Negative Anticipatory–High Anticipated profile* for girls), our results mainly echo the gender similarities hypothesis developed by Hyde (2005), arguing that boys and girls are similar on most, but not all, psychological variables. Even if stereotypes have disseminated mainly in the society assuming that girls are more sensitive and boys more in control of their emotions, these results have been partially disconfirmed with recent meta-analyses investigating emotions during childhood and

adolescence (Chaplin & Aldao, 2013; Else-Quest et al., 2012). Our study is one of the first using a person-centered approach helping in understanding that differences between boys and girls are mostly qualitative in nature with different profiles found among boys and girls but also different proportions in profiles between boys and girls. When not taken into account, these differences are likely to increase the quantitative differences previously found in the *t*-tests performed at the beginning of the analyses. Ultimately, these differences can yield misleading inferences about gender differences.

Profiles were similar in shape when comparing academic and vocational students. However, differences in within-profile resemblance and profile sizes were found significant between the two groups. Importantly, these results were found while controlling for gender differences. Compared to academic students, vocational students displayed more within-profile variability, suggesting less resemblance with the prototypical profiles found in our analyses. In terms of profile sizes, the *Positive Anticipatory–Positive Anticipated* and the *Positive Anticipatory–High Anticipated* profiles were more prevalent among vocational students, both among girls and boys. In contrast, the *Mixed Anticipatory–High Anticipated* was more prevalent among academic than vocational students, among both girls and boys. The *Negative Anticipatory–High Anticipated* profile, which emerged among girls only, was equivalently prevalent among academic and vocational students. The *Mixed Anticipatory–Low Anticipated* profile, which emerged among boys only, was slightly more prevalent among academic than vocational students. Our findings are partially consistent with previous literature that showed that academic and vocational students were distinct on a number of features likely to induce differences in their emotional anticipation of high school graduation (Klaczynski & Reese, 1991; Malmberg & Trempeła, 1997; Salmela-Aro et al., 2008). If one were to rely exclusively on variable-centered results (see Table 8), one would infer strong differences between academic and vocational students, as has been shown in prior variable-centered studies. In sharp contrast, our person-centered results showed that academic and vocational students displayed the same combinations or profiles when anticipating high school graduation. They were different, however, in their within-profile resemblance with vocational students exhibiting more variability and in the proportions of the profiles. This last difference is particularly likely to pull variable-centered results on a difference between the two groups since vocational students were more prevalent in bipolar patterns (with low negative emotions) compared to academic students. Our findings are tentative at best as we did not incorporate potential psychological mechanisms that might explain these differences. However, our findings suggest that inferring differences between the two groups should take the naturally-occurring patterns of emotions into account and that more person-centered research is needed to disentangle the qualitative (i.e., profile shape, profile size) and the quantitative (i.e., raw levels of emotions) differences between the two groups.

From Grade 9 to Grade 12, students belonged to profiles that were similar in number, shape, within-profile resemblance, and profile size. Importantly, our investigation is cross-sectional and does not investigate the developmental paths of emotional anticipation over time. It only suggests that the structure of profiles is stable among groups that differ regarding their temporal distance from the transition and thus does represent a transient phenomenon

that only occurs right before the transition. It provides evidence for the construct validity of the profiles and has practical implications for choosing an adequate temporal window to develop emotional anticipation interventions (Morin et al., 2016; Olivera-Aguilar & Rikoon, 2018). Previous studies showed that the stability over time points of emotional anticipation profiles does not preclude the emergence of within-person transitions between profiles over time (Parmentier, Dangoisse, et al., 2021).

4.1 Limitations and future directions

Several limitations may have restricted the generalizability of our findings. First, the cross-sectional nature of our design limits our ability to properly investigate developmental effects (i.e., differences in grade) and longitudinal design using a person-centered approach (e.g., latent transition analysis; Collins & Lanza, 2010) would not only benefit our understanding of developmental processes related to emotional anticipation but also address the potential transitions between profiles over time as well as the predictors of such emotional anticipation profiles (Parmentier, Dangoisse, et al., 2021). Second, while our focus was to provide a first empirical investigation of profiles of emotional anticipation across three key covariates, the present study did not investigate important antecedents and outcomes of the emotional anticipation profiles found in the present study. For example, investigating the impact of emotional anticipation profiles on adaptation outcomes after their transition either to higher education or the job market could offer valuable insights into our understanding of students' psychosocial adaptation to the transition (Conley et al., 2014). This is especially important when considering that previous research highlighted how students might overestimate how well they will adapt to the transition—thus reporting high levels of positive and low levels of negative emotions—and, as a consequence, develop unrealistic expectations and inadequate preparation (Gerdes & Mallinckrodt, 1994). Third, the features of profile similarity tests are limited to compare groups using a categorical perspective. However, both gender and educational track could be construed using different conceptualizations likely to bring more nuance in students' profiles of emotional anticipation. For example, investigating gendered self-concept may shed light on existing beliefs and expectations required by the social environment during a specific transition. For educational track, investigating the impact of specific educational climate or culture between different tracks is a fruitful avenue for future research. Fourth, the use of self-report measures is imbued with several limitations, especially regarding gender. It is difficult to disentangle whether gender differences are due to real distinct emotional experiences or whether it is the product of gender stereotyping or gender role socialization (Wood & Eagly, 2002).

4.2 Practical implications

Overall, this research can inform guidance, counseling, and parents about the complexity and the nature of emotional experience among students and offers a number of relevant information for assisting students before the transition. Even if our study did not investigate adaptation outcomes in relation to the profiles, we can, however, emphasize the importance of helping students belonging to specific profiles. Based on the emotion literature, we can

speculate, for example, that students in the *Positive Anticipatory–Positive Anticipated emotions* profile might be at risk of overestimating their chances to successfully adapt to the transition (Gerdes & Mallinckrodt, 1994), whereas students in the *Negative Anticipatory–High Anticipated emotions* profile might be especially at risk of ruminative and internalized symptoms or avoidance coping strategies. Given the important role held by parents in helping students to deal with their emotions and the transition following high school graduation (Lowe & Dotterer, 2018; Vignoli et al., 2020), parents are invited to pay particular attention to the multiple emotions students experience and often express and share, as well as the multiple challenges, goals, and barriers associated with these multiple emotions. Indeed, the capacity to appraise the complexities of emotional events and experience mixed emotions has been associated with beneficial outcomes in terms of well-being (Berrios et al., 2018; Braniecka et al., 2014). Parents could therefore help their children to accept the complexity and ambiguity of future transitions and to understand that mixed emotions can help in bringing about positive outcomes and forestall negative ones (H. Baumgartner et al., 2008). Our research also highlights the importance of developing a preventive approach during the high school period. Indeed, previous research showed that negative emotions such as anxiety, academic success, and attention problems were determinants of the adjustment trajectories during the college transition and that interventions adopting a preventive approach on these constructs might be effective (Larose et al., 2019). In this regard, schools and teachers can rely on the profiles found in the present study to design and implement interventions or specific courses devoted to helping students better prepare for their transition. These interventions could, for example, focus on developing resources for positive anticipatory and anticipated emotions but bring caution about overconfidence about future transitions and, simultaneously, help students understand the causes of negative anticipatory and anticipated emotions. These interventions could also focus on well-documented and validated interventions on emotional intelligence and career adaptability given their role on future-oriented emotions (Parmentier, Pirsoul, et al., 2021). Our profile similarity tests also bring interesting insights for practice as schools, teachers, and professionals might be aware of important qualitative differences in emotional anticipation among boys or girls. Similarly, our findings suggest that interventions might be effective irrespectively of educational track and grade.

Part III

The transition from higher education to the job market

Chapter 7

Emotional anticipation of the school-to-work transition

A multiple group latent profile analysis

The present study extends the investigation of future-oriented emotions by investigating students' emotional anticipation profiles at the prospect of the school-to-work transition. Among a total of 2882 students, latent profile analysis revealed the emergence of four qualitative and quantitative distinct profiles. While doing so, we examined the profile similarity across gender, institution type, and the remaining time before the transition. Men and women exhibited both qualitative (i.e., profile shape and prevalence) and quantitative (i.e., levels of profile indicators) differences. However, we found no quantitative differences with regard to the institution type but found distinct prevalence of profiles among university and college students. No differences were found between groups with distinct remaining time before the transition. To the best of our knowledge, this research is the first to document the complex interaction between anticipatory and anticipated emotions and the suitability of a person-centered approach for investigating emotional experience, especially among men and women. It also provides essential practical information for developing a preventive strategy regarding the emotional experience at the prospect of entry into the job market.

Reference

Parmentier, M., Pirsoul, T., Bouchat, P., & Nils, F. (submitted). Emotional Anticipation of the School-to-Work Transition: A Multiple Group Latent Profile Analysis.

Chapter 7

Emotional anticipation of the school-to-work transition

A multiple group latent profile analysis

1. Introduction

As late adolescents enter into emerging adulthood, go through higher education and enter into the world of work, they are confronted with multiple and various challenges: career decision-making, identity changes, the development of an autonomous functioning, the striving for academic achievement, and the adaptation to new learning and work environments (Arnett, 2016; Ng & Feldman, 2007). During this period, the school-to-work transitions represent a major cornerstone that emerging adults anticipate to a considerable extent (Anderson et al., 2012; Louis, 1980; Saks, 2014), possibly with strong emotional reactions at the same time (Ersner-Hershfield et al., 2008).

Young adults' emotional experiences related to the school-to-work transition and the associated job search process have already attracted scholars' attention (Bonaccio et al., 2014; Côté et al., 2006; Crossley & Stanton, 2005; J. D. A. Parker, Saklofske, et al., 2005; Stevens & Seo, 2013; L. Wang et al., 2017). However, research regarding the emotional experiences arising *before* educational and career transitions is scarce (Parmentier et al., 2021; Zampetakis et al., 2016). These emotions have been conceptualized as future-oriented emotions and categorized into two distinct types: anticipatory and anticipated emotions (H. Baumgartner et al., 2008). On the one hand, anticipatory emotions refer to currently experienced emotions at the prospect of a future event (e.g., feeling anxious at the prospect of not finding a job). On the other hand, anticipated emotions are construed as affective beliefs regarding emotions expected to occur in the future (e.g., anticipating feeling proud when imagining successful graduation or job search). Importantly, anticipating positive and negative outcomes in the future and the associated emotions is one of the main drivers of behavior and proactive coping (Aspinwall & Taylor, 1997; Baumeister et al., 2007). In the context of goal pursuit and health behaviors, both anticipatory and anticipated emotions have demonstrated distinct, yet complementary, significant relations with intentions and subsequent behaviors (H. Baumgartner et al., 2008; Xu & Guo, 2019).

The school-to-work transition entails both positive and negative future outcomes that young adults anticipate. For example, students might anticipate with anxiety that they will struggle to find their first job. Simultaneously, they might be excited and eager to put their skills into the service of a new organization. As a consequence, the school-to-work transition is likely to represent an event characterized by future-oriented mixed emotions, that is, the

co-occurrence of both positive and negative emotions simultaneously (Ersner-Hershfield et al., 2008; Larsen et al., 2001). Despite strong evidence that we experience a mixture of emotions in our daily life (Trampe et al., 2015), most research has relied on variable-centered approaches and studied positive and negative emotions rather in isolation, omitting their co-occurrence and their possible combinations (Fernando et al., 2014). Complementary to variable-centered approaches, person-centered methods offer a promising avenue for studying young adults' combinations of future-oriented emotions at the prospect of future educational transitions such as the school-to-work transition (Parmentier, Dangoisse, et al., 2021).

The objectives of the present study were twofold. First, we investigated the combinations of young adults' anticipatory and anticipated emotions at the prospect of their school-to-work transition. Exploring young adults' emotional experiences with a person-centered approach allows bringing a more nuanced and realistic picture of emotional experience that moves beyond the specific facets of positive or negative emotions. To the best of our knowledge, the present study represents the first to systematically investigate the profiles of both anticipatory and anticipated emotions at the prospect of the school-to-work transition. As a consequence, establishing the construct validity of the profiles is an important prerequisite to ascertain that the combinations of emotions are of interest and utility to shed light on young adults' emotional experiences and nourish educational practice (Hofmans et al., 2020). Therefore, the second goal of the present study was to investigate the similarities of profiles between several groups of interest that characterize the diversity of young adults approaching the transition from higher education to work: gender, the type of higher education institution (i.e., university vs. college), and the remaining time before the school-to-work transition. Beyond setting up the construct validity of profiles, investigating similarities of profiles between groups offers important implications for both research and practice. In the context of preparing students to prepare and face the school-to-work transition, shedding light on the similarities between groups can inform the design and implementation of tailored career development interventions (Olivera-Aguilar & Rikoon, 2018).

1.1 Future-oriented emotions

Looking into the future is associated with strong emotional reactions (Van Boven & Ashworth, 2007), which have been labeled future-oriented emotions (H. Baumgartner et al., 2008). Two distinct forms of future-oriented emotions have been conceptualized: anticipatory and anticipated emotions. Anticipatory emotions denote currently experienced emotions at the prospect of a future event (Ortony et al., 1988). These anticipatory emotions are reactions to the prospects of desirable and undesirable future events whose prototypical emotion families are anticipatory hope and anticipatory fear (e.g., feeling hopeful or fearful that job search will be successful or unsuccessful). In contrast to anticipatory emotions that represent real affective experiences, anticipated emotions are phenomenologically distinct as they are construed as affective beliefs about the future emotions one is expecting to experience in response to an imaged future event (e.g., expecting to feel distressed when imagining long-term unemployment). In other words, anticipated emotions are based on pre-

factual beliefs about imagined situations through mental simulation (i.e., affective forecasting; Wilson & Gilbert, 2003). Even though any emotion can be imagined through mental simulation, a specific subset of anticipated emotions has been delineated in the context of goal-directed behaviors (H. Baumgartner et al., 2008; Ortony et al., 1988). Besides the direct reaction to future events with desirable or undesirable outcomes (i.e., happiness and sadness), the (dis-)confirmation of (un-)desired events will produce distinct emotions. While a confirmed desired event will generate satisfaction and happiness, a disconfirmed desired event will bring about disappointment. Similarly, while the confirmation of an undesired event will produce distress, the disconfirmation of an undesired event will induce relief. Finally, when visualizing his or her own actions and behaviors, agent-based emotions are also likely to arise and lead to guilt and pride depending on the degree of self-approval of these actions (Ortony et al., 1988).

1.2 Profiles of future-oriented emotions

The pursuit of multiple, sometimes conflicting, goals, and the possibility of both positive and negative outcomes at the prospect of the school-to-work transition, are likely to induce uncertainty (Lazarus & Folkman, 1984). These situations have been argued to give rise to mixed emotions, that is, the co-occurrence of both positive and negative emotions simultaneously (Ersner-Hershfield et al., 2008; Larsen & McGraw, 2014; Shuman et al., 2013). Despite intense debates about the evidence of mixed emotions (Larsen, 2017a), convincing evidence bring support for the co-occurrence of multiple emotions in a variety of contexts and situations such as learning, house move, graduation, advertising, or interpersonal interactions (Ersner-Hershfield et al., 2008; Ganotice et al., 2016; Larsen et al., 2001; Schniter et al., 2015; P. Williams & Aaker, 2002). Evidence from diary and experience sampling studies also showed that individuals tend to experience mixed emotions across daily life in various situations (e.g., 30 to 50% of occurrences; Scott et al., 2014; Trampe et al., 2015).

Despite the accumulation of evidence regarding mixed emotions, most studies relied on variable-centered approaches and only focused on the magnitude of mixed emotions. They failed to describe *how* individuals tend to experience mixed emotions, that is, their specific combinations (i.e., emotion profiles; Fernando et al., 2014). Complementary to variable-centered approaches, person-centered approaches are well suited to investigate the multiple emotions and the combinations that individuals tend to experience in specific situations. Person-centered approaches are typological methods that relax the assumption of population homogeneity and seek to cluster individuals into groups, called profiles, that are distinct on a set of interacting variables (Hofmans et al., 2020). In the present study, we adopted a person-centered approach using latent profile analysis to investigate future graduates' emotional anticipation of the school-to-work transition and formulated our research question as follows:

Research Question 1. How many profiles of emotional anticipation at the prospect of the school-to-work transition that vary quantitatively (in level) and qualitatively (in shape) emerge in the data?

To the best of our knowledge, the present study represents the first empirical effort to assess profiles of both anticipatory and anticipated emotions at the prospect of the school-to-work transition. Following the exploratory nature of research questions using person-centered approaches (Hofmans et al., 2020), we left our research question relatively open. We nonetheless expected the emergence of specific profiles based on previous research on emotion profiles in similar contexts. Among university students, Robinson et al. (2017) found four emotion profiles in the context of an anatomy course: *positive*, *deactivated negative*, *negative*, and *moderate-low*. They further showed significant differences in engagement and achievement between the four emotion profiles. More recently, Tze et al. (2020) examined emotion profiles among university students during a two-semester course. They found three profiles characterized by positive emotions, negative emotions, and mixed emotions, respectively. When interpreting their findings over time, they found that most students were relatively stable in their profile over the six months. Finally, they demonstrated that students in the positive emotions and ascending profiles (from mixed to positive emotions over time) achieved better course performance overall than other profiles.

1.3 Differences according to gender, institution type, and year of study

As previously stated, person-centered research is generally exploratory, even though previous findings can help in circumscribing specific expectations about the number and the shape of profiles (Hofmans et al., 2020). Consequently, exploring the differences and similarities of profiles between groups is an important endeavor for both research and practice (Morin et al., 2016). Indeed, the generalizability of profiles across groups can be useful to ascertain profile construct validity and for designing and implementing career-related interventions. For example, these interventions could focus on at-risk profiles by developing specific emotional support for students. Most importantly, profile similarity analyses offer the possibility to investigate whether differences between groups are exclusively due to quantitative differences in levels (as is contended in the variable-centered approach) and/or due to qualitative differences (e.g., different profile shape, or different profile prevalence).

In the present study, we decided to examine variables that are likely to vary in function of emotional anticipation. To this end, we explored to which extent profiles were similar in distinct groups of interest based on (1) gender, (2) type of higher education institution, and (3) the remaining time before the transition.

Research Question 2. To what extent are profiles similar in number, shape, resemblance, and size across gender, institutional type, and remaining time before the transition?

Over the past decades, the stereotypes that women present fundamentally different patterns of emotional experience than men have been largely spread in contemporary culture. Females would be more “emotional” than males, whereas males would be more agentic and in control of their emotions (Barrett & Bliss-Moreau, 2009). Meta-analytical findings focusing on emotional experience during childhood and adolescence indicated that young

females tend to report more internalizing emotions such as guilt and shame than young males (Else-Quest et al., 2012). In contrast, young males tend to express more anger than females. Regarding emerging adults, longitudinal findings showed that females are more at risk of depression than men (Hankin et al., 1998) and tend to perceive some situations as more stressful than men, as contended by the differential vulnerability hypothesis (McDonough & Walters, 2001; Roxburgh, 1996). A complementary explanation relates to the gender intensification hypothesis which argues that differences between males and females tend to emerge or amplify during adolescence due to the socialization pressures to conform to adult gender adult roles (Hill & Lynch, 1983). However, reported effect sizes are oftentimes relatively small, negligible, or inconsistent (Else-Quest et al., 2012). This aligns with the gender similarities hypothesis from Hyde (2005) which argues that males and females are similar on most psychological variables. Thus, the stereotypes conveyed in our society seem to be based on an overstatement of gender differences, requiring more empirical evidence for shading these results.

Another covariate that is likely to influence the students' emotional experience is institutional type. The two distinct types of institutions in Belgium are universities and colleges. Universities provide academic bachelor and master programs, which are more theory-oriented. On the other hand, colleges mainly offer professional bachelors which are designed to develop the knowledge and skills for a specific occupation, such as nursing or graphic designer. Also, colleges are smaller institutions that are usually more professionalizing and offer more internships in contact with "real life." Although it exists no clear empirical evidence comparing universities and colleges, they, however, do not pursue the same career goals and opportunities. In addition, institutions play a significant role in the success of students in higher education. Indeed, the diversity of activities, how students are supervised, how the year is organized, the type of exams and how the competencies are evaluated, or the group size play all an essential role in the adaptation and success of students (Pascarella & Terenzini, 2005).

The last covariate that we considered was the remaining time before the transition. Building upon a developmental perspective, the university and college years play a significant role in the students' clarification of interests and career objectives and influence students' occupational directions (Ng & Feldman, 2007). Different theoretical frameworks argue that the remaining time before an event is crucial at various levels. In its component process model of emotion, Scherer (2001) developed the idea that the more time pressure is high for an important goal, the more the actions and behaviors become urgent. With regard to mixed emotions, Dejonckheere et al. (2021) showed that positive and negative emotions became more mutually exclusive at the prospect of receiving exam results among university students. In other words, students tend to experience a higher level of mixed emotions when a critical event is on the point to arrive. Theoretical frameworks related to transitions pay great attention to the role of time during individuals' transitions. As such, the temporal dynamic of the transition and its imminence are important appraisals of the transition in the Schlossberg's Transition Framework (Anderson et al., 2012). Similarly, in his theory of transition cycles, Nicholson (1990) argued that the specific phase arising before the transition

– the *preparation* phase – began way before the transition and that individual differences were noticeable with regard to the unfolding of this specific phase.

To sum up, the current study aimed to examine the emergence of distinct profiles based on anticipatory and anticipated emotions, and to investigate the similarity of these profiles across gender (i.e., men and women), institutional type (i.e., university and college), and the remaining time before the transition.

2. Method

2.1 Participants and procedure

Data were collected among 2,882 postsecondary students in 25 different institutions. Data collection efforts were specifically designed to balance the sample proportions regarding gender, institutional type, and year of study. Regarding gender, 1,275 participants were men (44.20%), and 1,607 were women (55.80%). A total of 1,814 students were studying at university (64.10%), while 1,016 students were studying in a college (35.90%). Participants were recruited from the first to the final year of higher education in universities and colleges. As the focus of the current study is the school-to-work transition, we coded the years of study to reflect the time before the transition. From the entire sample, 350, 392, 725, 732, and 642 students were expecting to graduate within 5, 4, 3, 2, and 1 year, respectively. Efforts to collect data with equal proportions are especially important for performing profile similarity analyses (Olivera-Aguilar & Rikoon, 2018).

2.2 Measures

We measured anticipatory emotions with a self-report measure asking students to indicate how they felt here and now at the prospect of the end of their studies and their school-to-work transition (H. Baumgartner et al., 2008). We then asked students to indicate the extent to which they felt optimistic, confident, hopeful, worried, anxious, and nervous (Ortony et al., 1988). We assessed anticipated emotions by asking students to imagine that the school-to-work transition and the few following weeks, as well as what they did during that period, had had positive (negative) consequences for them and allowed (prevented) them to reach some of their goals related to the transition. We then asked students to indicate how happy, proud, and relieved in the positive imagined situation and how disappointed, guilty, and sad they would feel in the negative imagined situation. We randomized the order of positive and negative imagined situations.

2.3 Analytical strategy

We conducted our analyses with the *Mplus* 8 robust maximum likelihood estimator with full information estimation to investigate our research questions. Besides preliminary analyses, we first conducted LPA separately for each group to investigate the profiles of future-oriented emotions. To this end, we distinguished gender (men and women), institutional type (university and college), and remaining time before the school-to-work

transition (from 1 to 5 years left). We used a series of fit statistics to evaluate the best fitting models: the Akaike Information Criterion (AIC), the Consistent AIC (CAIC), the Bayesian Information Criterion (BIC), the sample-size adjusted BIC (SABIC), and entropy. The best profile solution should display smaller AIC, CAIC, BIC, and SABIC values compared with other profile solutions and an entropy greater than .70 (ranges from 0 to 1). Nylund et al. (2007) also encouraged to use BIC and CAIC for discriminating best models. Other important elements are also recommended for choosing the optimal number of profiles, such as parsimony issues, profile redundancy, substantive theoretical meaning and relevance, and profile size. Third, we performed profile similarity analyses to explore whether groups were similar about the emotional anticipation profiles. Accordingly, we compared men and women, university and college students, and the remaining years before the transition. To this end, we adopted a methodology proposed by Morin et al. (2016) and Olivera-Aguilar and Rikoon (2018). We consecutively explored whether the profiles across groups displayed (1) the same number of profiles (i.e. configural similarity), (2) the same shape (i.e. structural similarity), (3) the same variability of emotions (i.e. dispersion similarity), and (4) equivalent sizes (i.e. distributional similarity). To this end, we also compared similarity models with the AIC, BIC, SABIC, and CAIC with decreasing statistics indicating the similarity model to be retained. The BIC, SABIC, and CAIC were privileged because the AIC tend to be oversensitive (Morin et al., 2016; Olivera-Aguilar & Rikoon, 2018). As person-centered approaches are a theory-driven process, it is also essential to evaluate the theoretical and practical meaningfulness of the profile similarity between groups, and especially with regard to group interventions.

3. Results

Descriptive statistics and difference tests across groups are displayed in Table 10. Except for anticipatory hopefulness, men and women exhibited significant differences on most emotions. Men reported higher levels of anticipatory positive emotions (avg. Cohen's $\delta = .24$), while women reported higher levels of negative anticipatory emotions (avg. Cohen's $\delta = .48$), positive anticipated emotions (avg. Cohen's $\delta = .30$), and negative anticipated emotions (avg. Cohen's $\delta = .37$). University students reported higher anticipatory negative (avg. Cohen's $\delta = .14$) and anticipated negative emotions (avg. Cohen's $\delta = .11$). When comparing students with remaining different times before the transition, several differences were significant but very small in size. Significant differences were found for anticipatory optimism ($\eta_p^2 = .01$), confidence ($\eta_p^2 = .01$), hopefulness ($\eta_p^2 = .00$), anticipated disappointment ($\eta_p^2 = .00$) and sadness ($\eta_p^2 = .01$).

Table 10. Descriptive and comparison statistics of emotions across groups

	Gender			Institutional type			Remaining time before the transition					
	Men	Women	<i>t</i> -test	University	College	<i>t</i> -test	5 years	4 years	3 years	2 years	1 year	<i>F</i> -test
<i>Anticipatory emotions</i>												
Optimistic	5.25 (1.18)	5.04 (1.18)	4.82***	5.11 (1.18)	5.18 (1.17)	-1.62	5.02 (1.19)	5.24 (1.11)	5.07 (1.23)	5.26 (1.18)	5.04 (1.15)	5.04***
Confident	4.97 (1.17)	4.38 (1.21)	13.20***	4.63 (1.24)	4.68 (1.22)	-1.17	4.45 (1.25)	4.71 (1.16)	4.58 (1.22)	4.73 (1.26)	4.68 (1.21)	4.12**
Hopeful	5.31 (1.38)	5.25 (1.34)	1.14	5.25 (1.37)	5.33 (1.33)	-1.52	5.25 (1.41)	5.33 (1.30)	5.26 (1.44)	5.40 (1.30)	5.16 (1.35)	2.92*
Worried	3.41 (1.66)	4.28 (1.57)	-14.46***	3.96 (1.67)	3.74 (1.68)	3.44**	3.75 (1.63)	3.87 (1.63)	3.86 (1.68)	3.91 (1.68)	4.04 (1.69)	1.94
Anxious	3.46 (1.65)	4.32 (1.59)	-14.10***	4.02 (1.65)	3.77 (1.71)	3.87***	3.83 (1.70)	3.87 (1.62)	3.91 (1.71)	3.95 (1.64)	4.07 (1.66)	1.52
Nervous	3.64 (1.66)	4.24 (1.61)	-9.91***	4.05 (1.63)	3.82 (1.69)	3.66***	3.90 (1.71)	3.98 (1.63)	3.96 (1.66)	3.96 (1.62)	4.07 (1.65)	0.77
<i>Anticipated emotions</i>												
Happy	5.85 (0.99)	6.12 (0.88)	-7.83***	6.00 (0.95)	6.01 (0.92)	-0.33	6.06 (0.97)	6.04 (0.95)	5.97 (0.93)	6.02 (0.93)	5.96 (0.94)	1.17
Proud	6.02 (1.04)	6.30 (0.87)	-7.67***	6.16 (0.98)	6.19 (0.93)	-0.69	6.18 (0.96)	6.18 (1.03)	6.18 (0.93)	6.20 (0.92)	6.12 (1.01)	0.60
Relieved	5.58 (1.21)	5.94 (1.11)	-8.34***	5.79 (1.19)	5.78 (1.13)	0.06	5.85 (1.24)	5.74 (1.25)	5.82 (1.13)	5.72 (1.14)	5.79 (1.16)	0.99
Disappointed	5.39 (1.44)	5.89 (1.29)	-9.64***	5.75 (1.30)	5.54 (1.50)	3.91***	5.73 (1.43)	5.84 (1.22)	5.68 (1.39)	5.60 (1.41)	5.58 (1.37)	2.83*
Guilty	3.55 (1.91)	3.87 (1.89)	-4.50***	3.76 (1.94)	3.66 (1.85)	1.43	3.82 (2.06)	3.76 (1.89)	3.82 (1.88)	3.71 (1.91)	3.61 (1.86)	1.27
Sad	4.75 (1.63)	5.61 (1.39)	-15.16***	5.30 (1.51)	5.10 (1.64)	3.28**	5.34 (1.59)	5.33 (1.54)	5.33 (1.54)	5.19 (1.54)	5.06 (1.58)	3.83**

Note. Reported statistics are means and standard deviations. * $p < .05$. ** $p < .01$. *** $p < .001$.

All analyses regarding the profile enumeration process for group-specific LPAs and the rationale for the optimal model selection are reported in the online supplements (see Appendix E). The goodness-of-fit statistics in relation to the profile enumeration across gender, institutional type, and remaining time before the transition are presented in Table F1, Table F2, and Table F3, respectively. The results suggested retaining a 4-profile solution across groups, indicating configural similarity profiles across gender, institutional type, and remaining time before the transition.

Table 11. Multigroup profile similarity fit statistics

Models of similarity	LL	fp	SCF	AIC	BIC	SABIC	CAIC	Entropy
<i>Gender</i>								
Configural	–55,639.15	199	1.234	111,676.29	112,863.57	112,231.28	113,062.57	.890
Structural	–55,914.36	151	1.191	112,130.71	113,031.61	112,551.83	113,182.61	.890
Dispersion	–55,960.34	103	1.369	112,126.67	112,741.20	112,413.93	112,844.20	.888
Distributional	–56,112.26	100	1.337	112,424.53	113,021.15	112,703.42	113,121.15	.888
<i>Institutional type</i>								
Configural	–56,303.54	399	1.254	113,405.09	115,778.35	114,510.59	116,177.35	.835
Structural	–56,399.39	303	1.158	113,404.79	115,207.04	114,244.31	115,510.04	.836
Dispersion	–56,460.35	207	1.231	113,334.70	114,565.94	113,908.23	114,772.94	.836
Distributional	–56,476.19	201	1.234	113,354.38	114,549.94	113,911.29	114,750.94	.835
<i>Remaining time before the transition</i>								
Configural	–58,844.29	999	1.035	119,686.59	125,632.55	122,458.37	126,631.55	.872
Structural	–59,024.16	615	1.047	119,278.32	122,938.75	120,984.68	123,553.75	.847
Dispersion	–59,260.36	231	1.220	118,982.73	120,357.62	119,623.65	120,588.62	.836
Distributional	–59,280.25	207	1.235	118,974.49	120,206.54	119,548.82	120,413.54	.835

Note. LL = log likelihood; fp = free parameters; SCF = scaling correction factor; AIC = Akaike information criteria; BIC = Bayesian information criteria; SABIC = sample-size adjusted BIC; CAIC = consistent AIC.

3.1 Profile similarity analysis

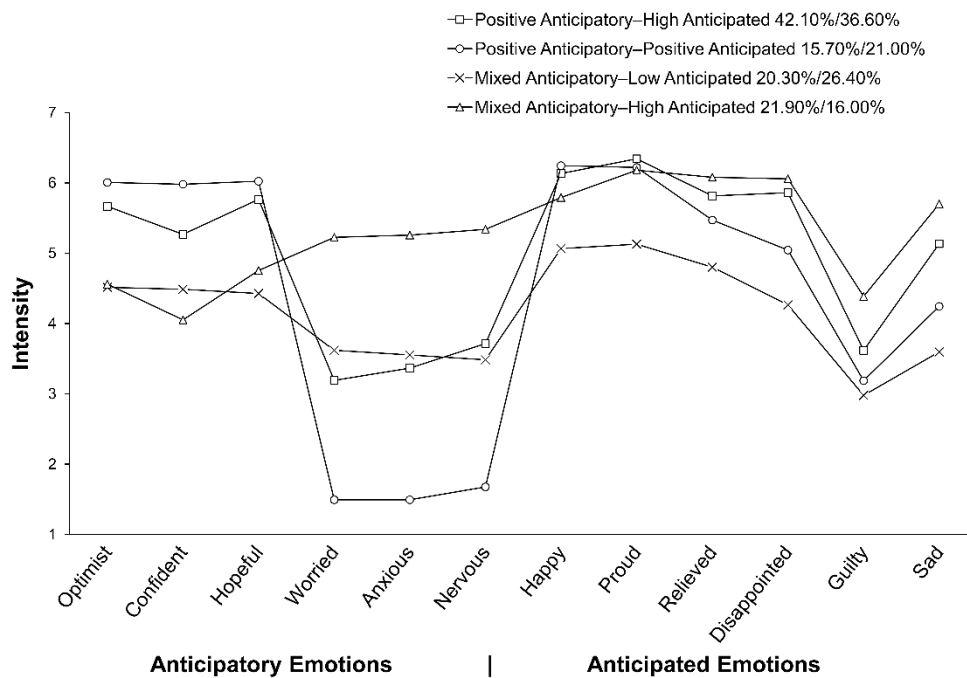
The configural, structural, dispersion, and distributional similarity models were estimated. These initial analyses were based on the configural models selected in the group-specific LPAs. The multigroup profile similarity fit statistics for gender, institutional type, and remaining time before the transition are displayed in Table 11. Based on the sequential strategy developed by Morin et al. (2016), we compared successively a model testing the same number of profiles (configural similarity) with: (1) a model testing whether the mean levels of the indicators were equivalent across groups (structural similarity); (2) whether the indicators' variances were equal across groups (dispersion similarity); and (3) whether the relative proportion of the profiles were similar across groups (distributional similarity). Concerning gender, the fit statistics increased in all profile similarity models. Partial structural similarity models were fitted to examine whether some profiles were similar between men and women. The fit statistics also increased for these models. These results support that men and women showed qualitatively distinct profiles of anticipatory and anticipated emotions. We thus decided to retain the model of configural similarity (see Figure

8 and Figure 9). Given these differences in profile shape, variances, and sizes, we tested profile similarity analyses for institutional type and remaining time before the transition while controlling for gender.

Regarding the institutional type, structural and dispersion profile similarity models displayed lower fit statistics values, supporting that profiles were equivalent in shape and within-profile resemblance among university and college students, for both women and men, respectively. Concerning the distributional similarity model, the SABIC value increased, indicating that university and college students' profiles showed differences in terms of proportions. Concerning the remaining type before the transition, all profile similarity models resulted in decreased fit statistics, indicating that students' profiles were similar for both women and men, respectively.

3.2 Description of profiles

Profiles of anticipatory and anticipated emotions at the prospect of the school-to-work transition for both men and women are displayed in Figure 8 and Figure 9.



Note. Percentages are indicated for university and college students, respectively.

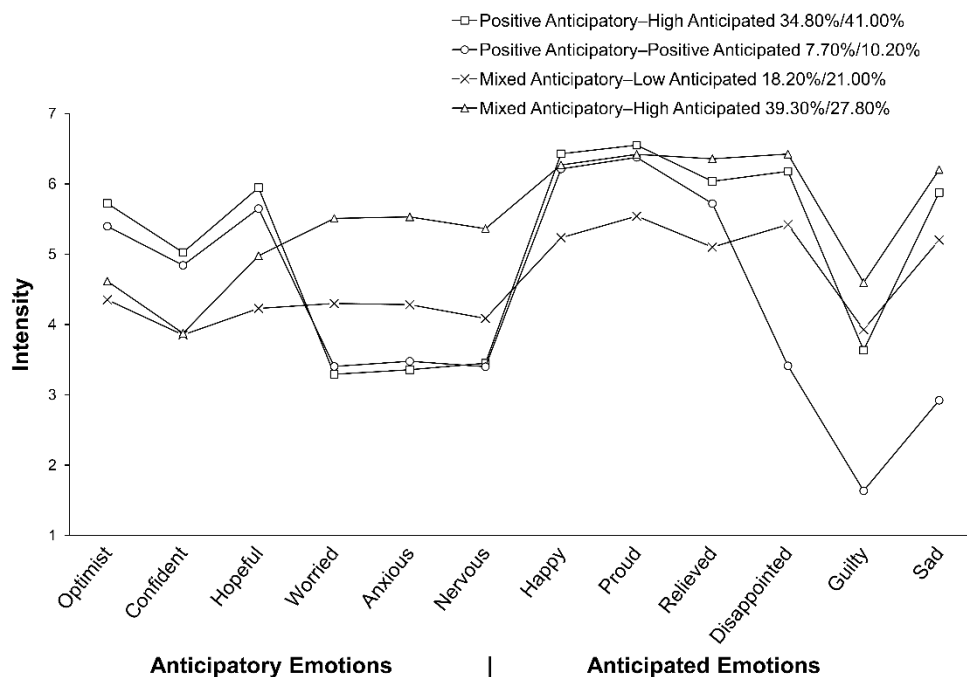
Figure 8. Final LPA solution with configural similarity for men

Table 12. Means and variances of profile indicators across gender

	Positive Anticipatory–High Anticipated			Positive Anticipatory–Positive Anticipated			Mixed Anticipatory–Low Anticipated			Mixed Anticipatory–High Anticipated		
	Men	Women	Sig.	Men	Women	Sig.	Men	Women	Sig.	Men	Women	Sig.
<i>Anticipatory emotions</i>												
Optimist	5.67 (0.57)	5.72 (0.50)	.515	6.01 (0.64)	5.40 (1.00)	.001	4.50 (1.85)	4.33 (1.36)	.470	4.59 (1.20)	4.62 (1.44)	.901
Confident	5.27 (0.64)	5.03 (0.83)	.003	5.99 (0.44)	4.86 (1.55)	.001	4.48 (1.57)	3.87 (1.15)	.002	4.06 (1.24)	3.89 (1.41)	.324
Hopeful	5.77 (0.97)	5.95 (0.73)	.062	6.02 (0.83)	5.66 (1.05)	.012	4.43 (2.62)	4.23 (1.63)	.444	4.77 (1.84)	4.99 (2.01)	.396
Worried	3.20 (1.81)	3.29 (2.00)	.569	1.49 (0.32)	3.39 (2.39)	.001	3.66 (2.31)	4.34 (1.97)	.005	5.19 (0.82)	5.51 (0.51)	.027
Anxious	3.35 (1.75)	3.36 (1.93)	.960	1.50 (0.37)	3.47 (2.85)	.001	3.56 (2.27)	4.28 (2.05)	.003	5.25 (0.73)	5.54 (0.69)	.005
Nervous	3.70 (1.81)	3.44 (2.28)	.123	1.67 (0.56)	3.39 (2.82)	.001	3.51 (2.36)	4.10 (2.26)	.005	5.32 (0.75)	5.36 (0.91)	.724
<i>Anticipated emotions</i>												
Happy	6.14 (0.48)	6.43 (0.36)	.001	6.25 (0.53)	6.22 (0.49)	.828	5.06 (1.51)	5.23 (1.25)	.294	5.80 (0.76)	6.27 (0.46)	.001
Proud	6.34 (0.42)	6.55 (0.35)	.001	6.22 (0.92)	6.39 (0.62)	.387	5.13 (1.89)	5.54 (1.32)	.021	6.18 (0.58)	6.42 (0.49)	.053
Relieved	5.80 (0.80)	6.03 (0.88)	.023	5.47 (1.67)	5.72 (1.25)	.139	4.79 (2.21)	5.10 (2.34)	.062	6.10 (0.77)	6.36 (0.43)	.021
Disappointed	5.85 (0.81)	6.18 (0.46)	.005	5.04 (2.78)	3.39 (3.54)	.001	4.23 (2.96)	5.39 (1.88)	.001	6.07 (0.58)	6.43 (0.38)	.001
Guilty	3.59 (3.25)	3.64 (3.37)	.758	3.19 (4.16)	1.63 (0.97)	.001	2.98 (3.11)	3.91 (2.82)	.001	4.39 (3.47)	4.60 (3.07)	.205
Sad	5.12 (1.50)	5.87 (0.93)	.001	4.24 (3.39)	2.90 (2.63)	.001	3.60 (3.08)	5.16 (1.85)	.001	5.72 (0.95)	6.20 (0.63)	.001

Note. Reported statistics are means and variances of profile indicators in each profile.

For men, the first profile was characterized by high levels of positive anticipatory emotions, low levels of negative anticipatory emotions, and high levels of anticipated emotions (except for guilt). We thus labeled it *Positive Anticipatory–High Anticipated*. A higher proportion of university students (42.10%) belonged to this profile compared to college students (36.60%). The second profile was relatively similar to the first with regard to positive emotions but exhibited very low levels of negative anticipatory emotions and low levels of negative anticipated emotions compared to the other profiles. This second profile was labeled *Positive Anticipatory–Positive Anticipated* and accounted for 15.70% and 21.00% of the samples of university and college students, respectively. The third profile was composed of 20.30% and 26.40% of university and college students, respectively, and exhibited rather co-occurring levels of both positive and negative emotions. Positive anticipated emotions were quite higher than negative anticipated emotions but, when compared to other profiles, this *Mixed Anticipatory–Low Anticipated* profile exhibited much lower levels of both positive and negative anticipated emotions. The fourth profile (21.90% and 16.00% of university and college students, respectively) displayed a different pattern compared to the other profiles with higher levels of negative anticipatory emotions, but, at the same time, very high levels of both positive and negative anticipated emotions. This last profile was therefore labeled *Mixed Anticipatory–High Anticipated*.



Note. Percentages are indicated for university and college students, respectively.

Figure 9. Final LPA solution with configural similarity for women

Even though similarity analyses showed that men and women displayed distinct profiles, the qualitative investigations revealed that the profiles were similar with regard to their

overall interpretation. Although displaying different levels from a quantitative point-of-view, women also displayed four profiles: (1) a *Positive Anticipatory–High Anticipated* profile, (2) a *Positive Anticipatory–Positive Anticipated* profile, (3) a *Mixed Anticipatory–Low Anticipated* profile, and (4) a *Mixed Anticipatory–High Anticipated* profile. Descriptive statistics and difference tests for each profile across men and women are displayed in Table 12. For the *Positive Anticipatory–High Anticipated* profile, significant differences were found between men and women for anticipatory confidence, anticipated happiness, pride, relief, disappointment, and sadness. The differences were consistent with variable-centered results (see Table 10). Opposite to the results found for men, college students were more prevalent in this profile (41.00%) compared to university students (34.80%) among women. For the *Positive Anticipatory–Positive Anticipated* profile, significant differences were found for both positive and negative anticipatory emotions, as well as negative anticipated emotions. While the differences were consistent with variable-centered results for anticipatory emotions, differences were opposite in direction compared to variable-centered results for anticipated negative emotions. This suggests that some women (i.e., those displaying a *Positive Anticipatory–Positive Anticipated* profile; 7.70% and 10.20 for university and college students) report less negative anticipated emotions than men. Most women, however, tend to report elevated anticipated negative emotions compared to men. For the *Mixed Anticipatory–Low Anticipated* profile, significant differences were found for anticipatory confidence, worry, anxiety, and nervousness, as well as anticipated pride, disappointment, guilt, and sadness. All these differences were consistent with variable-centered results. College students were more prevalent in this profile (21.00%) compared to university students (18.20%). For the *Mixed Anticipatory–High Anticipated* profile, significant differences were found for anticipatory worry, anxiety, anticipated happiness, relief, disappointment, and sadness. Similar to results found for men, a higher proportion of university students was found in this profile (39.30%) compared to college students (27.80%). While comparing profile size between men and women, most differences in profile size were found for the *Positive Anticipatory–Positive Anticipated* and the *Mixed Anticipatory–High Anticipated*, with the former (latter) being more prevalent among men (women; see Figure 8 and Figure 9).

4. Discussion

Building upon a person-centered framework, the present study sought to investigate students' emotional anticipation profiles by considering two kinds of future-oriented emotions: anticipatory and anticipated emotions. The second key objective was to ascertain their construct validity by systematically assessing whether the profiles would be similar across gender, institutional type, and the remaining time before the transition.

Our results revealed that four profiles best represented the emotional anticipation experience among higher education students from the French-speaking part of Belgium. These profiles presented qualitative and quantitative differences in terms of anticipatory and anticipated emotions: (1) *Positive Anticipatory–High Anticipated*, (2) *Positive Anticipatory–Positive Anticipated*, (3) *Mixed Anticipatory–Low Anticipated*, (4) *Mixed Anticipatory–High*

Anticipated. The present study contributes in several ways to the literature. First, we noted some qualitative and quantitative differences between anticipatory and anticipated emotions. More specifically, we observed that anticipated emotions were higher than anticipatory emotions. This indicates that imagined emotions tend to be more evocative than experiencing current emotions at the prospect of the school-to-work transition. This finding is in line with prior research that demonstrated the individual's tendency to overestimate future affective experiences (Wilson & Gilbert, 2003). Wilson and Gilbert (2005) argued that, when individuals face a risk, the system will motivate individuals to manage negative emotions unconsciously. Thus, individuals have stronger emotional reactions when they imagine their future emotional states rather than when they experience them in the current moment. Second, we observed that anticipated emotions were more likely to co-occur than anticipatory emotions. It is in line with a prior variable-centered study indicating that both positive and negative anticipated emotions are coordinated due to an underlying goal to achieve desired outcomes and avoid undesired consequences simultaneously (Baumgartner et al., 2008). This might explain why anticipated emotions are more influential in predicting intentions and behaviors than anticipatory emotions (H. Baumgartner et al., 2008; Xu & Guo, 2019).

The present findings also bring important contributions with regard to mixed emotions. As individuals tend to experience a series of emotions simultaneously, researchers should pay attention to how emotions combine. Prior research based on a variable-centered framework has already highlighted the natural tendency of individuals to experience multiple emotions simultaneously rather than independently (Ersner-Hershfield et al., 2008; Larsen et al., 2001). However, the present study demonstrated the complex interactions at play among anticipatory and anticipated emotions at the prospect of the school-to-work transition. Using a person-centered approach, we demonstrated that most individuals experienced more than one emotion and how emotions combined at the prospect of the transition to the labor market. The use of this approach in the present study thus offered a more realistic and finer-grained picture of the emotional anticipation profiles of students and responded to *how* students emotionally anticipated their transition.

The second main objective in the present study was to investigate profile similarity across gender, institutional type, and with regard to the remaining time before the transition. To this end, profile similarity analyses are particularly relevant and important to ascertain the profiles' construct validity and demonstrate that the profiles can reliably be replicated across samples, educational context, or cultures (Morin et al., 2016). While numerous studies demonstrated important gender differences (Hankin et al., 1998), and other studies finding no to small differences (Else-Quest et al., 2012), we showed that the reality might be between the two. Indeed, although the number of profiles was identical, the profiles were differentiated at the quantitative and qualitative levels. These results thus provide new insights regarding gender differences and bring significant implications. First, overinflating claims of gender differences can have essential costs for women and men in the workplace or within social relationships. Therefore, it is crucial to investigate the differences between men and women, but also within these two subgroups. Second, while previous meta-analyses investigating emotional expression and experience during childhood and adolescence showed

few differences between men and women (Else-Quest et al., 2012), the person-centered approach used in the present research offered a better and realistic depiction of gender differences. This study thus reinforces the importance for researchers to develop similar methods as part of their statistical analyses.

Regarding the institutional type, the profiles between university and college were similar in their shape and within-profile resemblance. In other words, we found the same profiles, but they only differed in terms of proportion. Importantly, these results were found while controlling for gender differences. While the *Positive Anticipatory–High Anticipated* profile was more prevalent among university than college students among men, a reversed pattern was found for women as the profile was more prevalent among college compared to university students. Other differences between institutional types were consistent across gender. The *Positive Anticipatory–Positive Anticipated* and the *Mixed Anticipatory–Low Anticipated* were more prevalent among college students, whereas the *Mixed Anticipatory–High Anticipated* profile was more prevalent among university than college students. This suggests that even though students are enrolled in a different academic environment, the configuration of emotional anticipation is the same for both groups. From a practical perspective, the present findings represent an important step in relation to students' emotional anticipation. By providing empirical evidence of similarity between university and college institutions, it is, therefore, possible to develop interventions beneficial to many students without considering the specificity of the two institutions.

Besides gender and institutional types of differences, profiles concerning the remaining time before the transition displayed the same shape, within-profile resemblance, and profiles size. This is surprising given that the appraisal theory argued that the approach of an important event is likely to increase the emotional experience and emotional arousal (Scherer, 2001). It, however, indicates that students experience multiple emotions from their first to their final year of studies. According to Nicholson's transition theory, the transition begins way before the transition with a "preparation" phase. Developing anticipation and expectations are, therefore, a natural aspect of the transition. Future research examining the dynamic and transition between emotional anticipation profiles is therefore needed to better investigate the differences during the preparation phase. Importantly, our investigation was cross-sectional and did not investigate the development of emotional anticipation over time. Indeed, Parmentier et al. (2021) showed, for instance, that profiles of emotional anticipation at the prospect of the transition to university were stable over time but that such a stability did not preclude the emergence of within-person transitions between profiles over time.

4.1 Limitations and future directions

The current study was limited in several ways. First, the study relied upon a cross-sectional study. Doing so, it limits the possibility to examine the developmental effects of experienced emotions. Future research should develop longitudinal designs to investigate how students' emotional anticipation fluctuates from the beginning to the end of their studies. Second, the present study has not investigated antecedents and outcomes of the emotional anticipation profiles. However, investigating key covariates is an important step to ascertain

the construct validity of the profiles (Morin et al., 2020). For example, examining the relations between the profiles and job search self-efficacy or job search clarity could be particularly interesting given their importance in the job search preparation processes (Côté et al., 2006). It could also be relevant to examine social support given the importance of parents and relationships during the school-to-work transition (S. D. Phillips et al., 2002; Vignoli et al., 2020). Third, some contextual variables are probably related to emotional anticipation. For example, investigating specific educational climates or study programs could bring essential insights for better understanding the similarity and differences between college and university. A final limitation is related to our limited conceptualization of gender as a dichotomous variable. Such conceptualization is restricted in encompassing the full scope of gender identity and self-concept (Brody et al., 2016) and thus warrant future research on the psychological mechanisms that might mediate the link between gender and emotions.

4.2 Practical implications

The presents findings bring important practical implications. First, it is a call for parents, teachers, and guidance counselors to pay attention to students with particular negative emotional anticipation. For example, the *Positive Anticipatory-Positive Anticipated* profile might be at risk of overconfidence to manage the school-to-work transition and, in the end, developing inadequate preparation (Holton & Russell, 1997; Perrone & Vickers, 2003). Based on the important supportive role played by the parents for an adaptive transition to the world of work (S. D. Phillips et al., 2002), parents should pay attention and support the complex emotional experience of their children. Parents should be particularly attentive to providing emotional support, listening, and regulating adolescents' emotions. A further important implication that brings the present study is the necessity to develop a preventive approach regarding the school-to-work transition. According to the Nicholson's (1990) preparation stage, students face two critical challenges during their entrance on the labor market: (1) finding a job that suits their expectations, and (2) succeeding in the socialization process of the work environment. Thus, intervening during the preparation process and in a supervised environment (e.g., internships) could be efficient. To this end, guidance counselors and university-college policies could develop and implement tailor-made interventions based on the profiles revealed in the current study.

Chapter 8

Future-oriented emotions, regulation, and coping at the prospect of the school- to-work transition

A person-centered study

Based on a future-oriented and a person-centered perspective, the present study explored men and women's profiles of anticipatory and anticipated emotions at the prospect of the school-to-work transition. Among a sample of 1,277 university students, five profiles emerged among men and women: (a) a *Mixed Anticipatory–Low Anticipated*, (b) a *Mixed Anticipatory–High Anticipated*, (c) a *Negative Anticipatory–High Anticipated* (only among women), (d) a *Positive Anticipatory–Positive Anticipated* (only among men), and (e) a *Positive Anticipatory–High Anticipated* profile. Emotional antecedents and volitional outcomes of emotional anticipation profiles were also investigated. Patterns of relations between dispositional affect and profiles were dominated by patterns of valence such that positive (negative) affect was associated with the probability to belong to profiles characterize by positive (negative) future-oriented emotions. However, emotion regulation strategies were rather unrelated to profile membership among men and women. In addition, women reported higher levels of planning and effort intentions compared to men. While controlling for the impact of trait affect, profiles characterized by high levels of anticipated emotions (i.e., *Mixed-High Anticipated*, *Negative Anticipatory–High Anticipated*, and *Positive Anticipatory–High Anticipated*) displayed the highest levels of job search planning and effort intentions. Our research advances our understanding of the role of emotion in job search and highlights the importance to adopt both a future-oriented and a person-centered perspective in our understanding of job seekers' emotions.

Reference

Parmentier, M., Pirsoul, T., & Nils, F. (in preparation). Future-oriented emotions, regulation, and coping at the prospect of the school-to-work transition: A person-centered study.

Chapter 8

Future-oriented emotions, regulation, and coping at the prospect of the school- to-work transition

A person-centered study

1. Introduction

Most university students face the school-to-work transition as a critical and normative life event (Saks, 2014). They are indeed confronted with a variety of challenges such as career decision-making, the search for an occupation or a job that fits one's interests, the shift from the student role to the worker role, the development of independent functioning, and the adaptation to new work environments (Ng & Feldman, 2007). How young adults succeed in managing the numerous challenges associated with the transition—especially job search—set the stage for their future career development and success, organizations' productivity, competitiveness and retention, as well as societal issues such as young adults' employability, the risks of unemployment on health, and the need for vocational guidance and training (Mortimer et al., 2002; Ng & Feldman, 2007; Nurmi et al., 2002; Saks, 2014). Consequently, this transition is particularly anticipated by young adults, possibly with multiple emotions at the same time (Anderson et al., 2012; Ersner-Hershfield et al., 2008; Nurmi, 1991).

Emotions and how individuals regulate them have already grasped research attention in the context of the school-to-work transition and the associated job search process (Bonaccio et al., 2014; Côté et al., 2006; Crossley & Stanton, 2005; Stevens & Seo, 2013; L. Wang et al., 2017). However, few studies have investigated the anticipatory processes which occur before the transition or, within the transition cycle framework (Nicholson, 1990), during the preparation phase of transitions. Importantly, how individuals appraise, experience and regulate their emotions, and cope with anticipated stressful events has been recognized as important to understand how individuals cope with and adapt to stressful events when they actually occur (Aspinwall & Taylor, 1997; Baumeister et al., 2007; H. Baumgartner et al., 2008; Nasso et al., 2019). In the present study, we sought to investigate (1) how university students emotionally anticipate the school-to-work transition using latent profile analysis, (2) the impact of emotional antecedents (trait affect and emotion regulation) on university students' emotional anticipation profiles, (3) examine differences in job search planning and effort intentions between profiles, and (4) investigate to which extent the profiles, as well as their relations with antecedents and outcomes, are similar between men and women.

In doing so, we contribute to the existing literature on the school-to-work transition and emotions in important ways. First, we adopt a person-centered approach in investigating the

specific profiles of young adults' future-oriented emotions. In this way, we build upon a vast body of theoretical and empirical inquiry that proposed that complex and stressful events elicit multiple emotions at the same time (Ersner-Hershfield et al., 2008; Fernando et al., 2014; Larsen, Coles, et al., 2017). Second, by investigating the impact of trait affect and emotion regulation on university students' emotional anticipation profiles, such a future-oriented perspective also adds the literature on emotions and allows one to situate the role of future-oriented emotions in a broader framework of affective experiences and their regulation at the prospect of future events (Gross & Thompson, 2007; E. Russell & Daniels, 2018; Watson et al., 1988). Third, our research is consistent with previous work that suggested that future-oriented emotions are as important as currently experienced emotions in predicting future behavior (Bagozzi et al., 1998; Baumeister et al., 2007; Loewenstein & Lerner, 2003). Importantly, our person-centered approach allows us to lay out a complex picture of emotional anticipation and depart from the belief that positive (negative) emotions are always good (bad). We instead argue that the impact of specific emotions on behavioral outcomes depends on the levels of (and the combinations with) other emotions (Fernando et al., 2014). By unraveling the complex patterns of individuals' future-oriented emotions, our study could shed further light on the specific role of negative emotions on job search behaviors, which is puzzling at best. Indeed, while some authors found that negative emotions were negatively related to job search outcomes (Crossley & Stanton, 2005), others either found no effect (Côté et al., 2006; Turban et al., 2013) or a positive relationship (Kim & Lee, 2021; Song et al., 2009). In the present study, we thus argue that both relying on a person-centered approach highlighting the complex emotional experiences of individuals and relying on a future-oriented perspective could disentangle further the link between emotions and behavior as previous research provided evidence for the fruitfulness of both approaches to disentangle such complex relationships in other contexts (Baumeister et al., 2007; Fernando et al., 2014; Xu & Guo, 2019). Finally, we highlight the importance of a preventive approach to how individuals anticipate and prepare for the school-to-work transition. From a practical point of view, the present study bears several possibilities in showing the diverse future-oriented emotional reactions at the prospect of this important transition and how universities, employment agencies, parents, and counselors might help university students to prepare for the transition.

1.1 Emotional anticipation

The anticipation of future events is associated with strong emotional reactions (Van Boven & Ashworth, 2007), conceptualized as anticipatory and anticipated emotions (H. Baumgartner et al., 2008). On the one hand, anticipatory emotions are defined as the emotions that individuals experience in the present moment at the prospect of a future event (e.g., feeling hopeful today when thinking about the upcoming transition). Positive anticipatory emotions encompass emotional states such as feeling optimistic, hopeful, enthusiastic, confident, whereas negative anticipatory emotions encompass states such as feeling anxious, nervous, afraid, worried (Ortony et al., 1988). On the other hand, anticipated emotions are defined as the emotions that individuals expect or anticipate to experience in response to future events (e.g., expecting to feel happy and proud if one was to be successful in his or her

job search). From a phenomenological point of view, anticipatory emotions are distinct from anticipated emotions as the former represents currently experienced real emotional reactions to the future. The latter refers to affective beliefs about the future emotions one is expecting to experience in the future through a process of mental simulation known as affective forecasting (Wilson & Gilbert, 2003). Specific anticipated emotions have been proposed in the context of goal-pursuit behaviors. For example, one might expect reacting directly to the confirmation of (un)desirable outcomes expected to happen and thus imagine feeling happy or sad. The disconfirmation of these (un)desirable outcomes might also lead to specific anticipated emotions such as disappointment or relief in the case of disconfirmed positive and negative outcomes, respectively. One might also expect feeling specific emotions related to the evaluation of one's own actions in the form of anticipated pride and guilt in the case of the (un)praiseworthiness of one's actions.

1.2 Profiles of future-oriented emotions

When university students anticipate and cope with the school-to-work transition, the numerous challenges, changes in one's identity, routines, assumptions, expectations, and behaviors, as well as the pursuit of numerous goals are likely to induce the emergence of multiple emotions at the same time (Berrios et al., 2015b; Lazarus & Folkman, 1984; Shuman et al., 2013). For example, students might feel confident and hopeful that they ultimately find a job that suits their interests while, at the same time, feeling anxious at the prospect of having to network and socialize with colleagues during the socialization process. Multiple anticipated emotions might arise when expecting, for instance, to feel proud when imagining a successful interview, but to feel disappointed at the same time, when imagining that this same interview did not result in actual employment. What we have described here has been, in fact, well established in the literature. Indeed, an extensive body of research has demonstrated that individuals tend to experience multiple emotions at the same time—called mixed emotions—in a variety of situations related to the present (Ersner-Hersfield et al., 2008; Larsen, 2017a; Larsen et al., 2001; Trampe et al., 2015; Tze et al., 2020), or the future (Kruschwitz et al., 2018; Parmentier, Dangoisse, et al., 2021; Zampetakis et al., 2016a).

Person-centered approaches, which seek to identify distinct combinations of co-occurring indicators and group individuals in classes or profiles, are particularly well suited to investigate the co-occurrence of multiple emotions at the same time (Fernando et al., 2014; Parmentier, Dangoisse, et al., 2021; Tze et al., 2020). In the present study, we used latent profile analysis to investigate individuals' combinations of future-oriented emotions (i.e., emotion profiles) at the prospect of the school-to-work transition and formulated our research question as follows:

Research question 1. How many profiles of future-oriented emotions at the prospect of the school-to-work transition that vary quantitatively (in level) and qualitatively (in shape) can be found in the data?

Even though person-centered approaches are often exploratory in nature due to the lack of previous evidence concerning the exact number, shape, and size of profiles (Hofmans et

al., 2020), we expected the emergence of specific profiles on the grounds of previous studies. For example, Robinson et al. (2017) examined college students' emotion profiles during a science course and found four profiles: *positive*, *deactivated negative*, *negative*, and *moderate-low*. Significant differences in engagement and achievement were found between the four profiles. More recently, Tze et al. (2020) conducted a longitudinal study and found three distinct profiles that were found to be relatively stable over a two-semester course: *positive emotions*, *negative emotions*, and *mixed emotions*. Interestingly, students in the positive emotions profile and those who transitioned from a mixed to a positive emotions profile over time obtained a higher achievement level compared to other profiles. Directly related to future-oriented emotions, Parmentier et al. (2021) found four distinct profiles of anticipatory emotions that were very stable over time: *positive dominant*, *mixed*, and *negative dominant*. In the context of venture creation following the school-to-work transition, Zampetakis et al. (2016a) found four profiles: *high positive emotions*, *moderate positive emotions*, *mixed emotions*, and *negative and mixed emotions*. Consequently, we expected the emergence of profiles dominated either by positive or negative emotions, as well as profiles characterized by mixed levels of both positive and negative emotions. Taking into account that these three expectations could arise at different levels (e.g., moderate vs. high) and that both anticipatory and anticipated emotions could display the above-mentioned patterns, we left our expectations regarding the number of profiles open.

1.3 Emotional antecedents of emotional anticipation

Individuals' affective experiences are composed of multiple and interrelated components. On the one hand, different levels are argued to underlie everyday affective experiences. While a trait-based view considers the stable individual differences in the tendency to feel positive and negative affective experiences across situations (i.e., trait positive and negative affect Watson et al., 1988), a state-based view considers the discrete and emotional constructs which are related to specific objects or events (Ortony et al., 1988). Besides the investigation of profiles of future-oriented emotions at the prospect of the school-to-work transition, we investigated the impact of trait positive and negative affect on university students' profiles of emotional anticipation. We delineated the two hypotheses as follows:

Hypothesis 1: Positive affect will be related to membership in profiles characterized by high levels of positive future-oriented emotions.

Hypothesis 2: Negative affect will be related to membership in profiles characterized by high levels of negative future-oriented emotions.

On the other hand, individuals have the ability to shape and control their emotions, their extent, and the circumstances in which they experience them, a process that has been defined as emotion regulation (Gross, 1998). Among the several ways for individuals to regulate their emotions, two have particularly attracted research scrutiny: cognitive reappraisal and suppression. During cognitive reappraisal, individuals strive to rethink how they appraise the situation, that is, they try to modify the meaning attributed to the situation. In contrast, during suppression, individuals try to modulate their response to the situation by inhibiting the

expression of their emotions. While cognitive reappraisal has been associated with rather beneficial outcomes for individuals' well-being, emotional suppression has been considered more maladaptive and leads to increased levels of negative emotions (Gross & John, 2003; Webb et al., 2012). In the present study, we aimed to examine the extent to which these two emotion regulation strategies influenced emotional anticipation profile membership and we developed the following set of hypotheses accordingly:

Hypothesis 3: Cognitive reappraisal will be related to membership in profiles characterized by high levels of positive future-oriented emotions.

Hypothesis 4: Suppression will be related to membership in profiles characterized by high levels of negative future-oriented emotions.

1.4 Coping outcomes of future-oriented emotions profiles

Several streams of research have consistently demonstrated that, when individuals anticipate future emotional events, they make behavioral, cognitive, and physiological adjustments during the anticipation phase to bring about positive outcomes of the stressful situation and alleviate negative ones (Aspinwall & Taylor, 1997; Baumeister et al., 2007; H. Baumgartner et al., 2008; Lazarus & Folkman, 1984; Pulpulos et al., 2018). Among the few studies that have investigated the conjoint impact of both anticipatory and anticipated emotions (H. Baumgartner et al., 2008; Carrera et al., 2012), results showed that both had a distinct yet complementary positive influence on subsequent intentions and behaviors. In the context of the school-to-work transition, job search represents one of the main expected behaviors from soon-to-be-graduated students (Saks, 2014). In the present study, we focused on planning and effort intentions. From a goal-directed perspective of emotions (Bagozzi et al., 1998), future-oriented emotions motivate volitional processes. Besides the formation of broad intentions which represent the directive (i.e., *what*) dimension of the volitional process, the regulatory (i.e., *how*) function of volitional processes is construed by the dimension of planning that corresponds to the formulation of the necessary steps to achieve the goal of finding a job, the monitoring of the ongoing progress, and the alternative pathways that are envisioned in the face of barriers (Bagozzi, 1992). The motivational dimension of volitional processes is construed through the concept of exertion and the efforts one has the intention to implement in the future to attain one's goals (Bagozzi et al., 1998). Even though the impact of both anticipatory and anticipated emotions have been previously demonstrated, we do not know how such results would convey in a person-centered perspective, especially given previous evidence that showed that the behavioral impact of emotions might be highly dependent on the co-occurrence of other emotions (Fernando et al., 2014). As our research question regarding the specific combinations of future-oriented emotions remained open to reflect the exploratory nature of our research, we also left this research question relatively open.

Research question 2: What are the differences in planning and effort intentions between profiles of emotional anticipation?

Despite our expectations that positive and negative future-oriented emotions would positively predict behavioral intentions, existing findings investigating the role between negative affect or emotions and job search outcomes are controversial. While some studies have found a negative relationship between negative affect and job search behaviors (e.g., job search self-efficacy, intensity, and success; Crossley & Stanton, 2005), other studies failed to replicate such findings (Côté et al., 2006; Turban et al., 2013). Relying on a state-based view of affect and on longitudinal designs, recent studies have shown a positive relationship between negative affect and job search outcomes (Kim & Lee, 2021; Song et al., 2009).

We argue that the two perspectives adopted in the present study are likely to disentangle such contrasting findings. On the one hand, the literature on stress and coping has mainly studied individuals' reactions to online stressors and overlooked that individuals appraise stressful events before their occurrence and engage in proactive coping (Aspinwall & Taylor, 1997). From a future-oriented perspective, anticipating a future stressor can motivate people to accumulate personal resources, screen the environment for opportunities and information to deal with the stressor, and initiate proactive coping. Importantly, it is precisely a stress appraisal and the experience of negative affect that is argued to drive such processes devoted to forestalling the anticipated stressful event (Aspinwall & Taylor, 1997). Kim and Lee (2021) and Song et al. (2009) have suggested such a view in discussing their results.

On the other hand, our person-centered perspective also has the potential to disentangle such inconsistent findings. In the context of helping behaviors, Fernando et al. (2014) demonstrated that the impact of specific emotions (i.e., sympathy) on behavioral outcomes was highly dependent on the co-occurrence with other emotions (i.e., prosocial emotions). Given the higher predictive power of anticipated emotions (Xu & Guo, 2019), it is likely that the impact of negative emotions would depend on their co-occurrence with high levels of anticipated emotions. In addition, the relationship between negative emotions has been argued to be curvilinear (Aspinwall & Taylor, 1997; Keeley et al., 2008; Song et al., 2009). Person-centered approaches do not impose a linear relationship between profiles and outcomes and, as such, have been advanced as suitable methods for investigating complex interactive and curvilinear effects (Hofmans et al., 2020). To provide a robust test of our present assumptions, we included trait affect as a control variable in the investigation of our second research question.

1.5 The moderating role of gender

Stereotypes related to gender differences in emotional experience such that women would be more “emotional” and men would be more agentic and “in control of their emotions” are well disseminated (Barrett & Bliss-Moreau, 2009; Brody et al., 2016). Some studies and meta-analytical findings indeed suggest the existence of gender differences, with women reporting more internalizing emotions (e.g., guilt and shame) than men (Else-Quest et al., 2012). At the same time, women are argued to be more sensitive to stressful situations (McDonough & Walters, 2001; Roxburgh, 1996) and more at-risk of depression than men (Hankin et al., 1998). Gender differences in emotion regulation (Zimmermann & Iwanski,

2014) and job search behaviors and success (Kanfer et al., 2001) have also been documented. However, effect sizes in meta-analytic findings related to emotions are generally small (Chaplin & Aldao, 2013; Else-Quest et al., 2012) and considered rather trivial (Hyde, 2014). The evidence of such small findings has led scholars to advance the gender similarities hypothesis that suggests that women and men are mostly similar on a vast array of psychological constructs and that small differences would be mainly due to measurement biases and socialization pressures (Hyde, 2005; Zell et al., 2015). Recent meta-synthesis efforts have recently supported the gender similarities hypothesis (Zell et al., 2015). In addition, the exploratory nature of our research makes critical the investigation of replication of profiles in distinct groups to ascertain the construct validity and the usefulness of profiles for educational and career-related interventions (Morin et al., 2016; Olivera-Aguilar & Rikoon, 2018). For these reasons, we endeavored to explore the differences and similarities between men and women regarding (1) the profiles of emotional anticipation, (2) the impact of emotional antecedents on profile membership, and (3) the differences in planning and effort intentions between emotional anticipation profiles:

Research question 3a: To what extent are profiles similar in number, shape, resemblance, and size between women and men?

Research question 3b: To what extent the impact of trait affect and emotion regulation is similar between women and men?

Research question 3c: To what extent the impact of emotional anticipation profiles on planning and effort intentions are similar between men and women?

2. Method

2.1 Participants and procedure

We collected data on 1,277 undergraduate students in 6 different universities located in the French-speaking part of Belgium. We specifically focused on the last three years of university to ascertain that students were already anticipating, to some extent, their school-to-work transition. In that matter, 43.1% were in the last year of their bachelor's degree, while 33.8% and 23.0% were in the first and second year of their master's degree. We included the year of study as a control variable in the subsequent analyses. The mean age was 27.79 years old ($SD = 1.83$). We devoted specific data collection efforts to balance the sample proportions about gender (52.7% of women) as equal proportions are important for conducting profile similarity analyses (Olivera-Aguilar & Rikoon, 2018). Proportions among study programs were as follows: 59.4% Social Sciences and Humanities, 20.0% in Health Sciences, and 20.7% in Natural and Technological Sciences.

2.1.1 Future-oriented emotions

Following a procedure developed by Baumgartner et al. (2008), we asked students to indicate how optimistic, confident, hopeful, worried, anxious, and nervous they felt here and now at the prospect of their school-to-work transition. To assess anticipated emotions, two

distinct sets of instructions were randomly presented to participants. We asked participants to imagine that the school-to-work transition and what they did during that period had had positive (vs. negative) consequences for them and allowed (vs. prevented) them from reaching some of their goals related to the transition. Participants rated how happy, proud, and relieved and how disappointed, guilty, and sad they would feel for the positive and negative imagined scenarios, respectively.

2.1.2 Positive and negative affect

We assessed positive and negative trait affect using a short form of the PANAS validated by Thompson (2007). The short-form has been subsequently validated in a French-speaking sample (Karim et al., 2011). Participants were asked to what extent they generally felt active, determined, attentive, inspired, and alert for positive affect ($\alpha = .55$), afraid, nervous, upset, hostile, and ashamed for negative affect ($\alpha = .69$). While the reliability of negative affect was deemed satisfactory, positive affect did not yield satisfactory reliability estimates, and it thus represents a limitation of the present study.

2.1.3 Reappraisal and suppression strategies

We measured reappraisal and suppression strategies using an adapted version of the scale developed and validated by Gross and John (2003). The scale has been previously validated in French among adolescents and adults (Christophe et al., 2009) and adapted to the anticipation of future stressful events (e.g., examinations Gosling et al., 2018). Items were adapted to tap into the emotion regulation strategies used when participants think about their upcoming school-to-work transition. We adapted the scale such as each item began with “*when I think about my transition to the job market.*” Both scales yielded satisfactory reliability estimates with $\alpha = .70$ and $.81$ for reappraisal and suppression, respectively.

2.1.4 Job search planning and effort intentions

We adapted a 6-item scale from Brown, Cron, and Slocum (1997) that has been specifically developed in the context of goal-directed behaviors and future-oriented emotions. Participants were asked to indicate the extent to which they intended to plan their job search as well as the effort they were likely to devote to their job search in the near future. Three items were intended to tap into anticipated planning: “*Each week, I will make a plan for what I need to accomplish regarding my job search*”, “*I will think about strategies to fall back on if problems arise during my job search*”, and “*I will list the steps necessary for reaching my job search objectives*” ($\alpha = .72$). Three items were intended to tap into anticipated effort: “*How much time do you intend to put for your job search?*”, “*How much intensity do you intend to put for your job search?*”, and “*How much effort do you intend to put for your search?*” ($\alpha = .89$).

2.2 Analytical strategy

We used *Mplus* 8 and its robust maximum likelihood estimator with full information estimation to investigate our research questions. We first conducted latent profile analyses of

future-oriented emotions for women and men separately. Following procedures developed by Morin et al. (2016), we then conducted profile similarity analyses between the two groups in order to evaluate the degree of similarity between women and men with regards to the following features: (1) the shape of profiles (i.e., structural similarity), (2) the within-profile resemblance of profile members (i.e., dispersion similarity), (3) the profile sizes (i.e., distributional similarity), (4) the impact of antecedents on profiles (i.e., predictive similarity), and (5) the impact of profiles on outcomes (i.e., explanatory similarity). We used the following fit statistics to evaluate the best fitting models: the Akaike Information Criterion (AIC), the Bayesian Information Criterion (BIC), the Sample-size Adjusted BIC (SABIC), the Consistent AIC (CAIC), the adjusted Lo-Mendell-Rubin ratio test (aLMR), the Bayesian Likelihood Ratio Test (BLRT), and entropy. The best solutions should display smaller AIC, CAIC, BIC, and SABIC values or give rise to an elbow in the scree plot. Entropy should be greater than .70 (ranges from 0 to 1). Nylund et al.'s (2007) simulation studies suggested relying on the BIC and CAIC to discriminate best models. Values of aLMR and BLRT indicate whether the addition of a profile is statistically significant. Besides fit statistics, researchers are also encouraged to take parsimony, redundancy, substantive meaning, and profile size into account.

3. Results

3.1 Preliminary results

Bivariate Pearson correlations between variables are displayed in Table 13. Significant differences were found between men and women with regard to future-oriented emotions. Overall, men reported higher (lower) levels of positive (negative) anticipatory emotions and lower levels of positive and negative anticipated emotions than women. In addition, men reported lower reappraisal regulation strategies but higher use of suppression regulation strategies and lower anticipated job search planning and effort levels than women. While positive anticipatory emotions were inconsistently positively related to anticipated job search planning and negatively related to effort, negative anticipatory emotions and anticipated emotions were positively correlated with job search planning and effort. While reappraisal regulation strategies were loosely related to future-oriented emotions, suppression strategies were negatively related to positive anticipatory emotions, positively related to negative anticipatory emotions, negatively related to positive anticipated emotions, and positively related to anticipated guilt.

Confirmatory factor analyses were conducted to assert the measurement reliability of our constructs. Analyses related to positive and negative affect yielded unsatisfactory fit estimates ($\chi^2(34) = 293.96, p < .001$; RMSEA = .08; CFI = .82; TLI = .76; SRMR = .06). However, the unsatisfactoriness of measurement models related to short- and long-form of PANAS have often been documented in the literature (Heubeck & Wilkinson, 2019). Adequate fit to the data was obtained for reappraisal and suppression regulation strategies ($\chi^2(34) = 218.68, p < .001$; RMSEA = .07; CFI = .92; TLI = .90; SRMR = .05) and anticipated planning and effort ($\chi^2(8) = 48.87, p < .001$; RMSEA = .06; CFI = .98; TLI = .97; SRMR =

.03). When considered together, measurement models related to our covariates yielded satisfactory fit to the data ($\chi^2(284) = 909.89, p < .001$; RMSEA = .04; CFI = .92; TLI = .90; SRMR = .04). Measurement invariance analyses showed that partial strict invariance between men and women was superior to configural, metric, and partial scalar invariance and suggested that measures were equivalently measured across groups ($\chi^2(605) = 1242.13, p < .001$; RMSEA = .04; CFI = .91; TLI = .91; SRMR = .06).

3.1 Latent profile analyses

Group-specific latent profile analyses are reported in Table 14. Among women, fit indices kept on decreasing until the 6-profile solution. However, they tended to form an elbow at two profiles and reach a plateau at four profiles. We carefully examined the 2-, 3-, 4-, and the 5-profile solutions to examine statistical adequacy and theoretical meaning. This examination revealed that the addition of profiles from 2 to 3 and from 3 to 4 resulted in the addition of meaningful profiles composed of a substantial proportion of women.

Table 13. Correlation matrix

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Gender	—																		
2. Optimistic	.20***	—																	
3. Confident	.30***	.60***	—																
4. Hopeful	.11***	.54***	.41***	—															
5. Worried	-.31***	-.47***	-.61***	-.30***	—														
6. Anxious	-.26***	-.41***	-.55***	-.27***	.68***	—													
7. Nervous	-.17***	-.32***	-.41***	-.20***	.58***	.67***	—												
8. Happy	-.09**	.16***	.11***	.21***	-.05	-.08**	-.03	—											
9. Proud	-.13***	.08**	.05	.14***	.02	.00	.04	.44***	—										
10. Relieved	-.23***	-.10***	-.16***	-.05	.24***	.20***	.18***	.27***	.25***	—									
11. Disappointed	-.15***	-.08**	-.13***	.03	.18***	.14***	.13***	.17***	.19***	.10***	—								
12. Guilty	-.06*	-.10***	.18***	-.09**	.22***	.20***	.20***	.00	-.00	.13***	.28***	—							
13. Sad	-.28***	-.17***	-.25***	-.05	.30***	.28***	.24***	.17***	.13***	.23***	.54***	.33***	—						
14. Positive affect	-.13***	.17***	.17***	.23***	-.11***	-.08**	-.05	.14***	.18***	.06*	.09**	-.07*	.08**	.55					
15. Negative affect	-.21***	-.33***	-.37***	-.19	.39***	.42***	.40***	-.10***	-.02	.14***	.10***	.29***	.24***	-.10**	.69				
16. Reappraisal	-.06*	.10***	.02	.10***	.02	.00	-.01	.05	.04	.07**	-.00	-.01	.02	.10***	-.07*	.70			
17. Suppression	.15***	-.12***	-.10***	-.13***	.10**	.08**	.08**	-.17***	-.09**	-.02	-.01	.13***	-.00	-.21***	.15***	-.14***	.81		
18. Anticipated planning	-.23***	.01	-.04	.08**	.11***	.11***	.09**	.13***	.12***	.15***	.09**	.09**	.14***	.39***	.13***	.19***	-.14***	.72	
19. Anticipated effort	-.21***	-.07*	-.10***	.03	.13***	.11***	.12***	.12***	.13***	.13***	.15***	.11***	.16***	.27***	.14***	.07*	-.03	.57***	.89

Note. Gender was coded 1 = woman and 2 = man. * Significant at the .05 level. ** Significant at the .01 level. *** Significant at the .001 level. When relevant, Cronbach's alphas are reported in bold on the diagonal.

However, adding a profile from 4 to 5 resulted in the arbitrary division of one profile into two smaller profiles that were very similar in shape. This result is corroborated by the non-significant aLMR p -value associated with the 5-profile solution. Among men, fit indices also exhibited an elbow at two profiles and reached a plateau after four profiles. A similar examination revealed that adding a profile from 2 to 3 and from 3 to 4 was meaningful, but not for adding a profile from 4 to 5 profiles. Therefore, we decided to keep the 4-profile solution for both women and men as the best description of the data. Multiple group latent profile similarity analyses showed that a structural similarity model (AIC = 38,040.07; BIC = 38,813.98; SABIC = 38,334.34; CAIC = 38,964.98) in which the means of the profiles were constrained to be equal yielded increased fit statistics and was therefore not superior to a configural similarity model in which only the number of profiles in both groups was equal (AIC = 37,899.02; BIC = 38,918.95; SABIC = 38,286.84; CAIC = 39,117.95). Tests for partial structural similarity models showed that a partial structural similarity model which constrained only one profile of the four to be equal was superior in fit (AIC = 37,901.43; BIC = 38,859.86; SABIC = 38,317.64; CAIC = 38,956.64). Therefore, this partial structural similarity model was retained, and profiles for women and men were depicted in Figure 10 and Figure 11, respectively. In light of the very partial structural similarity model selected, conducting partial dispersion, distributional, predictive, and explanatory similarity made little sense as most profiles were found to be different (Morin et al., 2016). The investigation of antecedents and outcomes was thus performed separately for each group.

Table 14. Latent profile enumeration fit statistics

# of profiles	LL	fp	SCF	AIC	BIC	SABIC	CAIC	aLMR	BLRT	Entropy	Smallest profile
<i>Women</i>											
1	-10405.69	24	1.004	20859.37	20967.15	20890.95	20991.15	–	–	1	–
2	-9804.57	37	1.137	19683.13	19849.29	19731.81	19886.29	.000	.000	.832	43.85%
3	-9608.76	50	1.196	19317.52	19542.06	19383.31	19592.06	.006	.000	.865	10.93%
4	-9452.44	63	1.255	19030.89	19313.80	19113.77	19376.80	.021	.000	.834	9.86%
5	-9371.59	76	1.335	18895.19	19236.48	18995.18	19312.48	.306	.000	.805	8.95%
6	-8712.32	89	2.337	17602.65	18002.32	17719.75	18091.32	.135	.000	.933	2.58%
<i>Men</i>											
1	-9361.93	24	0.990	18771.85	18876.73	18800.54	18900.73	–	–	1	–
2	-8896.59	37	1.138	17867.19	18028.87	17911.41	18065.87	.000	.000	.833	38.19%
3	-8788.01	50	1.378	19676.01	17894.51	17735.78	17944.51	.257	.000	.834	11.64%
4	-8697.48	63	1.453	17520.96	17796.26	17596.26	17859.26	.318	.000	.824	11.47%
5	-8636.33	76	1.345	17424.67	17756.78	17515.51	17832.78	.230	.000	.784	8.22%
6	-8581.23	89	1.385	17340.45	17729.37	17446.83	17818.37	.537	.000	.842	5.14%

Note. LL = log likelihood ; fp = free parameters ; SCF = scaling correction factor; AIC = Akaike information criteria; BIC = Bayesian information criteria; SABIC = sample-size adjusted BIC; CAIC = consistent AIC; LMR = Lo-Mendell-Rubin likelihood ratio test; BLRT = Bootstrap Likelihood Ratio test.

3.2 Description of profiles

Profile similarity analyses resulted in the partial structural similarity model being selected as the best model. This selection suggested that quantitative differences were found between women's and men's profiles of future-oriented emotions. However, upon inspection, women's and men's profiles were quite similar regarding their overall qualitative features (i.e., shape), and we tried to reflect this in our interpretations.

The first profile was composed of 17.91% of the sample of women who reported both positive and negative anticipatory emotions at the same time and, compared to other profiles, low levels of anticipated emotions. This profile was similar in shape compared to the men as demonstrated by the partial structural similarity model previously retained. We labeled it *Mixed Anticipatory–Low Anticipated* emotions profile. Mixed anticipatory emotions also characterized the second profile (25.80%)—although positive anticipatory emotions were slightly higher—but, in contrast to the first profile, this profile was characterized by high levels of anticipated emotions. This profile was labeled *Mixed Anticipatory–High Anticipated* emotions. The third profile was the most prevalent (35.66%) and portrayed women who reported low (high) levels of positive (negative) anticipatory emotions along with mixed/high levels of both positive and negative anticipated emotions. The profile was thus labeled *Negative Anticipatory–High Anticipated* emotions. The last profile (20.64%) was composed of women who exhibited a reverse pattern with high (low) levels of positive (negative) anticipatory emotions and was thus labeled *Positive Anticipatory–High Anticipated*.

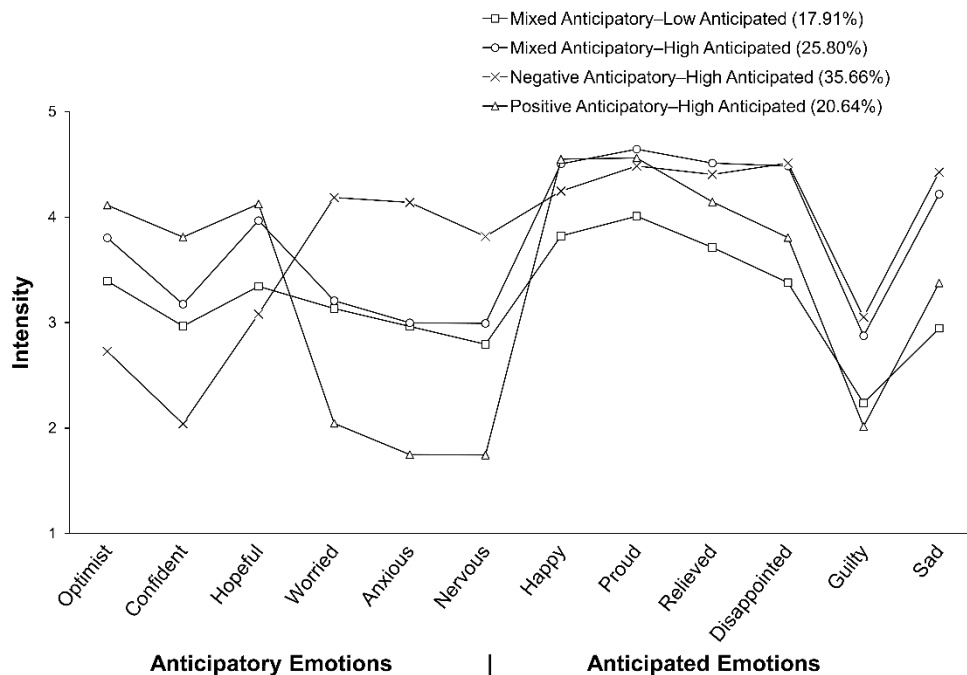


Figure 10. Final LPA solution with partial structural similarity for women

For men, the first profile (i.e., *Mixed Anticipatory–Low Anticipated* emotions) was strictly similar to women but was of a different size (24.14%). Compared to women, the second profile, *Mixed Anticipatory–High Anticipated*, exhibited a similar overall pattern but with higher negative anticipatory emotions and was composed of fewer participants (14.90%). The third profile was exclusive to men's future-oriented emotional experience and featured high positive emotions (both anticipatory and anticipated) and low levels of negative emotions. To reflect this, we labeled it *Positive Anticipatory–Positive Anticipated* (22.26%). Finally, the fourth profile, *Positive Anticipatory–High Anticipated*, was similar to the fourth found among women with high (low) levels of positive (negative) anticipatory emotions but mixed and high levels of anticipated emotions. This fourth profile was the largest among men (38.70%).

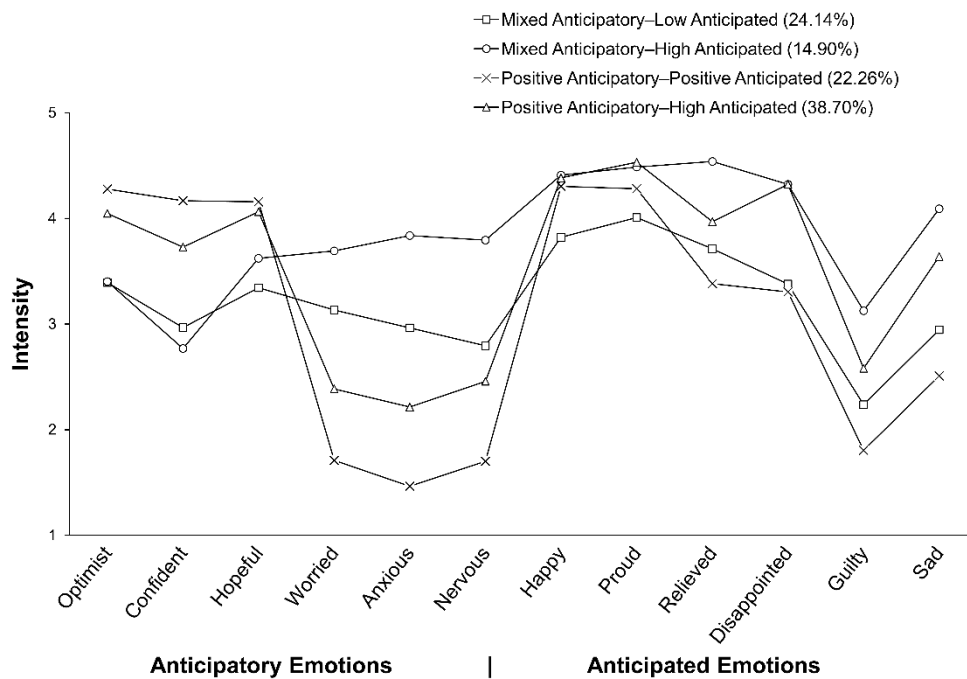


Figure 11. Final LPA solution with partial structural similarity for men

3.3 Antecedents of profile membership

We conducted multinomial logistic regression analyses to examine the impact of trait affect (i.e., positive and negative), as well as reappraisal and suppression regulation strategies on profile membership (see Table 15). Regarding the potential impact of the year of study on emotional anticipation, our analyses revealed that the year of study and the associated temporal distance to the school-to-work transition had no impact on profile membership. Overall, while positive and negative affect were consistent predictors of profile membership among men and women, emotion regulation strategies were less consistently related to profile membership, especially among men. Positive affect was generally associated with a higher

probability to belong to profiles characterized by higher levels of positive anticipatory and anticipated emotions. For example, women and men with higher levels of positive affect were more likely to belong to the *Positive Anticipatory–High Anticipated* profile than the *Mixed Anticipatory–Low Anticipated* profile ($B = -0.76, p < .01, B = -0.59, p < .05$). Among women, levels of positive affect distinguished membership between profiles characterized by mixed emotions. Women with high positive affect were more likely to belong to the *Mixed Anticipatory–High Anticipated* profile than to the *Mixed Anticipatory–Low Anticipated* profile ($B = -0.53, p < .01$), a difference that was non-significant among men, for which, however, negative affect was associated with a higher probability to belong to the *Mixed Anticipatory–High Anticipated* than to the *Mixed Anticipatory–Low Anticipated* ($B = -1.35, p < .01$). Among women, reappraisal strategies were associated with few differences. Women using reappraisal strategies were more likely to belong to the *Positive Anticipatory–High Anticipated* profile ($B = -0.42, p < .05$) and the *Mixed Anticipatory–High Anticipated* ($B = -0.44, p < .05$) than to the *Mixed Anticipatory–Low Anticipated*. Suppression strategies distinguished only membership between the *Mixed Anticipatory–High Anticipated* and the *Negative Anticipatory–High Anticipated* profile ($B = -0.47, p < .01$). Among men, whereas reappraisal strategies did not distinguish profile membership, suppression strategies were only related to the membership between the *Mixed Anticipatory–Low Anticipated* and the *Positive Anticipatory–Positive Anticipated* profile ($B = 0.43, p < 0.5$).

Table 15. Results from the multinomial logistic regression evaluating the effects of antecedents on latent profile membership

<i>Women</i>	Mixed Anticipatory–Low Anticipated vs.		Mixed Anticipatory–High Anticipated vs.		Negative Anticipatory–High Anticipated vs.	
	Positive Anticipatory–High Anticipated		Positive Anticipatory–High Anticipated		Positive Anticipatory–High Anticipated	
	Coef. (SE)	OR	Coef. (SE)	OR	Coef. (SE)	OR
Positive affect	–0.76 (.23)**	0.47	–0.23 (.21)	0.80	–0.37 (.24)	0.69
Negative affect	0.82 (.25)**	2.26	1.07 (.19)***	2.91	1.90 (.25)***	6.67
Reappraisal	–0.42 (.21)*	0.66	0.03 (.17)	1.03	–0.21 (.20)	0.82
Suppression	0.13 (.18)	1.13	–0.13 (.16)	0.88	–0.34 (.18)	1.40
	Mixed Anticipatory–Low Anticipated vs.		Mixed Anticipatory–High Anticipated vs.		Mixed Anticipatory–Low Anticipated vs.	
	Negative Anticipatory–High Anticipated		Negative Anticipatory–High Anticipated		Mixed Anticipatory–High Anticipated	
	Coef. (SE)	OR	Coef. (SE)	OR	Coef. (SE)	OR
Positive affect	–0.39 (.20)*	0.67	0.14 (.19)	1.15	–0.53 (.19)**	0.59
Negative affect	–1.08 (.25)***	0.34	–0.83 (.21)***	0.44	–0.25 (.24)	0.78
Reappraisal	–0.21 (.20)	0.81	0.23 (.16)	1.26	–0.44 (.18)*	0.64
Suppression	–0.22 (.20)	0.81	–0.47 (.17)**	0.62	0.26 (.18)	1.29
<i>Men</i>	Mixed Anticipatory–Low Anticipated vs.		Mixed Anticipatory–High Anticipated vs.		Positive Anticipatory–Positive Anticipated vs.	
	Positive Anticipatory–High Anticipated		Positive Anticipatory–High Anticipated		Positive Anticipatory–High Anticipated	
	Coef. (SE)	OR	Coef. (SE)	OR	Coef. (SE)	OR
Positive affect	–0.59 (.24)*	0.56	–0.76 (.22)***	0.57	0.30 (.26)	1.35
Negative affect	0.22 (.30)	1.25	1.57 (.28)***	4.81	–1.30 (.34)***	0.27
Reappraisal	–0.00 (.16)	1.00	0.25 (.19)	1.28	0.06 (.19)	1.06
Suppression	0.15 (.16)	1.17	–0.22 (.20)	0.80	–0.27 (.15)	0.76
	Mixed Anticipatory–Low Anticipated vs.		Mixed Anticipatory–High Anticipated vs.		Mixed Anticipatory–Low Anticipated vs.	
	Positive Anticipatory–Positive Anticipated		Positive Anticipatory–Positive Anticipated		Mixed Anticipatory–High Anticipated	
	Coef. (SE)	OR	Coef. (SE)	OR	Coef. (SE)	OR
Positive affect	–0.89 (.25)***	0.41	–1.07 (.29)***	0.35	0.17 (.27)	1.19
Negative affect	1.52 (.46)**	4.56	2.87 (.45)***	17.70	–1.35 (.42)**	0.26
Reappraisal	–0.06 (.22)	0.94	0.19 (.25)	1.20	–0.25 (.21)	0.78
Suppression	0.43 (.18)*	1.53	0.05 (.22)	1.05	0.37 (.22)	1.45

Note. Coef. = unstandardized logistic regression coefficient. SE = standard error. OR = odds ratio. * significant at the .05 level. ** significant at the .01 level. *** significant at the .001 level.

Table 16. Differences of anticipated planning and effort between profiles

<i>Women</i>	Mixed Anticipatory–Low Anticipated	Mixed Anticipatory–High Anticipated	Negative Anticipatory–High Anticipated	Positive Anticipatory–High Anticipated	Summary of results
Planning	–0.03 _a	0.26 _b	0.09 _{a, b, c}	0.05 _{a, c}	MHA $\approx$ NAMA $\geq$ PAMA $\approx$ MLA
Effort	0.07 _a	0.20 _{a, b}	0.22 _{a, b, c}	0.00 _{a, b, c}	MHA $\approx$ NAMA $\approx$ PAMA $\approx$ MLA
<i>Men</i>	Mixed Anticipatory–Low Anticipated	Mixed Anticipatory–High Anticipated	Positive Anticipatory–Positive Anticipated	Positive Anticipatory–High Anticipated	Summary of results
Planning	–0.27 _a	0.03 _b	–0.29 _{a, c}	0.04 _{a, b, c}	MHA $\approx$ PAMA $\geq$ PAPA $\approx$ MLA
Effort	–0.25 _a	0.01 _b	–0.43 _{a, c}	0.02 _b	MHA $\approx$ PAMA $>$ PAPA $\approx$ MLA

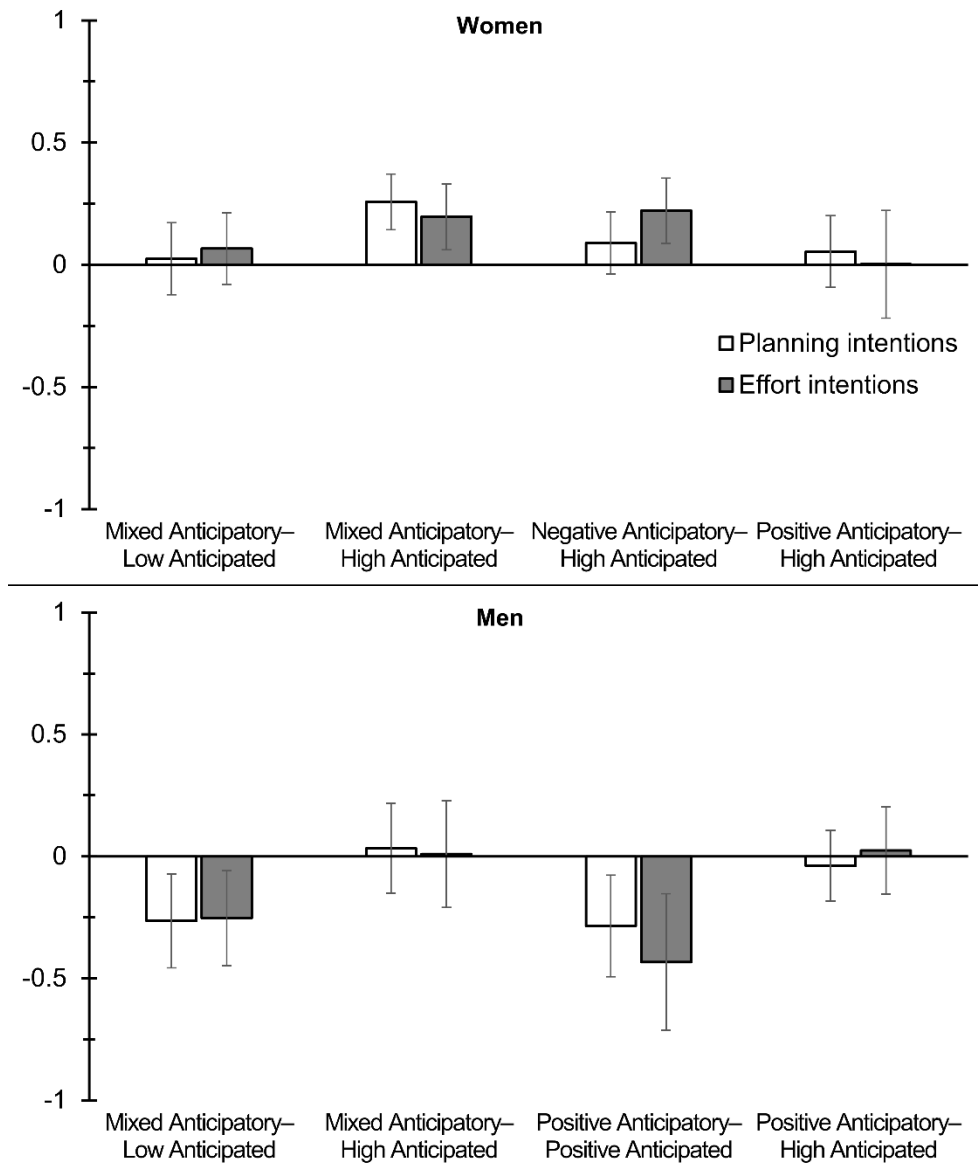
Note. Each subscript letter refers to subsets of non-significant pairwise comparisons between profiles at the 0.05 level. Subscript *a* refers to comparisons between *Mixed-Low Anticipated* and the next three profiles. Subscript *b* refers to comparisons between the *Mixed-High Anticipated* profile with the next two profiles. Subscript *c* refers to the comparison between the *Negative Anticipatory–High Anticipated* (for women) or the *Positive Anticipatory–Positive Anticipated* (for men) and the *Positive Anticipatory–High Anticipated*.

3.4 Outcomes of profiles

Differences in job search planning and effort intentions between profiles are displayed in Table 16 and graphically represented in Figure 12. Positive and negative affect were used as control variables and were found significant predictors of planning and effort intentions, invariantly among women and men. Positive affect was positively related to both planning ($B = .42, p < .001$) and effort ($B = .33, p < .001$). Although to a lesser extent, negative affect was also positively related to both planning ($B = .12, p < .001$) and effort ($B = .12, p < .01$) intentions. These findings were consistent with our hypotheses. Overall, women reported higher anticipated planning and effort levels than men both across and within profiles with similar shapes. Importantly, profiles that exhibited the highest outcomes were not necessarily the same between the two groups. The *Mixed Anticipatory–High Anticipated* and the *Negative Anticipatory–High Anticipated* displayed the highest levels of effort intentions among women. Note, however, that no differences with regard to planning intentions were found significant among women’s profiles. Among men, the *Mixed Anticipatory–High Anticipated* and the *Positive Anticipatory–High Anticipated* profiles displayed the highest levels of outcomes for both planning and effort intentions. Interestingly, even though these two last profiles exhibited high levels compared to other men’s profiles, their levels were equivalent to the women’s profiles exhibiting the lowest levels of planning and effort among women (i.e., the *Mixed Anticipatory–Low Anticipated* and the *Positive Anticipatory–High Anticipated*). To sum up, our results show two clear tendencies. First, profiles characterized by high levels of anticipated emotions are generally associated with higher levels of planning and effort intentions. Second, important differences between women and men were observed, with women exhibiting the highest levels of planning and effort intentions.

4. Discussion

The school-to-work transition is a stressful and emotional event that individuals anticipate with strong emotional reactions. The present study adopted a future-oriented and a person-centered perspective on university students’ emotional anticipation of the school-to-work transition. To provide a complete picture of the emotional processes at stake during the anticipation of the transition, we investigated the predictive role of trait affect and emotion regulation on emotional anticipation profiles as well as the explanatory role of emotional anticipation profiles on job search planning and effort intentions. A final objective of this article was to examine the extent to which women and men exhibited differences or similarities regarding the nature of emotional anticipation profiles and their relations with emotional antecedents and behavioral outcomes. Adopting such a future-oriented and person-centered perspective sheds light on the importance of preparing individuals for future life and career transitions and provides a complex picture of individuals’ emotional experiences.



Note. The zero represents the grandmean of the sample for planning and effort intentions. Errors bars represent 95% confidence intervals.

Figure 12. Anticipated planning and effort between the profiles of women and men. Error bars represent standard deviations.

Overall, our results revealed the emergence of five profiles across men and women that best illustrated the complex interaction of anticipatory and anticipated emotions at the prospect of the school-to-work transition: a *Mixed Anticipatory–Low Anticipated*, a *Mixed Anticipatory–High Anticipated*, a *Positive Anticipatory–Positive Anticipated* (only among men), a *Negative Anticipatory–High Anticipated* (only among women), and a *Positive*

Anticipatory–High Anticipated profile. Men and women exhibited both similarities and differences with regard to their emotional anticipation. The *Mixed Anticipatory–Low Anticipated* profile was found similar in shape and level between men and women as demonstrated by the partial structural similarity model. Although displaying quantitative differences in level, the *Mixed Anticipatory–High Anticipated* and the *Positive Anticipatory–High Anticipated* were found similar in their overall shape between men and women. However, while a *Positive Anticipatory–Positive Anticipated* profile emerged only among men, a *Negative Anticipatory–High Anticipated* profile emerged only among women.

The emergence of distinct profiles of emotional anticipation is fully consistent with the existing literature on the co-occurrence of multiple emotions (Larsen et al., 2001; Larsen, Coles, et al., 2017). While most studies have used a variable-centered approach to investigate the co-occurrence of emotions (e.g., using correlations or the MIN index; Larsen, Hershfield, et al., 2017), the present study explicitly investigated how emotions co-occurred and their specific combinations in profiles of future-oriented emotions, thus responding to calls for more person-centered research on emotions (Fernando et al., 2014). Of note, only the *Positive Anticipatory–Positive Anticipated* profile, which emerged only among men, exhibited a rather bipolar pattern of emotions. All other profiles exhibited, to different extents, co-occurring future-oriented emotions, providing support for the bivariate hypothesis of emotions (Cacioppo & Berntson, 1994; Watson et al., 1999). Importantly, the future-oriented perspective adopted in the present article further advance that multiple emotions can also arise at the prospect of future emotional events and thus complements previous arguments related to the co-occurrence of future-oriented emotions (Kruschwitz et al., 2018; Parmentier, Dangoisse, et al., 2021; Zampetakis et al., 2016a).

The second aim of the present study was to investigate the predictive role of trait affect and emotion regulation strategies on profile membership. Positive and negative affect were related to profile membership in a valenced pattern of results. High levels of positive (negative) affect influenced membership in profiles characterized by positive (negative) future-oriented emotions. Among women, positive affect, but not negative affect, was positively related to the likelihood to belong in the *Mixed Anticipatory–High Anticipated* profile compared to the *Mixed Anticipatory–Low Anticipated* profile. However, negative affect, but not positive affect, was positively related to the same likelihood among men. Such a finding can be explained by the differences in the *Mixed Anticipatory–High Anticipated* profile between men (i.e., higher levels of negative anticipatory emotions) and women (i.e., higher levels of positive anticipatory emotions). These findings are consistent with the literature on the stable and state views of affect and emotions (E. Russell & Daniels, 2018; Watson et al., 1988). In addition, it provides a better understanding of the construct and discriminant validity of profiles of future-oriented emotions.

Our findings related to the role of emotion regulation strategies were somewhat limited. Among men, high suppression levels predicted a higher likelihood of belonging to the *Mixed Anticipatory–Low Anticipated* profile than the *Positive Anticipatory–Positive Anticipated* profile, whereas all other pairwise comparisons were non-significant. With regards to reappraisal strategies, no differences were found significant. Among women, high levels of

suppression were associated with a higher probability to belong to the *Negative Anticipatory–High Anticipated* compared to the *Mixed Anticipatory–High Anticipated*, whereas levels of reappraisal were associated with a higher probability to belong to the *Positive Anticipatory–High Anticipated* compared to the *Mixed Anticipatory–Low Anticipated* profile. All other pairwise comparisons were non-significant.

These results are inconsistent with our expectations and previous research that documented the roles of these two regulation strategies (Gross & Thompson, 2007). Several mechanisms might explain this lack of findings. First, the future-oriented perspective and the temporal distance before the transition make applying alternative emotion regulation strategies such as situation selection, modification, or attentional deployment likely. This is consistent with the dynamic and temporal conceptualization of emotion regulation strategies (Sheppes & Gross, 2011) and previous research that demonstrated that attentional deployment and situation selection were particularly effective during the anticipation of stressful events (Kruschwitz et al., 2018; Ossenfort et al., 2020). Importantly, in the context of preparing for the upcoming stressors, it has been suggested that emotion regulation strategies devoted to modifying one's emotions might be counterproductive and that individuals instead prefer keeping consistent with their emotions and, even sometimes, increase them to serve their instrumental goals of performance related to the upcoming stressor (Ossenfort et al., 2020). Second, anticipatory and anticipated emotions are related but distinct constructs, especially from a phenomenological point of view. Anticipated emotions are the product of affective forecasting, and previous work has extensively documented the numerous biases inherent to affective forecasting. While individuals are quite good at identifying the specific emotions they will feel in the future, they are biased in estimating the intensity and duration of their future affective experiences (Buehler & McFarland, 2001; Wilson & Gilbert, 2003). One mechanism of such biases is noteworthy: Individuals tend to underestimate how they will be able to regulate their future emotions, neglect the role of emotion regulation, and thus overestimate the impact of negative events (Gilbert et al., 1998). Finally, from a design and a methodological point of view, not only unmeasured moderators may have obfuscated the role of reappraisal or suppression strategies (e.g., rumination; Nasso et al., 2019), but previous research has already shown that findings resulting from self-reports sometimes failed to replicate findings from physiological studies (Hofmann et al., 2009; Nasso et al., 2019; Vanderhasselt et al., 2014).

The third aim of the present study was to investigate how profiles were related to job-search planning and effort intentions while controlling for the role of trait positive and negative affect. As hypothesized, positive and negative affect were positively related to planning and effort intentions. Furthermore, results showed differences in planning and effort intentions between emotional anticipation profiles, over and above the influence of positive and negative affect. Overall, profiles characterized by high levels of anticipated emotions (i.e., *Mixed Anticipatory–High Anticipated*, *Negative Anticipatory–High Anticipated*, and *Positive Anticipatory–High Anticipated*) were associated with higher levels of effort intentions compared to other profiles. With regard to planning intentions, a similar finding was found only for men, whereas no differences in planning intentions were found between

women's profiles. These results are consistent with previous findings that showed the distinct, yet complementary, positive influence of positive and negative, anticipatory and anticipated emotions on subsequent behaviors (H. Baumgartner et al., 2008; Carrera et al., 2012). In addition, it complements previous meta-analytic findings that suggested that anticipated emotions were a greater predictor of behavior than anticipatory emotions (Xu & Guo, 2019). The future-oriented and person-centered perspectives used in the present study shed further light on the relationship between negative emotions and job-search outcomes that has, to date, yielded contrasting results. While some findings point to a negative relationship between negative affect (Crossley & Stanton, 2005), other studies did not find such an effect (Côté et al., 2006; Turban et al., 2013). Recent studies have argued that taking into account a state-based view of affect and investigating the dynamics of emotions could disentangle such ambiguous findings and found a positive relationship between negative emotions and job search outcomes (Kim & Lee, 2021; Song et al., 2009). Our present study extends such findings and shows two critical elements. First, from a future-oriented perspective, it has been argued that the anticipation of a stressful event is associated with the availability of more options to deal with the anticipated stressor and a greater time window to adopt behaviors likely to forestall or limit the impact of the anticipated stressor (Aspinwall & Taylor, 1997). In this context, the relationship between negative affect or emotions and behavior is argued to be positive, a finding we show in the present study. Note, in addition, that our findings are consistent with previous studies that showed that positive affect was a greater predictor of behavior than negative affect (Côté et al., 2006; Kim & Lee, 2021; Turban et al., 2013). Second, from a person-centered perspective, our study showed that considering the co-occurrence of anticipatory and anticipated emotions was critical in distinguishing the most adaptive profiles in terms of planning and effort intentions. Whether anticipatory emotions were positive, negative, or mixed, high levels of co-occurring anticipated emotions were associated with higher levels of planning and effort intentions (i.e., *Positive Anticipatory–High Anticipated*, *Negative Anticipatory–High Anticipated*, and *Mixed Anticipatory–High Anticipated*). Such a finding is consistent with previous research that showed that the impact of emotions on behavior was highly dependent on the co-occurrence with other emotions (Fernando et al., 2014).

The final objective of this study was to investigate the similarities and differences between women and men with regards to the profiles of emotional anticipation, as well as their relations with antecedents and outcomes. About emotional anticipation profiles, results showed that men and women exhibited both qualitative (i.e., distinct profiles, the distinct prevalence in profiles) and quantitative (i.e., level differences on similar profiles) differences. While the impact of positive and negative affect was found invariant between women and men, little inference can be made from the results related to emotion regulation due to the inconsistency of results. With regard to planning and effort intentions, differences between women and men were found both at the sample level and between profiles. Overall, women reported higher levels of planning and effort intentions than men. In addition, women exhibited high levels of planning intentions in the *Mixed Anticipatory–High Anticipated* and the *Negative Anticipatory–High Anticipated* profiles. Interestingly, these levels were higher than the levels found in the profiles that exhibited the highest levels of planning among men's

profiles. However, while differences were found between profiles for both planning and effort intentions among men, profiles showed differences only in planning intentions among women. Our findings bring interesting insights into the literature on gender and emotions and the seemingly intense debate between gender differences and similarities (Hyde, 2014). While resolving such a debate is outside the scope of this paper due to the limited conceptualization of gender, our findings nonetheless suggest that the answer might reside in between the two opposite viewpoints. From the findings of the present study, women and men groups do not represent homogeneous samples, and both women and men exhibit distinct combinations of emotions. As such, they present both qualitative and quantitative differences that are best described using a person-centered approach. Importantly, should one rely exclusively on a variable-centered analysis (e.g., *t*-test), it is likely that the differences in profile shapes and sizes might steer the results toward greater significance and lead one to conclude to strong quantitative differences.

4.1 Limitations

A number of limitations are noteworthy. First, the cross-sectional nature of our design limits our understanding of emotional anticipation. We nonetheless concur with Spector (2019) on the usefulness of cross-sectional designs when research questions are rather exploratory in nature, focusing on the covariation between several constructs, are devoted to the study of naturally occurring phenomena, and that ruling out alternative explanations are of importance for the research. In the present study, we argue that the person-centered perspective and the very limited previous evidence available to guide inferences, our focus on the naturally occurring co-occurrence of future-oriented emotions, and our focus on disentangling the relationship between emotions and job search outcomes is particularly suited to a cross-sectional investigation. Still, we were unable to examine the temporal dynamics of affect, future-oriented emotions, anticipatory emotion regulation, and job search outcomes over time. Similarly, it was not possible to investigate the stability of profiles over time and the individuals' transition between profiles over time. Accordingly, future longitudinal research is warranted to address such issues and extend the findings of the present study. Second, we focused exclusively on two emotion regulation strategies. As we argued earlier, distinct strategies should be investigated to better consider how and when individuals regulate their emotions before anticipated stressful events. Third, all measures in the present study were self-reports. Above biases due to common method variance, the use of self-reports limits our findings for two additional reasons. First, since findings using self-reports often fail to replicate emotional anticipation findings using physiological measures (Nasso et al., 2019), complementing the present findings with physiological measures is an important avenue for future research. Second, the use of self-reports for measuring emotions has been extensively criticized, especially with regard to the investigation of gender differences. Indeed, investigating emotion using self-reports is likely to be biased by gender stereotypes, display rules, and blurred by the distinction between emotional experience and expression (Brody et al., 2016).

4.2 Practical implications

The present study brings some practical implications. First, it calls attention to the complexity of individuals' emotional experiences related to the school-to-work transition. Our findings invite parents, university, and guidance counselors to depart from a valenced-based interpretation of university students' emotional experiences and rather embrace the complexity of emotions, as well as the multiple, possibly conflicting appraisals, goals, and perceived barriers that underlie them. In this regard, our findings facilitate the detection of at-risk profiles of students. For example, the *Mixed Anticipatory–Low Anticipated* profile was particularly at risk of avoidant coping strategies and inadequate preparation as demonstrated by their low levels of planning and effort intentions, especially among men. Given the differences between this profile and the *Mixed Anticipatory–High Anticipated* profile, parents and counselors might, for example, pay close attention to increasing anticipated emotions through simulation exercises. In contrast, the *Positive Anticipatory–Positive Anticipated* might represent another type of at-risk profile. Indeed, university students often hold unrealistic expectations of the workplace and their future as a worker (Perrone & Vickers, 2003). Given their particularly positive outlook at the prospect of the transition and their low planning and effort intentions, it is reasonable to assume that they might be particularly at-risk of unrealistic expectations, and particular attention could be paid to help these students in adjusting their views to better fit the reality of organizational life (Louis, 1980). All in all, our study shed light on the importance of adopting a preventive approach to career transitions. Our findings related to emotional anticipation demonstrate that individuals anticipate the transition well before the transition and that this emotional anticipation explains job search volitions to a considerable extent. In this sense, helping students develop their resources, adjust their expectations, and engage in proactive behaviors are important tasks in the preparation phase of transitions (Nicholson, 1990). Intervening in a preventive approach is especially important in this context, given that universities provide a supervised environment particularly suited to address these issues (e.g., during courses, internships, or projects).

Part IV

The transition from unemployment to employment

Chapter 9

Young job seekers' emotional anticipation of finding a job

A person-centered approach

Although job seekers experience a multitude of emotions during the job search process, little is known about how they emotionally anticipate the prospect of finding a job. Accordingly, the present research aimed to explore how job seekers emotionally anticipate finding a new job by investigating profiles of anticipatory and anticipated emotions. To assess the generalizability of our profiles, the second objective was to investigate whether these profiles were similar in terms of gender. We identified four distinct profiles: (1) a *Positive Anticipatory–High Anticipated*, (2) a *Positive Anticipatory–Positive Anticipated*, (3) a *Mixed Anticipatory–Low Anticipated*, and (4) a *Negative Anticipatory–High Anticipated* profile. Regarding the similarity between groups, we found both qualitative and quantitative differences between men and women. To the best of our knowledge, the present study is the first to investigate the specific interaction between anticipatory and anticipated emotions at the prospect of finding a job and show the relevance of person-centered approaches to address this question. From a practical point of view, the present profiles can be used as a guide for developing future interventions.

Reference

Parmentier, M., Pirsoul, T., Bouchat, P., & Nils, F. (in preparation). Young Job Seekers' Emotional Anticipation of Finding a Job: A Person-centered Approach.

Chapter 9

Young job seekers' emotional anticipation of finding a job

A person-centered approach

1. Introduction

Unemployment is considered an emotional, stressful, and depressing experience for individuals (Stevens & Seo, 2013). On the one hand, unemployment is *per se* a stressor as exemplified by evidence relating unemployment to a wide range of negative consequences for the individual as decreased physical and psychological well-being, life satisfaction, loss of income, social contacts, and status, stigmatization, alcohol use, or drug abuse (Lucas et al., 2004; McKee-Ryan et al., 2005; Paul & Moser, 2009; Wanberg, 2012). On the other hand, unemployment also brings about emotional reactions related to one's job search process. As job seekers endeavor to find a job, they experience a wide range of emotions, stress, and anxiety related to their job search. In that sense, job search is a volitional self-regulated activity in which job seekers' emotions, and how they regulate them when necessary, influence the enaction and the maintenance of job search activities and behaviors (Côté et al., 2006; Crossley & Stanton, 2005; da Motta Veiga & Turban, 2014; Kanfer et al., 2001; Song et al., 2009; Turban et al., 2009; Wanberg et al., 2010; L. Wang et al., 2017). Overall, positive emotions tend to increase the likelihood of engagement behavior (Côté et al., 2006; Fredrickson, 2001), whereas findings of negative emotions tend to be more controversial. Some studies have demonstrated that negative emotions are linked to avoidance behaviors (Crossley & Stanton, 2005). In contrast, other has shown that negative emotions are related to higher job search behaviors (Kim & Lee, 2021).

Up to now, however, far too little attention has been paid to future-oriented emotions felt when job seekers anticipate the occurrence of specific job search events (e.g., the anticipation of finding a job), imagine how these events will occur and visualize how they will personally behave in response to those events (H. Baumgartner et al., 2008). Existing evidence has consistently shown the predictive value of future-oriented emotions on intentions and behaviors (Baumeister et al., 2007; H. Baumgartner et al., 2008; Loewenstein & Lerner, 2003; Ravis et al., 2009; Xu & Guo, 2019). Additionally, neuropsychological evidence showed that the proactive anticipation of an emotional stimulus reduces the cognitive effort needed when the emotional stimulus actually occurs (Vanderhasselt et al., 2014). This suggests that emotional anticipation is not only likely to influence job seekers' preparatory behaviors but also likely to play a key role in their future response to stressful events when they occur (Aspinwall & Taylor, 1997).

Simultaneously, research within the job search literature has primarily focused on the investigation of positive and negative emotions rather independently from each other. This focus overlooked the existing evidence suggesting that positive and negative emotions do not exist in isolation but rather combine and co-occur together in some type of pattern within individuals (Larsen et al., 2001; Trampe et al., 2015). For example, job seekers might feel enthusiastic at the prospect of securing a job congruent with their career interests along with fear at the prospect of a negative response after the job interview. As a consequence, an increasing number of scholars have called for the investigation of within-person combinations of emotions (Fernando et al., 2014). Person-centered research is well suited to such an endeavor. Complementary to variable-centered methods, person-centered approaches are typological methods that seek to cluster individuals in groups that are distinct on a set of variables (Morin et al., 2020). Applied to positive and negative emotions, person-centered approaches can highlight the naturally-occurring combinations (i.e., emotion profiles) of positive and negative emotions that individuals experience at the same time.

The current study adopts a person-centered approach with the main objective to investigate how job seekers emotionally anticipate finding a job in the near future. For this purpose, we used latent profile analysis (LPA) to investigate the intraindividual combinations of future-oriented emotions during job search. As these approaches are somewhat exploratory in nature (Morin et al., 2020), generalizability is an important issue in person-centered research. On the one hand, replication efforts are important to ascertain that similar profiles emerge in different contexts, at different periods of time, or in different populations. On the other hand, construct validity of the profiles is an important prerequisite to use evidence from person-centered research to guide future directions both for practice and research. For these reasons, we investigated the differences and similarities of profiles across groups based on two key covariates likely to influence how individuals anticipate finding a (new) job: gender and education (Kanfer et al., 2001). The current article makes several contributions to the field. First, it complements existing evidence about the role of emotion during job search by adopting an intraindividual and holistic study of emotions. Investigating the combinations of both positive and negative future-oriented emotions bears an interesting opportunity to depart from the general beliefs that positive (negative) emotions are always good (bad). By studying the intraindividual combinations of future-oriented emotions, one might differentiate for example individuals who are both anxious and optimistic at the same time only anxious individuals and investigate the behavioral outcomes of those profiles. Second, we highlight the importance of emotions not only during or after but also before career-related emotional events. This focus on future-oriented emotions allows a preventive approach and paves the way for the design and implementation of relevant and tailored job search interventions.

1.1 Profiles of emotional anticipation

There are times we hope that positive events will happen in the future, or fear that they may not. At those times, we imagine what we will do and visualize how happy we will feel if our expectations come out true. Job search does not evade such emotional anticipation. Job seekers hope that they will be called for a job interview, fear being not called. They also

imagine what they will do in either case and visualize how they will feel if they are actually called (or not) by a potential employer. These emotional reactions have been conceptualized as future-oriented emotions (H. Baumgartner et al., 2008). On the one hand, *anticipatory* emotions refer to emotions currently experienced at the prospect of an event likely to occur in the future (e.g., hope if one thinks his or her chances to be shortlisted for a job application are high; Baumgartner et al., 2008). On the other hand, *anticipated* emotions refer to individuals' beliefs about how they think they will feel during imagined future events through a process known as affective forecasting (Gilbert & Wilson, 2007). While job seekers might fear and experience anxiety at the prospect of an upcoming job interview (i.e., anticipatory emotions), they might also visualize how relieved and happy they will feel should the interview go well (i.e., anticipated emotions). Three core distinctions between anticipatory and anticipated emotions can be delineated (H. Baumgartner et al., 2008). First, anticipatory emotions are affective reactions based on the prospects of a future event that could have either positive or negative consequences. Accordingly, how likely and how uncertain the event is part of anticipatory emotions; the degree of uncertainty is an appraisal that causes the anticipatory emotion (see Moors et al., 2013). On the contrary, anticipated emotions are cognitive beliefs or forecasts about how one is going to feel in response to failure or success in a simulated future event; in that sense, the likelihood of the event is non-informative with regard to anticipated emotions. Second, anticipatory and anticipated emotions are different from a phenomenological point of view as anticipatory emotions are always currently experienced whereas anticipated emotions are based on pre-factual thinking about imagined positive and negative consequences (M. D. Robinson & Clore, 2001). Third, as anticipatory emotions are related to the prospects of future events, the range of discrete emotions is related to the characteristics of the event in question and thus smaller than the range of anticipated emotions. Actually, any discrete emotion can theoretically be anticipated through mental simulation.

Even though it is contended that individuals experience both anticipatory and anticipated emotions when thinking about their future, most research has relied on variable-centered methods that focus on anticipatory and anticipated—as well as positive and negative—emotions independently. For example, Bamgartner et al. (2008) suggested that all components of emotional anticipation were distinct, yet complementary, predictors of future behavior: positive and negative anticipatory emotions, positive and negative anticipated emotions. Nonetheless, their research tells nothing about the naturally occurring combinations of anticipatory and anticipated emotions. Are individuals more likely to experience high levels of both anticipatory and anticipated emotions at the same time or do most individuals hold a positive outlook about their future with high levels of positive emotions and low levels of negative emotions? These questions are consistent with substantial evidence showing that individuals do experience mixed emotions in everyday life—that is, the co-occurrence of multiple emotions at the same time (Larsen et al., 2001; Larsen, Coles, et al., 2017; Watson & Stanton, 2017).

In contrast to variable-centered approaches, the person-centered framework aims to examine the emergence of subpopulations, also called profiles, characterized by distinct

configurations on a set of indicators. As variable-centered approaches aim to investigate average relations between emotions and job search-related outcomes, person-centered approaches might identify profiles of job seekers that are differentiated upon the level and shape of anticipatory and anticipated emotions. This approach responds to recent calls claiming the necessity to adopt a person-centered approach to investigate multiple experienced emotions (Fernando et al., 2014) and leads to our first research question:

Research Question 1. How many profiles of emotional anticipation at the prospect of finding a job that vary quantitatively (in level) and qualitatively (in shape) emerge in the data?

A series of studies have brought empirical evidence with regard to the co-occurrence of multiple emotions using a person-centered approach and thus guided our present inquiry. In the context of work, Sandrin et al. (2020) examined how firefighters' positive and negative emotions at work combined within different profiles. Latent profile analyses revealed the emergence of 5 profiles: (1) *Low Negative Affect Facilitators*; (2) *Moderately Low Positive Affect Incapacitators*; (3) *High Positive Affect Facilitators*; (4) *Very Low Positive Affect Incapacitators*; and (5) *Normative*. Overall, most profiles were stable, and the highest levels of work-family conflict, absenteeism, and turnover intentions were related to the fourth one. In the general population, Fernando et al. (2014) investigated participants' experience of intergroup emotions in two different studies. In both studies, they supported empirical evidence of the co-occurrence of positive and negative emotions by revealing the existence of 5 profiles: (1) *Sympathy*, (2) *Anger (people)*, (3) *Anger (government)*, (4) *Anger (asylum seekers)*, (5) *Shame*, and (6) *Pride*. They also showed that the *Sympathy* profile was a significant predictor of action orientations (e.g., volunteer for an organization assisting asylum seekers). In another study, Siemer et al. (2007) aimed to empirically test the importance of appraisal theories of emotions by investigating participants' emotional reactions with regard to the same, somewhat ambiguous situation. Their results demonstrated that individuals reported different configurations of emotions by the emergence of 5 profiles: (1) *No emotions*, (2) *Shame/Guilt*, (3) *Anger*, (4) *Positive Emotions*, (5) *Negative Emotions*. They also showed that individuals' reactions were influenced by how individuals appraised the situation and the possibility to experience multiple emotions. Finally, Zampetakis et al. (2016a) investigated students' profiles of anticipated emotions related to venture creation. Four profiles emerged in the data, bringing evidence for the co-occurrence of future-oriented emotions. In addition, the first profile characterized by high levels of positive emotions and low levels of negative emotions was more likely to consider new venture creation as a desirable and feasible procedure. However, Zampetakis et al. (2016) only investigated anticipated emotions, and, to the best of our knowledge, no empirical evidence investigated the combinations and co-occurrence of both anticipatory and anticipated emotions. Although we left our research questions open, we expected the emergence of distinct profiles based on the evidence reviewed above: profiles characterized by high levels of positive and low levels of negative future-oriented emotions, by low levels of positive and high levels of negative future-oriented emotions, and moderate levels of both positive and negative future-oriented emotions.

1.2 Profile similarity based on gender and education

As previously stated, person-centered studies are somewhat exploratory due to the process of sequentially comparing profile solutions in the selection of an 'optimal' model. Consequently, these profile solutions tend to be highly sample-dependent, and the procedure is thus limited with regards to the generalizability of one's findings (Morin et al., 2020). Person-centered evidence thus necessitates the accumulation of evidence to differentiate profiles that consistently emerge across groups or samples from transient profiles that only emerge in specific contexts or groups (Hofmans et al., 2020). Profile similarity procedures involve different ways to establish whether profiles can generalize across groups and contexts (Morin et al., 2016; Olivera-Aguilar & Rikoon, 2018). These ways are referred to as configural (i.e., same number of profiles across groups or contexts), structural (i.e., profiles with a similar shape), dispersion (i.e., profiles with a similar degree of resemblance among profile members), and distributional similarity (similar profile sizes across groups or contexts). Given that, to our best knowledge, this is the first study to investigate job seekers' emotional anticipation profiles at the prospect of finding a new job, it was essential to carefully examine the generalizability of profiles across groups of interest that were argued to influence the job search process: gender and education level (Kanfer et al., 2001).

Research Question 2. To what extent profiles of emotional anticipation at the prospect of finding a job are similar in number, indicator means and variances, and size between men and women?

Regarding gender, several studies and statistical reports have shown that women face more difficulties during the entrance into the labor market than men. For example, Kanfer et al. (2001) reported in their meta-analysis that men were more likely to find a job than women and that men reported being more engaged in job search activities than women. These differences were, however, minor in magnitude ($rc = .07$). Eurostat statistics also showed that employers prefer to hire young men rather than young women (Eurostat, 2021). Meta-analytic findings from Davison and Burke (2000) echo such a finding and show that gender stereotypes and discrimination play a critical role in influencing job search and hiring processes. Van Hooft et al. (2005) also demonstrated that men intended to invest more time in job search than women. However, no moderating effect of gender on the relation between job search intention and job attainment was found. Regarding the evidence of gender differences in emotion, Else-Quest et al. (2012) reported in their meta-analysis some differences among adults. Women tend to report a higher level of shame and guilt. However, no significant differences were found with regard to embarrassment and pride. Other research has shown that women tend to report higher levels of positive emotions and internalizing negative emotions, whereas men tend to report higher levels of aggression or anger (for a review, see Chaplin, 2015). To the best of our knowledge, no studies have investigated gender differences with regard to the emotional anticipation of finding a job. Although we left our hypotheses open given the exploratory nature of person-centered approaches, we expected that women would report higher levels of negative emotions and lower levels of positive emotions than men.

In terms of education, the educational level has been associated with higher levels of positive employment outcomes such as high job quality, increasing the chance of finding a job, or a higher employment rate (Eurostat, 2021). Kanfer et al. (2001) also reported in their meta-analysis that the educational level was positively related to job search behaviors and job search activities, increasing the probability of finding a job. Furthermore, the education level was also significantly related to employment status, supporting that individuals with a higher educational level report a larger probability of being hired. Finally, individuals with a higher educational level were more quickly hired than individuals with a lower educational level. Based on these results, it is, therefore, possible that individuals with a low educational level would tend to anticipate more negatively the prospect of finding a job.

2. Method

2.1 Participants and procedure

Data were collected among 1,316 job seekers. In order to control for the influence of age during the job search process (Kanfer et al., 2001), most targeted participants were job seekers under 25 years old ($M_{age} = 21.82$, $SD = 3.21$). Of the total sample, 889 were women and 427 were men. While half of the respondents had their high school degree (50.6%), 24.5% had completed a bachelor's degree, 16.1% completed a master's degree, and only 8.8% of respondents did not completed high school. Job seekers were contacted by e-mail and were invited to participate to an online anonymous survey after having given their consent.

2.2 Measures

2.2.1 Emotional anticipation

Anticipatory and anticipated emotions were measured using a scale adapted from Baumgartner et al. (2008). For anticipatory emotions, participants were instructed to think about their job search and the possibility to find a new job as follows: "In the following weeks or months, you might find a (new) job. Depending on our life course, our goals, interests, and personal projects, we all differ in the extent to which we envision our professional future. Please indicate how you feel here and now at the prospect of finding a (new) job." Participants rated the extent to which they felt optimistic, confidence, and hopeful for positive anticipatory emotions, and worried, anxious, and nervous for negative anticipatory emotions.

For positive anticipated emotions, participants were asked to imagine that the next weeks and months– including what they did during that period – have had positive consequences for them and allowed them to find a (new) job. Participants rated how happy, proud, and relieved they would feel in the specific situation. For negative anticipated emotions, participants were asked to imagine that the following weeks and months – including what they did during that period – have had negative consequences for them and prevented them to find a (new) job. Participants rated how disappointed, guilty, and sad they would feel.

3. Results

3.1 Preliminary analyses

In order to compare person-centered with variable-centered results, descriptive statistics and difference tests across groups for each emotion are displayed in Table 17. Women and men displayed significant differences on most emotions (except for anticipatory hope) with anticipatory confidence, worry, anxiety, and anticipated pride, disappointment, and sadness displaying moderate effect sizes. High school and higher education job seekers showed significant differences on few anticipatory emotions (optimism and anxiety) and negative anticipated emotions with low to medium effect sizes.

Table 17. Descriptive and comparison statistics of emotions across groups

	Gender			Education		
	Men	Women	Cohen's δ	HE	Non-HE	Cohen's δ
<i>Anticipatory emotions</i>						
Optimistic	5.11 (1.38)	4.90 (1.48)	.14*	5.06 (1.40)	4.86 (1.50)	.14*
Confident	4.82 (1.36)	4.32 (1.45)	.35***	4.54 (1.42)	4.43 (1.45)	.08
Hopeful	5.01 (1.57)	4.86 (1.61)	.10	4.90 (1.62)	4.92 (1.58)	-.01
Worried	3.41 (1.91)	3.99 (1.91)	-.30***	3.83 (1.96)	3.75 (1.87)	.04
Anxious	3.27 (1.75)	4.01 (1.80)	-.41***	3.92 (1.81)	3.89 (1.81)	.18**
Nervous	3.54 (1.81)	4.05 (1.81)	-.28***	3.93 (1.75)	3.84 (1.92)	.05
<i>Anticipated emotions</i>						
Happy	5.78 (1.09)	6.05 (1.02)	-.25***	5.98 (0.98)	5.95 (1.13)	.03
Proud	5.79 (1.19)	6.13 (1.06)	-.30***	6.01 (1.08)	6.03 (1.16)	-.02
Relieved	5.86 (1.17)	6.15 (1.12)	-.25***	6.11 (1.03)	5.99 (1.26)	.11
Disappointed	5.20 (1.67)	5.68 (1.59)	-.30***	5.77 (1.34)	5.23 (1.88)	.34***
Guilty	3.32 (1.92)	3.61 (1.98)	-.15*	3.72 (1.93)	3.28 (1.99)	.22***
Sad	4.21 (1.87)	5.08 (1.76)	-.48***	5.10 (1.64)	4.45 (2.00)	.36***

Note. Reported statistics are means and standard deviations. * $p < .05$. ** $p < .01$. *** $p < .001$.

3.2 Latent profile analyses

Several latent profile analyses were conducted following a stepwise procedure from 1 up to 6 profiles. Choosing the optimal number of profiles is a process that is both data- and theory-driven. Alongside statistical fit indices, researchers are invited to ensure that the profiles carry substantive meaning and make sense at the conceptual level. In addition, researchers have to select parsimonious profile solutions in which profiles are not redundant with each other and are composed of a substantial percentage of the total sample (Hofmans et al., 2020; Woo et al., 2018). Several fit statistics were used to select the best profile solution: the Akaike Information Criterion (AIC), the Consistent AIC (CAIC), the Bayesian Information Criterion (BIC), the sample-size adjusted BIC (SABIC), the adjusted Lo-Mendell-Rubin likelihood ratio test (LMR), the Bootstrap Likelihood Ratio test (BLRT), and entropy. The best profile solution should display smaller AIC, CAIC, BIC, and SABIC values

compared with other profile solutions, an entropy greater than .70 (ranges from 0 to 1), and significant aLMR and BLRT statistics. aLMR and BLRT provide tests of a k profile model against a $k-1$ profile model with significant p values suggesting that the k profile model should be retained. In addition, high posterior classification probabilities suggest that profiles are well distinct from each other. Recommendations from simulation studies encourage researchers to favor the CAIC, BIC, SABIC, and BLRT as they have been demonstrated to be more effective (Nylund et al., 2007). The other fit indices are reported only for transparency purposes. All LPAs were performed using 5,000 random sets of starting values and 200 iterations, the 100 best solutions being retained for the optimization process (Hipp & Bauer, 2006).

Results from profile enumeration are reported in Table 18. Among women, while most fit indices reached their lowest point at 5 profiles, CAIC suggested a 4-profile solution. Among men, most fit indices kept on decreasing but tended to plateau around 4 profiles. The CAIC also tended to reach a plateau around 4 profiles but reached its lowest point at 5 profiles. In order to choose the optimal solution both among women and men, we systematically examined the 3-, 4-, and 5-profile solutions with regards to their statistical adequacy and theoretical meaning. A first observation was that profiles among women and men tended to be very similar in shape. Second, profiles were statistically proper and meaningful in the 3-profile solution. The addition of a profile resulted in a fourth profile that was qualitatively distinct and meaningful. However, when adding a fifth profile, it resulted in an extremely small profile (i.e., 1.05%) among women and in the arbitrary division of one profile into two very similar profiles among men. We decided to retain the 4-profile solution as the best description of the data for parsimony reasons for both women and men.

Among job seekers who graduated from high school, all fit indices kept on decreasing until the 4-profile solution and increased afterward. Importantly, the 5- and 6-profile solutions were not statistically proper, as demonstrated by the emergence of empty profiles. Among higher-education-level job seekers, fit indices reached a plateau after 4 profiles and increased after 5 profiles. When systematically examining the 4- and the 5-profile solutions, the addition of one profile resulted in a very similar profile that was not qualitatively distinct. Like our decision with gender, we retained the 4-profile solution as the best description of the data.

Table 18. Latent profile enumeration fit statistics

# of profiles	LL	fp	SCF	AIC	BIC	SABIC	CAIC	aLMR	BLRT	Entropy	Smallest profile
<i>Women</i>											
1	-17988.48	24	1.095	36024.95	36139.09	36062.87	36163.09	–	–	1	–
2	-17077.06	49	1.283	34252.11	34485.15	34329.54	34534.15	.003	.000	.782	45.05%
3	-16364.45	74	1.328	32786.90	33228.82	32993.82	33302.82	.001	.000	.855	28.87%
4	-16090.08	99	1.508	32378.16	32848.98	32534.58	32947.98	.518	.000	.862	9.90%
5	-15999.57	124	1.252	32247.13	32836.85	32443.06	32960.85	–	–	.893	1.05%
6	-16006.50	149	1.063	32310.99	33019.60	32546.42	33168.60	–	–	.904	0.00%
<i>Men</i>											
1	-8560.19	24	1.045	17168.38	17264.82	17188.67	17288.82	–	–	1	–
2	-8175.51	49	1.354	16449.02	16645.93	16490.44	16694.93	.111	.000	.806	34.31%
3	-7892.33	74	1.160	15932.65	16230.03	15995.21	16304.03	.041	.000	.851	30.17%
4	-7738.21	99	1.576	15674.41	16072.25	15758.10	16171.25	.7343	.000	.878	10.40%
5	-7626.37	124	1.307	15500.74	15999.05	15605.57	16123.05	.2398	.000	.843	10.46%
6	-7543.03	149	2.895	15384.06	15982.83	15510.02	16131.83	.7586	.000	.853	8.76%
<i>High school level</i>											
1	-12270.03	24	1.038	24588.06	24692.85	24616.66	24640.66	–	–	1	–
2	-11581.92	49	1.034	23261.83	23475.79	23320.23	23524.79	.000	.000	.823	49.49%
3	-11244.36	74	1.196	22636.72	22959.84	22724.92	23033.84	.006	.000	.842	35.57%
4	-10990.07	99	1.306	22178.13	22610.41	22296.13	22709.41	.185	.000	.876	9.79%
5	-10882.15	124	1.205	22012.29	22553.73	22160.08	22677.73	.326	.000	.894	3.09%
6	-10882.15	149	1.002	22276.25	22712.90	22239.88	22861.90	.596	.050	.905	0.00%
<i>Higher education level</i>											
1	-14206.03	24	1.056	28460.06	28568.73	28492.53	28592.73	–	–	1	–
2	-13358.44	49	1.370	26814.88	27036.75	26881.17	27085.75	.000	.000	.834	48.54%
3	-12937.80	74	1.465	26023.61	26358.68	26123.72	26432.68	.308	.000	.847	29.83%
4	-12389.87 ^a	98	1.543	24975.74	25419.48	25108.32	25517.48	– ^a	– ^a	.888	9.06%
5	-12721.62	124	1.275	25691.23	26252.70	25858.98	26376.70	.252	1.000	.871	0.00%
6	-12938.17	149	1.367	26174.33	26849.00	26375.90	26998.00	.755	1.000	.906	0.00%

Note. LL = log likelihood ; fp = free parameters ; SCF = scaling correction factor; AIC = Akaike information criteria; BIC = Bayesian information criteria; SABIC = sample-size adjusted BIC; CAIC = consistent AIC; LMR = Lo-Mendell-Rubin likelihood ratio test; BLRT = Bootstrap Likelihood Ratio test. ^a This specific profile solution had a variance constrained to zero ($df = 98$) due to a negative residual variance in the original solution ($df = 99$) and was thus not comparable to the 3-profile solution. This issue did not replicate in subsequent multigroup profile analyses.

Second, we conducted multiple group profile similarity analyses in order to investigate the degree of similarity between profiles across gender and education. The strategy offers the possibility to investigate whether the groups (i.e., women and men, and high school and higher education job seekers) are similar in terms of their number of profiles, their shape (i.e., means of the profile indicators), the degree of similarity between members of profiles (i.e., within-profile variances of the indicators), and the size of the profiles (Morin et al., 2016; Olivera-Aguilar & Rikoon, 2018). These levels of similarity are referred to as configural, structural, dispersion, and distributional similarity, respectively. As for latent profile analyses, best similarity models should display the lowest values of AIC, BIC, SABIC, and CAIC. Results from profile similarity analyses are displayed in Table 19. Among women and men, a model of structural similarity which constrained all profile means to be equal across groups failed to provide a better fit to the data. A partial structural similarity model with only two of four profiles constrained to be equal provided a better fit to the data. From this partial structural similarity model, dispersion and distributional similarity models yielded decreased fit statistics. Therefore, we decided to retain the distributional partial structural similarity model as the best description of the data (see Figure 13 and Figure 14). The average posterior probabilities of profile membership varied from .907 to .950 ($M = .926$) with low cross-probabilities (.000–.063; $M = .011$). Among high school and higher education job seekers, the structural similarity model provided a better fit. However, the dispersion and distributional similarity model yielded an increase in SABIC. The structural similarity model was thus retained as the best description of the data. The average posterior probabilities of profile membership varied from .904 to .941 ($M = .922$) with low cross-probabilities (.000–.083; $M = .011$).

Table 19. Multigroup similarity fit statistics across gender and education

Models of similarity	LL	fp	SCF	AIC	BIC	SABIC	CAIC	Entropy
<i>Gender</i>								
Configural	–24638.32	199	1.361	49674.64	50698.85	50066.73	50897.85	.906
Structural	–24756.08	163	1.221	49814.16	50591.32	50111.68	50742.32	.904
Partial structural	–24674.05	175	1.376	49698.09	50598.78	50042.89	50773.78	.912
Dispersion	–24698.00	151	1.523	49698.11	50475.28	49995.63	50626.28	.907
Distributional	–24688.92	148	1.549	49673.83	50435.56	49965.44	50583.56	.910
<i>Education</i>								
Configural	–24703.51	199	1.600	49805.02	50828.60	50196.48	51027.60	.895
Structural	24695.78	151	1.344	49693.56	50470.25	49990.60	50621.25	.908
Dispersion	24792.83	103	1.385	49791.65	50321.44	49994.27	50424.44	.909
Distributional	24701.80	148	1.328	49699.60	50460.86	49990.74	50608.86	.907

Note. LL = log likelihood ; fp = free parameters ; SCF = scaling correction factor; AIC = Akaike information criteria; BIC = Bayesian information criteria; SABIC = sample-size adjusted BIC; CAIC = consistent AIC.

3.3 Interpretation of profiles

The first profile encompassed job seekers with high anticipatory positive emotions and moderately low anticipatory negative emotions. Simultaneously, they reported moderately high anticipated emotions. To reflect these features, we tentatively labeled this profile *Positive Anticipatory–High Anticipated*. This first profile was similar in shape between women and men but exhibited some quantitative level differences. When assessing the differences on emotions between women and men belonging to this profile, results showed that women reported less anticipatory confidence ($Diff = 0.50, p < .01$), more anticipatory anxiety ($Diff = -0.76, p < .01$) as well as more anticipated disappointment ($Diff = -.35, p < .05$) and anticipated sadness ($Diff = -0.70, p < .01$) than men. In both groups, the profile was composed of 36.38% of the sample. The second profile was comprised of job seekers who reported high anticipatory positive emotions with extremely low anticipated negative emotions. A similar high–low pattern was also found for anticipated emotions. We labeled this profile *Positive Anticipatory–Positive Anticipated*. Although being very similar in shape between women and men, some level differences emerged. In this profile, women reported similar levels on anticipatory emotions, but higher levels of anticipated happiness ($Diff = -0.76, p < .05$), pride ($Diff = -0.91, p < .01$), relief ($Diff = -0.63, p < .05$), and sadness ($Diff = -2.23, p < .01$). In both groups, this profile was composed of 12.60% of the sample. The third profile was strictly similar between women and men and was composed of job seekers who reported low to moderate levels of both positive and negative anticipatory emotions along with low levels of both positive and negative anticipated emotions. This profile was labeled *Mixed Anticipatory–Low Anticipated* to reflect these features and was composed of 28.50% of the sample, both among women and men. Finally, the fourth profile was also strictly similar between women and men and described job seekers who reported low positive anticipatory emotions and high levels of negative anticipatory emotions. At the same time, they reported very high levels of both anticipated positive and negative emotions. The profile was labeled *Negative Anticipatory–High Anticipated* to reflect these features and was composed of 22.52% of the sample.

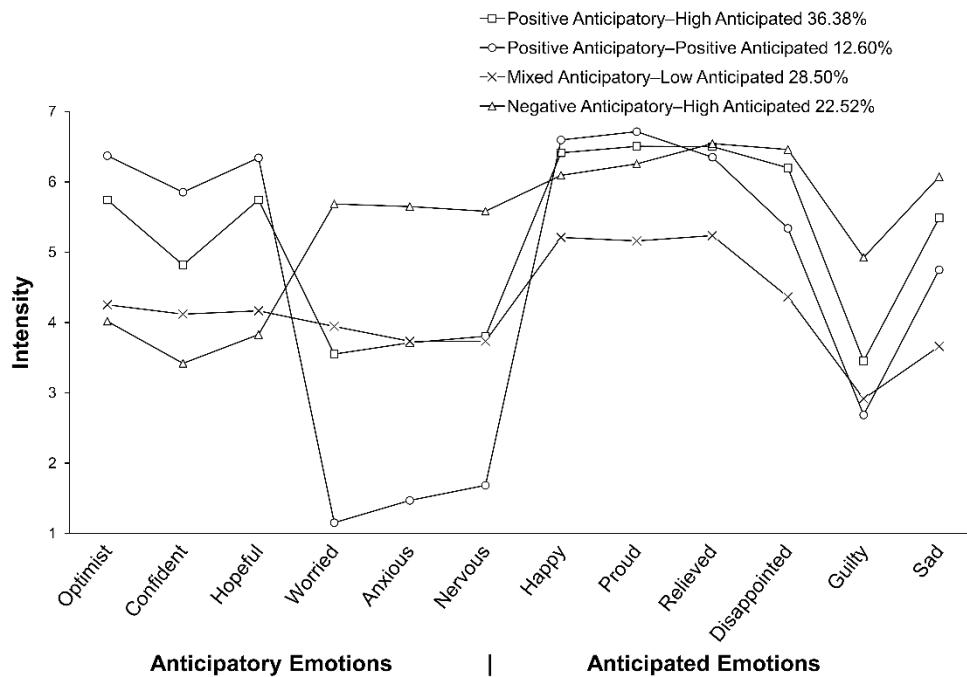


Figure 13. Final 4 profile solution for women

Profiles among high school and higher education job seekers were previously found to be similar with regards to their means, variances, and relative size. Given that these profiles do not take into account the qualitative and quantitative differences found between women and men, they are not reported in the present manuscript. Indeed, these profile solutions provide a mixture of profiles of women and men and are totally redundant with profiles depicted in Figure 13 and Figure 14. As demonstrated by our profile similarity analyses, dispersion and distributional similarity models did not provide a better fit compared to the structural similarity model. This suggested that high school and higher education job seekers displayed differences in their within-profile resemblance (i.e., the variance of profile indicators) and the size of the profiles. Overall, profiles of high school job seekers demonstrated a higher variance of profile indicators. This suggests that, compared to higher education job seekers, high school job seekers tended to be less similar to their prototypical profile. In terms of relative size, our findings showed that higher education job seekers had a slightly higher probability of belonging to the *Positive Anticipatory-High Anticipated* (36.26%), compared to high school job seekers (32.13%). High school job seekers had a higher probability of belonging to the *Positive Anticipatory-Positive Anticipated* profile (16.67%) compared to higher education job seekers (10.53%). The *Mixed Anticipatory-Low Anticipated* profile was slightly more prevalent among high school job seekers (33.85%) than higher education job seekers (30.12%). Finally, the *Negative Anticipatory-High Anticipated* profile was more prevalent among higher education job seekers (23.10%) than high school job seekers (17.35%).

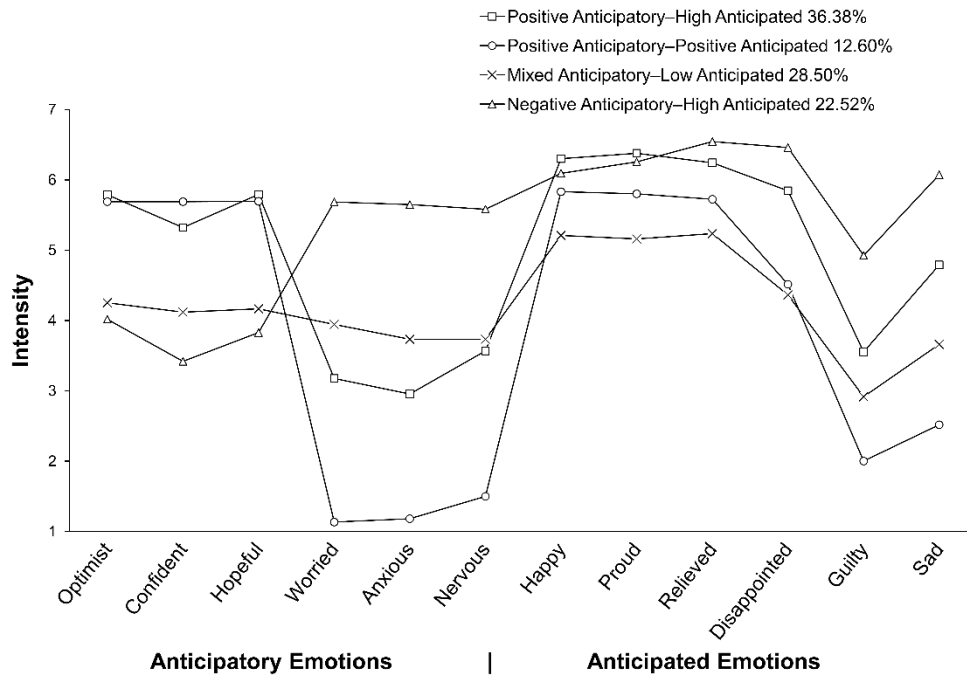


Figure 14. Final 4 profile solution for men

4. Discussion

Prior variable-centered research has shown the importance of positive and negative emotions during the job search process (Côté et al., 2006; Crossley & Stanton, 2005; da Motta Veiga & Turban, 2014; Kanfer et al., 2001; Kim & Lee, 2021; Song et al., 2009; Turban et al., 2009, 2013; Wanberg et al., 2010; L. Wang et al., 2017). However, very little attention has been devoted to examining the combinations of future-oriented positive and negative emotions, that is, at the prospect of finding a new job. The use of a person-centered approach is appropriated for investigating such combinations. Thus, based on a future-oriented emotions framework, the present study aimed to identify profiles of anticipatory and anticipated emotions at the prospect of finding a job among a sample of young job seekers. To ascertain the construct validity of the profiles, the second objective was to examine the profile similarity across gender and education.

Latent profile analysis revealed the emergence of four profiles, characterized by qualitative and quantitative differences with regard to anticipatory and anticipated emotions: (1) *Positive Anticipatory-High Anticipated*, (2) *Positive Anticipatory-Positive Anticipated*, (3) *Mixed Anticipatory-Low Anticipated*, and (4) *Negative Anticipatory-High Anticipated*. The emergence of these profiles brings additional evidence and comprehension of how positive and negative emotions co-occur (Ersner-Hershfield et al., 2008; Larsen et al., 2001), including at the prospect of future events in reflecting the highly distinct configurations of emotional anticipation at the prospect of finding a job. Our findings also complement the

literature on future-oriented emotions as little research has jointly examined both anticipatory and anticipated emotions simultaneously. In this regard, our person-centered approach brings critical findings for their conjoint analysis. Indeed, our findings allowed us to distinguish two distinct profiles characterized by positive anticipatory emotions: while one was characterized by only positive anticipated emotions (i.e., *Positive Anticipatory–Positive Anticipated*), the other was characterized by mixed and elevated anticipated emotions (i.e., *Positive Anticipatory–High Anticipated*). This finding brings important implications for the relationship between emotions and job search outcomes (Côté et al., 2006; Crossley & Stanton, 2005; da Motta Veiga & Turban, 2014; Kim & Lee, 2021), as previous research has suggested that both positive and negative anticipated emotions had a higher predictive value compared to anticipatory emotions (Xu & Guo, 2019). Future research that investigates the job search outcomes of profiles of future-oriented emotions is thus warranted and could potentially disentangle contrasting findings related to the relationship between negative affect or emotions and job search outcome (Kim & Lee, 2021).

To examine the construct validity of our profiles and for addressing our second objective, we followed Morin et al.'s (2016) recommendations by investigating the similarity of our profiles across several groups, that is, gender and education. Regarding the profiles between men and women, we observed both quantitative and qualitative differences. In contrast to the prominent stereotypes affirming that women are more emotional than men, our results echo more to Hyde's (2005) hypothesis supporting the idea that men and women are more similar rather than different. The emergence of these profiles thus offers new insights regarding the study of gender and conveys essential implications. First, overestimating gender differences can lead to important costs for women and men during unemployment or for finding a job. Second, using a person-centered approach offered an innovative framework to disentangle gender differences and provided a fine-grained representation of differences and similarities between men and women. Future research that adopts a similar approach is warranted to generalize the present findings.

In terms of education, our findings indicated that profiles were similar regarding emotional anticipation levels but differed with regard to the variability and the size of the profiles. Indeed, we expected that individuals with a lower educational level would tend to anticipate more negatively the event of finding a job given the negative association between education and job search behaviors and outcomes (Kanfer et al., 2001). These results suggest that job seekers with a low educational level tend to anticipate their job search similarly to job seekers with a high educational level. By demonstrating the relative similarity between high school and higher education job seekers, it is, therefore, possible to elaborate interventions that will be useful without worrying about the educational level.

4.1 Limitations

A number of limitations in the present study may have influenced the generalizability of the results. First, we examined the emergence of profiles using a cross-sectional design. It is, therefore, not possible to determine the enactment and stability of these profiles over time. Future research should consequently develop longitudinal designs to address this issue

(Collins & Lanza, 2010). Second, the present study has not explored key antecedents and outcomes related to the job search processes. This is unfortunate given the importance of covariates in the construct validation process of the profiles (Morin et al., 2016). Investigating antecedents and outcomes also offer the possibility to determine at-risk profiles and to develop appropriate interventions. For example, examining social support as an antecedent would be very relevant given its importance regarding job search behaviors (van Hooft et al., 2020). Moreover, the investigation of job search behaviors such as job search intention and intensity as outcomes could also be particularly relevant (Kanfer et al., 2001). This is especially important to evaluate job search intentions when considering that prior research showed that intention is one of the most important predictors of job search behavior (van Hooft et al., 2004). Another point of consideration for investigating job search behaviors as a consequence is related to the inconsistent results found with regard to the role of negative emotions (Kim & Lee, 2021). Using a person-centered approach could be particularly relevant for disentangle these conflicting results. Finally, we used self-report measures to examine the similarity between profiles across gender and education. However, investigating gender differences in relation to the concept of emotion could be particularly difficult given the numerous stereotypes that are socially anchored in our society. More specifically, we do not know precisely whether men and women have reported their objective levels of emotions or whether they responded to correspond to social expectancies (Brody et al., 2016).

4.2 Practical implications

The present findings bring important practical implications. The emergence of different profiles that differed quantitatively and qualitatively highlighted the necessity for employment policies, employment offices, and guidance counselors to devote specific consideration to job seekers showing distinct emotional anticipation profiles. This is particularly important given the role employment offices have in helping job seekers manage their emotions during the job search process. For example, job seekers in the *Positive Anticipatory-Positive Anticipated* profile might be vulnerable given their potential tendency to overestimate their probability of finding a job. In the same vein, the *Negative Anticipatory-Mixed Anticipated* profile could develop avoidant coping strategies and withdraw from goal-direct behaviors due to the high levels of experienced negative emotions (Reeve, 2015). Accordingly, recent findings showed that positive and negative emotions are important to engage in job search behaviors (Kim & Lee, 2021). Guidance and career counselors could therefore develop special attention with job seekers who need emotional support and helping them for managing the uncertainty and complexity of job search processes and unemployment. The emergence of different profiles also stresses the importance of following up with the job seekers regularly against the possible negative and emotional consequences of unemployment. To this end, the importance of developing tailor-made interventions targeting emotion regulation is needed, such as emotional intelligence training (Hodzic et al., 2015). The similarity profiles analyses also highlight minor differences between men and women and between education levels. Thus, it could be possible to develop interventions that might be effective for all these groups.

5. Conclusion

Searching for a job is a particularly long and demanding period characterized by heightened emotional anticipation. Building upon a person-centered approach, the present study revealed four distinct profiles of anticipatory and anticipated emotions at the prospect of finding a job among job seekers: a *Positive anticipatory–Mixed*, a *Positive anticipatory–Positive anticipated*, a *Mixed Anticipatory–Low Anticipated* and a *Negative Anticipatory–High Anticipated* profile. In addition, we showed that these profiles exhibited slight quantitative and qualitative differences across gender and education. The present findings thus support the importance of developing tailor-made interventions for job seekers taking their emotional anticipation into account.

Chapter 10

An appraisal account of emotional anticipation during job search

A dual-process latent profile analysis

Building upon a future-oriented perspective, the present research adopted a cognitive appraisal lens on the role of emotional anticipation in job search. We investigated the specific combinations of both job search appraisals and future-oriented emotions at the prospect of finding a new job. Four profiles of job search appraisals emerged among a sample of 503 job seekers: *Challengers in Control*, *Detached*, *Concerned Balanced*, and a *Threatened Helpless*. The *Challengers in Control* mostly experienced profiles of *Positive Anticipatory–Positive Anticipated* and a *Mixed Anticipatory–High Anticipated* profile. *Detached* job seekers also experienced a *Positive Anticipatory–Positive Anticipated* profile but most experienced a *Mixed Anticipatory–Low Anticipated* emotions profile. The *Concerned Balanced* experienced three distinct profiles: a *Negative Anticipatory–High Anticipated*, a *Mixed Anticipatory–High Anticipated*, and a *Positive Anticipatory–Positive Anticipated*. Finally, the *Threatened Helpless* mostly experienced a *Negative Anticipatory–High Anticipated* and a *Mixed Anticipatory–Low Anticipated* profile. In terms of job search outcomes, the *Challengers in Control* and the *Concerned Balanced* exhibited the most adaptive outcomes in terms of job search planning and effort intentions. By unraveling the complex relations and interactions between job search appraisals, emotional anticipation, and job search outcomes, our findings stress the importance of applying a future-oriented and a person-centered approach to the role of emotion in job search.

Reference

Parmentier, M., Pirsoul, T., & Nils, F. (in preparation). An Appraisal Account of Emotional Anticipation during Job Search: A Dual-process Latent Profile Analysis.

Chapter 10

An appraisal account of emotional anticipation during job search

A dual-process latent profile analysis

1. Introduction

As people undertake job search efforts, they are likely to experience a wide range of feelings and emotions such as stress before an interview, anxiety at the prospect of not finding a job, but also enthusiasm when finding a job offer that matches one's interests or happiness at receiving a positive call from a prospective employer. Job search and the often associated experience of unemployment have been acknowledged as emotional experiences for individuals (McKee-Ryan et al., 2005; Paul & Moser, 2009; Stevens & Seo, 2013; Wanberg, 2012). Job search is defined as a set of volitional self-regulatory activities which involves "a purposive, volitional pattern of action that begins with the identification and commitment to pursuing an employment goal" (Kanfer et al., 2001, p. 838). In that matter, emotions have a long history of theoretical and empirical inquiry in the context of goal-directed behaviors (Bagozzi et al., 1998). Defining job search as a form of goal-directed behavior (Hoye & Saks, 2008) thus paves the way for understanding how job seekers' feelings and emotions influence the enactment, maintenance, and regulation of job search activities and behaviors.

Mostly construed as a dispositional trait, positive and negative affect have been shown to influence job search outcomes, such as job search clarity, self-efficacy, and intensity (Côté et al., 2006; Crossley & Stanton, 2005). Relying on diary and experience sampling methods, previous evidence has also demonstrated the development of emotions during job search as a function of perceived progress, the specific role of emotions on job search activities, and the reversed influence of negative job search experiences on emotions over the course of several weeks (Song et al., 2009; Wanberg et al., 2010). However, if previous research has brought convincing support for the role of emotion during job search, less is known on the role of future-oriented emotions felt when job seekers anticipate the occurrence of specific job search events (e.g., finding a new job), imagine how these events will occur and visualize how they will personally behave in these situations (H. Baumgartner et al., 2008). Importantly, anticipatory and anticipated emotions, the two forms of future-oriented emotions, have been advocated as important predictors of future behavior (H. Baumgartner et al., 2008; Loewenstein & Lerner, 2003; Xu & Guo, 2019).

Obviously, not all individuals react similarly to the prospect of future job search events such as applying to job offers, going to an interview, or securing a job. The notion that people react with different emotions to similar situations is one of the core assumptions of cognitive

appraisal theories, such as the transactional theory of stress (Lazarus & Folkman, 1984). Specifically, appraisal theories advance that the emotions elicited by events are shaped by how the events are interpreted or *appraised* on a number of appraisal dimensions. In turn, appraisals and emotions are argued to influence coping behaviors. Lazarus and Folkman (1984) defined two sets of appraisals. On the one hand, primary appraisal includes the assessment of the importance of the event for one's well-being, goals, and values. When appraised as stressful, future events are distinguished upon three distinct appraisals: threat, challenge, and centrality (Peacock & Wong, 1990). Secondary appraisals involve the complex assessment of what control individuals have over the situation and the available resources for managing the situation. Not only few research on the role of emotion and affect in job search has addressed the role of cognitive appraisals in explaining job seekers' job search behaviors (Gee, 2004) but, research has also overlooked the role of cognitive appraisals when individuals anticipate future stressful events (Skinner & Brewer, 2002).

Importantly, existing evidence has mostly relied on a variable-centered approach. Such an approach assumes the homogeneity of the population and seeks to identify parameters (e.g., correlations, means) averaged and deemed uniform for the entire sample. One of the main caveats of such an approach is that it overlooks that individuals might display naturally occurring different combinations of appraisals and emotions. Importantly, such a possibility has been advocated for both appraisals and emotions. On the one hand, cognitive appraisal theories advance that the understanding of emotions channel through the specific combinations of several appraisal dimensions (Ellsworth & Scherer, 2003; Lazarus & Folkman, 1984; Peacock & Wong, 1990; Siemer et al., 2007). For example, combinations of appraisals of goal incongruence, threat, uncertainty, the absence of an agent to be held accountable, and low personal control are argued to lead to feelings of anxiety (Lazarus, 1991). Similarly, the complexity of appraisals, the pursuit of multiple goals, and the appraisals of both barriers and opportunities make very likely the emergence of multiple emotions at the same time, such that combinations of multiple, sometimes conflicting, appraisals give rise to combinations of multiple emotions (Larsen et al., 2001; Larsen, Coles, et al., 2017; Shuman et al., 2013). Person-centered approaches are well suited to deal with such complex phenomena. Indeed, they represent typological methods that explore the heterogeneity in the sample and seek to identify subpopulations—called profiles—which display distinct combinations of a set of interacting and co-occurring variables (Morin et al., 2020).

In the present study, we addressed these research gaps. We endeavored to investigate job seekers' patterns of cognitive appraisals and future-oriented emotions at the prospect of their future job search using a dual-process latent profile analysis. Indeed, appraisals are debated as both antecedents and components of emotions (Ellsworth & Scherer, 2003). Therefore, there are theoretical reasons first to investigate how appraisals and future-oriented emotions naturally co-occur separately, that is, without assuming causal relationships between the two, and to investigate relations between profiles subsequently. More specifically, our first and second objectives were to investigate job seekers' profiles of job-search-related appraisals and job seekers' profiles of future-oriented emotions at the prospect of job search. Our third

objective was to explore the relations between the two sets of appraisals and future-oriented emotions profiles. Finally, our fourth objective was to investigate the differences in job search outcomes (i.e., job search planning and effort intentions) between profiles of appraisals and future-oriented emotions.

The present study contributes to the existing literature in several ways. First, by adopting a future-oriented perspective, we promote a preventive approach to job search, their emotional reactions, and job search efforts. From a theoretical perspective, it complements earlier work which demonstrated that the role of future-oriented emotions is as important as currently experienced emotions in predicting future behavior (Bagozzi et al., 1998; Baumeister et al., 2007; Loewenstein & Lerner, 2003). From a practical point of view, it offers several avenues for implementing interventions designed to help job seekers manage their emotions prior to stressful events rather than during or after them (Hodzic et al., 2018). Second, the present study complements previous evidence suggesting that positive and negative emotions do not occur in isolation but rather co-occur in some type of pattern (i.e., mixed emotions; Fernando et al., 2014; Larsen et al., 2001). Building on transactional stress theory, we further argue that specific patterns of job search appraisals underpin these patterns of mixed emotions, an endeavor currently lacking in the literature (see Siemer et al., 2007). By unraveling the complex patterns of appraisals and emotions at the prospect of job search, we also seek to disentangle contrasting findings with regards to the role of negative emotions in job search. Indeed, if the role of positive emotions has been less subjected to debate, negative emotions and job search have been found to be sometimes negative related (Crossley & Stanton, 2005), positively related (Kim & Lee, 2021; Song et al., 2009), or not related at all (Côté et al., 2006; Turban et al., 2013). Relying on both a future-oriented and a person-centered perspective, we believe that our study can further shed light on the conditions under which negative emotions lead to job search outcomes.

1.1 A dual-process of profiles of appraisals and future-oriented emotions

1.1.1 Profiles of job search appraisals

In their transactional theory of stress, Lazarus and Folkman (1984) described primary and secondary appraisal dimensions. Primary appraisal relates to the evaluation of events for one's well-being, goals, and values. In the context of anticipated events, threat, challenge, and centrality appraisals have been delineated (Peacock & Wong, 1990). Threat appraisal concerns the extent to which the situation has potential for harm or loss in the future. Challenge appraisal reflects how one is anticipating gains and growth following the anticipated event. Centrality manifests the perceived importance of the future event and the extent to which it can have long-term consequences for the individual. Secondary appraisals relate to the evaluation of one's control over the anticipated event (Peacock & Wong, 1990). Appraisals of uncontrollability, control-by-others, and control-by-self are assumed to reflect the multifaceted and complex nature of one's control (Lazarus & Folkman, 1984).

Conceptually, not only these dimensions do not occur sequentially but these dimensions are assumed to be functionally distinct, independent from each other, and to co-occur in response to diverse situations in some type of profile or combinations (Lazarus & Folkman, 1984; Peacock & Wong, 1990). In an interesting evaluation of the causal role of appraisals on emotion, Siemer et al. (2007) showed that participants confronted with the same laboratory situation responded with highly differentiated appraisal profiles that were, in turn, characterized by distinct combinations of emotions. In the present study, we adopted a similar perspective and investigated the different profiles of job search appraisals using a person-centered approach.

Research question 1: How many profiles of job search appraisals that vary quantitatively (in level) and qualitatively (in shape) emerge in the data?

Consistent with the rather exploratory nature of person-centered approaches (Morin et al., 2020), we left our first research question relatively open. However, we expected the emergence of several profiles. Given the negative correlation usually found between threat and challenge appraisals (Lazarus & Folkman, 1984; Peacock & Wong, 1990), we expected the emergence of profiles either characterized by high levels of threat or challenge appraisals but did not preclude their co-occurrence at moderate levels. The centrality dimension, which refers to evaluating the event's long-term importance for one's well-being, is argued to be less correlated from threat and challenge appraisals. We expected that distinct levels of centrality could give rise to distinct profiles in relation to threat and challenge appraisals. Finally, as threat appraisals have been generally linked with appraisals of low control and uncontrollability, we expected that profiles characterized by high levels of threat appraisals would exhibit low levels of control-by-self and high levels of uncontrollability. Challenge appraisals, on the contrary, are associated with the evaluation of coping resources to overcome the future stressor and should therefore be associated with high levels of control-by-self and low levels of uncontrollability.

1.1.2 Profiles of future-oriented emotions

A vast body of research supports the idea that the future is emotionally evocative (Van Boven & Ashworth, 2007). Anticipating future stressful events can generate physiological effects closely similar to those arising in the face of currently experienced stressors, such as similar cardiovascular activity (Waugh et al., 2010) and similar cortisol reactivity (Engert et al., 2013). Individuals' emotional reactions to the future have been categorized into two types of future-oriented emotions. On the one hand, anticipatory emotions refer to currently experienced emotions at the prospect of a future event which result from the prospects of desirable and undesirable events (e.g., feeling anxious at the prospect of never finding a job; Baumgartner et al., 2008; Ortony et al., 1988). While anticipatory positive emotions involve states such as being hopeful, confident, optimistic, or enthusiastic, negative anticipatory emotions are represented by states such as worry, anxiety, or nervousness (H. Baumgartner et al., 2008; Ortony et al., 1988). On the other hand, anticipated emotions are not experienced in the present moment but refer to the emotions one is expecting to feel in the future (e.g., imagining feeling proud should job search be successful). In this matter, they are rather

construed as affective beliefs based on pre-factual thinking about what a situation will feel through a process known as affective forecasting (Wilson & Gilbert, 2003). Several anticipated emotions can be delineated in the context of goal-directed behaviors (H. Baumgartner et al., 2008). The occurrence and confirmation of positive (vs. negative) future events will lead to satisfaction or happiness, and distress or sadness, respectively. Additional anticipated emotions are also likely to arise following the disconfirmation of positive (vs. negative events) with emotions such as relief in the case of disconfirmed negative future events or disappointment in the case of disconfirmed positive future events. Finally, when individuals imagine the behaviors they will perform to bring about or alleviate positive or negative future events, they are likely to feeling proud or guilty depending on the praiseworthiness of their actions (Ortony et al., 1988).

Even though positive and negative emotions have long been studied rather independently from each other, robust evidence demonstrated that individuals tend to experience mixed emotions, the co-occurrence of positive and negative emotions, in various situations across daily life (Ersner-Hersfield et al., 2008; Larsen et al., 2001; Larsen, Coles, et al., 2017; Trampe et al., 2015). As a consequence, we applied the same analytical procedure to future-oriented emotions we used for profiles of job search appraisals and delineated the following research question:

Research question 2: How many profiles of future-oriented emotions that vary quantitatively (in level) and qualitatively (in shape) emerge in the data?

As for the first research question, we also left the second research question relatively open as this study represents, to our knowledge, the first to investigate profiles of both job search appraisals and future-oriented emotions. However, previous studies applied a person-centered approach to emotions and guided our expectations with regard to the emergence of distinct profiles of emotional anticipation. For example, in the context of work, Sandrin et al. (2020) explored firefighters' profiles of positive and negative affect and the subjective perception of the facilitating vs. incapacitating role of affect on job performance. They found five distinct profiles: (a) *low negative affect facilitators*, (b) *moderately low positive affect incapacitators*, (c) *high positive affect facilitators*, (d) *very low positive affect incapacitators*, and (e) *Normative*. Most profiles were found relatively stable over time, and the fourth profile exhibited the highest outcomes in terms of work-family conflict, absenteeism, and turnover intentions. In the context of helping behaviors, Fernando et al. (2014) demonstrated the co-occurrence of multiple emotions in five distinct profiles. Interestingly, they showed that the impact of sympathy on prosocial behaviors was highly dependent on its co-occurrence with other prosocial emotions. A profile with only high levels of sympathy exhibited lower prosocial behaviors compared to a profile with high levels of sympathy and other prosocial emotions. In the context of entrepreneurial intentions, Zampetakis et al. (2016a) found four profiles of anticipated emotions at the prospect of new venture creation: (a) *high positive emotions*, (b) *moderate positive emotions*, (c) *mixed emotions*, and (d) *negative and mixed emotions*. Consistent with these findings, we expected the emergence of profiles characterized by either dominant positive or negative (anticipatory and anticipated emotions), and mixed positive and negative emotions, both at the anticipatory or the anticipated level.

1.1.3 The relation between appraisals profiles and future-oriented emotions profiles

The degree of uncertainty associated with job search, the various goals one is trying to achieve simultaneously, and the numerous hopes and fears people associate with future job search endeavors make likely the emergence of multiple future-oriented emotions at the same time. Such a view that the complexity of appraisals and their combination is responsible for the co-occurrence of mixed emotions has already been acknowledged and theorized (Lazarus & Folkman, 1984; Shuman et al., 2013). Accordingly, our third research question was formulated as follows:

Research question 3: How profiles of job search appraisals and profiles of future-oriented emotions are related?

Despite the broad and open phrasing of our research question, the relationships between appraisals and emotions are well established and therefore guided our inferences. Threat appraisals indicate that potential dangers to one's well-being or self-esteem lie ahead and should therefore lead to feelings of anxiety and negative anticipatory emotions (Lazarus, 1991; Moors, 2013). At the same time, threat appraisals are generally associated with low confidence to cope with the future threat (Bandura, 1997; Lazarus, 1991). Profiles of high threat appraisals along with high levels of uncontrollability or low levels of control should therefore display low levels of positive anticipatory emotions such as hope, confidence, and optimism. Fear of failure and negative social evaluations of negative outcomes are also associated with threat appraisals (Skinner & Brewer, 2002) and should therefore lead to heightened levels of negative anticipated emotions such as guilt and sadness. As for individuals who appraise future job search as challenging, it has been argued that they instead focus on opportunities for success, social rewards such as recognition, mastery, learning, and growth (Lazarus, 1991). In addition, challenge appraisals are related to the confidence that, with effort and resources, future threats can be dealt with (Lazarus & Folkman, 1984). As a result, if combined with high levels of control-by-self or control-by-others, challenge appraisals should be associated with higher levels of positive anticipatory emotions such as confidence and higher levels of anticipated positive emotions such as happiness and pride in the case of successful job search. As centrality suggests that individuals appraise that the future events have important stakes and importance for their long-term well-being, we argue that it should be more related to both positive and negative anticipated emotions, such as happiness and relief or disappointment and sadness, in the case of successful and unsuccessful job search, respectively. Finally, as we previously argued, appraisals of uncontrollability, control-by-self, and control-by-others are argued to act as moderators on the relations between primary appraisals and emotions such that high (low) levels of uncontrollability and low (high) levels of control should strengthen the relations between threat (challenge) appraisals and future-oriented emotions.

1.2 Job search planning and effort intentions

Nearly all theories about appraisal and coping implicitly or explicitly assume that the cognitive process of appraising the relevance of a situation to one's well-being and the associated emotional responses direct the individual to produce a coping response (Lazarus & Folkman, 1984; Roseman, 2013). Coping is defined as the "cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus & Folkman, 1984, p. 141). The concept of coping is therefore intricately linked with the job search behaviors one is performing in an attempt to find a job (Caska, 1998). In the present study, we focused on job search planning and effort intentions. From a goal-directed perspective (Bagozzi et al., 1998), the *how* corresponds to the regulatory function of behavioral intentions and is represented by the dimension of planning that tap into in the formulation of the necessary steps to successfully find a job, the monitoring of one's progress, and the alternative paths should one face barriers (Bagozzi, 1992). The motivational aspect of volitional processes refers to the efforts one is willing to exert to attain job search outcomes (Bagozzi et al., 1998). Accordingly, we formulated our fourth research question as follows:

Research question 4: What are the differences in planning and effort intentions between profiles of appraisals and future-oriented emotions?

Building upon the transactional theory of stress (Lazarus & Folkman, 1984), we expected that profiles with higher levels of challenge, centrality, control-by-self, and control-by-others would be associated with higher levels of job-search planning and effort intentions, compared to profiles characterized by rather higher levels of threat and uncontrollability appraisals. For example, appraisals of challenge and personal control related to job search have been found to influence job search intentions, which, in turn, predicted job search behaviors (Caska, 1998). Previous research has already investigated the role of positive and negative emotions on job search intentions and behaviors. For example, Crossley and Stanton (2005) found that negative affectivity had a negative impact on job search outcomes such as job search self-efficacy, job search intensity, and success. Côté et al. (2006) complemented their work by investigating the role of positive emotions and found that job seekers displaying high positive affectivity had a clear perception of what they wanted to do for a living, which in turn influenced job search intensity and offers. However, they did not find that negative affect was a predictor of job search clarity. In an attempt to reconcile the inconsistent findings regarding negative affect and emotions, Kim and Lee (2021) examined college students' emotions and job search behaviors using a longitudinal study and further showed that negative emotions positively predicted job search behaviors. In the present study, we argue that taking into account how individuals appraise their future job search along with their combinations might disentangle the role of negative emotions on job search intentions and behaviors. For example, an appraisal profile characterized by moderate levels of threat appraisals, negative anticipatory emotions, but high levels of centrality might display rather elevated levels of planning and effort intentions compared to a profile only characterized by high levels of threat and uncontrollability appraisals; a hypothesis consistent with previous work (Song et al., 2009). Our expectations are also in line with previous future-oriented

research that positive and negative, both anticipatory and anticipated had positive relationships with subsequent intentions and behaviors (H. Baumgartner et al., 2008; Xu & Guo, 2019).

2. Method

2.1 Participants and procedure

Participants were approached and invited to the present study with paper and pencil questionnaires during their visit to a major public employment agency in Brussels, Belgium. Employment agency employees helped in the recruitment of participants. In order to participate in the present study, participants had to be seeking a job. Of the total sample of 503 participants, 235 were women (46.7%), 237 were men (47.1%), and 31 participants omitted to indicate their gender. The mean age was 34.09 years old ($SD = 9.90$). Most participants had a high school degree ($n = 203$; 40.4%) or a higher education degree ($n = 126$; 25.1%), with 174 who omitted to indicate their educational level. With regards to employment status, most participants were active job seekers (69.6%). Other employment statuses included students (6.2%), and workers (6.8%), and other statuses such as refugee or temporary incapacity to work (7.8%), with 9.7% who omitted to indicate their employment status. For 40.6% of participants, their visit to the public employment agency was their first during their job search process. Approximately 33.4% were visiting the public employment agency on a personal basis, while the vast majority of respondents were visiting as part of the mandatory procedures to obtain unemployment compensations (48.0%).

2.2 Measures

2.2.1 Job search appraisals

We measured job search appraisals using an adapted version of the Stress Appraisal Measure, a scale specifically developed to tap into the cognitive appraisals of anticipated stressful events (Peacock & Wong, 1990). The Stress Appraisal Measure is composed of 6 distinct dimensions: threat (4 items; e.g., *Finding a job or not is threatening*), challenge (3 items; e.g., *finding a job will have a positive impact on me*), centrality (3 items; e.g., *Finding a job or not has long-terms consequences for me*), control-by-self (3 items; e.g., *I have what it takes to succeed in finding a job*), control-by-others (3 items; e.g., *someone can help me in my job search*), and uncontrollability (3 items; e.g., *finding a job seems totally unsolvable for me*). Analyses showed inadequate to satisfactory reliability of the dimensions. Centrality, control-by-self, and uncontrollability showed adequate reliability with $\alpha = .72$, $.78$, and $.70$, respectively. Analyses of reliability related to threat ($\alpha = .54$), challenge ($\alpha = .52$), and control-by-others ($\alpha = .63$) proved inadequate. While most of the studies that used the scale showed adequate internal consistency, values below traditional cut-offs were still found in the original study among students anticipating future examination (Peacock & Wong, 1990). Even though our measurement models using confirmatory factor analysis showed adequate

fit to the data (see below), these inadequate reliabilities clearly represent a limitation of the present study and warrant future research to replicate the findings of the present study.

2.2.2 Emotional anticipation

Anticipatory and anticipated emotions were measured using a procedure developed by Baumgartner et al. (2008). For anticipatory emotions, participants were asked to stop a moment and think about their current job search and the possibility of finding a new job in the near future. Then, participants indicated how they felt optimistic, confident, hopeful, worried, anxious, and nervous at the prospect of finding a job. Afterward, two randomly ordered instructions asked participants to imagine that the next few weeks and months—including what they did during that period—have had positive (vs. negative) consequences for them and allowed (vs. prevented) them from finding a new job. Participants rated how happy, proud, and relieved they would feel in the positive situation and how disappointed, guilty, and sad they would feel in the negative situation to assess positive and negative anticipated emotions. Consistent with our theoretical framework of appraisals and future-oriented emotions, we adopted a discrete approach to emotions.

2.2.3 Job search planning and effort intentions

In order to measure job search planning and effort intentions, we adapted a 6-item scale from Brown, Cron, and Slocum (1997). Participants were asked to indicate the extent to which they intended to plan their job search as well as the effort they were likely to devote to their job search in the near future. Three items were intended to tap into anticipated planning: “*Each week, I will make a plan for what I need to accomplish regarding my job search*”, “*I will think about strategies to fall back on if problems arise during my job search*”, and “*I will list the steps necessary for reaching my job search objectives*” ($\alpha = .83$). Three items were intended to tap into anticipated effort: “*How much time do you intend to put for your job search?*”, “*How much intensity do you intend to put for your job search?*”, and “*How much effort do you intend to put for your search?*” ($\alpha = .90$).

2.2.4 Control variables

We controlled for several background variables likely to be related to the job search process (Kanfer et al., 2001). These variables were gender, age, and education.

Table 20. Correlation matrix

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1. Gender	—																						
2. Age	−.02	—																					
3. Education	.21***	.22**	—																				
4. Threat	.00	−.03	.02	.54																			
5. Challenge	.03	−.05	.03	−.30***	.52																		
6. Centrality	.02	−.03	.05	.32***	.65***	.72																	
7. Control-by-self	−.06	−.01	.08	−.66***	.70***	.15**	.78																
8. Control-by-others	−.03	−.03	−.15**	−.61***	.57***	.10*	.62***	.63															
9. Uncontrollability	.02	−.05	−.02	.97***	−.18***	.33***	−.62***	−.47***	.70														
10. Optimistic	.04	−.07	.05	−.36***	.32***	.06	.36***	.33***	−.32***	—													
11. Confident	−.13**	.04	−.03	−.42***	.26***	−.01	.43***	.27***	−.41***	.46***	—												
12. Hopeful	.00	−.02	−.06	−.46***	.34***	−.04	.45***	.38***	−.41***	.57***	.55***	—											
13. Worried	.12*	.13*	.11	.47***	−.05	.32***	−.33***	−.30***	.46***	−.28***	−.30***	−.37***	—										
14. Anxious	.03	.03	.10	.37***	−.01	.29***	−.26***	−.22***	.36***	−.18***	−.19***	−.23***	.65***	—									
15. Nervous	.05	−.01	.10	.36***	−.02	.25***	−.25***	−.25***	.35***	−.19***	−.32***	−.31***	.53***	.53***	—								
16. Happy	.13*	−.06	.02	−.09	.33***	.20***	.19***	.14**	−.05	.32***	.20***	.22***	.09	.06	−.02	—							
17. Proud	.15**	−.12*	−.05	−.10*	.30***	.18***	.16**	.12*	−.06	.28***	.21***	.21***	.13**	.04	−.07	.73***	—						
18. Relieved	.10*	−.02	.04	−.04	.29***	.24***	.15**	.14**	−.01	.22***	.03	.08	.17***	.06	.06	.62***	.54***	—					
19. Disappointed	.14**	.03	.10	.10*	.16***	.26***	−.01	−.04	.11*	.04	−.09	−.12*	.39***	.37***	.32***	.31***	.24***	.31***	—				
20. Guilty	−.04	−.09	.01	.29***	−.04	.19***	−.16**	−.10	.28***	−.08	−.21***	−.16**	.34***	.35***	.34***	−.01	.01	−.01	.24***	—			
21. Sad	.12*	.00	.08	.27***	.14**	.35***	−.13*	−.10*	.28***	−.02	−.19***	−.17**	.45***	.41***	.40***	.24***	.24***	.25***	.54***	.44***	—		
22. Planning intentions	.05	.01	.01	−.11*	.36***	.23***	.30***	.19***	−.08	.06	.08	.08	.08	−.02	−.01	.26***	.20***	.25***	.11*	.02	.12*	.83	
23. Effort intentions	.03	−.03	.01	−.12*	.39***	.29***	.30***	.18***	−.09*	.15**	.12*	.11*	.05	.02	.02	.32***	.28***	.31***	.20***	.04	.19***	.56***	.90

Note. Gender was coded 1 = men and 2 = women. * Significant at the .05 level. ** Significant at the .01 level. *** Significant at the .001 level. When relevant, Cronbach's alphas are reported in bold on the diagonal.

3. Results

3.1 Preliminary analyses

We conducted all statistical analyses using the *Mplus* 8 robust maximum likelihood estimator with full information maximum likelihood. First, two sets of confirmatory factor analyses were performed to assess the reliability and discriminant validity of job search appraisals and job search planning and effort intentions. Consistent with our theoretical framework and the cognitive structure of future-oriented emotions, anticipatory and anticipated emotions were construed as discrete components were thus not subjected to confirmatory factor analyses. Model fit for profile indicators, i.e., job search appraisals, showed satisfactory fit to the data ($\chi^2(120) = 262.14$, $\chi^2/df = 2.18$, RMSEA = .05; CFI = .90; TLI = .88; SRMR = .06). Regarding anticipated planning and effort, the model achieved excellent fit ($\chi^2(8) = 18.38$, $\chi^2/df = 2.30$, RMSEA = .05; CFI = .99; TLI = .98; SRMR = .03). As recommended by person-centered guidelines (Morin et al., 2020), factor scores were extracted from these models to be used in subsequent analyses. Bivariate Pearson correlations are reported in Table 20. Inspection of correlation coefficients showed that two dimensions of job search appraisals, threat and uncontrollability, were correlated at .97 ($p < .001$). This finding was extremely surprising, and we conducted alternative measurement models to ascertain that the two dimensions were distinct. These analyses showed that our hypothesized 6-dimensional model provided a better fit than a 5-dimensional model in which threat and uncontrollability items tapped into a unique latent factor ($\chi^2(120) = 273.35$, $\Delta MLR\chi^2(5) = 11.21$, $p < .05$, $\chi^2/df = 2.19$, RMSEA = .05; CFI = .90; TLI = .88; SRMR = .06). Still, such an extreme correlation coefficient is problematic, represents a validity threat to our findings, and thus constitutes a limitation of the present study.

3.2 Dual-process latent profile analyses

Two distinct profile enumeration processes were conducted separately for job search appraisals and future-oriented emotions, respectively. For each process, we followed a stepwise procedure from 1 up to 8 profiles. Additional latent profile analyses were subsequently performed to test the robustness of the most likely profile solutions previously found and investigate the relations between profiles of appraisals and profiles of future-oriented emotions. Results of profile enumeration processes are displayed in Table 21. Following state-of-the-art recommendations about latent profile analyses (Morin et al., 2020), choosing the optimal model is a process that is both data- and theory-driven. During the enumeration process, issues of parsimony, theoretical adequacy and meaning, profile redundancy, as well as several fit statistics help researchers in choosing the optimal solution. Analyses were conducted using 5,000 sets of random starting values, allowing 200 iterations for each start and retaining the 200 best solutions for the optimization stage. Several fit statistics were used: the Akaike information criterion (AIC), the Bayesian information criterion (BIC), the sample-size adjusted BIC (SABIC), the consistent AIC (CAIC), the adjusted Lo-Mendell-Rubin likelihood ratio test (aLMR), the bootstrap likelihood ratio test

(BLRT), and entropy. Decreasing fit statistics for the AIC, BIC, SABIC, CAIC indicate better fit to the data. Values associated with aLMR and BLRT indicate the significant improvement in model fit when adding a profile, and entropy indicates the degree of profile distinctiveness and should be greater than .70.

Table 21. Latent profile enumeration fit statistics

# of profiles	LL	fp	SCF	AIC	BIC	SABIC	CAIC	aLMR	BLRT	Entropy	Smallest profile
<i>Job search appraisals</i>											
1	-3697.65	12	1.041	7419.29	7469.53	7431.44	7481.53	–	–	1	–
2	-3279.83	19	1.488	6597.65	6677.18	6616.88	6696.18	.002	.000	.827	41.15%
3	-3089.78	26	1.356	6231.56	6340.40	6257.88	6366.40	.003	.000	.865	24.44%
4	-2968.23	33	1.778	6002.45	6140.60	6035.86	6173.60	.403	.000	.859	13.17%
5	-2867.19	40	1.454	5814.37	5981.82	5854.86	6021.82	.090	.000	.917	6.58%
6	-2765.02	47	1.685	5624.04	5820.79	5671.61	5867.79	.449	.000	.912	6.38%
7	-2670.21	54	1.818	5448.42	5674.48	5503.09	5728.48	.521	.000	.910	4.53%
8	-2603.38	61	1.510	5328.75	5584.11	5390.50	5645.11	.205	.000	.913	3.09%
<i>Future-oriented emotions</i>											
1	-10062.59	24	0.950	20173.18	20274.43	20198.25	20298.43	–	–	1	–
2	-9694.96	37	1.176	19463.92	19620.01	19502.57	19657.01	.000	.000	.790	48.01%
3	-9456.18	50	1.446	19012.36	19223.29	19064.59	19273.29	.082	.000	.810	18.09%
4	-9343.87	63	1.465	18813.74	19079.51	18879.54	19142.51	.320	.000	.788	15.34%
5	-9256.90	76	1.430	18665.80	18986.41	18745.18	19062.41	.300	.000	.811	4.18%
6	-9193.30	89	1.276	18564.59	18940.05	18657.56	19029.05	.130	.000	.817	3.07%
7	-9143.62	102	1.366	18491.23	18921.53	18597.77	19023.53	.591	.000	.830	2.39%
8	-9095.82	115	1.458	18421.64	18906.78	18541.76	19021.78	.717	.000	.821	2.39%
<i>Dual-process latent profile analyses</i>											
3-3	-12493.60	80	1.346	25147.20	25484.85	25230.92	25564.85	–	–	.836	19.09%
4-3	-12359.53	89	1.485	24897.05	25272.69	24990.19	25361.69	–	–	.835	16.10%
3-4	-12370.20	95	1.392	24930.39	25331.35	25029.81	25426.35	–	–	.826	17.30%
4-4	-12229.24	105	3.286	24668.48	25111.64	24778.37	25216.64	–	–	.834	15.11%
5-4	-12131.60	115	1.465	24493.20	24978.57	24613.55	25093.57	–	–	.846	5.37%
4-5	-12134.64	121	1.479	24511.29	25021.98	24637.91	25142.98	–	–	.842	4.57%
5-5	-12032.97	132	1.407	24329.94	24887.06	24468.08	25019.06	–	–	.851	4.60%

Note. LL = log likelihood ; fp = free parameters ; SCF = scaling correction factor; AIC = Akaike information criteria; BIC = Bayesian information criteria; SABIC = sample-size adjusted BIC; CAIC = consistent AIC; LMR = Lo-Mendell-Rubin likelihood ratio test; BLRT = Bootstrap Likelihood Ratio test.

With regard to profiles of job search appraisals, all fit indices associated with the profile enumeration process kept on decreasing up to the 8-profile solution. However, they tended to bend around 3 and 4 profiles and to reach a plateau. While the BLRT was not very informative as it remained significant during the enumeration process, the aLMR became non-significant at 4 profiles, suggesting that adding a profile from the 3-profile solution did not significantly improve model fit. A careful examination revealed that the 3-, 4-, and 5-

profile solutions were all statistically proper with no out-of-bound parameters and yielded meaningful profiles. Adding a profile from 3 to 4 profiles resulted in a qualitatively distinct profile compared to those that previously emerged. However, adding a fifth profile resulted in the arbitrary division of two very similar profiles, whose one was very small ($n = 32$, 6.58%). This very small profile did not bring additional information to the profiles that already emerged and displayed extreme values situated at almost two standard deviations from the sample mean. For these reasons, we decided to retain the 4-profile solution as the best description of the data. This solution yielded well distinct profiles as exemplified by average posterior probabilities varying from .872 to .950 ($M = .917$) and low cross-probabilities (.000–.057; $M = .028$).

With regard to profiles of future-oriented emotions, fit indices kept on decreasing up to the 8-profile solution but tended to bend and reach a plateau after 3 and 4 profiles. The p -value associated with aLMR became non-significant at three profiles, suggesting retaining a 2-profile solution. We carefully examined the 2- to 5-profile solutions to inspect their statistical adequacy and the theoretical meaning carried out by the profiles. This inspection revealed that all solutions were statistically proper. Adding a profile from 2 to 3 and 3 to 4 resulted in the addition of meaningful profiles that were distinct from previous ones and composed of a substantial proportion of job seekers. However, adding a profile from 4 to 5 profiles yielded a very small profile composed of few participants ($n = 21$, 4.18%). We, therefore, decided to retain the 4-profile solution for subsequent analytical stages. This solution yielded well distinct profiles with average posterior probabilities varying from .860 to .891 ($M = .880$) and low cross-probabilities (.007–.080; $M = .040$).

In order to check the robustness of the results when profile solutions were merged into a unique latent profile analysis, we compared dual-process profile solutions from 3 profiles for each solution to 5 profiles for each solution. Results from these robust tests were fully consistent with previous analyses, and we, therefore, retained the 4–4 profile solutions for profiles of appraisals and future-oriented emotions (see Figure 15 and Figure 16). When comparing a model in which gender, age, and education freely estimated profile membership to a model in which they were constrained to zero, the latter model provided a better fit to the data, suggesting that the impact of control variables on profile membership was trivial.

3.3 Interpretation of profiles

Profiles of job search appraisals are depicted in Figure 15. Job seekers in the first profile (33.00%) appraised their job search as challenging, controllable by them or others, and not threatening at all. For these reasons, we labeled them *Challengers In Control*. Profile 2 encompassed job seekers (16.90% of the total sample) who reported low to very low levels of all appraisals. For them, the job search is neither a threat, a challenge, does not involve long-term consequences. At the same time, they do not appraise that they have personal or environmental resources, nor do they consider the job search as uncontrollable. For these reasons, we labeled them *Detached*. The third profile was composed of job seekers (31.01%) that were quite balanced on all appraisals and, particularly, appraised job search as both threatening and challenging at the same time and as having long-term consequences. For

these reasons, we labeled them *Concerned Balanced*. Job seekers in the fourth profile (19.09%) reported extremely high levels of appraisals of threat and uncontrollability. At the same time, they did not appraise job search as challenging but acknowledged its long-term consequences and appraised low personal and environmental resources. We labeled them *Helpless Threatened*.

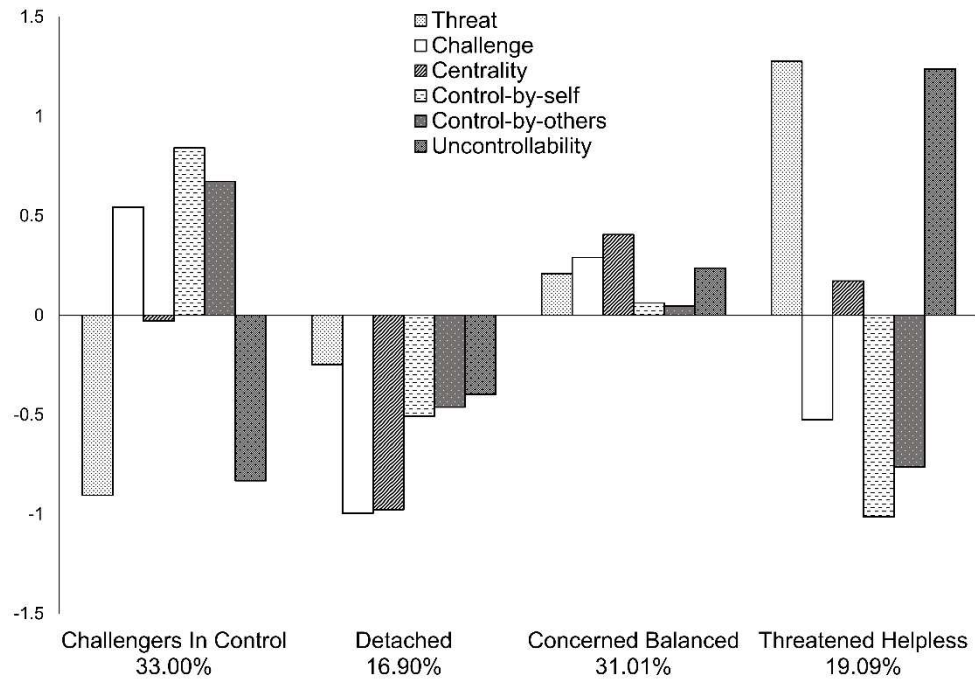


Figure 15. Final 4-profile solution of job search appraisals

With regard to emotional anticipation profiles, the first profile was composed of the majority of job seekers (35.39%) who reported high (low) levels of positive (negative) of both anticipatory and anticipated emotions at the prospect of finding a job. For these reasons, we labeled it *Positive Anticipatory–Positive Anticipated*. The second profile (21.87%) was characterized by high levels of positive anticipatory emotions and, although to a lesser extent, high levels of negative anticipatory emotions, as compared to other profiles. Although positive emotions dominate the anticipatory pattern, negative anticipatory emotions are still relatively high (second in order among the profiles) and above the scale midpoint. Simultaneously, job seekers in this profile reported high and mixed anticipated emotions. This profile was thus labeled *Mixed Anticipatory–High Anticipated*. The third profile (15.11%) exhibited moderate levels of all emotions, but when compared to other profiles, the pattern of this profile clearly tended to a pattern of low emotions, especially for anticipated emotions. We labeled it *Mixed Anticipatory–Low Anticipated*. The last profile was composed of job seekers (27.63%) who exhibited low positive anticipatory and high negative anticipatory emotions. At the same time, they reported high levels of both positive and negative anticipated emotions and was thus labeled *Negative Anticipatory–High Anticipated*.

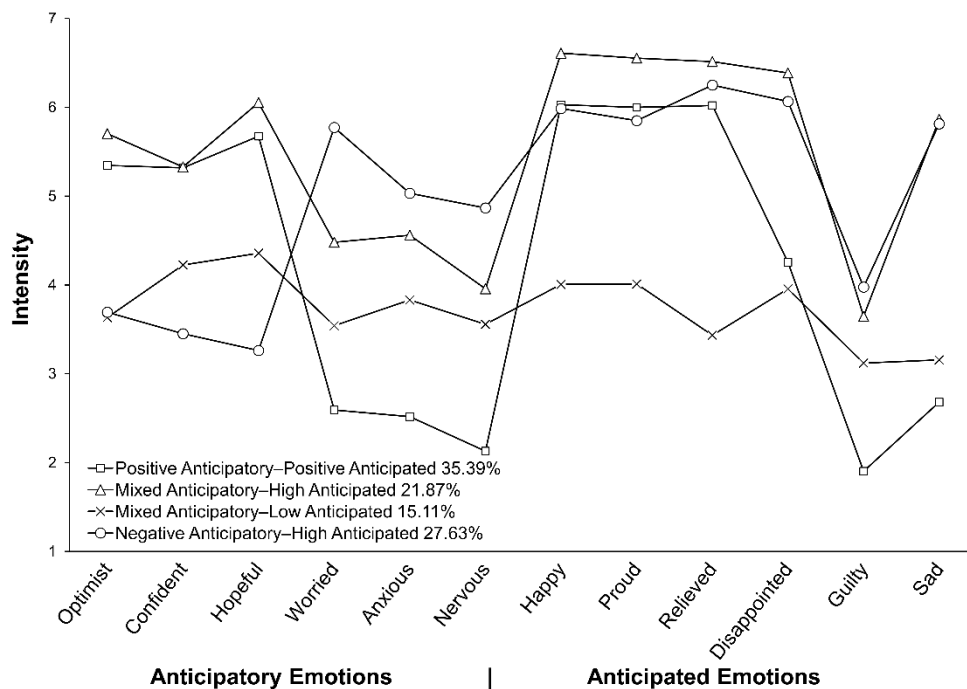


Figure 16. Final 4-profile solution of future-oriented emotions

Relations between profiles of appraisals and profiles of emotional anticipation were investigated in the 4–4 dual-process model. Latent probabilities of membership into the distinct combinations of profiles are depicted in Figure 17. The vast majority of *Challengers In Control* exhibited either a *Positive Anticipatory–Positive Anticipated* (57%) or a *Mixed Anticipatory–High Anticipated* profile (34.9%). *Detached* job seekers exhibited similar proportions in the *Positive Anticipatory–Positive Anticipated* (43.9%) and in the *Mixed Anticipatory–Low Anticipated* profile (42.3%), and to a lesser extent, also exhibited a *Negative Anticipatory–High Anticipated* (12.2%). *Concerned Balanced* job seekers were the more versatile in their emotional anticipation with substantial proportions in three profiles: the *Positive Anticipatory–Positive Anticipated* (21.9%), the *Mixed Anticipatory–High Anticipated* (32.7%), and the *Negative Anticipatory–High Anticipated* (38.5%). Finally, most *Threatened Helpless* exhibited a *Negative Anticipatory–High Anticipated* profile (59.9%). Some *Threatened Helpless* also reported a *Positive Anticipatory–Positive Anticipated* profile (10.4%) and a *Mixed Anticipatory–Low Anticipated* (22.1%). The high degree of relationship between the two sets of profiles was also confirmed by an independence chi-square test ($\chi^2(9) = 291.75, p < .001$) and the associated effect size (*Cramér's V* = .44), which corresponds to a medium to large effect when expressed in Cohen's δ (i.e., .76; Cohen, 1988).

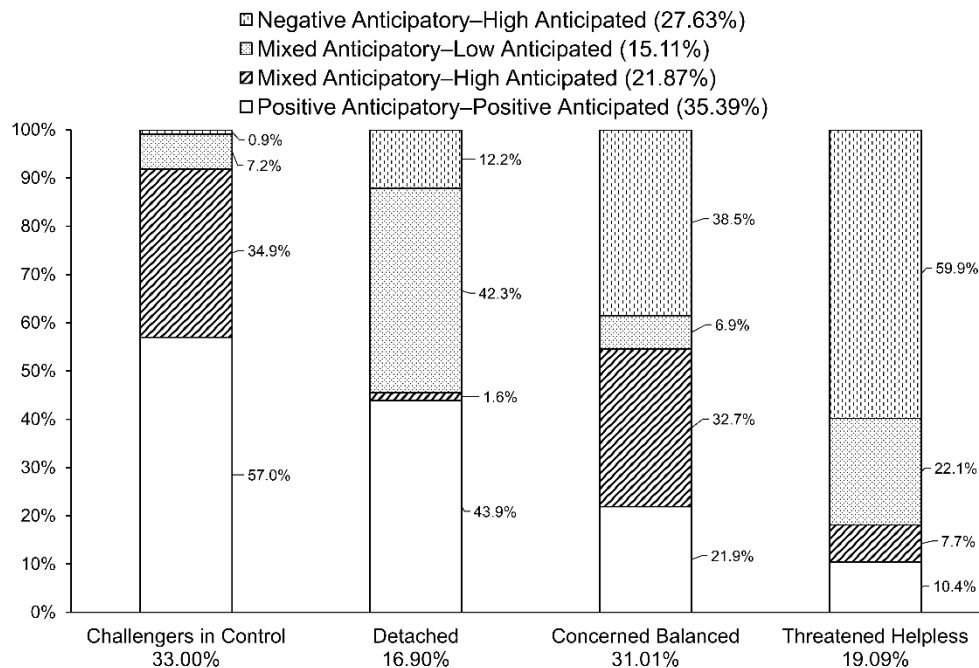
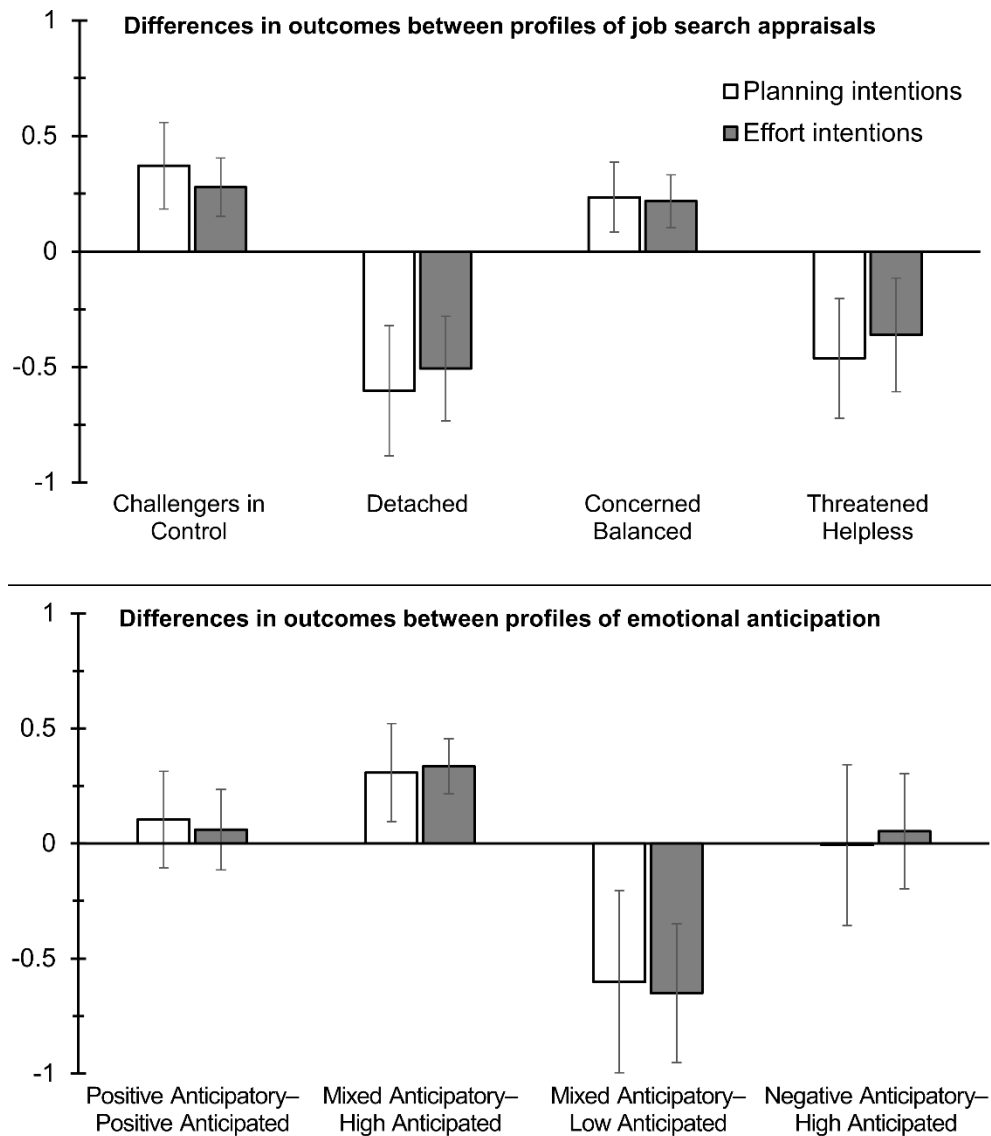


Figure 17. Latent dual-process probabilities in profiles of job search appraisals and future-oriented emotions

3.4 Outcomes of profiles

We examined the levels job search planning and effort intentions in each profile and tested for significant differences across both sets of profiles of job search appraisals and emotional anticipation. Preliminarily, we investigated whether differences in outcomes between appraisals of profiles were invariant across emotional anticipation profiles (e.g., *Challengers in Control/Positive Anticipatory–Positive Anticipated* vs. *Challengers in Control/Mixed Anticipatory–High Anticipated*) and vice-versa (e.g., *Mixed Anticipatory–Low Anticipated/Detached* vs. *Mixed Anticipatory–Low Anticipated/Threatened Helpless*). Of note, these analyses correspond to tests of moderation between profiles of appraisals and emotions. Results showed that models that constrained all levels in outcomes to be equal between emotional anticipation (appraisals) profiles within appraisals (emotional anticipation) profiles resulted in better fit, suggesting that no moderation effect occurred.



Note. Error bars represent 95% confidence intervals.

Figure 18. Differences in planning and effort intentions between appraisals profiles and emotional anticipation profiles

Differences in planning and effort intentions between appraisals profiles and emotional anticipation profiles are displayed in Figure 18. With regards to differences between profiles of appraisals, results showed that *Challengers in Control* and *Concerned Balanced* exhibited higher levels of both planning and effort intentions than the *Detached* and the *Threatened Helpless*. Results related to emotional anticipation profiles were only partially consistent with these results. In terms of planning intentions, only the *Mixed Anticipatory-Low Anticipated*

displayed lower values compared to the *Positive Anticipatory–Positive Anticipated* ($\text{Diff} = .70, p < .01$) and the *Mixed Anticipatory–High Anticipated* ($\text{Diff} = .91, p < .001$). For effort intentions, the *Mixed Anticipatory–High Anticipated* profile displayed higher levels of *Positive Anticipatory–Positive Anticipated* ($\text{Diff} = .28, p < .05$) and the *Mixed Anticipatory–Low Anticipated* ($\text{Diff} = .99, p < .001$), but not compared to the *Negative Anticipatory–High Anticipated* ($\text{Diff} = .28, p = .06$). In addition, the *Mixed Anticipatory–Low Anticipated* was lower in effort than the *Positive Anticipatory–Positive Anticipated* ($\text{Diff} = -.71, p < .001$) and the *Negative Anticipatory–High Anticipated* ($\text{Diff} = -.70, p < .01$).

Interestingly, these results suggest that some variability in the profiles of emotional anticipation obfuscated to replication of the results found when comparing the profiles of appraisals. Such a result is inconsistent with the non-significant tests of moderation and might suggest a lack of power in the detection of moderating effects due to the very small size of some profile combinations. These patterns were particularly noticeable for the *Positive Anticipatory–Positive Anticipated* and the *Negative Anticipatory–High Anticipated*. For example, both numerous *Challengers in Control* and *Detached* job seekers exhibited a *Positive Anticipatory–Positive Anticipated* profile. Those two profiles showed striking differences in planning and effort intentions. On the one hand, it suggests that the mean outcomes of *Challengers in Control* (*Detached*) are driven by the high (low) levels of those who exhibited a *Mixed Anticipatory–High Anticipated* (*Mixed Anticipatory–Low Anticipated*) profile. On the other hand, it suggests that the moderate planning and effort levels (and their high variability) of *Positive Anticipatory–Positive Anticipated* might be due to the prevalence of both *Challengers in Control* and *Detached* job seekers. A similar pattern for *Negative Anticipatory–High Anticipated* is noticeable in the high variability of planning and effort intentions and the substantial proportion of *Concerned Balanced* and *Threatened Helpless* who experienced such an emotional anticipation pattern.

4. Discussion

Previous evidence has shown the role of emotion during the job search process (Côté et al., 2006; Crossley & Stanton, 2005; Kim & Lee, 2021; Song et al., 2009; Turban et al., 2013; Wanberg et al., 2010). However, few research adopted a future-oriented perspective on the role of emotion, and little research attention has investigated job search through a cognitive appraisal lens. Building upon a future-oriented perspective, the present research sought to test one of the core tenets of cognitive appraisal and emotions: that distinct combinations of cognitive appraisals give rise to distinct combinations of multiple future-oriented emotions at the prospect of finding a new job. Through a dual-process latent profile analysis, we explored job seekers' profiles of appraisals, profiles of future-oriented emotions, and the relations between the two sets of profiles. In addition, we investigated differences in job search planning and effort intentions between these profiles.

With regard to job search appraisals profiles, our findings revealed the emergence of four distinct profiles: (a) *Challengers in Control*, (b) *Detached*, (c) *Concerned Balanced*, and (d) *Threatened Helpless*. Consistent with cognitive appraisal theories of emotion (Ellsworth &

Scherer, 2003; Lazarus & Folkman, 1984), job seekers reported a variety of combinations related to how they appraised the prospect of finding a new job. Most job seekers appraised their job search mainly as a challenging event or a threatening event, as demonstrated by the *Challengers in Control* and *Threatened Helpless* profiles. Consistent with our expectations and the correlations between primary and secondary appraisals, *Challengers in Control* also appraised having control over the situation, either through others or by themselves, whereas *Threatened Helpless* also appraised the job search as uncontrollable along with low appraisals of control-by-self or control-by-others. Despite the frequent negative correlation between challenge and threat appraisals, some job seekers reported co-occurring challenge and threat appraisals, consistent with an assumption suggested by Lazarus and Folkman (1984). In this *Concerned Balanced* profile, job seekers were also especially high on the centrality dimension, suggesting that they appraised it as more central to their own well-being and more conducive to long-term consequences than other profiles. Finally, *Detached* job seekers showed low levels on all appraisals. Especially, they appraised job search as unlikely to result in long-term consequences for their well-being (i.e., centrality) and yield opportunities for personal development and growth (i.e., challenge).

With regard to profiles of emotional anticipation, our findings also yielded four distinct profiles. The first and largest profile, the *Positive Anticipatory–Positive Anticipated*, comprised job seekers who reported high (low) levels of anticipatory and anticipated emotions. Job seekers in the *Mixed Anticipatory–High Anticipated* reported high levels of both positive and negative anticipatory, along with high levels of anticipated emotions. The third profile, *Mixed Anticipatory–Low Anticipated*, was relatively similar in shape to the second one but characterized by low levels of all emotions. Finally, the *Negative Anticipatory–High Anticipated* was characterized by dominant negative anticipatory emotions and high levels of both positive and negative anticipated emotions. These findings are consistent with the existing literature that demonstrated that individuals tend to experience multiple emotions in various situations (Larsen et al., 2001; Larsen, Coles, et al., 2017), adding job search as a particular situation inducing multiple emotions at the same time. Furthermore, the present study advances the literature on mixed emotions by highlighting that multiple emotions are also likely to arise in response to anticipated future events (Kruschwitz et al., 2018; Parmentier, Dangoisse, et al., 2021; Zampetakis et al., 2016a).

Importantly, the present research supports one of the core tenets of cognitive appraisals theories of emotion: That people respond to job search and the anticipated event of finding a job with distinct combinations of emotions depending on how they appraise their job search. Surprisingly, such evidence showing that specific combinations of appraisals are linked to specific combinations of emotions is actually scarce in the literature on emotions (Siemer et al., 2007). One of the strengths and originality of the present study thus resides in its dual-process approach in which combinations of appraisals and future-oriented emotions at the prospect of finding a job were examined separately, without influencing each other. In contrast, the study of Siemer et al. (2007) examined profiles of emotions before investigating the means of appraisals in the profiles, thus constraining emotional profiles to one profile of

appraisals. The findings of the present study showed that the relations between profiles of appraisals and future-oriented emotions were large. Still, the same profiles of appraisals were linked with several profiles of future-oriented emotions. *Challengers in Control* mostly experienced a *Positive Anticipatory–Positive Anticipated* and a *Mixed Anticipatory–High Anticipated* profile. *Detached* job seekers experienced a *Positive Anticipatory–Positive Anticipated* and a *Mixed Anticipatory–Low Anticipated* profile. *Concerned Balanced* job seekers' emotional experiences were more versatile: *Negative Anticipatory–High Anticipated*, *Mixed Anticipatory–High Anticipated*, and *Positive Anticipatory–Positive Anticipated*. Finally, *Threatened Helpless* job seekers predominantly experienced a *Negative Anticipatory–High Anticipated* profile and a *Mixed Anticipatory–Low Anticipated* profile to a lesser extent. Importantly, testing the specific appraisals of specific emotions (e.g., hope or fear) is outside the scope of this paper, our findings are nonetheless quite consistent with the existing literature on emotions linking specific patterns of appraisals to specific emotions (Ellsworth & Scherer, 2003; Moors et al., 2013; Ortony et al., 1988). In addition, the large effect size found between appraisals and emotions complements Siemer et al.'s (2007) work on the distinct patterns of appraisals and emotions in a laboratory setting. As noted by Siemer et al. (2007), the pattern of relations between appraisal and emotions is in part due to the limited number of appraisals used in the present study, even though it is similar to previous findings in appraisal research. From an emotion regulation perspective, the evidence of the relationships between profiles of appraisals and future-oriented emotions paves the way for the use of cognitive reappraisal interventions (Gross & Thompson, 2007). Such a view is consistent with previous research that showed the beneficial role of emotion regulation strategies, including cognitive reappraisal, on job search outcomes (L. Wang et al., 2017).

The fourth and final objective of the present study was to examine the differences in job search planning and effort intentions between profiles of appraisals and future-oriented emotions. Our results showed that the highest levels of planning and effort intentions were higher among *Challengers in Control* and *Concerned Balanced*, compared to *Detached* and *Threatened Helpless* job seekers. In contrast, results from comparisons between future-oriented emotions profiles were only partially consistent. In terms of planning intentions, only the *Mixed Anticipatory–Low Anticipated* showed lower levels compared to other profiles. In terms of effort intentions, the *Mixed Anticipatory–High Anticipated* profile exhibited higher levels compared to the *Positive Anticipatory–Positive Anticipated* and the *Negative Anticipatory–High Anticipated*, which, in turn, were higher than the *Mixed Anticipatory–Low Anticipated* profile. These contrasting findings suggest that combining appraisals and future-oriented emotions profiles might be worthwhile. Specifically, the *Positive Anticipatory–Positive Anticipated* and the *Negative Anticipatory–High Anticipated* were found both in adaptive (i.e., *Challengers in Control* and *Concerned Balanced*) and maladaptive profiles (*Detached* and *Threatened Helpless*) with regard to job search outcomes. These two emotional anticipation profiles could thus represent two sides of the same coin with, for instance, the experience of a *Negative Anticipatory–High Anticipated* profile being beneficial only for *Concerned Balanced* job seekers. Importantly, moderation analyses did not support such a differential effect between emotional anticipation profiles within profiles of appraisals. However, the differences between appraisals and future-

oriented emotions profiles suggest that this lack of findings might be due to a lack of power. Indeed, investigating the relations between profiles resulted in 16 profiles among our sample of 503 job seekers, and, as we have seen, some combinations were sometimes very rare (see Figure 17). Future research is thus warranted to replicate such findings.

Overall, our findings are consistent with previous research that demonstrated the positive role of challenge, control, and centrality appraisals (Lazarus & Folkman, 1984; Peacock & Wong, 1990), as well as the role of anticipatory, and especially anticipated, emotions in motivating coping behavior (H. Baumgartner et al., 2008; Xu & Guo, 2019). Our findings also shed light on some possible explanations for the contrasting results between negative emotions and job search outcomes previously documented (Côté et al., 2006; Crossley & Stanton, 2005; Kim & Lee, 2021; Turban et al., 2013). Indeed, our results showed that negative emotions were associated with lower job search outcomes when associated with threat and uncontrollability appraisals (i.e., *Threatened Helpless* job seekers). However, negative emotions were conducive of higher job search outcomes when associated with co-occurring positive emotions (i.e., *Mixed Anticipatory–High Anticipated* emotions) or when threat and challenges appraisals co-occurred (i.e., *Concerned Balanced* job seekers). Our future-oriented approach complements such a view in showing that negative emotions are also associated with positive job search outcomes when taking into account levels of both positive and negative anticipated emotions (i.e., *Mixed Anticipatory–High Anticipated* and *Negative Anticipatory–High Anticipated* emotions).

4.1 Limitations

Several limitations have to be acknowledged. The first one is related to the cross-sectional design of the present study. Indeed, such a design does not offer the possibility to investigate the temporal enactment of appraisals, emotions, and job search behaviors. Such evidence, however, is critical to understand the complex dynamics of emotions in response to and during emotional events (Nezlek et al., 2008). Latent growth mixture analyses, latent transition analyses, and experience sampling studies would be very well suited to address such dynamics (Barford et al., 2020; Eisele et al., 2021; Hofmans et al., 2020). The cross-sectional nature of our research also involves a second limitation related to our investigation of job search outcomes. In the present study, we focused exclusively on behavioral intentions. Future research is thus needed to investigate further the differences between job search appraisals profiles and future-oriented emotions profiles in terms of actual job search behavior and outcomes (e.g., intensity, number of job offers, number of interviews, and job search success). Third, our conceptualization of appraisals relied on a transactional stress framework (Lazarus & Folkman, 1984; Peacock & Wong, 1990). Not only have some methodological limitations arisen in our present research (i.e., the high correlation between threat and uncontrollability appraisals), but the set of appraisals used in the present study is limited in scope. Future research could extend the findings of the present study by encompassing a broader range of appraisals originating from cognitive appraisal theories (Ellsworth & Scherer, 2003; Moors et al., 2013; Moors, 2013; Scherer, 2001; Smith & Ellsworth, 1985). A fourth limitation is the lack of contextual variables. For example, a series

of studies have shown the importance of labor market demand perceptions. Coping theories support that job seekers are more engaged in job search when they positively perceive the labor market (Wanberg, 1997). A recent review has also shown that labor market demand perceptions were positively correlated to job search behaviors (van Hooft et al., 2020). Future research should therefore consider such variables.

4.2 Practical implications

The present findings bring several practical implications. The emergence of different appraisals profiles and their differences about future-oriented emotions and job search behaviors highlights the heterogeneity among job seekers and the importance of considering at-risk job seekers. This point of consideration is critical to emphasize given the importance of career counselors and employment policies in supporting of job seekers' efforts. On the one hand, profiles such as *Detached* job seekers might be at-risk given their tendency not to consider the importance of finding a job and their perception of the uncontrollability of the situation. On the other hand, profiles such as *Helpless Threatened* job seekers were characterized by a lower level of job search behaviors. Therefore, guidance and career counselors could devote a particular consideration to these profiles by developing tailor-made interventions to prevent them of negative consequences of unemployment and for finding a job. Based on a future-oriented framework, the present results support the importance of developing a preventive approach to the job search process. To this end, some interventional studies aiming at regulating emotions and modifying appraisals have been developed in the past few years, specifically for job seekers (Hodzic et al., 2015). These interventions are in line with the emotion regulation literature, indicating that voluntary changes of the appraisals of a situation can lead to a modification of the intensity of the associated emotional responses (Gross, 2002).

Part V

General discussion

General discussion

Transitions are often experienced as frightening or traumatic. Hudson (1991) characterized life for adults as being “on a raft floating down a commanding river” and the transitions as “the white waters of the river” that test every skill we have as “we slide over rock and rapids and swirl about in unforeseen directions (p. 51). He stated that the river metaphor captures two aspects of dealing with transitions. One is a sense of chaotic power beyond our control, and the other is a sense of adventure requiring our continual readiness and vigilance.

Anderson et al. (2012, p. 30)

As our introductory quote illustrates, vocational transitions represent *white waters* in people’s rivers of life. In the words used in the present dissertation, transitions are stressful and emotional events in people’s lives. Actually, *the rocks and rapids* illustrate the many changes that occur during transitions and that disrupt individuals’ life and work roles, social relationships, routines, functioning, and assumptions. Concurrently, how people slide over these rocks and swirl towards the numerous, various, and yet uncertain directions mirrors the multiple ways in which people appraise their potential paths, the pursuit of multiple and conflicting goals, and the numerous positive and negative consequences along the river. Importantly, people anticipate these *white waters* along the way, especially due to their inherent power in creating both *chaos* and *adventure* at the same time. Said otherwise, individuals experience a multitude of future-oriented emotions at the prospect of anticipated vocational transitions. And, finally, how people anticipate these white waters is important for the necessary *readiness* and *vigilance* to cope with them.

Throughout the present manuscript, we endeavored to investigate the multiple future-oriented emotions that individuals experience at the prospect of vocational transitions. Indeed, the existing evidence is scarce on two key elements that motivated our overarching objective. First, the role of emotion in career development and vocational psychology has mainly been studied *during* or *after* emotional events. However, research is scarce on the cognitive, emotional, and behavioral processes arising *before* emotional events, when individuals anticipate the occurrence of future events, experience feelings, and emotions towards these future events, imagine how the events will occur and what will their consequences be for their well-being, and engage in proactive behaviors devoted to bringing about positive outcomes and forestalling negative ones. Such a scarcity of research attention is unfortunate as several streams of research have demonstrated the numerous behavioral, cognitive, emotional, and physiological reactions and adjustment efforts individuals make during the anticipation of future events. From our point of view, adopting a future-oriented perspective on transitions, and more specifically on emotion, is critical for enhancing our understanding of how individuals develop their resources, prepare for, and adjust to important vocational transitions.

The second key element that motivated our inquiry is related to the complexity of individuals' emotional experiences, particularly at the prospect of future events. Indeed, future events are complex and highly uncertain. They are characterized by possible positive and negative outcomes that individuals approach while pursuing multiple, sometimes conflicting, goals. As previous research demonstrated, such events are likely to give rise to multiple emotions at the same time. What we argue in the present dissertation is that embracing the complex and broad picture of future-oriented emotions is critical to fully understand their role in how individuals develop their resources, prepare for, and adjust to important vocational transitions. For this purpose, we adopted a person-centered approach that, instead of looking at the average characteristics of samples and populations, looks into the naturally occurring complex combinations of future-oriented emotions at the prospect of vocational transitions. From our view, such a perspective allows one to encompass a broader understanding of individuals' emotional experience that goes beyond the simple description of specific facets of emotions.

Accordingly, our aim to address the two elements we stressed above led us to our first research question: *"What are the profiles of future-oriented emotions at the prospect of vocational transitions?"* Importantly, several factors come to play in shaping how individuals emotionally anticipate vocational transitions. Our second and third research questions delved into this specific endeavor. Specifically, our second objective pertained to investigating to what extent individuals' profiles of emotional anticipation were similar or different depending on the transition at hand (i.e., the transition from high school to higher education, from higher education to the job market, and from unemployment to employment), some broad socio-demographic characteristics (e.g., gender, education), the contexts in which individuals anticipate these transitions, and the temporal distance before the occurrence of these transitions. Accordingly, our second research question was formulated as follows: *"To what extent the profiles of future-oriented emotions at the prospect of vocational transitions are similar across transitions, groups, contexts, and time?"* Our third research question focused on key career- and emotion-related individual characteristics that have been argued critical in understanding individuals' preparation and adjustment to vocational transitions. Specifically, our third research question was *"Do career decidedness, career adaptability, trait affect, emotion regulation, and cognitive appraisals influence the likelihood of membership into profiles of future-oriented emotions at the prospect of vocational transitions?"* Finally, to demonstrate the importance of considering individuals' emotional anticipation, showing that these profiles relate meaningfully to their efforts to prepare and adjust to vocational transitions is critical. To that end, our fourth research question was as follows: *"Do profiles of future-oriented emotions at the prospect of vocational transitions exhibit differences in planning and effort intentions?"*

The present section proposes to summarize the key findings of our six empirical chapters, raise the theoretical contributions and practical implications, discuss the strengths and limitations of the empirical evidence we provided, and guide future research avenues that originate from our work. As our research question was addressed differently throughout our empirical chapters, we deemed particularly important to summarize our findings in extensive

detail to shed light on the links between research questions, studies, and findings. Consequently, the following section might prove quite long and repetitive for the readers that have been through the empirical chapters. Readers who are already well aware of our research findings can skip the following section, find a summary of our main research findings at page 238 and go to the theoretical contributions of our research at page 241.

Chapter 11

Key findings

Chapter 11

Key findings

In this section, we detail the key findings related to our four research questions:

Research question 1: What are the profiles of future-oriented emotions at the prospect of the transitions from high school to higher education, from higher education to the job market, and from unemployment to employment that vary quantitatively (in level) and qualitatively (in shape)?

Research question 2: To what extent the profiles of future-oriented emotions at the prospect of the transition from high school to higher education, from higher education to the job market, and from unemployment to employment replicate and are similar across transitions, groups, contexts, and time?

Research question 3: Do career decidedness, career adaptability, trait affect, emotion regulation, and cognitive appraisals influence the likelihood of memberships into profiles of future-oriented emotions at the prospect of the transition from high school to higher education, from higher education to the job market, and from unemployment to employment?

Research question 4: Do profiles of future-oriented emotions at the prospect of the transition from high school to higher education, from higher education to the job market, and from unemployment to employment exhibit differences in anticipated planning and effort?

1. A question of profiles

Our first research question addressed the emergence and the forms of individuals' combinations of future-oriented emotions at the prospect of vocational transitions. We began by investigating whether anticipatory emotions only were likely to co-occur and give rise to several profiles at the prospect of the transition from high school to higher education in Chapter 5. From Chapter 6 onwards, we investigated profiles of both anticipatory and anticipated emotions at the prospect of the transition from high school to higher education (Chapter 6), the transition from higher education to the job market (Chapters 7 and 8), and the transition from unemployment to employment (Chapters 9 and 10). Due to these differences, the following sections sequentially summarize and discuss the evidence related to Chapter 5 and the following chapters.

1.1 Profiles of anticipatory emotions

The person-centered investigation of anticipatory emotions in Chapter 5 brought several important findings. Three profiles of anticipatory emotions at the prospect of the transition from high school to higher education emerged. Most students exhibited a *Positive Dominant*

profile characterized by high levels of positive and low levels of negative anticipatory emotions. The second profile was composed of a fifth of the high school students and was characterized by *Mixed* emotions: the co-occurrence of moderate positive and negative anticipatory emotions. Finally, high levels of negative anticipatory emotions and moderate levels of positive anticipatory emotions characterized the third profile, labeled *Negative Dominant*, composed of one tenth of the sample. While the focus limited to anticipatory emotions only might seem a limitation of Chapter 5, the findings of this chapter nonetheless brought initial and preliminary support for the co-occurrence of emotions related to the anticipation of future vocational events. Indeed, the existing evidence related to mixed emotions focused on emotions related to current and ongoing events (Larsen, Coles, et al., 2017), including graduation from high school or college (Ersner-Hershfield et al., 2008; Larsen et al., 2001). To the best of our knowledge, the only study that adopted a person-centered perspective on emotions related to future events was conducted by Zampetakis et al. (2016a). Notably, in their study, they focused on anticipated emotions only at the prospect of new venture creation as an entrepreneur.

In the next section, we summarize and discuss the person-centered results that encompassed a broader perspective of emotional anticipation that included both anticipatory and anticipated emotions. In this respect, these findings addressed the limitations of Chapter 5.

1.1.1 A broad perspective of emotional anticipation profiles

Across studies and transitions considered in Chapter 6 to Chapter 10, our findings revealed the emergence of five distinct profiles of both anticipatory and anticipated emotions. To provide a broad perspective on these profiles, we aggregated the results across studies, samples, transitions, groups, and contexts (see Figure 19).

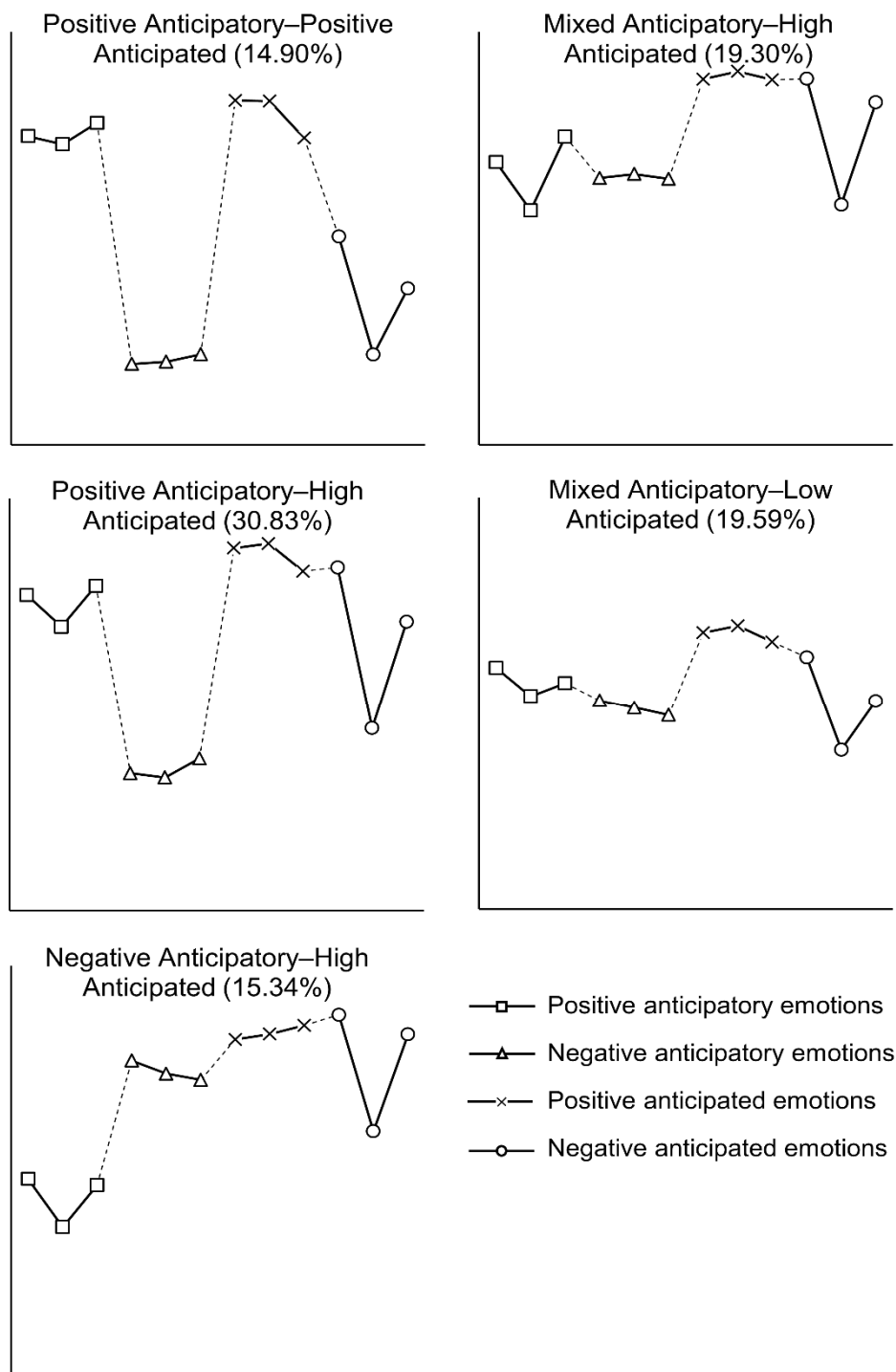


Figure 19. Profiles of future-oriented emotions across studies, transitions, and groups

1.1.2 Positive Anticipatory–Positive Anticipated emotions profile

The first profile involved a relatively small proportion of individuals, and across studies and transitions, was the smallest (14.90%). This profile was characterized by positive future-oriented emotions but very low levels of negative future-oriented emotions. This pattern was true for both anticipatory and anticipated emotions. As such, this profile displayed the most exclusive or bipolar pattern of positive and negative future-oriented emotions. In other words, individuals of this profile anticipate future vocational transitions with a somewhat positive outlook: they are pretty confident and hopeful that positive outcomes will arise from their transition, and they are not anxious or nervous at the prospect of possible negative outcomes. At the same time, when they imagine being successful in managing the transition, these individuals are keen to anticipate the happiness and pride that will result from such a successful outcome. However, when imagining that all might not come in a positive way, these individuals do not expect to feel disappointed, guilty, or sad.

1.1.3 Positive Anticipatory–High Anticipated emotions profile

The second profile is very similar to the *Positive Anticipatory–Positive Anticipated* profile. Individuals in this second profile displayed high levels of positive anticipatory emotions but very low levels of negative anticipatory emotions. Note, however, that the negative anticipatory emotions, albeit considered low, are higher than in the *Positive Anticipatory–Positive Anticipated* profile. In contrast, however, this second profile was composed of a much higher proportion of individuals across studies and transitions (30.83%). Additionally, the pattern of anticipated emotions showed that individuals in this profile tended to experience high levels of both positive and negative anticipated emotions at the same time. When anticipating transitions, individuals in the *Positive Anticipatory–High Anticipated* profile have a positive outlook on the future: they feel hopeful and optimistic at the prospect of the potential positive consequences of the anticipated transition. At the same time, they do not feel anxious nor worried at the prospect of negative consequences that might come along. When imagining that the transition has resulted in positive outcomes, they expect to feel happy, proud, and relieved. These individuals are also keen to anticipate negative outcomes. Indeed, when imagining that their transition has had negative consequences, they easily anticipate their feelings of disappointment, guilt, and sadness.

1.1.4 Negative Anticipatory–High Anticipated emotions profile

The third profile displayed an inverse pattern compared to the two profiles we discussed above. Individuals in this profile reported low levels of positive anticipatory emotions (at least compared to the other profiles) and high levels of negative anticipatory emotions. Simultaneously, individuals reported high levels of both positive and negative anticipated emotions. This third profile was composed of a relatively small proportion of individuals (15.34%). Individuals in this profile rather view anticipated transitions in a negative outlook: while they do not feel quite optimistic, hopeful, or confident at the prospect of the transition, they instead feel anxious, worried, and nervous. However, when imagining that the transition had gone well and resulted in positive outcomes, they easily anticipate feeling happy, proud,

and, especially, relieved. Similarly, when imagining the negative outcomes about which they were anxious, they easily anticipate their feelings of disappointment, guilt, and sadness.

1.1.5 Mixed Anticipatory–High Anticipated emotions profile

This profile was composed of a substantial part of individuals (19.30%) and characterized by mixed future-oriented emotions. Individuals in this profile reported moderate levels of both positive and negative anticipatory emotions. Simultaneously, they reported high levels of both positive and negative anticipated emotions. In other words, individuals in this profile were keen to consider both the positive and negative outcomes likely to arise during their transition. Indeed, they feel both hopeful and anxious at the prospect of future vocational transitions. When imagining that they had succeeded in coping with the transition, these individuals easily imagine feeling happy, proud, and relieved. Should the transition and their behaviors lead to negative outcomes, they also anticipate related feelings such as anticipated disappointment, guilt, and sadness.

1.1.6 Mixed Anticipatory–Low Anticipated emotions profile

The last profile is similar to the previous one and comprises a substantial part of individuals across studies and transitions (19.59%). As in the previous profile, individuals in this profile reported moderate levels of both positive and negative anticipatory emotions. Notably, compared to the other profiles, this profile was often characterized by the lowest positive anticipatory emotions. Individuals in this profile also reported mixed anticipated emotions but to a much lower level than the other profiles. These features motivated the denomination of this profile. In other words, individuals in this profile appraise both the positive and negative outcomes that might arise during the transition and, accordingly, feel both hopeful and anxious at the same time at the prospect of vocational transitions. When imagining that the transition has been successful, they anticipate, to a much lower extent, compared to others, feeling happy or proud. Similarly, when imagining negative situations that might potentially arise in the future, they anticipate, to a much lower extent, compared to others, feeling disappointed, guilty, or sad.

1.2 Discussion of the findings

Our results suggest that future vocational transitions represent major periods of emotional turmoil for most individuals. In this way, the present findings complement earlier evidence related to the complexity of individuals' emotional experiences and the co-occurrence of multiple emotions at the same time (Larsen et al., 2001; Larsen, Coles, et al., 2017) in a variety of situations such as house move (Larsen et al., 2001), learning (Moeller et al., 2018), interpersonal interactions (Schniter et al., 2015), or music and films (Mather & Ready, 2020). In particular, our findings are in line with Scott et al. (2014), who showed that individuals are more likely to experience mixed emotions in the presence of stressors. In contrast, however, most studies on (mixed) emotions have used a variable-centered approach. Such endeavors were restricted to studying the quantitative degree of co-occurrence of multiple emotions, mainly using correlation coefficients or the MIN index (Larsen, Hershfield, et al.,

2017). To address the *how*, that is, the specific individuals' combinations of multiple emotions, experience sampling studies and person-centered approaches have been called for (Barford et al., 2020; Fernando et al., 2014; Watson & Stanton, 2017). The present research extends this line of inquiry. It thus complements previous work that applied a person-centered perspective on emotions in various contexts such as work (Sandrin et al., 2020), high school courses (Ganotice et al., 2016; K. A. Robinson et al., 2020), university courses (K. A. Robinson et al., 2017; Tze et al., 2020), interpersonal behaviors (Fernando et al., 2014), and anticipated career transitions (i.e., new venture creation; Zampetakis et al., 2016a).

Not only our research establishes vocational transitions as complex emotional events to which individuals react with combinations of multiple emotions, but our research also demonstrates that such an emotional complexity arises during the anticipation of such events. Such evidence is scarce in the literature (Kruschwitz et al., 2018; Zampetakis et al., 2016a) and complements previous work on future-oriented emotions. As such, little research has jointly studied the full construct of future-oriented emotions, that is anticipatory and anticipated emotions (Barsics et al., 2016; H. Baumgartner et al., 2008). To the best of our knowledge, we provide the first empirical evidence related to the co-occurrence of both anticipatory and anticipated emotions.

Overall, our findings are consistent with our theoretical rationale and our expectations regarding the combinations, or profiles, of individuals' future-oriented emotions at the prospect of vocational transitions. Individuals' emotional anticipation is indeed undoubtedly complex, as evidenced by the emergence of highly distinct profiles. Several findings are striking when looking at the specific combinations of future-oriented emotions. First, complementary with the findings of Chapter 5, profiles of future-oriented emotions showed that most individuals experience rather positive future-oriented emotions. Indeed, a large proportion of individuals experienced either *Positive Anticipatory–Positive Anticipated* emotions or *Positive Anticipatory–High Anticipated* emotions. This large proportion is even more evident when considering that high levels of positive emotions also characterized the Mixed profiles. These findings are consistent with the positivity mood offset proposed by Diener et al. (2015) and the positivity bias towards the future documented by Newby-Clark and Ross (2003). Patterns dominated by negative emotions were also in line with experience sampling findings showing that pure negative emotional experiences were less common than mixed emotions (Scott et al., 2014; Trampe et al., 2015) and that experiences of mixed emotions generally come from momentary bursts of negative emotions against a relatively stable baseline of positive emotions (Barford et al., 2020). Second, interestingly, only one small profile was characterized by bipolar patterns of future-oriented emotions as contended by the bipolar view of emotions. All other profiles were characterized, though to different extents across profiles, by co-occurring future-oriented emotions. This finding further supports the bivariate hypothesis of emotions (Cacioppo & Berntson, 1994; Larsen & McGraw, 2014; Watson et al., 1999). Third, our results contrast with previous research that showed how relatively infrequent were instances of mixed emotions in daily life (Köötts et al., 2012; Riediger et al., 2009, 2014; Schneider & Stone, 2015; Watson & Stanton, 2017). Our findings showed that a large proportion of individuals experienced mixed future-oriented

emotions. However, the cross-sectional nature of our data and the focus on specific future events make any comparison between experience sampling findings and person-centered results difficult.

Notably, some observations were also noteworthy when comparing anticipatory and anticipated emotions. At the quantitative level, it was evident that participants reported anticipatory emotions at lower levels than anticipated emotions, and the variability in anticipatory emotions scores was higher than for anticipated emotions. This particular finding is consistent with the conceptualization of anticipatory and anticipated emotions. Construed as real affective responses at the prospect of future events and affective beliefs about the emotional experience of the future, anticipatory and anticipated emotions are not equivalent at the conceptual level. Anticipatory emotions are constrained by the perceived likelihood of future events. In contrast, anticipated emotions are free from reality constraints as they rely on mental simulation of imagined, possibly impossible, future events. Additionally, this mental simulation process has been extensively theorized and empirically studied in the literature focusing on affective forecasting. From this vast body of research, a number of biases that describe individuals' propensity to overestimate their future affective reactions have been delineated (Wilson & Gilbert, 2003). For example, while individuals are quite good at identifying the specific emotional states they will feel in the future, they display biases in estimating their intensity and duration (Wilson & Gilbert, 2003). These differences might explain the quantitative differences found between anticipatory and anticipated emotions.

A second notable observation relates to the co-occurrence of anticipatory and anticipated emotions. Indeed, our results showed that anticipated emotions were more likely to co-occur across profiles. When looking at the specific combinations of profiles, only the *Positive Anticipatory–Positive Anticipated* profile exhibited non-co-occurring anticipated emotions. In contrast, more variability in co-occurrence was found for anticipatory emotions. These findings are somewhat consistent with the correlations found in the original study of Baumgartner et al. (2008). While positive and negative anticipatory emotions displayed a high negative correlation (i.e., $r = -.70$), positive and negative anticipated emotions were less, but positively, correlated to each other (i.e., $r = .30$). In their study, Baumgartner et al. (2008) further argued that the positive correlation between positive and negative anticipated emotions and their complementary impact on subsequent behaviors indicated that positive and negative anticipated emotions were coordinated due to the overarching goal to attain good outcomes and avoid the opposite bad outcomes at the same time. Such a view has also been argued in the study of Aspinwall et al. (2005), who showed that, when anticipating a future stressful event, people expect the best of future events but, at the same time, prepare for the worst to come, and that these two views had distinct, yet complementary, influences on proactive coping efforts.

The third and maybe most important observation we would like to raise relates to the benefits of considering the complex interactions of both anticipatory and anticipated emotions. As such, the findings of Chapter 5 among high school students showed that three profiles of anticipatory emotions emerged at the prospect of the transition from high school

to higher education: a *Positive dominant*, a *Mixed*, and a *Negative dominant*. The findings of the other empirical chapters brought an interesting nuance in these preliminary findings. Except for the profiles characterized by rather negative anticipatory emotions, the inclusion of anticipated emotions helped in qualifying the *Positive dominant* and the *Mixed* profiles. Indeed, we found two *Positive* profiles that were distinct on their pattern of anticipated emotions: a *Positive Anticipatory–Positive Anticipated* profile and a *Positive Anticipatory–High Anticipated* profile. A similar finding was found for *Mixed* profiles with a *Mixed Anticipatory–High Anticipated* and a *Mixed Anticipatory–Low Anticipated* profile. As we have found in Chapter 8 and Chapter 10, such nuances in *positive* and *mixed* profiles are of utmost importance in the prediction of subsequent behaviors, as we shall further detail below. Overall, these findings stress the importance of adopting a broad perspective on individuals' emotional anticipation by encompassing the combinations of both anticipatory and anticipated emotions.

2. A question of replication and similarity

Our second research question pertained to the extent to which profiles of emotional anticipation replicated and were similar across transitions, groups, contexts, and time. Regarding transitions, we conducted several studies related to the transition from high school to higher education or work, the transition from higher education to the job market, or the transition from unemployment to employment. We attempted to replicate and investigate the similarities based on gender (Chapter 6, 7, 8, and 9). In Chapters 6 and 7, we investigated the replication of profiles in different contexts: educational track (i.e., academic vs. vocational track during high school) and institutional type (i.e., university vs. college during higher education), respectively. Finally, we investigated the replication of profiles across time in Chapters 5, 6, and 7. In Chapter 5, profiles of anticipatory emotions were investigated longitudinally during the last year of high school. In chapters 6 and 7, we compared high school and higher education students in distinct grades or years, representing the remaining time before the transition. Notably, these comparisons were only cross-sectional. Of note, Chapter 5 will be separately discussed as it addressed anticipatory emotions only.

2.1 Profiles of emotional anticipation across transitions and samples

Although indirectly, our broad perspective of emotional anticipation profiles already suggested that specific profiles of emotional anticipation were consistently found across transitions and samples. Indeed, the five profiles depicted in Figure 19 were consistently found across transitions. However, they did not generally emerge altogether depending on the specific study or depending on gender differences. For example, a *Mixed Anticipatory–High Anticipated* emerged in Chapter 9, whereas a *Positive Anticipatory–High Anticipated* emerged instead in Chapter 10, even though both studies targeted job seekers.

Importantly, we did not empirically test the replication of profiles in terms of number, shape, variance, and size across transitions and samples. Our discussion is therefore limited

and tentative at best regarding the broad findings of our empirical chapters. Nonetheless, the replication of broadly similar profiles of emotional anticipation is critical for both research and practice. From a theoretical point of view, our findings point to a specific subset of possible combinations of future-oriented emotions at the prospect of vocational transitions. In this sense, it supports the construct validity of emotional anticipation profiles and shows that these profiles do not represent transient phenomena that occur in specific contexts but can be generalized to several situations (Morin et al., 2020). Therefore, future research could rely on our typology to guide research inferences about the number and shape of profiles. As we shall argue below, our findings bring relative support for the design and implementation of interventions and practices that take into account individuals' combinations of future-oriented emotions.

Besides the broad similarity of profiles between transitions and samples, several differences still emerged and, in this sense, are consistent with several theoretical frameworks that stress the numerous factors that influence how individuals approach transitions (Schlossberg, 1984) and emotional events (Lazarus & Folkman, 1984). In the present dissertation, we attempted to explore these factors by investigating differences between groups or career-related and emotion-related characteristics. However, our research does not provide evidence for the differences that emerged between transitions. Future research adopting a developmental approach of emotional anticipation of transitions through the lifespan is thus warranted. For example, future research could extend our present inquiry to other transitions such as job transitions or the transition to retirement.

2.2 Profiles of emotional anticipation across groups

Our investigation of the replication of emotional anticipation profiles focused on gender and institutional context (i.e., academic vs. vocational high school students, university vs. college students).

2.2.1 Gender

Overall, our investigation of profile similarities and differences between women and men represents one of the strengths of the present research and brings some robustness to our replication efforts. Previous theory and research have consistently underlined the significant differences between women and men about emotional experience. For example, many studies have argued that, during adolescence, girls tend to express more positive emotions but also internalizing emotions and symptoms (e.g., sadness, anxiety) and self-conscious emotions (e.g., guilt, shame), compared to boys (Alfeld-Liro & Sigelman, 1998; Ge et al., 1994; Jose & Ratcliffe, 2004; Matud, 2004; Nolen-Hoeksema & Girgus, 1994; Orth et al., 2010; Pomerantz et al., 2002). Previous research also showed that school burnout was more prevalent among girls than boys (Salmela-Aro et al., 2008; Salmela-Aro & Tynkkynen, 2012). Similar arguments can be found among young adults and adults. For example, longitudinal studies showed that both adolescents and young adults women were more at risk of depression than men (Hankin et al., 1998). One of the explanations that are advanced relates to the differential vulnerability hypothesis that suggests that women are more likely

to perceive situations as more stressful than men (McDonough & Walters, 2001; Roxburgh, 1996). Additional explanations for these differences originate from the socialization processes in gendered roles (Brody et al., 2016). However, recent meta-analytic findings pointed to null to small, sometimes inconsistent, effect sizes regarding emotions between men and women and brought caution in interpreting significant differences (Chaplin & Aldao, 2013; Else-Quest et al., 2012). Such findings echo streams of research that emphasize the role of socialization and stereotypes in explaining the differences between men and women (Brody et al., 2016) that tend to overestimate the factors that could underlie the gender differences in emotion. As such, according to Hyde (2005), men and women would be similar on more characteristics than currently asserted in the literature, a finding that has been recently confirmed by meta-synthesis (Zell et al., 2015).

The person-centered approach used in the present dissertation allowed us to offer a novel approach in disentangling these similarities and differences. Our approach demonstrated the presence of qualitative differences that, when not taken into account, could likely bias one's conclusions about gender similarities and differences. Across studies, some specificities in these qualitative differences were found. While, in some studies, men and women shared a similar shape on a small subset of profiles (e.g., two similar profiles in shape in Chapter 6), in other studies, men and women shared similar shapes but with significant quantitative differences (e.g., Chapter 7). Besides the qualitative distinctiveness with regard to the shape of profiles, qualitative differences regarding the number of participants in profiles also emerged. What we argue in the present research is that small differences in profile shape or size might drive variable-centered results to significance. For example, in our studies, we showed that women were more likely to belong to profiles characterized by negative anticipatory emotions. Such a higher prevalence, when aggregated at the sample level, is likely to bias the results toward the overall conclusion that *all* women, on average, experience more negative emotions than men. Significantly, not *all* women experience more negative emotions. We have demonstrated that *some* men also experience very high levels of negative emotions (i.e., see the proportion of men in the *Negative Anticipatory–High Anticipated* profile in Chapter 9). Maybe more explicitly, we have shown that women had a higher probability of belonging to *Mixed Anticipatory–High Anticipated* profiles. As we have seen, these profiles are characterized by moderate levels of both positive and negative anticipatory emotions. Although they experience co-occurring positive emotions, the higher prevalence of women in this profile is likely to bias the results toward greater differences between men and women with regard to negative emotions.

In sum, our results bring caution for aggregating differences in emotional experience at the sample level among women and men as qualitative differences are likely to be at play. Our findings also echo the gender similarities hypothesis developed by Hyde (2005) by showing that men and women are more similar than dissimilar with regard to their emotional anticipation. We also advance the usefulness of person-centered approaches in disentangling the qualitative and quantitative differences across groups. The oversight of taking these differences into account can yield misleading results and inferences about gender differences.

2.2.2 Institutional context

Our findings echo the existing literature that detail some differences between students in distinct contexts both during high school and higher education. In Chapter 6, we reviewed previous work suggesting that academic and vocational students were distinct on a number of features, including their career prospects, that made likely distinct expectations about their future (Klaczynski & Reese, 1991; Malmberg & Trempała, 1997; Salmela-Aro et al., 2008). Although little research has studied the differences between university and colleges, we argued that several differences between the two contexts might influence students' emotional anticipation of the transition from higher education to the job market (see Chapter 7). Our findings suggest that such differences might, indeed, influence students' future-oriented emotions at the prospect of their transition. Controlling for gender differences, we found that groups were generally similar with regard to their profile shape but exhibited differences in profile sizes. For instance, during the transition from high school to higher education, academic students were more likely to belong to the *Mixed Anticipatory–High Anticipated* profile, and less likely to belong to the *Positive Anticipatory–Positive Anticipated* and the *Positive Anticipatory–High Anticipated* profiles, compared to vocational students. Undoubtedly, future research should deepen our understanding of the specific psychological mechanisms that might explain such differences. Still, our findings have implications for both research and practice. Indeed, the evidence that profiles are similar with regard to their shape but display differences in size suggest that researchers can rightfully conduct profile enumeration processes irrespectively of group membership and can limit their analyses to including these variables as antecedents of profile membership (e.g., multinomial logistic regression). From a practical point of view, given the presence of the same profiles and the small differences in size, interventions that target the same profiles across groups should be effective.

2.3 Profiles of emotional anticipation across time

The replication of emotional anticipation profiles over time was investigated longitudinally in Chapter 5 and cross-sectionally in Chapters 6 and 7. Overall, we found that profiles of emotional anticipation were very stable across groups which we were distinct on their temporal distance to transitions. However, the results of Chapter 5 showed that such a stability did not preclude to observe substantial within-person transitions between profiles, especially from profiles characterized by mixed or negative emotions to profiles characterized by high positive emotions.

Our findings are partially consistent with previous research that adopted a longitudinal person-centered approach to emotions. For example, in a work context, Sandrin et al. (2020) found that profiles of affect were stable both in number and shape across a time interval of four months. However, they found that the degree of interpersonal differences within profiles (i.e., dispersion similarity) and the sizes of the profiles (i.e., distributional similarity) changed over time. In addition, they found different within-person stability over time depending on the profiles. Out of the five profiles they found in their study, three were found highly stable over time, and two were subjected to very high levels of transitions over time. Not only were

our findings related to the anticipation of a future event, but Sandrin et al. (2020) used a trait-based view of affect, which makes the comparisons between the two studies extremely difficult. However, it echoes our findings and shows that the replication and similarity of profiles across time points do not preclude individuals from making transitions between some profiles over time. A study that used a state-based view of emotions during university courses yielded similar findings in showing that profiles of emotions were relatively stable in their number and shape over time but that almost a fifth of students transitioned between profiles over time (Tze et al., 2020).

Overall, evidence for the high stability of profiles in terms of their shape (and sometimes even their size) conveys valuable information for research and practice. Indeed, such stability indicates that the profiles have a high construct validity in different samples characterized by distinct temporal distance from transitions. From a practical point of view, it substantiates the use of the profiles for developing interventions at different periods before transitions (Morin et al., 2020). Of utmost importance, the evidence of the stability of profiles across time points does not preclude, as we demonstrated, that individuals display longitudinal changes in emotional anticipation and transition from one profile to another. The evidence that longitudinal changes tend to depart from mixed or negative profiles and to develop into positive profiles is in line with developmental perspectives of career development that argue that career preparation tasks before transitions represent normative events that, once completed, can result in a positive outlook for most individuals (Porfeli & Lee, 2012; Vignoli, 2015). In addition, even though individuals make transitions across time, profiles characterized by positive emotions were found relatively stable across time with fewer transitions. These findings suggest the importance of securing a positive outlook towards the future as soon as possible. Overall, these findings are positioned in the *preparation* phase theorized by Nicholson (1990) and suggest that this specific phase takes place in a large temporal window before transitions. Undoubtedly, more research is needed to better understand the temporal dynamics at play during the preparation phase.

3. A question of antecedents

Throughout the manuscript, we investigated several career-related and emotion-related antecedents of emotional anticipation profiles. We examined the extent to which career decidedness and career adaptability predicted students' membership in profiles of anticipatory emotions in Chapter 5. In addition, we examined the impact of these two career-related variables on the transitions between anticipatory emotions profiles during the last year of high school. In Chapter 8, we explored the impact of dispositional affect and emotion regulation on emotional anticipation profiles at the prospect of the transition from higher education to the job market. Finally, we studied the profiles of job-search-related appraisals among job seekers and their relations with emotional anticipation profiles at the prospect of finding a (new) job in Chapter 10.

3.1 Career-related antecedents

Career decidedness and career adaptability were found consistent predictors of both anticipatory emotions profiles and transitions between profiles in Chapter 5. More specifically, higher levels of career decidedness and career adaptability were associated with a higher probability to belong to the *Positive dominant* profile compared to the *Mixed* and the *Negative dominant* profiles. Our findings are relatively consistent with previous research, which showed the importance of preparing for career tasks and engaging in career decision-making processes in order to better prepare and cope with vocational transitions (Johnston, 2018; Uthayakumar et al., 2010). However, career adaptability had a limited role in helping individuals to transition from mixed or negative profiles to positive profiles. Such a finding is inconsistent with previous research that positioned career adaptability as self-regulatory resources that are activated in times of stressful career tasks and transitions (Rossier, 2015; Rudolph & Zacher, 2021; Zacher, 2015). As argued in Chapter 5, these results might be explained by the temporal dynamics of coping processes that occur when anticipating stressful events (Aspinwall & Taylor, 1997). As we shall argue below, more research is needed to provide a more dynamic view of emotional anticipation processes before vocational transitions.

3.2 Emotion-related antecedents

On the one hand, our results showed a valenced pattern as positive (negative) affect was associated with membership into profiles characterized by positive (negative) future-oriented emotions. This is consistent with the trait- and state-based views of emotions (E. Russell & Daniels, 2018; Watson et al., 1988). On the other hand, emotion regulation was found loosely related to profiles of emotional anticipation. This lack of findings related to emotional anticipation is somewhat surprising and has been discussed in detail in Chapter 8. We highlighted three distinct mechanisms likely to explain the scarcity of findings. First, we stressed the possibility that, during the anticipation of future events, other emotion regulation strategies such as situation selection or attentional deployment might prove more efficient in dealing with anticipated stressors as contended by a dynamic conceptualization of emotion regulation (Sheppes & Gross, 2011). Such a view has been empirically tested by Ossenfort et al. (2020), who suggested that, when anticipating future events, individuals are motivated to keep consistent with their emotions, even to increase them, to serve the instrumental goals of proactively coping with the stressor. Second, we highlighted the biases inherent to anticipated emotions that might have obfuscated the links between emotion regulation strategies and profile membership. More specifically, the individual tendency to underestimate one's future emotional regulation abilities leads to overestimating the intensity and duration of anticipated emotions (Wilson & Gilbert, 2003). Third, we stressed that previous evidence also did not replicate findings related to emotion regulation but was able to do so when using physiological measures of emotion (Hofmann et al., 2009; Nasso et al., 2019).

Finally, one of the most compelling tests of the role of predictors on emotional anticipation profiles was conducted in Chapter 10. In this chapter, we demonstrated that

specific profiles of future-oriented job-search-related appraisals were associated with specific profiles of emotional anticipation at the prospect of finding a new job. Four profiles of appraisals emerged: a *Challengers in Control*, a *Detached*, a *Concerned Balanced*, and a *Threatened Helpless* profile. These results were consistent with cognitive appraisal theories in showing that job seekers reported a variety of distinct combinations related to how they appraised the anticipated event of finding a job. In turn, these profiles were meaningfully related to emotional anticipation profiles. *Challengers in Control*, who appraised the job search as challenging with personal and environmental resources, were mostly in a *Positive Anticipatory–Positive Anticipated* and a *Mixed Anticipatory–High Anticipated* profile. *Detached* job seekers who appraised job search as neither challenging or threatening nor conducive to their long-term well-being mostly reported a *Mixed Anticipatory–Low Anticipated* and a *Positive Anticipatory–Positive Anticipated* profile. *Concerned Balanced* job seekers appraised job search as both challenging and threatening at the same time while considering that it would have long-term consequences for them. Three profiles characterized their emotional anticipation: a *Mixed Anticipatory–High Anticipated*, a *Negative Anticipatory–High Anticipated*, and a *Positive Anticipatory–Positive Anticipated* profile. Finally, *Threatened Helpless* job seekers appraised job search as mainly threatening and highly uncontrollable. They mostly reported a *Negative Anticipatory–High Anticipated* and a *Mixed Anticipatory–Low Anticipated* profile.

In doing so, our findings support one of the core tenets of appraisal theories: That people respond to job search and the anticipated event of finding a job with distinct combinations of emotions depending on how they appraise their job search. Not only is such evidence scarce in the literature (Siemer et al., 2007), but our dual-process approach allowed us to investigate with great detail the relationships between appraisals and emotions. Especially, the *Positive Anticipatory–Positive Anticipated* and the *Negative Anticipatory–High Anticipated* might represent the faces of two different coins as they were associated with both adaptive appraisal profiles (i.e., *Challengers in Control* and *Concerned Balanced*) and two rather maladaptive profiles (i.e., *Detached* and *Negative Anticipatory–High Anticipated*; see our results related to outcomes below).

4. A question of outcomes

Outcomes of emotional anticipation were investigated in two chapters. Our findings are consistent with the existing literature that showed the distinct yet complementary positive influence of all dimensions of future-oriented emotions on behavioral intentions: positive and negative, anticipatory and anticipated emotions (H. Baumgartner et al., 2008; Carrera et al., 2012). Across studies, the *Mixed Anticipatory–High Anticipated*, followed by both the *Positive Anticipatory–High Anticipated* and the *Negative Anticipatory–High Anticipated*, were found the most adaptive in terms of job search planning and effort intentions. When considering the higher predictive role of these three profiles, our findings complement recent meta-analytic findings suggesting that anticipated emotions have a greater impact on intentions and behaviors than anticipatory emotions (Xu & Guo, 2019).

Importantly, our research brings novel insights into the relationship between negative affect or emotions and the initiation of intentions and behaviors in the job search context. Indeed, while some studies have found a negative relationship between negative affect and job search outcomes (Crossley & Stanton, 2005), others have failed to replicate such an effect (Côté et al., 2006; Turban et al., 2013). Instead, recent studies adopted a dynamic state-based view and found a positive influence of negative emotions on job search outcomes in longitudinal studies (Kim & Lee, 2021; Song et al., 2009). In the present research, we add two additional mechanisms explaining the relationship between negative emotions and job search outcomes. First, the anticipation of stressful events is associated with a greater temporal window to adopt behaviors likely to alleviate or eradicate the stressful anticipated event, the availability of a higher number of coping alternatives to choose from, and a more beneficial ratio between one's resources and demands as the stressful event has not reached its full impact (Aspinwall & Taylor, 1997). Such a future-oriented perspective has led scholars to argue for a positive relationship between negative emotions and behaviors. Individuals are motivated to bring about positive outcomes and avoid negative ones (Baumeister et al., 2007). The positive relationship between negative affect and job search intentions and the role of anticipated emotions are fully consistent with such a view. Second, our person-centered approach also helped in disentangling the relationship between negative emotion and behavioral intentions. For example, Fernando et al. (2014) showed that the impact of emotion might depend on their co-occurrence with other emotions. Such an assumption might be at play in our findings. Indeed, our studies showed that considering both anticipatory and anticipated emotions distinguished between adaptive and maladaptive profiles in terms of job search outcomes. For example, whether anticipatory emotions were rather predominantly positive, mixed, or negative, high patterns of anticipated emotions were associated with elevated intentions. Even more, this finding was particularly true for individuals who, at the same time, experienced both positive and negative anticipatory emotions (i.e., *Mixed Anticipatory–High Anticipated*). These results are bringing support for Fernando et al.'s (2014) assumptions that looking at specific emotions or valence is not sufficient to understand the role of emotion on behavior fully. Findings from Chapter 10 went beyond this idea and demonstrated that taking the co-occurrence and patterns of cognitive appraisals was also critical in understanding how emotions shape behaviors.

We investigated four related research questions spanning three vocational transitions: (a) the transition from high school to higher education, (b) the transition from higher education to the job market, and (c) the transition from unemployment to employment.

What are the profiles of future-oriented emotions at the prospect of vocational transitions?

Five profiles emerged across transitions, groups, and time (see Figure 19):

1. *Positive Anticipatory–Positive Anticipated*
2. *Positive Anticipatory–High Anticipated*
3. *Negative Anticipatory–High Anticipated*
4. *Mixed Anticipatory–High Anticipated*
5. *Mixed Anticipatory–Low Anticipated*

To what extent the profiles of future-oriented emotions at the prospect of vocational transitions are similar across transitions, groups, and time?

Across transitions, the five profiles emerged relatively consistently from a broad perspective. Differences between transitions and samples were also observed. Importantly, this specific question was interpreted throughout our empirical chapters without having been tested empirically.

Across groups, our results showed that both qualitative differences (i.e., in profile shapes, variances, and size) and quantitative differences (i.e., in emotion levels) were found consistently between women and men. With regards to the institutional context, profiles were found similar in shape but distinct in size.

Across time, the five profiles were found very similar across time points at the cross-sectional level. Longitudinal results suggest that such a similarity across time point do not preclude individuals to make transitions between profiles over time.

Do career-related and emotion-related antecedents influence the likelihood of membership into profiles of future-oriented emotions at the prospect of vocational transitions?

Overall, our results showed that career decidedness and career adaptability made more likely to belong, and make transitions, to profiles characterize by higher levels of future-oriented emotions. Note, however, that these relations were investigated on profiles of anticipatory emotions only.

Trait affect was meaningfully related to profiles of future-oriented emotions in a valenced pattern of results. Our results related to emotion regulation strategies (i.e., reappraisal and suppression) were mainly inconsistent with our expectations. Finally, we provided evidence for meaningful relations between future-oriented cognitive appraisals and profiles of future-oriented emotions.

Do profiles of future-oriented emotions at the prospect of vocational transitions exhibit differences in planning and effort intentions?

We found significant differences between profiles of future-oriented emotions and job search planning and effort intentions that were consistent with our expectations. Overall, profiles characterized by high levels of anticipated emotions were considered as more adaptive.

Chapter 12

Theoretical contributions

Chapter 12

Theoretical contributions

Several key contributions to the literature on emotion, career development, and vocational psychology emanate from the present dissertation. We review five of these contributions below while highlighting the main strengths of our empirical inquiry.

1. Stressing the role of emotion in career development using a future-oriented perspective

As we argued in the introduction, the role of emotion in career development and vocational psychology has been scarcely investigated over the past decades. Despite calls for more inclusion of affect and emotion in the field (Hartung, 2011; Kidd, 1998, 2004), most research has focused on stable affective individual differences such as emotional intelligence or trait affect. At the same time, little research has considered the emotions that are experienced *before* career or vocational events. Accordingly, our work stresses the importance of investigating the role of emotion in relation to transitions while adopting a future-oriented perspective. As the literature suggests and as we demonstrated, emotions that are experienced during the anticipation of career events and transitions are far from being trivial as being evidenced by the various, meaningful, and well distinct patterns of emotions, as well as their meaningful relations with career- and emotion-related antecedents and behavioral outcomes. In this way, we echo and complement earlier work on career hope and anxiety that already stressed the importance of considering individuals' affective processes in career development using such a future-oriented perspective (Hirschi, 2014; Vignoli, 2015).

Not only do we contribute to the investigation of emotions in careers, but we also extend existing research on emotional anticipation from a broader perspective (Aspinwall & Taylor, 1997; Barsics et al., 2016; H. Baumgartner et al., 2008). Extensive research has long been devoted to our current emotional reactions toward the future (MacLeod & Byrne, 1996; Ortony et al., 1988; Zaleski, 1996). The same observation applies to the study of affective forecasts, the emotional reactions we expect to feel in the future (Baron, 1992; Kahneman, 1994; Loewenstein & Schkade, 1999; Mellers & McGraw, 2001; Wilson & Gilbert, 2003; Zeelenberg, 1999). However, these two streams of research have developed rather independently and, to date, little research has considered these two types of future-oriented emotions jointly, whether at the theoretical (Baumeister et al., 2007; Loewenstein & Lerner, 2003) or the empirical level (Barsics et al., 2016; H. Baumgartner et al., 2008; Carrera et al., 2012; Xu & Guo, 2019). In considering both anticipatory and anticipated emotions simultaneously, investigating their nature, antecedents, and outcomes, we provide a broad range of findings that complement the evidence related to the emotional anticipation of future

events and establish vocational transitions as particular periods of tumultuous emotional anticipation.

2. Providing a complex picture of emotional anticipation

In the present dissertation, we investigated how complex were individuals' emotions toward future vocational transitions. In doing so, we built upon extensive, yet still underdeveloped, streams of research suggesting that individuals react with multiple emotions to a wide variety of daily situations (Larsen, Coles, et al., 2017). Critically, we argued that the existing evidence regarding mixed emotions was limited for a particular reason. Indeed, research on mixed emotions heavily relied on a variable-centered approach investigating the quantitative degree of mixed emotions using averaged parameters at the sample level such as the correlations between emotion pairs or the MIN index, argued to be a more valid measure of mixed emotions (see Larsen, Hershfield, et al., 2017). One important caveat of such an approach relies upon its impracticability to investigate *how* emotions co-occur (see Chapter 3 for a complete discussion of the limitations of the variable-centered approach of emotion). That is, the variable-centered approach is limited in investigating the naturally occurring patterns of multiple emotions that individuals experience. As heavily argued and presented throughout the manuscript, the person-centered perspective we used allowed such an endeavor. In doing so, we complement previous studies that already stressed the advantages of such an approach to the study of emotion (Fernando et al., 2014; Sandrin et al., 2020; Tze et al., 2020), including at the prospect of career transitions (Zampetakis et al., 2016a). Differentiating the complex combinations or profiles of emotional anticipation at the prospect of vocational transitions contributes to a more holistic and realistic picture. On the one hand, such complexity emphasizes the multifaceted nature of how individuals interpret, appraise, develop expectations, set goals, and prepare for vocational transitions, an assumption we particularly investigated in Chapter 10. On the other hand, such complexity goes beyond the separate facets of emotional dimensions (e.g., positive vs. negative) and departs from the general belief that positive emotions are always good and negative bad. On the contrary, through the investigation of the specific combinations of emotions, one can best investigate the relationship between these emotions and behaviors (see Chapters 8 and 10). As we shall further argue in the practical implications, the typological thinking inherent to person-centered approaches is relevant for practitioners that are motivated to think about their clients or other people using a categorical way of thinking (Hofmans et al., 2020; Macrae & Bodenhausen, 2000; Zyphur, 2009).

3. Looking at the diversity of emotional anticipation

Our inquiry contributed to show the relative ubiquity of specific profiles across several transitions, groups, and time. Indeed, from a broad perspective, we identified a specific subset of five profiles that emerged in all transitions under scrutiny. Despite some critical differences, these profiles were nonetheless broadly similar between men and women, across different educational contexts, and across the temporal distance from transitions.

Investigating the extent to which emotional anticipation profiles replicate across transitions, groups, and time convey important methodological and theoretical implications. First, probing the construct validity and the generalizability of profiles is critical because person-centered approaches are generally exploratory in nature due to the lack of prior evidence guiding research inference and are highly sample-dependent (Morin et al., 2016, 2020; Olivera-Aguilar & Rikoon, 2018). Our replication efforts thus support the construct validity of emotional anticipation profiles and show that they do not represent transient phenomena that occur in specific contexts only. In doing so, our findings bring robust support for the generalizability of individuals' patterns of emotional anticipation at the prospect of vocational transitions and might be used as guides for future inference and research.

Second, replicating and unveiling the diversity of emotional anticipation profiles also bears theoretical contributions. Indeed, not only does the adoption of a person-centered perspective involve analytical and methodological innovation, but it also implies a paradigmatic shift in one's scientific questioning (Morin et al., 2018). Questioning the assumption that the groups under scrutiny are homogeneous, and thereby exploring the heterogeneity among them, represents the main paradigmatic shift we would like to emphasize. Applied to the case of emotions and gender, for instance, most studies have considered that groups of men and women represented homogeneous groups. From such an assumption, one can rightfully aggregate or sum the scores of their emotions at the group level and then compare the two groups (e.g., independent-samples *t*-tests). Such studies might very well conclude that, on average, *all* women report more negative emotions than *all* men. As we showed in several empirical chapters, such an assumption is questionable and unmeasured heterogeneity might be reasonably present in both groups. That is, groups of women (and men) might be best represented by distinct naturally-occurring groups that differ on their specific patterns of emotions. Overall, our research showed that, contrary to what a variable-centered perspective would assume, only *some* women reported higher levels of negative emotions than *some* men. In other words, our research showed that both groups were heterogeneous and that a complex understanding of their emotional anticipation was uncovered by the distinct profiles of both women and men. Importantly, our results showed that both *qualitative* differences in terms of profile shapes, interindividual differences within profiles, and prevalence within profiles emerged along raw *quantitative* differences in emotion levels.

In our view, disclosing evidence that the documented differences between women and men might have been steered by the presence of rather *qualitative* differences in profiles rather than pure *quantitative* differences brings insightful contributions to the literature on gender differences in emotion. While we mainly focused on gender given the size of the existing literature on the subject, we also explored the similarities on other variables. In contrast to gender, we broadly found that profiles were generally similar in shape between academic and vocational high school students, university and college students, and across different temporal distances from transitions. Nonetheless, belonging to one group was generally associated with different probabilities to belong to specific profiles. Importantly, these differences are important to consider but do not necessitate the investigation of profile

similarities and differences between groups. Relying on classical variable-centered approaches (e.g., logistic regression or chi-square tests) might be sufficient to address the differences between these groups.

4. Delimiting the scope of emotional anticipation

Little research has examined the profiles of emotional anticipation at the prospect of important vocational transitions. Such scarcity thus requires understanding the scope of emotional anticipation better, that is, its network of relations with antecedents and outcomes (Research Questions 3 and 4). Understanding the antecedents of emotional anticipation is important to identify the set of individual and contextual characteristics likely to lead to specific profiles of emotional anticipation. Such investigation becomes particularly important once increasing evidence has been accumulated and targets some profiles as more adaptive and others as more at-risk than others regarding adaptive preparation to vocational transitions. These investigations are thus critical in positioning individuals' emotional anticipation as an important process to attend to during the preparation for vocational transitions and, consequently, deserving attention from researchers and practitioners alike. Importantly, providing evidence for meaningful relations with theoretically-derived antecedents and outcomes is an additional prerequisite in demonstrating the construct validity of person-centered results (Morin et al., 2018). Given the potential contributions for both the literature on careers and emotion, we investigated a subset of career- and emotion-related antecedents derived from the literature. Given the lack of existing research on emotional anticipation, such investigation is modest at best as the number of antecedents and outcomes that were investigated is quite limited and delved only slightly into the importance and the scope of emotional anticipation in vocational psychology. Undoubtedly, broadening the range of antecedents and outcomes of emotional anticipation is a critical avenue for future research.

Overall, our findings showed that emotional anticipation profiles were meaningfully related to career- and emotion-related antecedents and behavioral intentions. It thus provides additional evidence for their construct validity. We chose career decidedness and career adaptability as career-related antecedents because their beneficial roles for individuals' career development have been well documented in the literature. Our results showed that being career decided about the studies and the job one is willing to pursue and having adaptability resources to face transitions was associated with positive emotional anticipation of the transition to higher education. Additionally, these two career-related antecedents predicted within-profile transitions. They can thus be positioned as individual characteristics likely to modify over time how one is emotionally anticipating a future transition. Unfortunately, we provided no evidence for the outcomes of anticipatory emotions profile in Chapter 5. Findings from other studies have shown that profiles characterized by positive or mixed emotions were particularly likely to exhibit distinct patterns of anticipated emotions. Future research is thus needed to disentangle the beneficial outcomes of career decidedness and career adaptability on emotional anticipation. With regard to emotion-related antecedents, we investigated both trait affect and emotion regulation as antecedents of

emotional anticipation profiles. While trait affect was meaningfully related to emotional anticipation profiles, emotion regulation strategies were loosely related to profiles and were therefore inconsistent with the existing literature. These results indicate that efforts to replicate well-documented findings in the emotion literature remain critical to ascertain the processes underlying emotional anticipation.

In our view, the most compelling evidence related to the scope of emotional anticipation has been provided in Chapter 10, in which we showed that distinct appraisal combinations were meaningfully associated with emotional anticipation profiles. Not only did we contribute to the literature on emotion as few studies have adopted a future-oriented and a person-centered perspective on cognitive appraisals, but, most importantly, we positioned the study of emotional anticipation in the broad framework of the transactional stress and coping theory (Lazarus & Folkman, 1984). From a predictive point of view, such evidence thus provides valuable insights into the specific appraisals that underpin emotional anticipation profiles and how it could be possible to influence these appraisals to modify one's emotional anticipation. From an explanatory point of view, positioning emotional anticipation in such a broad framework is in line with the vast body of evidence linking cognitive appraisals and emotions to specific coping strategies (Moors, 2013; Roseman, 2013). Overall, these findings (and those of Chapter 8) showed that the most adaptive profile in terms of planning and effort intentions was characterized by mixed emotions and, particularly, mixed and high anticipated emotions (i.e., *Mixed-High Anticipated*). Interestingly, both positive and negative anticipatory profiles were adaptive if accompanied by high levels of anticipated emotions. Our findings thus are in line with, and contribute to, theoretical propositions that the anticipation of future events, and their emotions, are associated with cognitive, emotional, and behavioral reactions devoted to the onset of positive outcomes and avoidance of negative ones (Aspinwall & Taylor, 1997; Baumeister et al., 2007; H. Baumgartner et al., 2008).

5. Sustaining adaptive emotional anticipation using a preventive approach

Overall, the four contributions reviewed above are coordinated in stressing the importance of considering how individuals approach important future career events and the synergies with career development processes during the anticipation phase. The development of a preventive approach to transitions is thus critical to better understand and sustain individuals' adaptive emotional anticipation and, ultimately, their successful adaptation to vocational transitions. Such a proposition is not new nor original as it has been extensively suggested in previous and influential theoretical propositions such as the work of Nancy Schlossberg (1984) or Nigel Nicholson (1990). It is even more surprising to stress the scarcity of research related to the anticipation of transitions as the study of career preparation is central in the career development literature (Skorikov, 2007; Stringer et al., 2011). In this sense, we thus hope to have raised awareness on the importance of attending to individuals' emotional anticipation as a way to better understand and help them in their preparation and adaptation to these transitions. Such awareness is deemed critical in light of the numerous drastic changes that have occurred in the way careers unfold in today's context. Not only are

individuals well aware of the uncertainty associated with today's careers and the increasing number of transitions, but they are also aware of their responsibility and the societal expectations of agency that are required from them to attain success in their careers. Undoubtedly, such factors are not without influence on how individuals anticipate vocational transitions. And even if the present dissertation did not focus on these factors, we still think it is important to address them. We thus call for future research and practice endeavors in adopting a preventive approach to transitions.

Chapter 13

Limitations and perspectives

Chapter 13

Limitations and perspectives

Undoubtedly, the present research bears several limitations to the validity and generalizability of our findings. We review several limitations that, in our view, are particularly critical to address along with some related future perspectives. More specifically, we address (1) the scattered and limited investigation of our research questions, (2) the limitations related to our conceptualization and measurement of emotional anticipation, (3) the limitations regarding the mental simulation process underlying emotional anticipation, (4) our inability to investigate important mediating mechanisms, and (5) the overreliance on cross-sectional data.

1. The scattered and limited investigation of the research questions

As Table 3 demonstrates, the set of antecedents and outcomes that have been investigated is not consistent across transitions and samples. Maybe, more importantly, two antecedents, career decidedness and career adaptability, have been linked to profiles of anticipatory emotions but not to profiles of both anticipatory and anticipated emotions. Such scattered investigation limits our ability to generalize the findings from one transition, or from one antecedent, to the other. It remains therefore critical to replicate the distinct findings of our empirical chapters in distinct samples and transitions. For example, the development of career adaptability resources is argued to unfold through adolescence and adulthood (Hirschi, 2009). Therefore, there is value to replicate the findings related to career adaptability to other transitions, such as the school-to-work transition (see Appendix B; Parmentier, Pirsoul, et al., 2021), especially given that the experience of multiple transitions over one's lifespan is likely to impact how individuals appraise transitions during the anticipation phase (Schlossberg, 1984). Likewise, given the theoretical assumptions that place career adaptability as particularly relevant in responding to involuntary, radical, and socially undesirable career changes (Rudolph & Zacher, 2021), there is also value to investigate the role of career adaptability during unemployment, job search, and job loss. A similar rationale can be developed for the replication of our findings related to career decidedness and the importance of goals during transitions (Nurmi et al., 2002). It would be highly informative, for instance, to investigate longitudinally the relationships between individuals' goal progress, possibly in relation to multiple goals, emotional anticipation, and the concurrent initiation, maintenance, and disengagement of career preparatory behaviors building upon the control-process framework developed by Carver and Scheier (1990).

Replicating and broadening the investigation of emotion-related antecedents also provides a fruitful approach. Given the limited results related to the predictive role of the two

emotion regulation strategies we investigated (i.e., cognitive reappraisal and suppression), it remains important to investigate other regulation strategies to better understand how individuals engage in anticipatory emotion regulation, as we argued earlier, especially in Chapter 8. Another possibility rests in the investigation of other emotion-related antecedents. One particular idea in such a suggestion lies in the possibility that emotional processes other than emotion regulation might be at play during the anticipation of future transitions. For instance, besides emotion regulation, the tripartite model of emotional intelligence also considers how individuals identify, understand, express, and make use of their emotions in daily life (Brasseur et al., 2013; Mikolajczak et al., 2009). Particularly, the ability to be aware of one's emotions, to label them and differentiate between distinct emotional states—what has been called emotional granularity (Lindquist & Barrett, 2008)—and the ability to understand the representations, the specific status of, the conduciveness or impediment of one's goals and needs are potentially good candidates likely to impact individuals' emotional anticipation of future transitions. Such an assumption is consistent with previous work that showed the beneficial role of emotional intelligence, and its specific facets, for individuals' career development (Emmerling & Cherniss, 2003; Parmentier et al., 2019; Pirsoul et al., 2021) and on anticipatory emotions (see Appendix B; Parmentier, Pirsoul, et al., 2021).

Last but not least, our findings related to the profiles of both appraisals and future-oriented emotions were particularly insightful. Not only do we believe that adopting an appraisal account of emotional anticipation to other vocational transition is important for the replication and generalizability of our present findings but is also important to better understand the specific appraisals, cognitions, perceived opportunities and barriers for goal progress that drive emotional anticipation processes. Related to this issue, we argue that broadening the scope of appraisals might also provide an interesting avenue for future research. As such, we relied exclusively on a transactional stress account delineating primary and secondary appraisals (Lazarus & Folkman, 1984). While such a focus is interesting for providing preliminary evidence, cognitive appraisals of emotion have proposed a large number of distinct and diverse appraisals of emotions that could warrant future research (Moors et al., 2013). For example, while we focused on control-by-self appraisal in Chapter 10, Scherer (2001, 2013) suggested that the coping potential was composed of three distinct appraisals: (a) control (i.e., the person can control the consequences of the event), power (i.e., the person has power over the consequences), and adjustment (i.e., the person can accept and live with the consequences). Similarly, appraisals of novelty and goal pertinence/conduciveness are particularly relevant to transitions in the case of unexpected transitions or when considering the relationship between goals and transitions.

2. Our restricted account of the nature of (future-oriented) emotions

Emotions are considered as malleable and transactional constructs construed as a multicomponent process that involve coordinated changes in several systems (Dolan, 2002; Ellsworth & Scherer, 2003; Frijda, 1986; Izard, 1992; Rimé et al., 1990; Scherer, 2009; Smith & Ellsworth, 1985). Consequently, our findings are limited with regard to our

conceptualization of emotions in several non-exhaustive instances that we review below: (a) the use of self-reports, (b) the lack of consideration for distinct levels of affective experience, (c) our discrete perspective on emotion, and (d) the biases related to anticipated emotions.

Despite their widespread use and their benefits, self-reports are limited in their capacity to assess the subjective experience of emotions (see Mauss & Robinson, 2009, for a review). Across disciplines, scholars have pinpointed several limitations to self-reports such as social desirability biases, alexithymia, or the limited convergence between self-reports, physiological, and behavioral responses (Mauss et al., 2004, 2005). In addition, self-reports of emotions present distinct biases depending on the temporal focus (M. D. Robinson & Clore, 2001, 2002). Notably, the use of self-reports conveys also limitations with regard to the investigation of gender differences as it is difficult to distinguish to which extent self-reported emotions reflected the subjective experience of future-oriented emotions or the product of gender stereotyping and role socialization (Brody et al., 2016). Even though it remains beyond the scope of the present research to address exhaustively the biases related to self-reports, we believe these biases are important to bear in mind when addressing emotional anticipation processes. Physiological (e.g., cortisol or cardiovascular responses), neurological (e.g., fMRI investigations), and behavioral measures of emotion should therefore complement findings related to self-reports measures of emotion (Mauss & Robinson, 2009). In Chapter 2, we already reviewed several studies that used physiological measures to investigate future-oriented emotional reactions to anticipated stressful events (Gramer & Reitbauer, 2010; Kruschwitz et al., 2018; Pulpulos et al., 2018; Waugh et al., 2010). Strikingly, previous studies on emotional anticipation showed that findings using self-reports failed in replicating findings from physiological measures (Hofmann et al., 2009; Nasso et al., 2019).

Second, even though we claimed the investigation of future-oriented *emotions*, we offered limited evidence related to the discriminant validity, or the statistical control, with other levels of affective experiences such as trait and dispositional affect or mood (Scherer, 2005). Of note, we included the impact of trait affect in Chapter 8 only. Future research could thus better distinguish between future-oriented emotions, mood, and dispositional future-oriented affect in including and controlling for additional constructs. An additional avenue relates to the use of experience sampling studies that are well suited to disentangle the stable and state dynamics of emotions (Eisele et al., 2021; Fisher & To, 2012). This kind of approach is well suited to understand the enactment and dynamics of emotional anticipation within a day or week, which may be particularly relevant to develop a better understanding of the emotional anticipation pattern. More specific to our research, recent developments in latent profile analyses allows researchers to investigate the stable and dynamic nature of constructs over time using Random-Intercept Latent Profile Analysis (Muthén & Asparouhov, 2020).

The third limitation relates to the discrete perspective of emotions we used. As such, the discrete perspective stemmed directly from our conceptualization of emotional anticipation and the use of a person-centered perspective. On the one hand, as reviewed in Chapter 2, we adopted a cognitive appraisal account of future-oriented emotions (Ortony et al., 1988). Positive and negative anticipatory emotions are defined as the affective reactions to the

prospects of positive and negative outcomes in the future and are conceptually construed as broad families composed of specific emotional states (hopeful, optimistic, confident, worried, anxious, nervous). While there is evidence for distinguishing these anticipatory emotional states (e.g., Bryant & Cvengros, 2004; Gana et al., 2001; Worthy et al., 2014; Zebb & Beck, 1998), the discrete perspective was especially critical for anticipated emotions. For the example of positive anticipated emotions, disentangling the occurrence of positive events (e.g., satisfaction or happiness) from the disconfirmation of negative events (e.g., relief) or from the perceived praiseworthiness of one's actions (e.g., pride) is critical to investigate positive anticipated emotions. Even though the initial scale developed by Baumgartner et al. (2008) was dimensional for scale development and validation purposes, they argued that a discrete approach to future-oriented emotions was important to address. We thus adapted their scale to account for the specific cognitive structure of future-oriented emotions (see Table 2). Simultaneously, it was both important to select a limited number of emotional states given the power issues related to the number of profile indicators in latent profile analyses (Nylund et al., 2007; Tein et al., 2013), and to balance the number of items in each broad dimension (i.e., positive anticipatory, negative anticipatory, positive anticipated, negative anticipated) in order to avoid that one specific dimension steered the profile solution enumeration at the expense of the others. However, such an approach made our findings highly dependent on the items chosen for our measure of both anticipatory and anticipated emotions, especially given that the specific choice of items influences the extent to which researchers are able to demonstrate the co-occurrence of multiple emotions (Yik et al., 1999). While we contend that both dimensional and discrete perspectives on future-oriented emotions can provide insightful findings, we believe that the numerous dimensional perspectives on emotion (Cacioppo & Berntson, 1994; J. A. Russell, 1980; J. A. Russell & Carroll, 1999; Watson & Tellegen, 1985), and the numerous discrete emotions that emanate from the emotion literature (Scherer, 2005), should motivate researchers to use several theoretically-derived sets of emotions to account and control for their qualitative distinct features in the findings of their research.

A final important limitation of our account of future-oriented emotions relates to anticipated emotions. Indeed, anticipated emotions are the product of affective forecasting and an extensive body of literature evidenced the numerous biases that individuals are subjected to during the process (Wilson & Gilbert, 2003). For example, the *intensity bias* suggests that people overestimate the positive features of future events and thus overestimate positive over negative anticipated emotions. The *durability bias* refers to the overestimation of the duration of emotions during future events. For example, such durability bias has been linked to *focalism*, the propensity to focus on one future event and neglect the consequences of other events in the future (Wilson et al., 2000), and *immune neglect*, the underestimation of one's adaptation to stressful events (Gilbert et al., 1998). Our investigation of anticipated emotions focused on the intensity of anticipated emotions exclusively. Future research could therefore take into account these bias in order to investigate and better understand how affective forecasting bias might be adaptive or non-adaptive for individuals to negotiate their future educational and career transitions.

3. The generic and undifferentiated simulation of future events

An additional limitation to the present research concerns the simulation process which we asked participants to engage into. Indeed, we asked participants how they felt here and now at the prospect of the future transition in general for anticipatory emotions and we asked them to imagine that their transition had had positive (vs. negative) outcomes and had allowed (vs. prevented) them to progress toward their goals for anticipated emotions. Such a procedure has been successfully validated by Baumgartner et al. (2008) and has several advantages. First, it provides high discriminant validity between anticipatory and anticipated emotions. Second, the procedure relies on the cognitive simulation literature and tap into both process and outcome simulation (Pham & Taylor, 1999; Taylor et al., 1998) in asking participants to imagine the occurrence of positive or negative future outcomes along with their own behaviors to bring them about or avoid them. Despite its advantages, such a procedure remains generic and undifferentiated at best as it does not involve the simulation of specific events that are possible to imagine in relation to the future. Such a feature is not without consequences on individuals' emotional anticipation when considering temporal construal mechanisms that suggests that distant future events are construed in higher-level, abstract, and simpler terms than less distant future events (Liberian et al., 2002; Trope & Liberman, 2010). The specificity of simulations thus probably influences how individuals emotionally anticipate them. Notably, despite the discrete perspective on emotions adopted in the present research, our findings showed little discriminant patterns between emotional states that belonged to the same dimension. For example, even though we expected that event-based anticipated emotions such as happiness would be differentiated from agent-based anticipated emotions such as pride, our findings showed that they co-occurred rather indiscriminately across profiles. Future research thus could extend the present findings by directly manipulating the specific events that individuals anticipate. Experimental vignettes studies are particularly suited for such a purpose (Aguinis & Bradley, 2014; Rudolph & Zacher, 2021). For example, one could manipulate the type of event, say, for instance, related to job search (e.g., submitting resumes, receiving a call from an employer, going to an interview), along with the outcome that follows the events (success vs. failure), and the influence of own's actions (e.g., internal vs external locus of control). Similarly, given the numerous job transitions one could experience during his or her career, such a methodology could address individuals' emotional reactions to voluntary (vs. involuntary), horizontal (vs. vertical), inter- (vs. intra-) organizational transitions. Investigating the impact of those manipulated factors on future-oriented emotions might help in replicating the present findings and show the impact of asking participants to simulate abstract vs. specific future events. In this regard, the development of Bayesian structural equation modeling has enabled the investigation of complex models (e.g., measurement errors, mediation, moderation, longitudinal analysis) when data are cross-classified, that is, nested within both individuals and experimental stimuli (Gosse et al., 2021; Wickham et al., 2021).

4. Our inability to offer theoretical explanations for some findings

Throughout our empirical chapters, we interpreted differences between men and women using a dichotomous measure. However, gender is utterly complex and cannot be reduced to sex differences or such a restricted dichotomous conceptualization (Brody et al., 2016). Consequently, it is quite difficult to draw conclusions about gender differences as we did not investigate the psychological mechanisms that might mediate the link between one's self-categorization as a man or woman and the emotional anticipation of vocational transitions. This is especially true given the biases inherent to self-reports that tend to overestimate gender differences (Brody et al., 2016). Construing gender differences through the lens of gender role self-concept, the extent to which a person perceives and considers oneself as a man or a woman partly based on what is socially and culturally expected from their gender role is a potential fruitful avenue (Wood & Eagly, 2015). Future research could therefore adopt more valid measures of gender identity, along with the psychological mechanisms that are hypothesized to act as mediator between gender and future-oriented emotions.

Additionally, a similar rationale applies to our investigation of different contexts (i.e., academic vs. vocational students, and university vs. college). Future research could focus on the mediating mechanisms of such effects such as different expectations, different perceptions of the job market, distinct educational culture or climate, the differences in the curriculum, etc. (Malmberg & Trempała, 1997, 1998; Nurmi, 1991; Pascarella & Terenzini, 2005; Salmela-Aro et al., 2008)

5. The overreliance on cross-sectional data

Most of our studies were cross-sectional in nature and, as such, it limits our ability to investigate developmental effects. This issue is especially important as we addressed some developmental effects using cross-sectional designs and researchers might be tempted to conclude erroneously in the small size of these effects when looking at cross-sectional results (i.e., no differences in emotional anticipation profiles across time points). In Chapter 5, we nonetheless showed that profile similarity at the cross-sectional level did not preclude the evidence of longitudinal changes across time points. Importantly, while the cross-sectional nature of most of our studies represent a limitation that warrant future longitudinal research, such an endeavor is oftentimes necessary when little previous research is available to guide research questions and delineate specific hypotheses. For example, Spector (2019) suggested that cross-sectional designs still possess some inherent advantages that warrant their use in many cases. First, cross-sectional designs are cost effective as the resources needed to conduct it are far less than those needed for longitudinal or experimental studies. This leads to the second advantage: establishing the existence of covariation. As extensively claimed throughout this manuscript, our focus on the co-occurrence of multiple emotions is directly related to this aim of establishing their covariation among individuals. Especially, cross-sectional designs are generally despised in favor of longitudinal designs through the argument that the latter provides better indications of temporal precedence. However, unless

one is certain to have the correct lags between time points, longitudinal measurement designs are not better than cross-sectional designs in assessing temporal precedence. Even more, longitudinal designs might result in erroneous inference with regard to the covariation between constructs when incorrect time points are used and is limited in its ability to rule out alternative explanatory mechanisms. As a consequence, we contend that the use of cross-sectional designs was well suited to our research questions and the lack of preliminary evidence to guide them. However, future research is warranted to investigate the temporal dynamics of emotional anticipation. While longitudinal designs are good candidates for such objectives, we further argue that experiences sampling studies and intensive longitudinal studies using momentary and intense assessments are best suited given the malleable, transactional, and multi-componential nature of emotions (Eisele et al., 2021). Additionally, given the existence of both trait and state components of emotions, studies that rely on recent developments in longitudinal analysis such as random-intercept cross-lagged panel modeling (Hamaker et al., 2015; Mulder & Hamaker, 2020), and their extension to latent profile analysis (RI-LTA; Muthén & Asparouhov, 2020) could be highly informative as well.

Chapter 14

Practical implications

Chapter 14

Practical implications

In this section, we review some of the practical implications that arise from our findings. We first delineate several calls or recommendations related to the nature of emotional anticipation profiles, suggest interventional propositions related to our findings, and discuss implications related to educational, occupational, and organizational practices.

1. Informing guidance and counseling

Overall, the findings related to our research questions can inform guidance and counseling about the nature of emotional anticipation. First, we provide a general call for more attentiveness to the complex nature of transitions and the emotions that are associated with them. Second, we highlight the supportive role of counselors, teachers, parents, peers, and relatives. Third, we present two specific counseling frameworks that we believe are interesting in the present context: the 4S Transition Interview and the Motivational System Counseling.

1.1 Embracing the multifaceted, complex, and ambivalent (emotional) nature of transitions

Overall, our research supports the importance to pay attention to the complexity of individuals' emotional anticipation and the associated vocational transitions. Such a complexity parallels the multifaceted, complex, and ambivalent nature of transitions. Taken together, our findings invite to go beyond the complexity of individuals' emotional anticipation and to consider altogether the complexity inherent to transitions. Importantly, embracing such a complexity also urges to depart from a deterministic view of positive and negative emotions as good or bad. The rationale developed here invite counselors and practitioners not only to assess profiles of future-oriented emotions but also to delve further into individuals' representations, appraisals, goals, expectations, barriers, perceived control, opportunities for growth, threats, and the like, that are associated with transitions. Raising the issue of complexity is especially due to the person-centered perspective we adopted. As previously stated, the differentiation of distinct profiles provides a more holistic and naturalistic representation of individuals' emotions that could not be possible when looking exclusively and separately at their average emotion levels across individuals. Such a differentiation is generally well aligned with individuals' categorical way of thinking about others (Macrae & Bodenhausen, 2000). Indeed, our research showed that not all individuals are alike with regard to the anticipation of future transitions. As a consequence, such diversity in emotional anticipation should be appreciated and motivate attempts to escape from proposing generic and undifferentiated guidance, counseling, or activities and design them

according to this diversity. Below, we delineate our argument according to the consideration of (i) positive and negative future-oriented emotions, (ii) anticipatory and anticipated emotions, and (iii) broad counseling and clinical implications.

First, the valenced view of emotions as either positive or negative is central and dominant in both research and people's representations (Charland, 2005; Shuman et al., 2013). However, when looking at how individuals emotionally anticipate vocational transitions, such a view that people have either a positive or a negative outlook is inadequate. The infrequency of bipolar patterns, and, by opposition, the recurrence of mixed emotional patterns, should invite practitioners and clients alike to welcome and accept that vocational transitions, due to their inherent uncertainty, their promises for positive outcomes, and the hazards of negative ones make them naturally complex and ambivalent (Ersner-Hershfield et al., 2008). Not only focusing on either positive or negative emotions is unrealistic, but it is also misleading when considering, for instance, that holding a positive outlook toward the transition might not necessarily lead to behavioral intentions (e.g., the *Positive Anticipatory–Positive Anticipated*).

Second, our findings revealed that considering both anticipatory and anticipated emotions was also critical. Similar to our previous rationale, considering the co-occurrence of both anticipatory and anticipated emotions conveys implications that relates to a realistic and accurate understanding of individuals' emotional anticipation. On the one hand, the pattern of anticipated emotions enabled to distinguish distinct patterns of anticipatory emotions. For example, positive and mixed anticipated emotions distinguished the patterns of positive anticipatory emotions (i.e., the *Positive Anticipatory–Positive Anticipated* and the *Positive Anticipatory–High Anticipated* profile). Similarly, high and low (mixed) levels of anticipated emotions distinguished the patterns of mixed anticipatory emotions (i.e., *Mixed Anticipatory–High Anticipated*, *Mixed Anticipatory–Low Anticipated*). Patterns of anticipated emotions were therefore influential in describing how individuals emotionally anticipate their transition and therefore deserve most practitioners' attention during their assessments. Importantly, from a counseling perspective, attending to anticipated emotions allows one to disconnect from sometimes high arousing current emotions and explore how individuals imagine future events that could occur, what are the positive and negative outcomes they imagine most likely, how they expect reacting to them, and, most importantly, how they imagine behaving in those future situations. Discussions about imagined futures can provide fruitful opportunities to assess the initiation and maintenance of intentions, the development of plans and strategies, but also the preparation to the possibility of negative outcomes and the strategies devoted to alleviating them. Attending to anticipated emotions can also be insightful with regard to confidence and self-efficacy beliefs (e.g., if one does not anticipate happiness because it does not feel capable of attaining good outcomes), locus of control (e.g., if one is able to imagine positive outcomes but do not expect feeling proud for bringing them into reality), or unrealistic expectations and overconfidence (e.g., if one does not consider likely the occurrence of negative outcomes, and does not anticipate feeling disappointed, guilty, or sad).

The general call and rationale we stress here bears an important implication from a counseling and clinical point of view. Indeed, helping clients to welcome and accept emotions are core features of emotion-focused therapy (Greenberg, 2002) and most third-wave therapies (e.g., mindfulness, dialectic behavior therapy, acceptance and commitment therapy; Philippot, 2007). Such a focus on accepting emotions stem from previous work that showed that tendencies to avoid emotions were associated with increased emotional intensity, lower ability to regulate emotions, and a series of mental health problems such as depression and anxiety disorders. Practitioners and counselors can therefore build on the extensive work related to those therapies to help clients to welcome the complexity of future transitions and the multiple, sometimes ambivalent, that arise during the anticipation phase. Departing from a deterministic view of emotions, highlighting the “bright side” of negative emotions, when they arise ahead of transitions, allows to direct clients to the awareness of the future transition as potentially threatening but at a time when resources have not been taxed by the transition and that more coping options are available to deal with the upcoming transition. Indeed, perceiving physiological responses of stress and negative emotions as a natural process for facing challenging situations lead individuals to decrease their focus on threatening information (Jamieson et al., 2012).

1.2 Building adaptive emotional anticipation through the social network

Overall, our findings shed light on the role of teachers, parents, peers, and counselors in sustaining adaptive emotional anticipation. Indeed, previous research has showed that, when making transitions, individuals do not operate in a relational vacuum. The adjustment to transitions are function of individuals’ network of interpersonal relations with parents, friends, team members, etc. During the school-to-work transition, having supportive friends and family is associated with better workplace readiness (S. D. Phillips et al., 2002). Likewise, Jokisaari and Nurmi (2005) showed that those who had goal-related social relationships were more likely to achieve their work goals and obtain employment. Such an assumption is corroborated by the findings from another study not included in the present dissertation in which we showed the beneficial role of teachers, parents, siblings, peers, and counselors as both sources of social support and targets of social sharing of emotions at the prospect of an anticipated transition (see Appendix A; Vignoli et al., 2020). Specifically, during the anticipation of an upcoming transition, individuals benefit from their relational network for creating meaning about the transition, reducing its emotional load, for informing and warning others about the features of the transition, and for seeking emotional support and guidance. Additionally, emotions, particularly negative ones, led individuals to share their emotions in depth with others, which, in turn, generated both intrapersonal (i.e., feeling reassured and able to cope with the transition) and interpersonal benefits (i.e., feeling supported, understood, and surrounded by others). Unfortunately, the present study was restricted to the transition to higher education, but the vast body of literature regarding the social sharing of emotions (Rimé, 2009) supports that such findings might apply to other populations and transitions. From a guidance perspective, counselors could help clients to identify and mobilize their social network in various ways, be aware of their motives to do

so, and help to identify some of the expected benefits of using their social networks during the anticipation of transitions. As we shall see below, several tools could indirectly be fruitful in this matter.

1.3 The 4S Transition Interview (Schlossberg, 1984)

Nancy Schlossberg and her collaborators (Anderson et al., 2012; Schlossberg, 1984) theorized the 4S model of transitions which depicts that four dimensions are of importance when dealing with anticipated and unanticipated transitions: the Situation, the Self, the Support, and the Strategies. Additionally, they developed a broad interventional framework designed to help counselors and clients to address these four dimensions. Such distinction between the different facets of the transition is interesting in providing a clear demarcation between the multiple emotions that are generated by the complexity of the situation, the changes in one's identity (i.e., the Self dimension), one's appraisal of Support, and from the current goal progress or impediment following the use of coping Strategies.

Assessing and discussing about the *Situation* involve understanding the possible triggers of the transition, its timing, the degree of individual control over the environment, what role changes are implied by the future transition, and emotions. The focus on the Situation is also the opportunity to discuss about the context in which the transition occurs and raise clients' awareness of the structural forces such as economic trends, cultural beliefs about work and health, historical issues, and policies that influence how their transition unfolds. Beginning by the *Situation* and the future-oriented emotions that are associated with it provides an interesting approach in normalizing the emotional and complex nature of transitions.

Narrative techniques and frameworks have attracted much of researchers' and practitioners' attention in recent years and enable counselors to focus on the *Self* dimension (Savickas et al., 2009). Here again, attending to future-oriented emotions provides valuable implication in assessing the multiple role changes that are implied by the transition but also the possible selves one is envisioning in the future following the transition (Markus & Nurius, 1986; Plimmer & Schmidt, 2007). For instance, narrative tools such as lifelines permit to describe and create a story that links one's past, present, and future (Tracz & Gehart-Brooks, 1999). Such a tool can highlight client's experience with previous transitions, how transitions shape one's perception of the subjective phases or chapters of their life, and how future transitions are anticipated. An additional tool that might be especially relevant in the present context is the Future Career Autobiography (Rehfuss, 2009; Rehfuss & Di Fabio, 2012) in which clients are asked to create short stories about their future and what such a future would be like in terms of their career.

The Support dimension involves the degree of support and help one can have in the environment and relates directly to the importance of the social network that we underlined above. Not only it is important to help clients in assessing their current social network, but it is also critical to sustain them in their efforts to develop and mobilize their network.

When discussing about Strategies, counselors can help clients in assessing how they were able to cope with transitions in the past and how they intend to cope with future ones. These

discussions provide good opportunities to help clients to consider both positive and negative sides of positive and negative emotions and raise awareness about the potential impact of emotions on behavior and coping.

1.4 Motivational System Counseling (Ford, 1992; Rochat, 2020)

Building upon the motivational systems theory (Ford, 1992), Rochat (2020) recently suggested a counseling approach designed to help clients making sense of (a) their goals, (b) their beliefs about themselves (i.e., self-efficacy beliefs) and the context, and (c) their emotions. By directly linking clients' goals, beliefs, and emotions, such a proposition provides a good opportunity to specifically attend to multiple and conflicting emotions along with their meanings related to one's goals and beliefs.

When focusing on personal goals, Rochat (2020) suggests to address three features: clarity, importance, and priority. The first is related to the development of a clear vision of educational and professional goals in the future. The importance of addressing one's goal clarity is underscored by our findings related to the positive relationship between career decidedness and the *Positive Dominant* profile in Chapter 5. However, developing clarity about one's educational and career goals can be challenging due to the uncertainty associated with future transitions and the turbulent world of work in which individuals anticipate navigate in. Consequently, the inherent difficulty of goal clarity should be acknowledged and normalized during the counseling process. Subsequently, numerous counseling and tools focused on career exploration and career interests are good candidates to help clients develop their goal clarity. Goal importance relates to the development of educational and career goals that are deemed critical for individual long-term well-being, success, and identity. In Chapter 10, for instance, we showed how important was the particular appraisal of centrality. Those who appraised the job search as not central to their long-term well-being were rather *Detached* and exhibited low behavioral intentions. In contrast, those who appraised the job search as central to their well-being (i.e., the *Concerned Balanced*) developed high levels of behavioral intentions. Consequently, helping clients to develop clear goals that are deemed important and central for their future success and well-being might help them in developing adaptive emotional anticipation of future transitions. Last but not least, setting priorities is the last feature related to goals that Rochat (2020) proposes to address. In our view, this last feature is particularly important with regard to emotional anticipation. Indeed, individuals generally pursue multiple goals related to specific transitions but these goals are also related to different life spheres (e.g., developing an autonomous functioning as a young adult, socializing with new colleagues, building a family, etc.). As a consequence, these goals can conflict with each other and give rise to multiple future-oriented emotions during the anticipation phase. In this regard, setting up the list of goals the individual intends to pursue and prioritizing them can help individuals to deconstruct what caused the multiple future-oriented emotions, to resolve the conflicts that gave rise to multiple emotions, and to engage clients in clear and structured goal-directed behaviors.

Career development theories have long built upon the vast body of research related to personal agency and coined career self-efficacy beliefs as a central construct in vocational behavior (Bandura, 1995; Lent, 2004). Numerous techniques and frameworks have been proposed to help clients to build their confidence in managing career tasks (S. D. Brown & Lent, 2013). Besides beliefs in one's skills, Rochat (2020) proposes to focus on beliefs about the context and point to the role of the social network in helping clients in their career development, as we already argued above. To this rationale, we add that focusing on the beliefs associated with the context provides a good opportunity to delve into clients' representations of the job market, the influence of globalization forces, and their own employability in order to build a view that is agentic but also aware of the structural forces at play (Ginevra et al., 2021; Nurmi, 1991; Savickas, 2013; Sin et al., 2016; Vanhercke et al., 2014).

2. Developing interventions that foster adaptive emotional anticipation

Our findings are likely to inform the design and the implementation of educational, career-related, and emotion-focused interventions. Numerous interventions and processes might represent good candidates to sustain individuals in their adaptive anticipation of upcoming vocational transitions. However, given the scope of our findings, we focus here on two career-related important meta-competencies that have been coined as sustaining individuals' career development: career adaptability and emotional intelligence (Parmentier et al., 2019; Pirsoul et al., 2021; Rudolph et al., 2017). Importantly, the findings of the present research demonstrated that individuals' adaptability resources to face upcoming transitions and career tasks were associated with the development and the maintenance of a positive outlook toward the transition to higher education. We replicated such a finding among university students at the prospect of the transition from university to work and showed that emotional intelligence was also associated with higher levels of positive and lower levels of negative future-oriented emotions (see Appendix B; Parmentier, Pirsoul, et al., 2021).

Building upon a future-oriented perspective, improving career adaptability is particularly relevant for fostering adaptive emotional anticipation and preparing individuals to their future transition. Such relevance is insightful when considering the different dimensions of career adaptability. Career concern, the first dimension of career adaptability, refers to the attitudes of planfulness and how individuals are aware of and concerned about their future transitions. This specific dimension therefore relates to a sense of openness about the transitions that are coming and the appraisal that this transition is relevant to one's well-being and will probably have long-term consequences for the individual. Notably, the importance of being concerned about one's future was exemplified in the *Concerned Balanced* profile found in Chapter 10. The second dimension, career control, refers to the attitudes of self-determination, agency, and decision-making. The third dimension, career curiosity, is particularly important and conceptually future-oriented as it concerns the exploration of self and the environment and the expectations of fit between oneself and future occupations. The last dimension is career confidence and refers to the anticipation of success with regard to the upcoming obstacles

and challenges. In the present context, it might be especially interesting to develop interventions with regard to career adaptability and investigate the beneficial effects on individuals' emotional anticipation. Indeed, a number of interventions have already been developed and have been found effective in improving both career adaptability dimensions and career-related outcomes of career adaptability (Z. A. Green et al., 2020; Koen et al., 2012), even in really short interventions (van der Horst et al., 2021).

Similarly, improving emotional intelligence represents an additional avenue for interventions. Indeed, emotional intelligence refers to the way individuals identify, understand, express, regulate and use their emotions (Mikolajczak et al., 2009). Such interventions can be particularly helpful in building skills and competences related to those five dimensions of emotional intelligence. For example, building clients' competences in welcoming, accepting, and identifying their multiple future-oriented emotions are related to the first dimension of emotion identification. The second dimension, emotional understanding, relates to understanding the causes of emotions, including appraisals, goal progress or impediment, threats to one's identity or world views and values. Building this second competence is particularly critical in disentangling and resolving one's emotional anticipation of future transitions, as we already argued above. Developing clients' skills to share their emotions with others, learn the benefits of emotional expression, and seek support from their environment could be one additional purpose of such intervention (Rimé, 2009; Vignoli et al., 2020). Developing the ability of clients to develop adaptive emotion regulation strategies is also an important aspect for practitioners' given its importance on adaptive behaviors. Finally, learning individuals to use their emotions to guide one's thinking and career actions is another promising candidate to support adaptive emotional anticipation (Emmerling & Cherniss, 2003). Overall, developing the dimensions of emotion identification, understanding, expression, regulation, and use in daily life seems to provide a fruitful approach, especially given that meta-analytic findings confirmed the effectiveness of several interventions of emotional intelligence (Hodzic et al., 2018).

3. Informing school, higher education, organizational, and employment services

Up to now, we have proposed that our findings provided practical implications in terms of guidance and counseling and in terms of interventions. From a broader perspective, our findings can also inform the role of educational and occupational policies and programs that are currently used in high school, higher education, organizations, and employment agencies in helping students, clients, and employees to adjust to transitions (Ng & Feldman, 2007). First, attending to the complexity of individuals' emotional anticipation provides a good opportunity to understand and help students with regard to their goals, beliefs, and expectations about their future transitions. Practices and programs that devote specific attention to individuals' emotional anticipation, especially their development over time before the transition, are likely to be quite effective. This is especially important as previous work suggested, for instance, that during the transition from high school to higher education, and from university to the job market, students often develop unrealistic expectations about

the transition that can lead to overconfidence and/or inadequate preparation (Gerdes & Mallinckrodt, 1994; Holton & Russell, 1997; Perrone & Vickers, 2003). Reducing the discrepancy between expectations and the actual experience during the encounter stage represent important processes as, for instance, students that have developed accurate expectations of the workplace during their preparation to the school-to-work transition are better prepared and report more positive experiences when transitioning to work, report higher levels of job satisfaction, are more motivated by their work, more committed to the organization, and benefit from higher well-being (Holton & Russell, 1997; Kammeyer-Mueller & Wanberg, 2003). From such evidence, it is therefore critical to address individuals' expectations about the transition as it is likely to influence their emotional anticipation. Following recent meta-analytic findings on the effectiveness of preventive programs (Conley et al., 2015), we argue that practices and programs would be more efficient when focusing on (i) providing accurate information to individuals (i.e., psychoeducational interventions), on (ii) building their skills and resources to deal with the upcoming transitions, and (iii) to go beyond the availability of health and guidance centers from which only a fraction of individuals make use and develop holistic practices that are incorporated into the curriculum (Leroy et al., 2021). Our view here is that embracing the complexity and diversity of individuals' emotional anticipation should be reflected in the practices and activities proposed by schools, higher education institutions, and organizations. Such diversity would allow students and clients to use the available resources according to their needs and motives. However, such an approach would assume that students and clients are aware of their needs, motives, and their future-oriented emotions. Therefore, our rationale is complementary to our argument above: That guidance and counseling could adopt a differentiated approach to the emotional anticipation of future transitions that help students to develop awareness about their future-oriented emotions.

For example, given the well-documented critical period of students' early adjustment to university and its long-term consequences on integration, success, well-being, and retention (De Clercq et al., 2017, 2018; Noyens et al., 2017; Trautwein & Bosse, 2017), specific practices and programs are often implemented at the beginning of university. However, several streams of research have well elucidated the importance of the preparation phase in influencing individuals' adjustment and therefore called for the implementation of a preventive approach (De Clercq et al., 2018; Larose et al., 2019). High schools have therefore an important responsibility to implement such a preventive approach. Higher education fairs, opportunities to meet professionals, conduct observational internships, workshops that focus on learning methodology are good examples of practices devoted to better prepare students to their transition. However, such practices often focus exclusively on giving accurate information about the future transition. Complementing these approaches with short but effective interventions during the last year of high school and courses that are specifically devoted to students' preparation and anticipation of their transitions might reveal particularly useful as they can provide guidance in longer time periods and follow the development of students' emotional anticipation and related cognitions, motivation, and behaviors.

A similar rationale applies to the last years of higher education as most programs and policies mostly focus their attention on the first year at university. Similarly, the availability of guidance centers, faculty job fairs, opportunities to meet professionals are good examples of practices. Particularly, internships during the curriculum represent important learning and professional development periods that allow students to experience the world of work as it is and is useful in helping students crystallize their vocational interests, provide them with realistic job content and processes, and help them anticipate the reality shock that will occur during their first job (Callanan & Benzing, 2004; D. C. Feldman & Weitz, 1990; Zehr & Korte, 2020). Importantly, internships do not only represent activities during which students acquire job-content skills, but they represent important periods of reflexivity and professional development. For these reasons, accompanying students during their internships with workshops and seminars that address transversal experiences of internships are essential. For instance, such seminars could focus on building skills related to agency and assertivity, work socialization, team communication, time management, supervisor-employee relationship, etc. Similarly, making more use of the alumni base to share their own experiences and discuss with undergraduate students is particularly important as they can help in normalizing the multiple emotions likely to emerge during the process and provide a more accurate picture of the school-to-work transition process and challenge unrealistic assumptions and expectations.

The rationale we developed above makes particularly fruitful the implementation of capstone courses. Seminars and capstone courses have been argued to represent culminating experiences and methods for summative evaluation during the senior year at university (Brooks et al., 2004), especially during the school-to-work transition (Wendlandt & Rochlen, 2008). Capstone courses are generally composed of invited speakers, workshops, focus groups, role-playing activities. Such courses are promising approaches to help students to prepare for their transitions and help them integrate what they have learned both at school and during their work experiences, and to address the links with practice, organizations. Focus groups can provide opportunities for social support and social sharing during which students can address their feelings, what they entail in terms of meaning and goals. Such discussions can especially help in reducing the ambiguity and uncertainty associated with the process and help normalize the experience of multiple emotions at the same time. Workshops can be developed to address the development of expectations and the shock with the reality of work, the adaptation to organizational culture and values, and creating new social networks in new environments. The development of career plans and strategies can also be applied to such capstone courses. Other activities involve field work short experiences, active learning environment such as business cases that ask students to enter in contact with industry and respond to real-life cases.

Finally, our rationale also applies to organizations. Indeed, the way organizations set up their recruitment practices can also facilitate or impede how individuals emotionally anticipate the beginning of their jobs. Indeed, previous research has suggested how graduates' expectations were impacted by the unrealistic, yet attractive, picture that organization present of themselves (Graham & McKenzie, 1995; J. M. Phillips, 1998; Wanous et al., 1992). In

contrast, setting job previews and interviews that are as realistic as possible have been related to the formation of more accurate expectations, greater job satisfaction, and lower turnover intentions (J. M. Phillips, 1998; Wanous et al., 1992). Consequently, not only should organizations try to present themselves in an honest and realistic picture but counseling services can also prepare students and clients to the harmful consequences of unrealistic employer branding and motivate them to engage in extensive exploratory behaviors during their job search.

Conclusion

Conclusion

Mental simulation is the means by which the brain discovers what it already knows. When faced with decisions about future events, the cortex generates simulations, briefly tricking subcortical systems into believing that those events are unfolding in the present and then taking note of the feelings these systems produce. The cortex is interested in feelings because they encode the wisdom that our species has acquired over millenia about the adaptive significance of the events we are perceiving. Alas, actually experiencing a bear is a potentially expensive way to learn about its adaptive significance, and thus evolution has provided us with a method for getting this information in advance of the encounter. When we preview the future and prefeels its consequences, we are soliciting advice from our ancestors

Gilbert & Wilson (2007, p. 1354).

We have the remarkable ability to anticipate the future and, among the numerous future events that we are keen to anticipate, vocational transitions are particularly salient events. This is so because they inherently involve changes in how we define ourselves, the social roles we enact, as well as our routines and assumptions. Consequently, we anticipate vocational transitions in a highly differentiated way with complex patterns of multiple emotions at the same time. The possibilities that lie ahead and the fact that the future has not yet occurred involve that we experience both emotions here and now at the prospect of these transitions (e.g., hope, fear; anticipatory emotions) and emotions that we anticipate feeling in the future when we imagine the outcomes that will occur during these transitions and our behaviors in materializing them (e.g., anticipated pride or disappointment; anticipated emotions). That we anticipate future transitions with complex patterns of future-oriented emotions is illustrated and influenced by various factors. The multiple goals we pursue, as well as their clarity and priority, the resources we have developed to adapt to those transitions, but also our responsiveness to the multiple features of the transitions such as their long-term consequences, their promises for personal growth, their threats of failure and drawbacks, and the support we benefit from our social network are influential to the complexity of our emotional anticipation. Such complex patterns of emotional anticipation influence how we behave or, at least, intent to. It seems that those who are keen to anticipate both the positive and negative outcomes and anticipated feelings that are going to arise from future situations are the most likely to develop career-related plans and exert behavioral efforts related to their future transition.

All in all, we hope to have raised readers' awareness that future vocational transitions are complex and ambivalent events that individuals anticipate with differentiated patterns of future-oriented emotions. In such a view, considering the co-occurrence of multiple emotions is critical in understanding our emotional reactions to the future. More importantly, embracing the complexity of individuals' emotions calls for researchers and practitioners alike to depart from the general deterministic belief that positive and negative emotions are always good or bad. Ultimately, we hope to have contributed to the body of research and practice devoted to helping individuals to prepare and adapt to future vocational transitions.

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Appendices

Appendix A

The emotions aroused by a vocational transition in adolescents

Why, when and how are they socially shared with significant others?

359 adolescents completed a self-report questionnaire that measured the emotional impact of an anticipated transition, social sharing modes, its psychological benefits, and relationships intimacy with mother, father and best friend. Results show that the transition has been shared rapidly, repeatedly, with several partners, especially intimates (mother, father, best friend). However, partners and motives of vocational sharing depend on the valence of the transition. The intensity of negative emotions is positively related to both the frequency and the depth of vocational sharing while the intensity of positive emotions is only related to the depth of the sharing. Perceived intimacy with significant others is positively associated with both the depth and the frequency of sharing, although to a lesser extent for the latter. In addition, the intrapersonal and interpersonal benefits are related to the depth of vocational sharing, but not to its frequency. The results are discussed in reference to knowledge and theories regarding the quality of relationships with significant others, emotions, social sharing of emotions in coping with vocational transitions and in career development. In particular, they show the importance of dissociating the frequency and depth of sharing in providing psychological benefits of social sharing and the importance to distinguish negative and positive emotions in this sharing process.

Vignoli, E., Nils, F., Parmentier, M., Mallet, P., & Rimé, B. (2020). The emotions aroused by a vocational transition in adolescents: why, when and how are they socially shared with significant others? *International Journal for Educational and Vocational Guidance*, 20(3), 567–589. <https://doi.org/10.1007/s10775-019-09417-z>

Appendix A

The emotions aroused by a vocational transition in adolescents

Why, when and how are they socially shared with significant others?

1. Introduction

According to Sharf (2013, p. 16), “Relationships with others affect almost everything that we do in our lives including our career development”. To illustrate, he cites empirical work showing how attachment theory (e.g., Vignoli, 2009), the study of parent-child career interactions (e.g., Young et al., 2008), and Blustein’s (2011) relational theory contribute to the understanding of career development processes. For adolescents more specifically, this line of reasoning is fueled by evidence that relationships with parents (Bryant, Zvontkovic, & Reynolds, 2006; Dietrich & Kracke, 2009), teachers, peers and friends (Di Fabio & Kenny, 2015) influence critical vocational outcomes such as occupational knowledge, exploratory processes, career adaptability, career planning, etc. This article relies on the same perspective but, somehow, in a reverse direction. Rather than study the effect of adolescents social interactions on vocational outcomes, it focuses on the extent to which a vocational transition might bring an adolescent to develop social interactions. This kind of questioning is rooted in the research area on the social sharing of emotions (e.g., Rimé, 2009), assuming that a vocational transition, as an emotional event, will be socially shared in the environment. If this is verified, it is of primary importance to integrate into the field of vocational psychology the knowledge about the beneficial effects that the social sharing of emotions might generate in periods of transition. The psychosocial benefits of social sharing are based on theoretical arguments and empirical evidence (e.g., Rimé, 2005, 2009) but the conditions under which they occur and its processes need to be clarified, especially in the context of vocational events.

More precisely, the aim of this research is to answer the five following questions: (a) Do adolescents share vocational transitions with others? And if it is the case, (b) how, (c) with whom, (d) why and (e) for what anticipated benefits? Even if the three first questions have already resulted in research (Vignoli, 2011; Vignoli, Nils & Rimé, 2005), they are rare and virtually nothing is known concerning the last two ones. The ambition here is to further examine the propensity to share a vocational transition according to the emotions it elicits, the sharing modalities and sharing targets, and to investigate why this social sharing occurs with such targets and what are the benefits adolescents associate with this vocational sharing. At a theoretical level, this should contribute to verify the role of social interaction elicitor

played by emotions when facing a vocational transition and increase the understanding of adolescents' vocational social interactions, the aims pursued in these interactions and with which partners they think they will reach these aims. In terms of guidance practices, this could bring to counsellors indications about the socioemotional impact of a vocational transition during adolescence, the usual social behaviors of adolescents confronted with a transition, the people with whom they interact in transition situations and the acknowledged benefits of such interactions. More generally, given the potential benefits of the social sharing of emotions, such research can lead counsellors to encourage their clients to make greater use of their social network when faced with a vocational transition.

In the aforementioned references on the social sharing of vocational episodes (Vignoli, 2011; Vignoli et al., 2005), the logic behind the argument held in four steps: firstly, vocational transitions are important for individuals as they are associated with personal goals; secondly, events facilitating (vs. impeding) goal attainment induce emotions; thirdly, emotions stimulate social interactions. Fourthly, based on that reasoning, the authors transposed to the case of vocational social sharing the methods and findings related to the social sharing of emotion (e.g., Rimé, 2005, 2009), a more general and better-known phenomenon. Hereafter, we fully develop these four steps.

1.1 Vocational transitions are associated with personal goals

Following Nurmi and collaborators (Dietrich, Jokisaari, & Nurmi, 2012; Nurmi, 2004; Nurmi, Salmela-Aro & Koivisto, 2002; Vasalampi, Salmela-Aro, & Nurmi, 2010), personal goals and vocational transitions are connected in a bi-directional way. Personal goals guide behavior when facing a transition, contribute to concentrate resources towards specific tasks inherent to the transition and serve for building strategies to cope with transitions. On the other hand, the result of a transition, in terms of goal (un)attainment, has implications for the way people reassess their goals. A successful transition might strengthen the importance of associated goals and self-efficacy beliefs towards future similar ones. At the opposite, failing in dealing with a transition may result in disengagement from previous goals and directing to other vocational trajectories. Empirical evidence upon interdependence between personal goals and vocational transitions have been reported for the specific case of transitions during adolescence, especially for the school to work transition (Nurmi et al., 2002) as well as during the transition from comprehensive to precomprehensive secondary education (Vasalampi et al., 2010), which is the specific transition investigated in this study.

1.2 Events facilitating (vs. impeding) goal attainment induce emotions

Referring in particular to Carver and Scheier (1990, 2001), Rimé (2009) stated that negative emotions occur when circumstances interfere with goal-reaching activities, while positive emotions result from circumstances facilitating them. At a deeper level of reasoning, as goal-reaching activities rely upon the capacity (1) to predict states of the world and the

consequences of one's action, and (2) to control situations and to bring forth states of the world one had planned (Rimé, 2009), this presumes a large knowledge base (schemas, models of the world, implicit theories, core beliefs, ...) that could be, at least partially, invalidated in case of interfering events and therefore induce negative emotions, as anticipated by classic authors such as Cantril (1950) and Kelly (1955). On the contrary, for events facilitating goal-reaching activities, positive emotions are induced as the pursuit of a goal is substantially accelerated (Carver & Scheier, 1990, 2001), proving that the subject's knowledge base is efficient and that his or her theories and models are supported. Said simply, as posited by Mandler (1984), two types of conditions can cause emotion: when something which was not expected occurs, or when something which was expected does not occur. Returning to the type of event under investigation in this article, this development fits nicely with the definition Schlossberg gave to vocational transitions: "A transition, broadly, is any event, or non-event, that results in changed relationships, routines, assumptions and roles" (Schlossberg, 2005, p. 27).

1.3 Emotions stimulate social interactions

Schachter (1959) is considered the pioneer in the demonstration that exposition to (negative) emotional conditions elicits motivation to seek social contact. To explain this phenomenon, he endorsed a social comparison perspective, meaning that the search for social contacts in such emotional circumstances is mainly motivated by the need to compare to others in order to know how to react. Another relevant theoretical framework to shed light on the phylogenic roots of this propensity to seek social contact when experiencing negative emotion is provided by the classical research of Harlow and colleagues (e.g., Harlow & Suomi, 1970) on nonhuman primate, showing that when infants are stressed by an unfamiliar event they turn out to their caregivers, suggesting that they try to use their appraisal to make sense of the event. This "social referencing" behavior was later observed in human too (Campos & Stenberg, 1981; for a brief conceptual overview, see Holodyski, 2017). A similar meaning making function is attributed by Bruner (1990) to social communication, and especially narration, developed after emotional situations.

Rimé (1989) proposed the term "social sharing of emotion" to refer to the process of communicating in a socially shared language an emotional experience to another person. Since then, numerous studies using diverse methodologies (for a review, Rimé, Finkenauer, Luminet, Zech, & Philippot, 1998), amply demonstrated that being exposed to an emotional event elicits a rapid and repetitive social sharing process addressed to several target persons. As confirmed by lab studies, the best predictor of the extent of sharing is the intensity of emotions aroused by the eliciting event (Berger, 2011; Luminet, Bouts, Delie, Manstead & Rimé, 2000).

When questioning targets of social sharing, it has been consistently found that they are systematically part of the intimates' circle (Rimé, 2009). According to Laurenceau, Barrett and Pietromonaco (1998), the sharing of confidences and emotions, as well as the partner's reactions to those confidences, contributes to create and reinforce intimacy and trust between

the two partners. On the other hand, intimacy is a component of attachment, and secure attachment facilitates the regulation of emotions by alleviating perceived depression or stress in transitions (Bowlby, 1978, 1982; Duchesne, Ratelle, Poitras, & Drouin, 2009; Larose & Boivin, 1998; Papini & Rogman, 1992). It also fosters progress in career development (Blustein, Prezioso, & PalladinoSchultheiss, 1995).

Concerning the target's choice among intimates, trends emerge as different age groups are compared (e.a. Rimé, Mesquita, Philippot, & Boca., 1991). For both genders, attachment figures (father and mother) are the almost unique sharing targets in childhood. During adolescence, the best friend becomes an additional intimate partner, providing closeness, emotional support and self-validation (Booth-LaForce, & Kerns, 2009; Buhrmester & Prager, 1995). Mother, father and best friend could thus be potential targets with whom adolescents share a significant vocational event.

The last question addressed here about the social sharing of emotions concerns why it occurs. On the basis of Delfosse, Nils, Lasserre and Rimé (2004), and Duprez, Christophe, Rimé, Congard and Antoine (2014), seven different types of answers to the question: "why do we share emotional events?" can be given. These are rehearsing, venting, being supported, clarification seeking, looking for advice and solutions, arousing empathy/attention, self-worth and informing/warning. Delfosse et al. (2004) and Duprez et al. (2014) showed that positive events were shared more frequently for the reasons of re-experiencing the event, self-worth, informing others and arousing empathy and attention while the social sharing of negative events was more strongly associated with purposes like venting, seeking understanding, support, and advice.

If the reasoning so far is correct, it is possible to transpose findings from the social sharing of emotion research area to the specific case of vocational transitions. This leads to the six following hypothesis. (1) Adolescents share vocational transitions rapidly and repeatedly with several partners. (2) These partners are predominantly the mother, father and best friend. The extent of this vocational social sharing (frequency and depth) (3) depends on the intensity of emotions induced by the transition and (4) is positively related to the perceived intimacy with the sharing targets. (5) When the vocational event is positive, the sharing is likely to be intended to obtain self-validation through reciprocal empathy, and when the event is negative, the sharing is likely to be aimed at buffering the stress through social support and advises. (6) The frequency and depth of sharing are supposed to enhance the students' feelings of well-being concerning their academic and vocational future, in terms of both interpersonal (e.g., perception of social support) and intrapersonal (e.g., self-efficacy) benefits.

In order to test this set of hypotheses among an adolescent population, a normative educational transition, occurring in many countries, and for which the outcome can be quickly and clearly established, has been selected. It concerns the transition from comprehensive to pre-comprehensive secondary education. In France, where the present study took place, this transition happens at the end of the fourth year of secondary education. At that time, students are approximately 15 years old and they are all asked to state their intentions concerning their educational track until the end of secondary education. Three

options are possible. Either they choose the academic track, leading to University and High School admission, the technical track, directing to technical higher education, or the vocational track, directly leading to the labor market. Shortly after, the class council gives a favorable, reserved or unfavorable advice upon the student's expressed intentions. If the advice is reserved, severe restrictions may impede early students' intentions while an unfavorable advice shut down access to the educational track desired by the student. It is important to note that this transition to pre-comprehensive secondary education is the first major transition for these French students and that the chosen (or enforced) educational track has strong implications on career paths.

2. Method

2.1 Participants

The participants were recruited in four public middle-schools in the north and south of France. A total of 359 teenagers (43.17% boys) with a mean age of 14.98 years ($SD = 0.72$) took part in this study. In their fourth year of secondary education, they were solicited by their school administration to participate to the research. Approximately 43% of them were lower class, 34% were middle class and 23% were upper class. 31.5% of the parents of these adolescents had no diploma, 35.6% held a professional degree or only an A-level degree, and 32.9% had a degree superior to A-levels. All adolescents participated after obtaining parental consent. Among them, 71.03% reported living with their two parents, 16.71% with their mother, 2.78% with their father and 5.85% with someone else. During the fifteen days following the class council advice, the vast majority of participants were in contact with their family and friends. Specifically, 95% of them were in contact with their mother, 87.50% with their father, 87.50% with their best friend, and 95.50% with their classmate.

2.2 Procedure

Fifteen days after the class council decision referred to in the introduction of this article, participants completed the questionnaire during a one-hour class and in the following order: biographical characteristics, characteristics of the vocational episode, perceived importance of the episode, induced emotions, vocational social sharing extent, partners, modalities, perceived benefits and motives, and intimacy with significant others. Participants were assured of the confidentiality of the results and debriefed once the questionnaires had been completed.

2.3 Measures

2.3.1 Features of the vocational episode

First, students were asked to express their primary educational project for the next years: which of the three possible tracks (academic, technical or vocational) did they want to

follow? Next, they indicated if the class council had given a favorable, reserved or unfavorable advice upon their wish.

2.3.2 Emotions

The adolescents rated the emotions that they have felt when they received the decision of the class council. Their answers were collected on a seven-point scale from 1 (*not affected at all*) to 7 (*very strongly affected*) for the intensity of the felt emotion and on a six-point scale from -3 (*very unpleasant*) to 3 (*very pleasant*) for the emotional valence. In addition, using the Differential Emotional Scale (DES) from Izard and colleagues (1974), students rated on 5-point scales from 1 (*not at all*) to 5 (*strongly*), various emotions that they could have felt in the vocational episode. The specific emotions measured with the DES are interest, joy, sadness, anger, fear, anxiety, disgust, contempt, surprise, happiness, shame, guilt, and pride. This self-report scale is commonly used in studies for assessment of discrete emotional feelings (e.g., Gross & Lenvenson, 1995; McHugo, Smith, & Lanzetta, 1982; Philippot, 1993; Youngstrom, & Green, 2003). Previous studies showed that the DES yielded a good discrimination of the majority of fundamental emotions (e.g., Fuenzalida, Emde, and Pannabecker, & Stenberg, 1981; Philippot, 1993; Youngstrom, & Green, 2003) and attest to the good validity of the scale. An exploratory factor analysis resulted in a two factors solution explaining 51.84% of the total variance. The first factor comprised negative emotions (sadness, anger, fear, anxiety, disgust, contempt and shame) while the second included positive ones (joy, happiness and pride). Guilt, interest and surprise had no satisfactory loadings and were removed from further analysis. As Cronbach alpha computed on the items from factor 1 and factor 2 respectively reached 0.86 and 0.84, scores for negative and positive emotions were calculated.

2.3.3 Social sharing modalities

Relying upon previous work (Nils, 2003; Rimé, 2005, Vignoli et al., 2005; Vignoli, 2001), we asked respondents to specify the way they shared the vocational episode with their social environment. The sharing partners were identified using a dichotomous scale (yes / no) (Have you discussed with ...?). Potential partners proposed were the mother, father, best friend, at least one sister and brother (if they had one), at least one teacher, a guidance counselor or any other person (participants had the opportunity to mention non-listed potential partners). The delay between the onset of the vocational episode and the first sharing was assessed for each potential partner with a response scale with four alternatives ("on the same day", "on the day after", "two to seven days later", "more than one week later"). The frequency of social sharing with each partner was assessed using a Likert scale with responses ranging from "one time" to "eight or more times". Additionally, as the type of content shared (e.g., facts, emotions, thoughts) may have a crucial role with respect to the psychological effects of the social sharing (Rimé, Finkenauer, Luminet, Zech & Philippot, 1998), a shared content scale was developed to take into account these elements. A 13 items questionnaire was used, with Likert scales ranging from 1 (*not at all*) to 5 (*strongly*). For each of the three

major potential partners of vocational sharing, this questionnaire examined the extent to which participants talked about their felt emotions regarding the vocational episode, their current and future vocational situation, and the details of the episode, its meaning and their occupational future. One of the 13 items was found poorly correlated with the other ones and was dropped. The internal consistency of the total scale assessed using Cronbach's alpha was very satisfying for every partners: mother (.81), father (.81) and best friend (.84). Three scores of shared content depth have thus been calculated. A high score means a high depth of social sharing.

2.3.4 Motives for the vocational sharing

The perceived reasons why adolescents shared the vocational event were assessed with a 25-item scale adapted from Delfosse et al. (2004) and Duprez et al. (2014). It comprises the following seven categories of sharing reasons: clarification and meaning making; relive or remember the emotion; reduce the emotional load associated with the vocational episode; induce attention and empathy from others; Self-worth, inform and warn others; seeking for support, comfort and solace; seeking for advice, guidance and solutions. These different motives for social sharing were associated with the valence of the emotional experience (Delfosse et al., 2004; Durez et al., 2014). For each item, participants rated on a five points scale ranging from 1 (*not at all*) to 5 (*totally agree*) the extent to which each specific motive for sharing led them to share actually with each partner. With no exception, Cronbach's alpha computed on the items of each category exceeded the threshold of .70 and three were over .80.

2.3.5 Perceived intrapersonal and interpersonal benefits

At the time of the investigation, fifteen days after the advice notified by the class council, and therefore after a period during which the verbalization process of the episode occurred, respondents rated on several intrapersonal and interpersonal dimensions their well-being concerning their academic and vocational future. They indicated on five-point scales (1 "not at all" to 5 "completely") to what extent they felt "supported by those around them," "relieved, released", "understood", "having on hand all the elements to deal with the situation", "reassured", "better understanding what is going on", and "less alone". The goal here was to measure perceived benefits that might have resulted from the social sharing process. Experimental investigation conducted by Zech and Rimé (2005) had indeed revealed that in the days or weeks following a social sharing situation, participants reported a variety of perceived benefits including (1) interpersonal benefits (support, understanding by the surroundings, reduction of feelings of loneliness) and (2) intrapersonal benefits (relief, feeling of being able to cope with the situation, reinsurance, better understanding of the episode). A factor analysis from the responses to these seven items resulted in a two factor solution, with the interpersonal benefits items concentrating on one of them and the intrapersonal benefits on the other. Cronbach alpha computations revealed a good internal

consistency for the interpersonal benefits dimension (.70) and the intrapersonal benefits dimension (.77). Two scores were thus calculated.

2.3.6 Intimacy with significant others

Intimacy with each of the three main expected social sharing targets--father, mother and best friends-- was assessed using the French version of the intimacy scale developed by Hunter and Youniss (1982). This four-items scale addressed respectively companionship, self-disclosure, empathy, and consensus formation (e.g., "He/she usually knows how I feel."). In consistence with previous studies (e.g., Kon and Losenkov, 1978), in the study by Hunter and Youniss (1982), the friend was reported provided the most intimacy, followed by mother, and last by father, and attests to the reliability of this scale. In line with cross-cultural translation procedures (Brislin, 1986; Vallerand, 1989), the original intimacy scale was translated into French by the first author and was then back translated into English by a native speaker of English who is an expert in the field. The differences between the original version and the French version were checked and corrected. Participants responded on a 4-point scale from 1 (*rarely*) to 4 (*almost always*). A high score indicates a high level of intimacy with the respective partner. In the study by Hunter and Youniss (1982), the alpha values for the intimacy total scores were .72, .74 and .71 for father, mother and friend, respectively. In the present sample, Cronbach's alphas reached respectively .77, .80, and .85.

2.4 Data analyses

In order to test our research questions and hypotheses, we adopted a 4-step strategy. At step 1, we first performed descriptive analyses of the features of the vocational episode, the importance of the class council advice and the emotional impact of the vocational episode. At step 2, we performed several univariate statistical analyses in order to test the hypotheses of our first research question related to the extent, frequency, delay, targets, emotions, and motives of the vocational sharing and compare the modalities of vocational sharing according to the class council advice (i.e., favorable versus unfavorable). In order to test the hypotheses related to our second research question corresponding to step 3, we first performed confirmatory factor analyses in order to assess the measurement validity of the latent constructs of interest, namely emotions, intimacy with significant others, depth of the shared content, perceived intrapersonal and interpersonal benefits of vocational sharing. At step 4, we performed several path analyses in order to test the structural relations hypothesized in Research Question 2 related to the influence of emotions and intimacy on the frequency and depth of the content of vocational sharing and on the perceived intrapersonal and interpersonal benefits of vocational sharing. Those path analyses were multigroup in order to assess the differences between students having received a favorable advice and those having received an unfavorable advice from the class council. All statistical analyses were performed using SPSS 24 and MPlus 8.

3. Results

3.1 First step: Descriptive statistics

3.1.1 Features of the vocational episode

Adolescents' intentions regarding their educational future were distributed as follows: 79.5% wished to enroll in the academic or technological track; 20.2% wished to move towards a vocational track and 0.3% were repeat already one school year. Most students received a favorable advice from the class council 54.9% ($n = 196$), 27.7% ($n = 99$) received a reserved advice that is to say an advice giving a cautious welcome to the adolescents' intentions regarding their educational future, and 17.4% ($n = 62$) an unfavorable advice. In total, 44.85% were notified that the class council did not fully supported their future intentions, while the others received completely favorable advices. In further analyzes we will consider these two groups, each representing about half of the total sample. A chi-square independence test revealed no significant difference in proportions between boys and girls for that variable ($\chi^2(1) = 1.98, p = .16$).

3.1.2 The importance of the class council advice

The vast majority of participants (71.8%) considered the class council advice as important or very important, 16.6% gave it a moderate importance and 11.6% little or low importance. A t test evidenced a marginal tendency to attribute a higher value to a favorable ($M = 3.94, SD = 1.02$) than to an unfavorable advice ($M = 3.73, SD = 1.16$), $t(352) = 1.81, p < .10$.

3.1.3 Emotional impact of the vocational episode

Strong differences are observable concerning emotions depending on the decision of the class council. Compared to an unfavorable advice, a favorable advice is associated with more positive emotions ($t(356) = 13.85, p < .001$), less negative emotions ($t(356) = -10.52, p < .001$), and less global emotional intensity ($t(356) = -6.77, p < .001$) advice.

3.2 Second step: Research question 1

3.2.1 Extent, frequency, delay, and targets of the social sharing

With the exception of 4 participants, all students shared the vocational episode during the fifteen days following the class council decision. As can be seen in Table A1, this vocational sharing was higher with intimates (i.e., mother, father, and best friend) than with other members of the entourage (e.g., brother and sisters, teachers, and counselor). Chi-square independence tests revealed that students tended to share less with their mother and father when the class council advice was unfavorable ($\chi^2(1) = 5.36, p < .05$ for the mother; $\chi^2(1) = 12.51, p < .001$ for the father). On the contrary, students tended to share more with a teacher

or a counselor when the class council advice was unfavorable ($\chi^2(1) = 16.56, p < .001$ for the teacher; $\chi^2(1) = 6.59, p < .04$ for the counselor). Vocational sharing with other members was the same regardless of the class council advice. Concerning the delay between the class council decision and the first social sharing, it appears that it is shared very rapidly, at least with intimates. It is shared the day of the notification with the mother in 65% of the cases, with the father in 45.3%, and with the best friend in 44%. After two days, it has been shared with the mother in 84.4% of the cases, with the father in 71.9%, and with the friend in 84.7%. Delays are longer for the other sharing targets. To the extreme, 60.3% of the adolescents who shared the vocational episode with a counselor did it more than one week after it happened. Interestingly, no significant differences were found when comparing delays of vocational sharing following a favorable to delays after an unfavorable class council advice. Regarding the frequency with which the vocational episode is shared, only a minority of the participants shared only once with their intimates (26.9% with their mother, 43.3% with their father, 35.1% with a friend). Actually, they shared the vocational episode repetitively (i.e., from two to six times) with their mother in 60.9% of the cases, with their father in 52%, and with their friend in 57.2%. When using average frequency, results showed that it was shared more frequently with the mother following an unfavorable advice ($M = 3.62, SD = 2.33$) than a favorable advice ($M = 2.77, SD = 1.99$), $t(318) = -3.50, p < .01$). It was also shared more frequently with the best friend following an unfavorable advice ($M = 3.15, SD = 2.17$) than following a favorable advice ($M = 2.44, SD = 1.79$), $t(269) = -2.95, p < .01$). However, no differences in frequency of sharing was found for the father ($t(252) = -1.64, p = .10$). One single social sharing was observed in majority with other persons (with a counsellor in 79.7% of the cases, with a teacher in 58.5%, a brother in 57.8% and a sister in 51.9%), regardless of the class council advice.

Table A1. Targets of vocational sharing according to the class council decision

Vocational sharing with	Favorable opinion		Unfavorable opinion		χ^2 (df)
	Yes	No	Yes	No	
Mother	89.7%	10.3%	81.1%	18.9%	5.36 (1)*
Father	72.7%	27.3%	54.5%	45.5%	12.51 (1)***
Brother	25.1%	74.9%	25.7%	74.3%	0.01 (1)
Sister	34.1%	65.9%	34.6%	65.4%	0.01 (1)
Best friend	77.2%	22.8%	70.1%	29.9%	2.23 (1)
Classmate	72%	28%	80.5%	19.5%	3.43 (1)
Teacher	26.7%	73.3%	47.8%	52.2%	16.56 (1)***
Counselor	12.4%	87.6%	23%	77%	6.59 (1)*

Note. N = 357 * $p < .05$. ** $p < .01$. *** $p < .001$.

3.2.2 Motives for social sharing

The third hypothesis stated that the motives of the social sharing would differ according to the valence of the school council decision. Seven classes of reasons for social sharing have been measured. In Table A2, the importance accorded to these reasons are reported in function of the valence of the school council decision. As expected, clarification and meaning

making, reduction of the emotional load and support and comfort seeking are more reported for an unfavorable council decision. At the opposite, informing, warning others and in a lesser extent self-worth ($p = .06$) are more frequently alleged in case of a favorable class council decision.

Table A2. Reasons for social sharing according to the valence of the school council advice

Motive for sharing	Valence of the class council advice				<i>t</i>
	Favorable		Unfavorable		
	M	SD	M	SD	
Clarification, meaning making	1.89	0.90	2.13	0.93	-1.92*
Relive, remember the emotion	1.67	0.83	1.68	0.76	0.13
Reduce the emotional load	1.86	1.05	2.45	1.20	-3.77***
Induce attention and empathy	1.81	0.70	1.94	0.85	-1.13
Inform and warn others	3.36	1.09	3.07	1.13	1.92*
Seeking for support, comfort	1.77	0.89	2.19	1.03	-3.14**
Seeking for advice, guidance	2.48	0.84	2.51	0.81	-0.27
Self-worth	1.99	0.94	1.75	0.91	1.86

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

3.3 Third step: Research question 2

3.3.1 Confirmatory factor analyses

We conducted CFAs to examine the distinctiveness of the constructs included in the analyses of our second research question (i.e., positive and negative emotions, perceived intimacy with significant others, depth of the shared content, and perceived intrapersonal and interpersonal benefits of vocational sharing). As the constructs of perceived intimacy with significant others and depth of the shared content were measured for each of the three main targets of vocational sharing (i.e., mother, father, best friend), our full measurement model included 10 different latent constructs. The analyses showed that this 10-factor model fitted the data well ($\chi^2(1400) = 2182.29$; RMSEA = .04; CFI = .91; TLI = .90; SRMR = .08) and was significantly superior to all more constrained models. For the two constructs that were measured for each main target of vocational sharing, error terms across targets were free to correlate as they shared common method variance due to their similar item wording. All indicators loaded reliably on their latent constructs, with standardized loadings ranging from .74 to .84 for positive emotions, from .55 to .81 for negative emotions, from .59 to .88 for perceived intimacy, from .37 to .69 for depth of the shared content, from .60 to .74 for intrapersonal benefits, and from .59 to .81 for interpersonal benefits. In the subsequent analyses, separate path analyses have been favored over full structural equation analyses due to the complexity of our hypothesized model and in order to finely assess the differences according to the target of vocational sharing and to the valence of the vocational episode.

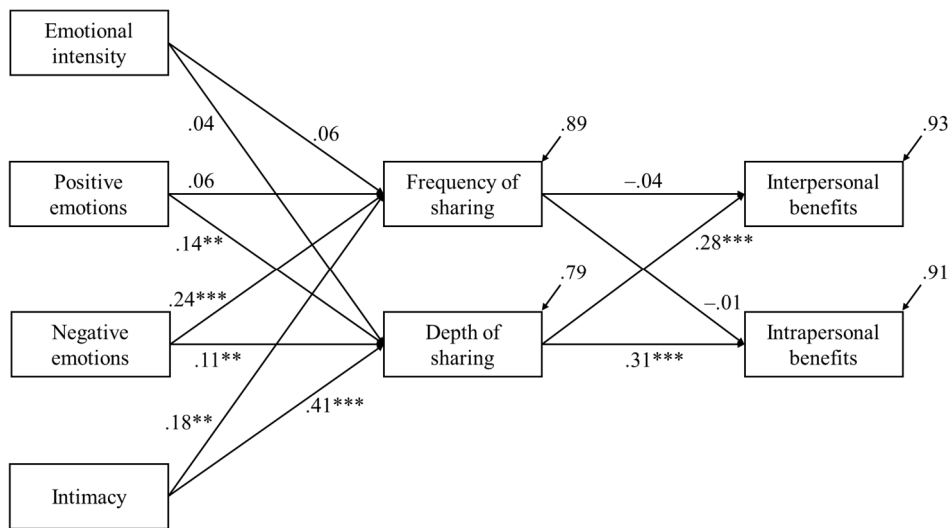
Table A3. Multigroup path models comparisons

	MLR χ^2 (df)	SC	Δ MLR χ^2 (df)	RMSEA [90% CI]	CFI	SRMR
<i>Sharing with mother</i>						
Baseline model	40.73 (16)***	1.0386	–	.10 [.06; .14]	.93	.06
Constrained model	49.16 (28)**	1.0656	9.15 (12)	.07 [.04; .10]	.94	.07
<i>Sharing with father</i>						
Baseline model	49.40 (16)***	0.9698	–	.12 [.08; .16]	.90	.06
Constrained model	66.34 (28)***	1.0026	17.78 (12)	.10 [.07; .13]	.88	.07
<i>Sharing with best friend</i>						
Baseline model	34.83 (16)**	1.0104	–	.09 [.05; .13]	.93	.06
Constrained model	44.42 (28)*	1.0022	9.41 (12)	.06 [.02; .10]	.94	.07

Note. MLR χ^2 = chi-square test of model fit associated with robust maximum likelihood estimator; df = degrees of freedom; SC = scaling correction factor; RMSEA = root mean square error of approximation; CFI = comparative fit index; SRMR = standardized root mean residual.

3.4 Fourth step: Multigroup path analyses

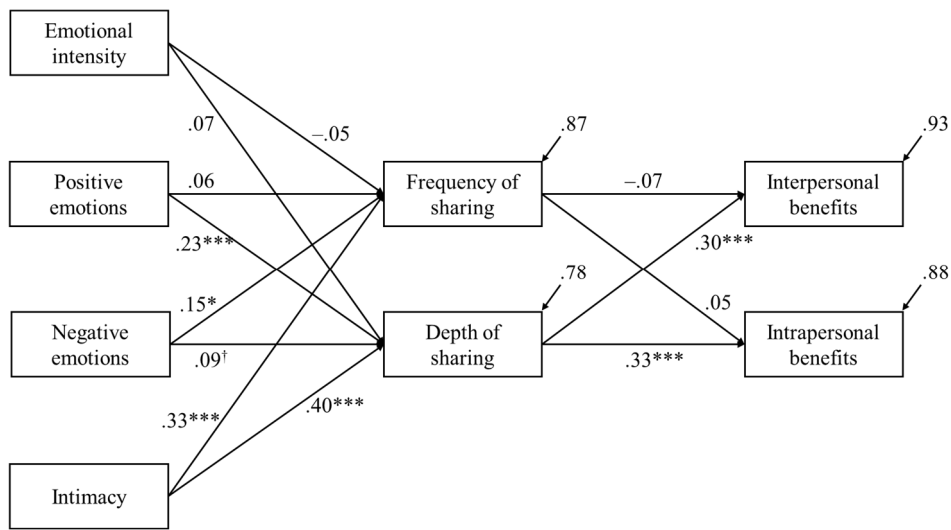
In order to test the specific hypotheses related to our second research question, we fitted 3x2 multigroup path models for the three main targets of vocational sharing. In each model, two groups were compared (i.e., favorable versus unfavorable advice) in order to assess the differences according to the valence of vocational episode. For each target (i.e., mother, father, and best friend), two different models were fitted (i.e., a baseline and a constrained model; see Table A3) in order to test whether the class council decision moderated the structural relationships hypothesized in our models. This analytical strategy consisted of nested model comparisons informing whether a constrained model, imposing the equality of parameters between those with a favorable advice and those with an unfavorable advice yielded a significant decrease in model fit compared to the freely estimated model. In the baseline model, structural relationships were allowed to differ across the two groups, while, in the constrained model, structural relationships were constrained to be equal across the two groups. As no significant differences were found when constraining the structural relationships between the two groups, our results showed that the class council advice did not moderate the structural relationships in our models. Therefore, the models constraining all structural relationships to be equal between those having received a favorable and those an unfavorable advice were retained as the best descriptions of our data. The parameters estimates of these models are displayed in Figure A1, Figure A2, and Figure A3.



Note. Standardized parameters are displayed. Covariances between independent variables and between disturbances of dependent variables are not displayed for readability. * $p < .05$. ** $p < .01$. *** $p < .001$.

Figure A1. Multigroup path model of vocational sharing with the mother.

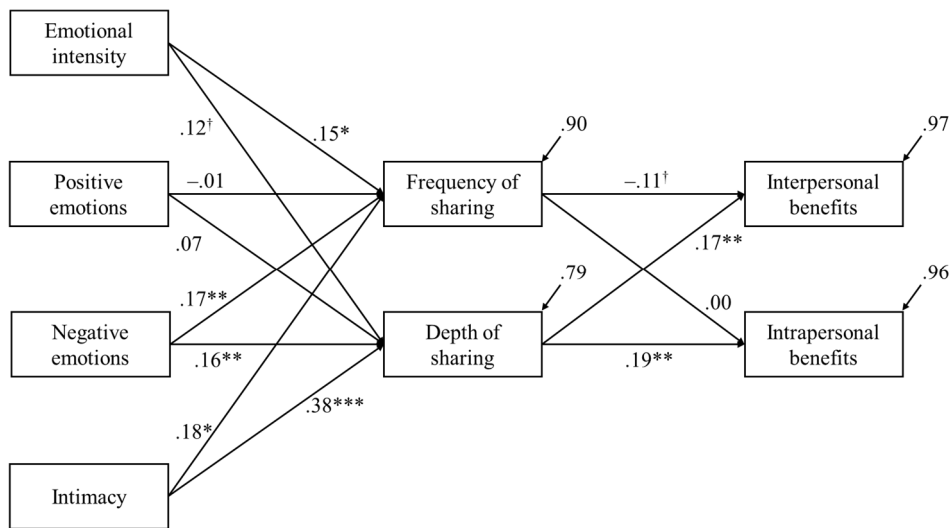
Regardless of the valence of the class council decision, our results showed that negative emotions were systematically related to both the frequency and the depth of vocational sharing while positive emotions were associated to the depth of the shared content. Except for the best friend, emotional intensity was not related to either the frequency or the depth of vocational sharing. Overall, perceived intimacy was more closely related to the depth than to the frequency of the sharing, regardless of the valence of the council decision. In average across the targets, those variables accounted for 11.3% and 21.3% of the variance of the frequency of vocational sharing and the depth of the shared content, respectively.



Note: Standardized parameters are displayed. Covariances between independent variables and between disturbances of dependent variables are not displayed for readability. * $p < .05$. ** $p < .01$. *** $p < .001$.

Figure A2. Multigroup path model of vocational sharing with the father.

With regard to the perceived benefits of vocational sharing, results showed that only the depth of sharing was related to both intra- and interpersonal benefits while the frequency of sharing was not predictive of the perceived benefits, except for the best friend with which frequency of sharing was marginally related to interpersonal benefits of sharing. Those results did not differ in function of the valence of the class council decision. In average across the targets, frequency and depth of sharing accounted for 5.7% and 8.3% of the variance of inter- and intrapersonal benefits, respectively.



Note: Standardized parameters are displayed. Covariances between independent variables and between disturbances of dependent variables are not displayed for readability. * $p < .05$. ** $p < .01$. *** $p < .001$.

Figure A3. Multigroup path model of vocational sharing with the best friend.

4. Discussion

The reasoning underlying this study can be summarized as follows: if a vocational transition such as the transition to post-comprehensive school (and the class council advice on the school track chosen by an adolescent) elicits emotions, this vocational transition must elicit a social sharing process. Therefore, the typical characteristics of the social sharing of emotions (extent, delay, targets, reasons, perceived benefits) should apply. This reasoning led us to examine six hypotheses.

As a first step (hypothesis 1), it was stated that vocational transitions are socially shared with others. Looking at the research results leave no doubt on that issue. The vocational transition under the scope, consisting in receiving the decision from the class council concerning the choice for future orientation at school, has been socially shared by almost 100% of the adolescents. Moreover, it has been shared very rapidly, very often for several times and with several partners, especially with intimates (mother, father and best friend), confirming the second hypothesis.

Supporting our second hypothesis and in line with previous studies (Vignoli et al., 2005), results showed that both positive and negative experiences regarding a vocational transition trigger a social sharing process, particularly with significant others. As expected, the parents and best friend were clearly the most solicited persons and in a short time. Previous studies documented the significant role of adolescent's relationships with parents in the vocational maturation process, and the importance of the quality of attachment in this respect (e.g. Blustein et al., 1995; Ketterson & Blustein, 1997; Schultheiss & Blustein, 1994). Regarding the role of friendship, previous research is scarce. Nevertheless, our results support Hunter's

(1985) seminal findings while nuancing them. On the one hand, they confirm the decisive role of parents in social interactions about a vocational event with their 15 years old teenager. On the other hand, it appears that best friends are, at that age, about as important for this kind of interaction. It contrasts slightly with Hunter, who observed that such interactions between young people became as important as those with parents a little later, around the age of 18. Many adolescents are worried to disappoint their parents with respect to academic and career achievement (Vignoli & Mallet, 2012). Therefore, the opportunity to talk openly and freely may account for the high proportion of adolescents who shared the vocational event with their best friend, the latter being especially able to understand the worries and hopes elicited by such kind of vocational event. This finding is in line with the well-known function of close friendship as an optimal way for self-clarifying disclosure during adolescence (Buhrmester & Prager, 1995).

According to the third hypothesis, the extent of the vocational social sharing, both in terms of frequency and depth, should be a function of the intensity of emotions induced by the transition episode. Again, the results are quite clear and confirm previous studies on the social sharing of emotions (Berger, 2011; Luminet et al., 2000). However, two new and interesting elements are brought here as classical data on the link between emotion intensity and extent of sharing dealt generally with negative emotions and frequency of social sharing. Here, these findings are replicated, but we also provide evidence concerning positive emotions and the depth of the social sharing. Indeed, the intensity of negative emotions elicited by the vocational event is related to both the frequency and depth of social sharing (to a lesser extent for the father) while positive emotions are only related to the depth of the shared content (except for social sharing with the best friend). Two characteristics distinguish negative and positive emotional experiences regarding vocational event. Firstly, vocational negative experiences are perceived as more emotionally intense than vocational positive experience (Vignoli et al., 2005, 2011). And the more the emotional experiences are strong, the more they are shared (Rimé et al., 1998). Secondly, negative emotions occur when the pursuit of a goal is slowed down, or blocked while positive emotions facilitate goal-reaching activities (Rimé, 2009). In addition, negative emotions disconfirm models of reality, lead to a loss of meaning, weakened self-esteem, identity and increase anxiety and feelings of insecurity. Positive emotions consolidate self-efficacy and self-esteem, strengthen well-being, and support the subject's models. For these reasons, it can be hypothesized that both the frequency and depth of social sharing of emotions are necessary for the resorption of negative emotional experience through the restoration of meaning, models, and subject's reassurance while a thorough sharing, without repetition, seems sufficient for the processing of a positive emotional experience.

Supporting the fourth hypothesis, the extent of sharing (frequency and depth) with the three major sharing targets depends on the perceived intimacy with each of them. More specifically, even if the frequency of sharing is significantly associated with perceived intimacy, the strongest links have been found for the depth of sharing, whether with the mother, father or best friend. This suggests that the likelihood to discuss and debrief profoundly such life event with close partners depends on the quality of the specific

relationships. This kind of result confirms that the quality of the relationship with significant others in a young people's life play an important role on transition processes and career related outcomes (Young et al., 2008). Concerning the parents more specifically, our observations echo Young et al. (2008) results based upon their analysis of parent-youth interactions related to the transition to adulthood. They showed that projects like career promotion of young people are embedded in the parent-youth relationship and depend on its quality. These results are also consistent with previous studies showing the quality of parent-adolescent relationships facilitate career development and identity formation regarding career development (e.g., Blustein, Wallbridge, Friedlander, & Palladino, 1991; Grotevant & Cooper, 1985; Kenny, 1990; Palmer & Cochran, 1988).

The fifth hypothesis stated that the alleged reasons for the vocational sharing depend on the valence of the transition issue. Consistently with previous research (Delfosse et al., 2004; Duprez et al., 2014), the motives for sharing the unfavorable class council decision are more oriented towards search for meaning, clarification, efforts at understanding what had happened, and search for support and comfort from intimate partners. Although it is a belief, sharing in order to reduce the emotional load is also more frequently mentioned by adolescents facing a vocational negative event. Conversely, the main motives for sharing a positive vocational event are to inform and warn others, and in a lesser extent to value oneself. As mentioned above, positive emotional experiences facilitate reaching goals and reinforce self and positive beliefs (Carver & Scheier, 1990; Rimé, 2009). The main reason for sharing a positive vocational experience is to amplify pleasant experience and to consolidate individual identity and the well-being (Delfosse et al. 2004; Gable, Reis, Impett & Asher, 2004). Conversely, negative emotional experiences alter implicit positive beliefs about the world, weaken self-esteem and sense of self-efficacy (e.g., Janoff-Bulman, 1992; Rimé, 2005, Rimé et al., 1992). Important reasons for sharing vocational negative event with close partners may be to reduce the cognitive dissonance between one's own expectations, representations and the perceived reality, or in order to find social support, to be reassured, and to better cope with his vocational future (Rimé et al., 1992; Thoit, 1984). Sharing negative emotional experiences strengthens relationships with partners, and helps to reduce perceived stress and to increase self-esteem (eg., Bowlby, 1978, 1982; Duchesne, Ratelle, Poitras, & Drouin, 2009; Laurenceau, Barrett and Pietromonaco, 1998; Papini & Rogman, 1992). According to Thompson and Janigian (1988), through the autobiographical construction, life scheme allows restoration of meaning, especially when negative emotional experiences challenge the representations of the world and of oneself.

According to the sixth and last hypothesis, the frequency and depth of sharing were expected to be positively related to beneficial outcomes. On the basis of our results, the frequency of sharing is not associated with perceived benefits, whether at the interpersonal or intrapersonal level, while the depth of sharing, regardless of the intimate target, is associated with both interpersonal and intrapersonal perceived benefits. This result on the frequency of social sharing is consistent with observations from other studies (Curci & Rimé, 2012; Rose, 2002) that show that repetition of social sharing is not associated with benefits and is sometimes even linked to an increase in emotional distress. Moreover, our results

reinforce the view that frequency and depth of sharing have to be disentangled, because these two aspects of the extent of sharing were differently associated to beneficial outcomes. According to Nils and Rimé (2012), the benefits of social sharing are largely determined by the modalities of interaction between its partners: only a social sharing associated with a cognitive treatment of the event can lead to benefits related to its emotional load. This most likely implies that this social sharing is carried out in depth.

To sum up, the vocational transition between comprehensive to pre-comprehensive secondary education, and the advice given by a class council concerning the educational track chosen by an adolescent student, elicits emotions. As such, this transition is socially shared by the adolescents, especially with significant others (mother, father and best friend), at an amplitude (frequency and depth) determined by the intensity of the positive and negative emotions it has induced. The reasons alleged for this social sharing depend on the valence of this vocational event. Along with the intensity of the emotions felt, the frequency and depth of social sharing are also associated with the degree of intimacy between the adolescent and his/her sharing targets. This is especially observable for the depth of sharing, confirming that the quality of the relationships with these targets play an important role in dealing with this kind of transition. And this is particularly true, given that the depth of social sharing is associated with both perceived interpersonal and intrapersonal benefits. In addition, intentionally, the instructions were not specifically direct the participants to relate the perceived intrapersonal and interpersonal benefits to the vocational sharing of emotions. If we had done so, the link between the two variables would have probably been biased, confirming the hypothesis. Therefore, perceived psychological benefits may be related to variables other than social sharing regarding the academic and vocational future. It is probable that the relationship observed in this study between perceived intrapersonal and interpersonal benefits and social sharing of emotions is less strong than it would be without the presence of these variables.

Although the results of this study are unambiguous, the cross-sectional nature of its design prevents us from verifying the causal direction of the links between the variables under investigation. In line with the work of Young et al. (2008) and Nils and Rimé (2012), this is particularly true for intimate relationships which can be both the cause and the consequence of verbalization processes. It is therefore possible that the specific social sharing we investigated, focusing on one aspect of a young person's career development, have enhanced intimacy between its interlocutors. We must therefore consider the present study as an attempt to apply the theories related to the phenomenon of the social sharing of emotions to a vocational transition, in need for further evidence using experimental or longitudinal designs to verify in a more rigorous way the causal paths pointed here. Another possible limitation of this research relates to the fact that we only observed face-to-face social sharing, while adolescents are particularly eager to communicate through social media. Two reasons have led us to neglect online social sharing. Firstly, a comprehensive review (Derks, Fisher & Bos, 2008) shows that, despite the presence of visual and written cues, emotional communication online and offline is quite similar. Secondly, models and methodological tools of online social sharing is still in need for development (Rimé, Bouchat, Paquot &

Giglio, 2019). Finally, another limit of this study is that some scales may be related to social desirability. In future studies, it would be informative to measure social desirability in order to obtain a rigor assessment of others scales.

Despite these limitations, this study makes an important contribution to existing theory and research, as well as for practice. On the one hand, our observations confirm, in line with Hartung (2011), the need to take into account the emotional aspects related to vocational processes, both as a consequence of vocational events and as a source for action. On the other hand, they also confirm the importance of interactions with relatives in periods of transitions. More specifically, the quality of parent-youth relationships is again highlighted as an important vector in the career development process of young persons. Once more, this study attests to the very general and highly applicable nature of the characteristics of the social sharing of emotions, in terms of its extent, delay, sharing targets, reasons given for sharing and its perceived benefits. This point could encourage research of the same type but about other vocational transitions. Other research could also be taken further by using more appropriate methodologies to establish causal links between the features of the sharing process, its outcomes and its individual and environmental predictors. On a more practical level, we note that the social sharing of a vocational transition with parents and friends during teenagerhood is normal and adaptive, in view of the benefits it generates. This observation must be recognized in the community of practitioners, who could therefore encourage such interactions. In addition, in times of transitions, the counselor might help to deepen this work, especially when adolescents do not receive social support from their significant others (Savickas & Pouyaud, 2016). However, two additional conditions seem to have to be met for these benefits to be realized. As mentioned earlier, it is important to have a deep social sharing rather than a repetitive one. And this first condition is based on a second: the good quality of relationships between the sharing partners. Thus, in the French educational system, which guides vocational choices at an early age, the results of this study highlight the inequalities in social support available to adolescents to cope with a vocational transition, specifically when it arouses negative emotions.

5. References

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Appendix B

Career adaptability profiles and their relations with emotional and decision-making correlates among Belgian undergraduate students

The present study used a person-centered approach to investigate university students' profiles of career adaptability and determine whether different combinations of concern, control, curiosity, and confidence could be identified. We also explored the relations of these profiles with emotional intelligence, anticipatory emotions, and career decision-making self-efficacy. We found 6 distinct profiles of career adaptability among 307 university students that differed both on their level and shape. Emotional intelligence was associated with profiles displaying higher levels of career adaptability. Furthermore, profiles of career adaptability significantly displayed differences in terms of positive anticipatory emotions at the prospect of the school-to-work transition and career decision-making self-efficacy, but not in terms of negative anticipatory emotions. These results highlight that differentiating profiles of career adaptability provide insights for the design and the implementation of career-related interventions among university students.

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Appendix B

Career adaptability profiles and their relations with emotional and decision-making correlates among Belgian undergraduate students

1. Introduction

Emerging adulthood is a particularly crucial phase in individuals' career development (Porfeli & Lee, 2012). For undergraduate students, career development tasks include the crystallization of career goals, the commitment to a career choice, and the active preparation for a chosen career path and the job market entry. Understanding undergraduates' capabilities to prepare for and deal with these tasks and challenges is therefore crucial to sustain and help them to navigate an ever more insecure and turbulent world of work (Koen et al., 2012). Within the career construction literature, these capabilities have been referred to as career adaptability (Savickas, 2013). The construct of career adaptability has gained increasing attention in recent years. It has been defined as a "psychosocial construct that denotes an individual's resources for coping with current and anticipated tasks, transitions, and traumas in their occupational roles" (Savickas & Porfeli, 2012, p. 662). Building on the career construction model of adaptation, vocational research has sought to identify the antecedents (i.e., adaptivity), individual responses (i.e., adapting responses), and outcomes (i.e., adaptation results) of career adaptability (Hirschi et al., 2015; Rudolph et al., 2017). Even though a vast amount of research insights has been gathered over the years, the study of career adaptability has heavily relied on variable-centered approaches and has overlooked the possibility that individuals may not only differ in their *mean* levels of career adaptability but also in the specific combinations of career adaptability dimensions (i.e., concern, control, curiosity, and confidence; Hirschi & Valero, 2015). These emerging approaches have been referred to as person-centered and provide promising avenues for a complementary and more thorough understanding of vocational processes (Hofmans et al., 2020; Spurk et al., 2020).

In the first study investigating the profiles of career adaptability using a person-centered approach, Hirschi and Valero (2015) found, and partially replicated, five profiles that were meaningfully related to antecedents (i.e., adaptivity) and career-related outcomes (i.e., adapting). In their first sample, they found that profiles were mostly differentiated upon their level (low vs. high levels of career adaptability dimensions) rather than their shape (qualitative distinct combinations among career adaptability dimensions), except for a small *helpless-passive* profile. This latter profile was characterized by very low levels of control and curiosity dimensions, and average levels of concern and confidence. In the second sample, five profiles were differentiated upon their level (very low, low, below average,

above average, and high career adaptability). In both studies, they demonstrated that personality factors influenced profile membership and that profiles displaying higher levels of career adaptability tended to report higher levels of career planning and exploration. Hirschi and Valero (2015) concluded “that levels effects dominate shape effects in latent career adaptability profiles” and, therefore, “that researchers can rightfully examine career adaptability using a variable-centered approach” (p. 227). However, the replication of profiles in different populations and (educational) contexts, as well as the investigation of additional theoretically-driven antecedents and outcomes is an important prerequisite in order to shed light on the (in-)adequacy of person-centered approaches as well as their complementariness with variable-centered methods when studying important vocational processes (Hofmans et al., 2020; Spurk et al., 2020). Given that person-centered approaches are rather exploratory in nature and highly sample-dependent, Morin et al. (2018) proposed the following steps to address the construct validity of profiles and their generalizability: (1) demonstrating their theoretical value, (2) demonstrating meaningful relations with key covariates, and (3) replicating profile solutions across samples and across time. Investigating the construct validity and their generalizability to different samples is not only important for theoretical purposes but also for practice in order to confirm their rightful use in identifying at-risk students as well as designing and implementing tailored interventions among university students (Koen et al., 2012).

The objectives of the present study were threefold. First, we sought to replicate Hirschi and Valero’s (2015) findings with regards to career adaptability profiles among undergraduate students in Belgium. For this purpose, we used latent profile analysis to examine the emergence of distinct profiles with different combinations of the dimensions of concern, control, curiosity, and confidence. In order to address the emotional nature of career transitions and to respond to calls for a better inclusion of emotional processes in vocational research (Hartung, 2011; Kidd, 2004), our second objective was to investigate the relations between career adaptability profiles and two important emotional correlates: emotional intelligence and anticipatory emotions. On the one hand, emotional intelligence has been identified as a key antecedent of career adaptability (Celik & Storme, 2017; Coetzee & Harry, 2014; Udayar et al., 2018). However, the number of empirical efforts regarding their relation is still limited (Parmentier et al., 2019) and it remains unclear how these relations would translate in a person-centered framework. On the other hand, as future graduates anticipate their transition into the world of work, the various events it entails (e.g., finding a job), and how they will cope with these challenges, they experience what has been called *anticipatory* emotions (Baumgartner et al., 2008), that is, emotions currently experienced at the prospect of a future event. These anticipatory emotions are close to constructs such as career hope or career anxiety – even though the latter were mainly considered as trait or dispositions – and have been identified as important correlates of career adaptability (Parmentier et al., 2021; Santilli et al., 2017; Vignoli, 2015). Third, we investigated career decision-making self-efficacy as an additional outcome of career adaptability profiles in order to strengthen the replication approach of our study. As such, both emotional intelligence and career adaptability have been identified as antecedents of career decision-making self-efficacy (Di Fabio & Saklofske, 2014; Rudolph et al., 2017).

In doing so, the present study offers several contributions to the field. First, it provides a direct replication in another sample of previous research on career adaptability profiles. Such replication efforts are important to assess and ascertain the utility of person-centered approaches in vocational research (Hofmans et al., 2020; Spurk et al., 2020). Second, we contribute to the existing evidence about career construction theory by testing a broad model of relations between adaptivity (i.e., emotional intelligence), adaptability, and adapting responses (i.e., anticipatory emotions and career decision-making self-efficacy). Investigating the broader career construction model of adaptation using a person-centered approach is important to provide insights into how different profiles are related to different antecedent and outcomes variables (Hofmans et al., 2020; Spurk et al., 2020). Third, we echo previous calls for more research on the role of emotional processes in career development (Hartung, 2011; Kidd, 2004).

1.1 Profiles of career adaptability

Career adaptability has been defined as a set of psychosocial self-regulatory, transactional, and malleable resources that allow individuals to prepare for, cope with, and manage career transitions and the associated career- or work-related issues (Savickas & Porfeli, 2012). Career adaptability is a multidimensional construct composed of four dimensions: concern (i.e., being future-oriented and prepare for the future), control (i.e., being responsible in constructing one's own career), curiosity (i.e., exploring possible selves and fit between oneself and the environment), and confidence (i.e., beliefs of own capacities to manage career goals). Meta-analytic findings have confirmed that career adaptability was related to a wide range of career-related outcomes such as job and career satisfaction, career identity, lower job stress, and employability (Rudolph et al., 2017), among other outcomes. Accordingly, career adaptability is considered as a key career meta-competency that individuals may rely upon when anticipating and preparing for major career events, deal with work and career changes, proactively plan their career, develop new skills, engage in career behaviors, and ultimately build sustainable careers (Buyken et al., 2015).

Even though substantial empirical evidence has now demonstrated the role of career adaptability in individuals' careers (see Johnston, 2018, for a review), the existing stream of research is mainly dominated by variable-centered approaches. This focus overlooked the possibility that individuals may differ in their intraindividual *combinations* on the specific dimensions of career adaptability. In other words, while variable-centered approaches study the extent to which variables are related to each other *on average* for the entire sample, they fail to describe *how* the specific dimensions of career adaptability combine together, that is, the patterns and the relative intensity of their combinations. These arguments gave rise to calls for the use of person-centered approaches in vocational research (Hofmans et al., 2020; Spurk et al., 2020).

In this study, we used latent profile analysis (LPA) to investigate the combinations of the career adaptability dimensions of concern, control, curiosity, and confidence among a sample of university students. In LPA, profiles are described based on their level and shape. While

level differentiates profiles on their mean level for each specific dimension (e.g., low vs. high concern), shape refers to the different forms displayed by the specific combination of the dimensions taken together (e.g., low concern with high curiosity). Contrary to classical clustering, LPA lies within the structural equation modeling framework and thus have several advantages, such as the availability of fit indices to choose the best profile solution, the consideration of measurement errors, and the inclusion of covariates (Hofmans et al., 2020; Spurk et al., 2020), among other advantages.

Research question 1. *Do distinct profiles of career adaptability emerge, and do they vary both quantitatively and qualitatively?*

Consistent with Hirschi and Valero (2015), we expected the emergence of at least five profiles differentiated mainly according to level (from low to high levels on all dimensions). However, theoretical arguments cast doubt on the ubiquity of such profiles only differentiated according to their mean levels. While the higher-order construct of career adaptability has attracted most of researchers' attention, there are several arguments in investigating the specific contributions of each dimension separately (see also Hirschi & Valero, 2015). A first argument stems from the numerous empirical efforts that showed the unique explanatory and predictive validity of career adaptability dimensions, independently of the broad construct of career adaptability, with several antecedents and outcomes (Rudolph et al., 2017 for a meta-analysis). The second line of argument stems from the theoretical conceptualization of the career adaptability dimensions that explicitly theorize the presence of different profiles (Savickas, 2013). Actually, the four dimensions of career adaptability do not necessarily develop at the same rates, and experienced career-related tasks, transitions, and traumas are likely to intervene in the development of these dimensions, sometimes leading to regressions or fixations (Savickas, 2013). Consequently, significant intraindividual differences between the four dimensions are likely to emerge depending on their development trajectories. As such, counselors are invited to assess potential career-related problems associated with each specific dimension finely: indifference (low concern) or anxiety (high concern), indecision (low control) or impulsivity (high control), unrealism (low curiosity) or overstimulation (high curiosity), and inhibition (low confidence) or overconfidence (high confidence). According to Savickas (2013), investigating these differences with regards to the four dimensions could be crucial for understanding the antecedents and consequences of individuals' career-related problems, and implementing tailor-made interventions. Consequently, while we expected the emergence of specific profiles following Hirschi and Valero's (2015) findings, we still left the research question relatively open. This is consistent with the inductive and exploratory nature of person-centered approaches (Hofmans et al., 2020).

1.2 Correlates of career adaptability profiles

The second and third goals of this study were to explore the relationships of distinct career adaptability profiles with antecedents and outcomes. Building on the career construction model of adaptation, we considered emotional intelligence as a facet of adaptivity (Hirschi et al., 2015; Rudolph et al., 2017) and hypothesized that emotional intelligence would predict

profile membership. This is consistent with previous variable-centered research evidence considering emotional intelligence as an important factor of adaptive functioning in individuals' careers. Previous research has already shown that emotional intelligence was an antecedent of career adaptability (Coetzee & Harry, 2014; Parmentier et al., 2019) and that career adaptability mediated the impact of emotional intelligence on several outcomes such as academic satisfaction, academic engagement, employability, and career decision-making (Celik & Storme, 2017; Udayar et al., 2018). We expected that emotionally intelligent individuals would be more aware of their career aspirations and more future-oriented (i.e., concerned), perceive better control over career-related tasks (i.e., control), evaluate career-related tasks positively and more able to anticipate the emotional consequences of their choices and behaviors (i.e., curiosity), and build confidence in overcoming emotional situations (i.e., confidence). We therefore hypothesized that individuals with a high level of emotional intelligence would be more likely to belong in profiles with high levels of the four career adaptability dimensions.

Hypothesis 1. High levels of emotional intelligence will be related to higher likelihood of membership into profiles characterized by high levels of concern, control, curiosity, and confidence.

Furthermore, we explored the relations between career adaptability profiles and anticipatory emotions at the prospect of the school-to-work transition and career decision-making self-efficacy. Building upon the career construction model, these two variables are both considered as adapting responses. Adapting, or adapting responses, refers to the display of adaptive behaviors or reactions and the development of adaptive attitudes that help when addressing changing career conditions and dealing with career development tasks (Savickas, 2013). Within the career construction model of adaptation (Hirschi et al., 2015), adapting or adapting responses are considered as outcomes of career adaptability: individuals are more likely to display adapting responses in response to career-related tasks when they feel that they have career adaptability resources in terms of concern, control, curiosity, and confidence to prepare for and face these tasks.

On the one hand, previous research has highlighted the impact of career adaptability on positive and negative future-oriented affect and emotions (Buyukgoze-Kavas, 2014; Parmentier et al., 2021; Santilli et al., 2017; Vignoli, 2015). Related research also showed that career adaptability was a key predictor of positive and negative affect, and well-being (Celen-Demirtas et al., 2015; Fiori et al., 2015; Konstam et al., 2015; Maggiori et al., 2013; Urbanaviciute et al., 2018). On the other hand, self-beliefs in making career-related decisions are a core ingredient of the career decision-making process (Di Fabio & Saklofske, 2014). Building upon social cognitive theory, career decision-making self-efficacy beliefs have been developed to account for individuals' confidence in their ability to successfully complete the tasks required to make a career decision (Betz et al., 1996). Previous research has consistently shown that higher levels of career adaptability were associated with higher levels of career decision-making self-efficacy (Rudolph et al., 2017). According to Savickas (2013), concerned individuals develop plans to achieve their career goals and are more future oriented. Individuals with a high level of control are more able to shape their environment

and to develop adaptive behaviors towards their future career goals. Curious individuals explore their environment as well as their future self. Finally, confident individuals in regard to their career develop a form of confidence in their abilities to overcome career difficulties. We therefore predicted that individuals with high levels of the four career adaptability dimensions would display higher levels of positive anticipatory emotions and career decision-making self-efficacy levels and lower level of negative anticipatory emotions.

Hypothesis 2. Career adaptability profiles will display significant differences in terms of positive and negative anticipatory emotions such as profiles characterized by higher levels of concern, control, curiosity, and confidence will display more positive and less negative anticipatory emotions.

Hypothesis 3. Career adaptability profiles will display significant differences in terms of career decision-making self-efficacy such as profiles characterized by higher levels of concern, control, curiosity, and confidence will display more career decision-making self-efficacy.

2. Method

2.1 Participants and procedure

Data were collected among 307 university students from various programs in Belgium. Students were contacted and invited to participate to an online survey which was approved by the Institutional Review Board of the university. Students were assured of both the anonymity and the confidentiality of the study and gave their informed consent. Of the participants, 78.8% were girls and mean age was 22.33 years ($SD = 4.19$). With regard to year of study, 140 participants were bachelor students (47.3%), while 156 participants were master students (52.7%). Proportions of study programs were as follows: Social Sciences (69.2%), Health Sciences (25.7%), and Science and Technology (5.1%).

2.2 Measures

2.2.1 Career adaptability

Career adaptability was investigated with the short version of the Career Adapt-Abilities Scale (Maggiori et al., 2017). This instrument consists of 12 items ranging from 1 (“*Not one of my strengths*”) to 5 (“*My greatest strength*”) and is composed of 4 separate dimensions: concern ($\alpha = .73$; e.g., “*Preparing for the future*”), control ($\alpha = .74$; e.g., “*Making decisions by myself*”), curiosity ($\alpha = .63$; e.g., “*Observing different ways of doing things*”), and confidence ($\alpha = .70$; e.g., “*Taking care to do things well*”).

2.2.2 Emotional intelligence

We measured emotional intelligence using the intrapersonal dimension of the Profile of Emotional Competence ($\alpha = .89$; Brasseur et al., 2013). The measure includes 25 items rated from 1 (“*Strongly disagree*”) to 7 (“*Strongly agree*”) and provides separate sub-scores for 5 dimensions (i.e., identification, comprehension, expression, regulation and utilization). Examples of items are “*When I am touched by something, I immediately know what I feel*” (identification dimension) or “*I find it difficult to handle my emotions*” (reverse scoring, regulation dimension).

2.2.3 Anticipatory emotions

We assessed positive anticipatory emotions with the 5 following items: excited, strong, enthusiastic, proud, determined ($\alpha = .85$). Negative anticipatory emotions were assessed with the 5 following ones: jittery, upset, scared, nervous, and afraid ($\alpha = .87$). For both subscales, response scales ranged from 1 (“*Not at all*”) to 5 (“*A great deal*”). The instructions for the emotional induction were as follows: “*Stop for a moment and think about your situation at the end of your studies and the entry on the labor market. Please indicate how do you feel right now at the prospect of your transition from university to the job market using the following statements.*”

2.2.4 Career decision-making self-efficacy

Career decision-making self-efficacy was assessed with a validated French version of the Career Decision Self-Efficacy Scale–Short Form ($\alpha = .84$; Betz et al., 1996; Gaudron, 2013). Previous research has demonstrated the good psychometric properties of the French version (Storme, Celik & Myszkowski, 2019). This scale consists of 18 items ranging from 0 (“*No confidence at all*”) to 5 (“*Complete confidence*”). Sample items are “*Determine what your ideal job would be*” and “*Identify employers, firms, institutions relevant to your career possibilities.*”

Table B1. Correlation matrix

	1	2	3	4	5	6	7	8	9	10	11	12
1. Gender	–											
2. Age	–.04	–										
3. Study year	–.06	.43**	–									
4. Study program	.03	–.03	.04	–								
5. Emotional intelligence	–.17**	.15*	.12	.10	–							
6. Concern	.06	.10	–.02	–.09	.31***	–						
7. Control	–.05	.17**	.11	–.02	.35***	.42***	–					
8. Curiosity	.03	.16**	.18**	–.16*	.19**	.33***	.27***	–				
9. Confidence	.01	.15*	.17**	–.06	.15*	.31***	.36***	.44***	–			
10. Positive anticipatory emotions	.00	–.02	–.11	–.09	.16*	.54***	.40***	.19**	.26***	–		
11. Negative anticipatory emotions	.09	–.01	.14*	.05	–.19**	–.05	–.15*	–.01	.01	.09	–	
12. Career decision-making self-efficacy	–.05	.07	.04	–.02	.36***	.58***	.38***	.28***	.30***	.45***	–.15*	–
<i>M</i>	–	22.33	–	–	4.50	3.54	3.84	3.69	3.89	3.33	2.69	3.37
<i>SD</i>	–	4.19	–	–	0.85	0.78	0.79	0.68	0.64	0.83	0.94	0.55

Note. Gender was coded 1 = male and 2 = female; study program was coded 1 = medicine and health sciences, 2 = life and technology sciences and 3 = human and social sciences. EI = emotional intelligence. PAE = positive anticipatory emotions. NAE = negative anticipatory emotions. CDSE = career decision-making self-efficacy. * Significant at the .05 level. ** Significant at the .01 level. *** Significant at the .001 level.

3. Results

3.1 Preliminary analyses

All statistical analyses were conducted using *Mplus* 8 with the robust maximum likelihood estimator. The means, standard deviations, and bivariate correlations are displayed in Table B1. Second, we performed confirmatory factor analyses to assess the measurement reliability and discriminant validity of our constructs. All construct-specific measurement models for career adaptability, emotional intelligence, anticipatory emotions, and career decision-making self-efficacy, respectively, demonstrated satisfactory to excellent fit to the data (RMSEAs $\leq .09$; CFIs $\geq .95$; TLIs $\geq .92$; SRMR $\leq .07$). Our theoretical model in which all constructs and their respective items were modeled altogether fitted the data satisfactorily ($\chi^2(406) = 685.57$; RMSEA = .05; CFI = .91; TLI = .89; SRMR = .07) and was superior to all more constrained models. Factor scores were saved from this theoretical measurement model to be used as profile indicators in the subsequent analyses (Morin et al., 2016).

3.2 Latent profile analyses

We performed several LPA in a stepwise procedure from 1 up to 8 profiles. Besides the availability of fit statistics, issues of parsimony, theoretical adequacy, substantive meaning, profile redundancy, and profile size also drive the profile enumeration process (Nylund et al., 2007). LPA were performed using 5,000 random sets of starting values and 1,000 iterations, while retaining the 100 best solutions for optimization. Several fit statistics were used to evaluate each profile solution: Akaike Information Criterion (AIC), Consistent AIC (CAIC), Bayesian Information Criterion (BIC), sample-size adjusted BIC (SABIC), adjusted Lo-Mendell-Rubin likelihood ratio test (aLMR), Bootstrap Likelihood Ratio test (BLRT), and entropy. The best profile solution should display smaller AIC, CAIC, BIC, and SABIC values, an entropy greater than .70, and significant aLMR and BLRT statistics. Recommendations from simulation studies encourage researchers to favor the CAIC, BIC, SABIC, and BLRT (Nylund et al., 2007). Means and variances of each indicator were allowed to vary during the enumeration process, providing a more realistic parameterization and less biased parameter estimates (Morin et al., 2011).

Table B2. Latent profile enumeration fit statistics

# of profiles	LL	fp	SCF	AIC	BIC	SABIC	CAIC	aLMR (<i>p</i>)	BLRT (<i>p</i>)	Entropy
1	-1546.38	8	1.11	3108.77	3138.58	3113.21	3146.58	–	–	1
2	-1365.04	17	1.15	2764.09	2827.44	2773.53	2844.44	.000	.000	.77
3	-1265.45	26	1.07	2582.89	2679.79	2597.33	2705.79	.000	.000	.87
4	-1214.53	35	1.10	2499.07	2629.51	2518.50	2664.51	.080	.000	.81
5	-1173.57	44	1.08	2435.14	2599.13	2459.58	2643.13	.052	.000	.88
6	-1141.33	53	1.10	2388.66	2586.19	2418.09	2639.19	.151	.000	.82
7	-1118.35	62	1.15	2360.70	2591.77	2395.13	2653.77	.415	.014	.87
8	-1095.81	71	1.01	2333.62	2598.23	2373.05	2669.23	.194	.483	.89

Note. LL = log likelihood ; fp = free parameters ; SCF = scaling correction factor; AIC = Akaike information criteria; BIC = Bayesian information criteria; SABIC = sample-size adjusted BIC; CAIC = consistent AIC; aLMR = adjusted Lo-Mendell-Rubin likelihood ratio test; BLRT = Bootstrap Likelihood Ratio test.

The fit indices associated with the profile enumerations are displayed in Table B2. The AIC and SABIC kept on decreasing and suggested the continuing addition of profiles. However, they tended to reach a plateau after the 6-profile solution. Values for the BIC and CAIC are more informative as they reached a plateau after 4 profiles and both reached their lowest point at 6 profiles and increased afterwards. The values associated with aLMR and BLRT supported a 3- and a 7-profile solution, respectively. However, aLMR is known to underestimate the number of profiles (Nylund et al., 2007) and the results of the BLRT were inconsistent and regularly failed to converge for the 7- and the 8-profile solution. These results thus supported the 6-profile solution as the best description of our data. In order to check the theoretical adequacy and meaning carried out by the different profile solutions, we carefully examined the solutions from 4 up to 6 profiles. These qualitative investigations brought further support for the 6-profile solution as additional profiles were systematically qualitatively distinct and meaningful. The 6-profile model was thus retained as the best description of the data and is graphically represented in Figure B1 (see Table B3 for means levels of the indicators).

Given the balanced proportions between bachelor and master students and the significant correlations between age, study year, and several dimensions of career adaptability, we performed additional analyses to investigate the replicability of the 6 profiles between bachelor and master students. Following a procedure developed by Morin et al. (2016), our analyses revealed that the profiles in both groups were equivalent in terms of their shape (structural similarity), their within-profile variance (dispersion similarity), as well as the relative size of each profile (distributional similarity), as demonstrated by decreasing AIC, BIC, SABIC, and CAIC fit statistics.

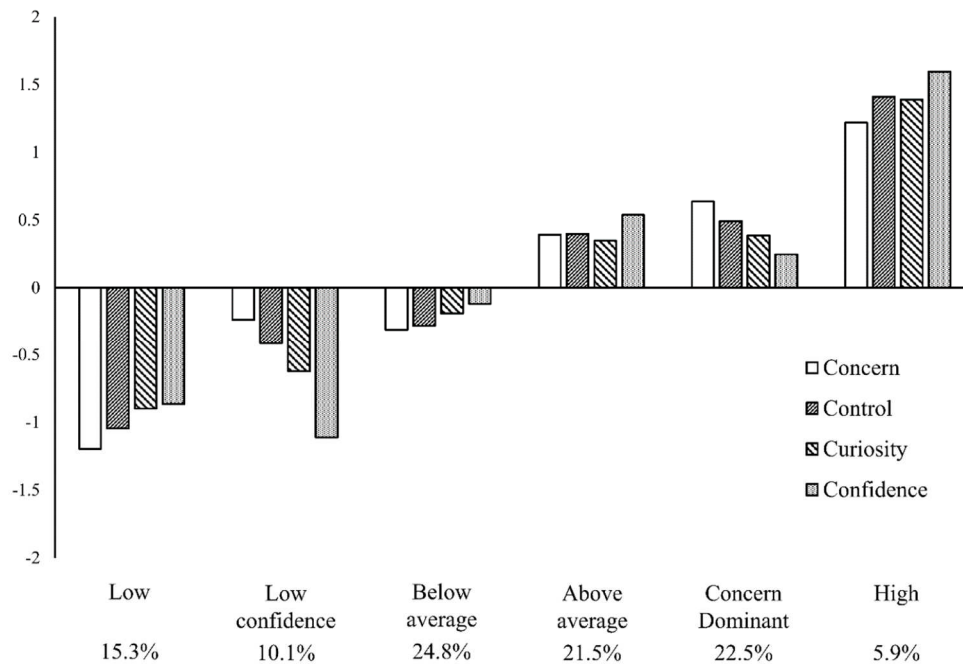


Figure B1. Final 6-profile solution of career adaptability

3.3 Interpretation of profiles

Profile 1 encompassed students with very low levels on the four dimensions of career adaptability. This *low* profile was composed of 15.3% of the total sample. Profile 2 was composed of students exhibiting low levels on the four dimensions but the confidence dimension was especially low compared to the other dimensions. To reflect this pattern and differentiate it from the *low* profile, this profile was labeled the *low confidence* profile. The third profile was the largest (24.8%) and displayed levels of career adaptability dimensions moderately *below average*. The fourth and the fifth profiles were both composed of a substantial proportion of students (21.5% and 22.5%, respectively) and displayed above average levels of career adaptability dimensions. The main difference between these two profiles lied in the dominance of the concern dimension for the fifth profile compared to the fourth one. To reflect these differences and consistent with previous results (Hirschi & Valero, 2015), we used the following labels: the *above average* and the *concern dominant* profiles. Finally, the smallest and last profile (5.9% of the sample) was composed of students displaying high levels of career adaptability dimensions.

Table B3. Means of indicators of career adaptability profiles

	<i>Low</i>	<i>Low confidence</i>	<i>Below average</i>	<i>Above average</i>	<i>Concern Dominant</i>	<i>High</i>
Concern	-1.20 (.19)	-0.24 (.11)	-0.31 (.12)	0.39 (.13)	0.64 (.07)	1.22 (.14)
Control	-1.05 (.16)	-0.41 (.14)	-0.28 (.12)	0.40 (.10)	0.49 (.11)	1.41 (.05)
Curiosity	-0.90 (.19)	-0.62 (.11)	-0.19 (.08)	0.35 (.12)	0.39 (.10)	1.38 (.08)
Confidence	-0.86 (.19)	-1.11 (.03)	-0.12 (.06)	0.54 (.11)	0.25 (.03)	1.59 (.02)

Note. Reported indices refer to the means and standard errors of profile indicators.

3.4 Antecedents of career adaptability profiles

First, when comparing a model in which the control variables were allowed to predict profile membership to a model which constrained their effects, our results showed that the impact of control variables was negligible. Second, using the R3STEP function in *Mplus*, we conducted the multinomial logistic regression analyses. Overall, higher levels of emotional intelligence were consistently associated with profiles characterized by higher levels of the career adaptability dimensions. High levels of emotional intelligence were associated with a higher probability to belong to the *high* compared to the other profiles ($B = -2.96, p < .001$, $B = -2.08, p < .001$, $B = -1.82, p < .001$, $B = -1.77, p < .001$, and $B = -0.96, p < .05$, for the *low*, *low confidence*, *below average*, *above average*, and *concern dominant* profiles, respectively). Similar results were found for the *concern dominant* profiles compared to the other profiles ($B = -2.00, p < .001$, $B = -1.12, p < .01$, $B = -0.86, p < .01$, $B = -0.81, p < .01$, for the *low*, *low confidence*, *below average*, and *above average* profiles, respectively). High levels of emotional intelligence were associated with a higher probability to belong to the *below average* and *above average* profile compared to the *low* profile ($B = -1.15, p < .01$ and $B = -1.19, p < .01$, respectively). However, no significant effects were found between the *above average* profile and the *low confidence*. In addition, no significant effects were neither found between the *low confidence* and the *below average* profiles, nor between the *low* and the *low confidence* profiles. Emotional intelligence also discriminated profiles with rather high levels of career adaptability but with varying patterns (i.e., the *above average* and *concern dominant* profiles). However, emotional intelligence did not differentiate profiles with low levels of career adaptability but with different patterns (e.g., *below average*, *low*, and *low confidence* profiles). Overall, these results brought support for Hypothesis 1.

Table B4. Differences of outcomes between career adaptability profiles

	Low	Low confidence	Below average	Above average	Concern dominant	High	Overall χ^2
Positive anticipatory emotions	-1.09 _{a,b,c,d,e}	-0.19 _{a,b,c,e}	-0.35 _{a,b,c,d}	0.50 _c	0.55 _b	0.83 _a	167.51***
Negative anticipatory emotions	0.16	0.02	-0.08	0.21 _b	-0.23 _b	-0.29	7.76
Career decision-making self-efficacy	-1.17 _{a,b,c,d,e}	-0.23 _{a,b,c,e}	-0.30 _{a,b,c,d}	0.31 _{a,b,c}	0.74 _b	1.11 _a	267.52***

Note. Overall chi-square tests were performed with 5 degrees of freedom. Subscripts indicate significant differences between profiles at the .05 level. Subscripts from *a* to *e* refer to significant pairwise comparisons with the High, Concern Dominant, Above average, Below average, and Low confidence, respectively.

3.5 Outcomes of career adaptability profiles

Differences between profiles in terms of anticipatory emotions and career decision-making self-efficacy were performed using the BCH function in *Mplus*. Results are displayed in Table B4. Differences of outcomes between career adaptability profiles and graphically represented in Figure B2. Outcomes for the final 6-profile solution of career adaptability. Significant differences between career adaptability profiles could be found for positive anticipatory emotions and career decision-making self-efficacy. However, no significant differences were found between profiles with regards to negative anticipatory emotions. Overall, profiles with higher levels of career adaptability dimensions displayed higher levels of positive anticipatory emotions and career decision-making self-efficacy. However, profiles displaying similar levels of career-adaptabilities but with different shape hardly displayed significant differences. For example, while the *low* profile displayed much lower levels of career adaptability and career decision-making self-efficacy compared to the *low confidence* and the *below average* profiles, these two last profiles did not statistically differ. A similar pattern was found for the profiles displaying higher mean levels of career adaptability but with varying shapes (i.e., the *below average*, *concern dominant*, and *high* profiles). These results supported our third hypothesis and partially our second hypothesis.

4. Discussion

The objectives of the present study were to investigate career adaptability profiles using a person-centered approach and examine their relations with emotional intelligence, anticipatory emotions at the prospect of the school-to-work transition, and career decision-making self-efficacy in a sample of university students in Belgium. In doing so, we sought to replicate Hirschi and Valero's (2015) findings and extend the investigation of antecedents and outcomes to emotional processes in a different national and educational context. The present paper therefore aimed to expand existing knowledge pertaining to the profiles of career adaptability within the career construction model of adaptation. Due to the rather exploratory and inductive nature of person-centered approaches, such endeavors are important in order to ascertain that profiles are useful for practice and interventions (Hofmans et al., 2020; Spurk et al., 2020). The present study also aimed to address previous calls for

the inclusion of emotional processes in career development whose importance is stressed out in stressful and emotional career events such as the school-to-work transition.

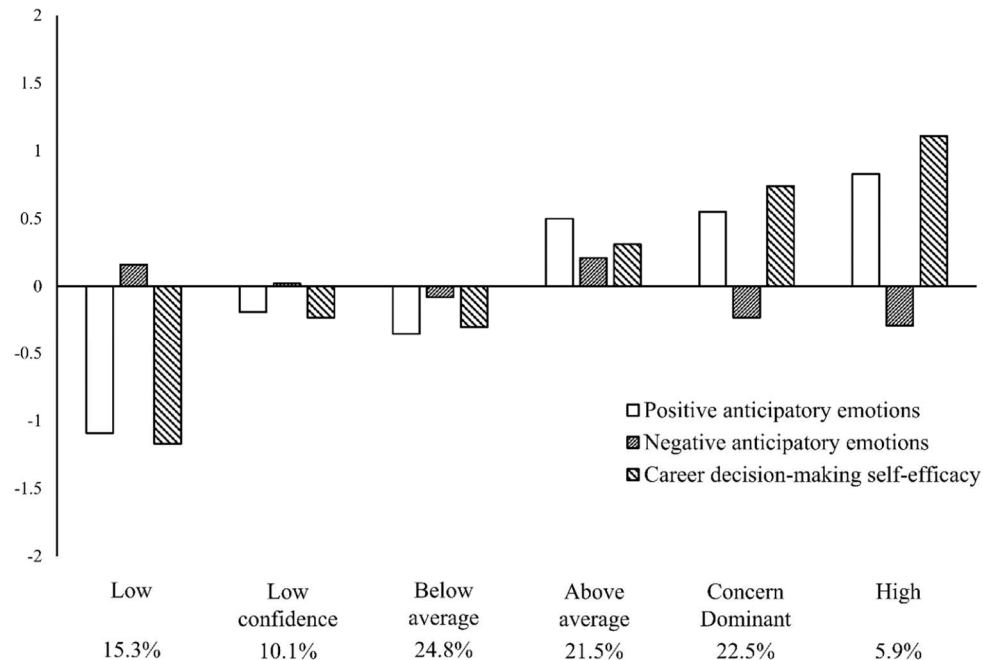


Figure B2. Outcomes for the final 6-profile solution of career adaptability

First, our results yielded six distinct and meaningful career adaptability profiles. Three profiles encompassed rather low levels of career adaptability, and, together, were composed of the half of the sample. The *low* profile described students that displayed low levels on all dimensions. The *low confidence* profile displayed low levels on all dimensions but specifically on the confidence dimension. The *below average* profile was composed of almost a quarter of the total sample with levels on all dimensions somewhat below average. The other three profiles exhibited students with rather high levels of career adaptability. Two profiles displayed moderately high levels of career adaptability but were qualitatively differentiated especially with regards to the concern dimension. The last profile was the smallest and encompassed students that had higher levels on all dimensions. Finally, these profiles were found to be similar in number, in shape, within-person variance, and size among bachelor and master students. These results are partially consistent with Hirschi and Valero's (2015) findings as our results yielded a 6-profile solution, instead of a 5-profile solution. However, most profiles were differentiated upon their level (the *low*, *above average*, and *high* profiles), which is consistent with Hirschi and Valero (2015). Having said that, several differences between Hirschi and Valero's study and ours are noteworthy with regards to the sample (e.g., different country, different educational context, sample size) and analytical procedure (e.g., operationalization of the indicators, underlying assumptions, fit statistics) that could potentially account for the differences between the two studies. Still, we did

observe the emergence of two qualitatively differentiated profiles: the *low confidence* and the *concern dominant* profiles. The emergence of profiles that display qualitative different patterns in terms of shape is critical and suggest that level does not always dominate the investigation of career adaptability profiles. In addition, while profile sizes were relatively similar for the *low* and *below average*, the proportion of students in the *high* profile was smaller in our study (5%) compared to Hirschi and Valero's (2015) study (15%). While we agree with Hirschi and Valero's (2015) conclusions that level effects are generally predominant, our results bring more nuance with regards to this important issue and provide evidence that, in specific contexts, shape differences may occur. Especially, these two qualitatively distinct profiles accounted for approximately a third of our sample and emerged early in the enumeration process, precluding the emergence of spurious profiles due to violations of the model's distributional assumptions (Bauer & Curran, 2003). Actually, the present study sheds light on the complementariness of both approaches in that they provide distinct but equally useful information to the study of career adaptability (Collins & Lanza, 2010). As such, the reliance on either a variable- or a person-centered approach is directly dependent upon the research question or the practical issue at hand (Hofmans et al., 2020). When adopting a variable-centered approach, one is able to study the relations, on average, between career adaptability and key covariates, establishing these relations for the entire sample. The person-centered approach is well suited to bring nuance in these relationships and investigate whether subpopulations with distinct patterns of these relations exist.

Emotional intelligence was found to be a strong and consistent predictor of profile membership. As hypothesized, individuals with higher levels of emotional intelligence had a higher probability to belong to profiles with higher levels of career adaptability. Interestingly, not only emotional intelligence differentiated profile membership between profiles with varying *levels* of career adaptability but emotional intelligence also differentiated profiles with varying *shapes* of career adaptability dimensions. Actually, this was only true for profiles with high levels of career adaptability as high levels of emotional intelligence was associated with a higher probability to belong to the *concern dominant* compared to the *above average* profile. However, emotional intelligence did not predict differences in profile membership between the *low confidence* and the *above average* or the *low* profile. Importantly, the examination of predictors of profile membership is of great importance in order to address the construct validity of the profiles and show that they reflect substantial and valid different populations (Hofmans et al., 2020). Nonetheless, these results are largely in line with previous research highlighting the predictive effect of emotional intelligence on career adaptability in cross-sectional and longitudinal studies (Celik & Storme, 2017; Coetzee & Harry, 2014; Parmentier et al., 2019; Udayar et al., 2018). This suggests that disposing of a high level of general adaptive functioning, particularly in emotional situations, stimulates the use and the development of career adapt-abilities.

The examination of differences between profiles with regards to anticipatory emotions at the prospect of the school-to-work transition and career decision-making self-efficacy also brought critical insights. Consistent with our hypotheses, we found significant differences with regard to positive anticipatory emotions and career decision-making self-efficacy.

Profiles with higher levels of career adaptability displayed consistently higher levels on these two variables. Contrary to the effects found for emotional intelligence, the impact on outcomes was mainly an effect of the *levels* as results failed to distinguish profiles with similar levels of career adaptability but varying shapes (i.e., the *above average* and *concern dominant* profiles or the *low confidence* and *below average* profiles). This is nonetheless consistent with previous research highlighting the positive impact of career adaptability on positive future-oriented affect and career decision-making self-efficacy (Rudolph et al., 2017). Surprisingly, no significant differences were found for negative anticipatory emotions. This is rather inconsistent with existing evidence showing the important protective role that career adaptability plays with regards to career anxiety or negative affect. Additional research efforts are certainly needed to disentangle this pattern of results as these previous studies offer only limited value as they mainly relied on trait and dispositional approaches to affective processes in career development.

4.1 Limitations and future directions

The present study is not without limitations. First, we relied on a cross-sectional design, limiting our ability to make any inferences about the causal relations between the antecedents and outcomes of career adaptability profiles. Future research could focus on longitudinal studies in order to better investigate the temporal precedence between the variables of interest and further address the construct validity and replicability of career adaptability profiles (Morin et al., 2018). Second, our sample was mainly composed of women, limiting our ability to generalize our findings to other samples or populations. This issue should especially be addressed as the samples used in Hirschi and Valero's (2015) studies shared similar sample characteristics. Replication efforts could bring additional support for the profiles found in these studies. Third, our sample size may be considered as small with regards to latent profile analyses standards (Tein et al., 2013). This issue would be important to address in subsequent replication efforts.

4.2 Practical implications

Besides the theoretical contributions brought about by the present study, several implications for practice could be raised. Differentiating profiles of career adaptability provides a more realistic representation that goes beyond the impact of a single construct and is useful for the development of typologies which can be used for counseling and interventions. Actually, the classification into career adaptability typologies is appealing for counselors and naturally aligned to their efforts to tailor their interventions based on the type of client they are trying to help (Hofmans et al., 2020). Our study highlights, for example, that counselors should pay attention to students showing profiles with low levels on the four career adaptability dimensions and profiles with low level on one specific dimension (e.g., *low confidence*), as they represented a quarter of the entire sample. Following Savickas (2013), a lack of career confidence, for example, can lead to career inhibition and threaten the ability for students to achieve career goals. With students in the *low confidence* profile,

counselors are invited to primarily focus on improving clients' confidence and self-esteem through emotional support, but also the engagement in activities whose successful attainment will strengthen their sources of self-efficacy and confidence. Finally, emotional intelligence and career adaptability have been demonstrated as reflecting malleable self-regulatory processes that can be taught and improved (Hodzic et al., 2018; Koen et al., 2012). Our findings thus offer important avenues in the development and the use of tailor-made interventions specifically designed to increase both global levels of career adaptability alongside with its specific dimensions.

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Appendix C

The measure of emotional anticipation

Given the purposes and objectives of our work, we adapted the original scale developed by Baumgartner et al. (2008). Such an adaptation was necessary for two main reasons that we describe below: (a) our discrete perspective of emotions and (b) the person-centered approach.

In their original study, Baumgartner et al. (2008) proposed their overarching theoretical framework related to future-oriented emotions and validated a scale that tapped into both components: anticipatory and anticipated emotions. For validation purposes, they used a dimensional perspective decomposed into four dimensions: positive anticipatory emotions, negative anticipatory emotions, positive anticipated emotions, negative anticipated emotions. However, their theoretical framework relies on cognitive appraisal theories, especially the cognitive structure of emotions proposed in the OCC model by Ortony et al. (Clore & Ortony, 2013; Ortony et al., 1988). In contrast to a dimensional perspective of emotion, we reviewed in Chapter 2 that such a view theorizes that specific discrete emotional states compose future-oriented emotions and appraisals of situations and events distinguish between these affective states. Importantly, Baumgartner et al. (2008) called for further research on future-oriented emotions adopting a discrete perspective of emotions.

The person-centered perspective adopted in this dissertation also influenced the measurement of emotional anticipation. Indeed, person-centered approaches, and latent profile analysis in particular, generally use a dimensional perspective of constructs. ~~SD~~State-of-the-art guidelines recommend the use of confirmatory factor analyses to model the relationships between latent constructs and observed indicators and the use of factor scores extracted from these measurement models in the estimation of latent profile solutions (Morin et al., 2020). However, as we argued above, such a strategy was inconvenient with our discrete perspective of emotions. In addition, such a dimensional and factor score approach is also inadequate to investigate the co-occurrence of multiple emotions. Indeed, investigating the co-occurrence of multiple emotions necessitates that one is able to interpret the scores on the original Likert scale and, especially, the scores around the mid-point of the Likert scale (Larsen, Hershfield, et al., 2017; Schimmack, 2001). The use of factor scores makes these interpretations very impractical since each construct is centered around the sample mean and the comparisons between distinct constructs (e.g., positive and negative emotions) becomes difficult.

An adaptation of the original scale was also necessary to address the statistical power of latent profile analyses. Indeed, studies using LPA generally necessitate large samples as underpowered studies generally are at risk of under- or over-extracting profile solutions (Tein et al., 2013). As a result, recommended sample sizes for LPA studies generally recommend

sample sizes from 200 up to 1,000 participants in order to have adequate power to detect the correct number of profiles (Nylund et al., 2007; Tein et al., 2013). Critically in our case, the number of parameters increases very rapidly as the number of indicators of profiles increases and has an important impact on statistical power. It was therefore necessary to limit the number of indicators as much as possible in our studies to maximize their statistical power. Finally, as latent profile analyses were performed on discrete emotional states, it was critical to balance the number of emotional states in each dimension (i.e., positive vs. negative anticipatory and anticipated emotions) in order to avoid that one dimension characterized by a higher number of indicators influence the results to a much greater extent compared to other emotional states and dimensions.

Based on the theoretical framework of future-oriented emotions that we described in Chapter 2 and, to a lesser extent, on related discrete and dimensional theories of emotions (Roseman et al., 1990; J. A. Russell, 1980; Scherer, 2001; Smith & Ellsworth, 1985; Watson et al., 1988), we developed our measure of emotional anticipation (see Table C1 and Table C2).

Table C1. Affective states used in the original scale (Baumgartner et al., 2008) and the empirical chapters of this dissertation

	Positive anticipatory emotions	Negative anticipatory emotions	Positive anticipated emotions	Negative anticipated emotions
Original scale (Baumgartner et al., 2008)	<i>Optimistic</i> <i>Confident</i>	<i>Worried</i> <i>Anxious</i> <i>Uncomfortable</i>	<i>Relieved</i> <i>Satisfied</i> <i>Happy</i> <i>Proud</i>	<i>Disappointed</i> <i>Annoyed</i> <i>Regretful</i> <i>Stupid</i> <i>Guilty</i> <i>Angry at self</i>
Adapted scale	<i>Optimistic</i> <i>Confident</i> <i>Hopeful</i>	<i>Worried</i> <i>Anxious</i> <i>Nervous</i>	<i>Happy</i> <i>Proud</i> <i>Relieved</i>	<i>Disappointed</i> <i>Guilty</i> <i>Sad</i>

Additionally, the instructions tapping into anticipatory and anticipated emotions were also adapted to vocational transitions as the original scale focused on the transition to the 2K millennium (H. Baumgartner et al., 2008). We detail below the instructions and measures of future-oriented emotions in full with regard to the transition from higher education to work taken here as an example.

Table C2. Instructions and measures of future-oriented emotions

Anticipatory emotions

After completing your studies, you will probably enter the job market and search for a first job. At that time, your goals, your interests, and your personal and professional projects may take a variety of forms. Please indicate how you feel *here and now* at the prospect of your transition from higher education to work.

- Optimistic
- Confident
- Hopeful
- Worried
- Anxious
- Nervous

Positive anticipated emotions

Now please imagine that you have made the transition from higher education to work. Please indicate how you think you will feel if the months following your entry into the job market, and what you will have done by then, will have had positive consequences for you and allowed you to reach some of your personal and professional goals.

- Happy
- Proud
- Relieved

Negative anticipated emotions

Now please imagine that you have made the transition from higher education to work. Please indicate how you think you will feel if the months following your entry into the job market, and what you will have done by then, will have had negative consequences for you and prevented you to reach some of your personal and professional goals.

- Disappointed
- Guilty
- Sad

Note. The order of the positive and negative simulations related to positive and negative anticipated emotions were presented at random. Likert scale responses ranged from 5 or 7 anchors depending on the study.

Appendix D

Supplementary materials for Chapter 5

Anticipatory emotions at the prospect of the transition to higher education

In these online supplements, we first present additional details with regard to our preliminary analyses. That is, we present (1) the procedure used to handle missing data, (2) the correlation matrix among the constructs, (3) the measurement and longitudinal invariance analyses. Second, we detail the selection of the optimal profile solution for the time-specific latent profile analyses (LPA).

Table D1. Description of the cohort sequential design

	Beginning of Grade 11	End of Grade 11	Beginning of Grade 12	End of Grade 12	Beginning of 1 st year HE	End of 1 st year HE
Cohort 1	1	2	3	4	missing by design	
Cohort 2	missing by design		1	2	3	4

1. Preliminary analyses

1.1 Missing data management and dropout analyses

All analyses were performed using SPSS 25 and *Mplus* 8 (Muthén & Muthén, 1998–2017) with its robust maximum likelihood estimator (MLR) in conjunction with full information maximum likelihood estimation (FIML) for handling missing data under the missing at random (MAR) assumption. FIML was described as the best available option to model missing data because other approaches like listwise or pairwise deletion require the even more strict assumptions of missing completely at random (MCAR) and have been shown to result in less trustworthy parameter estimates (see Newman, 2014, for a review). FIML is an analytical strategy using the data from all participants in the estimation of model parameters. Contrary to classical missing data strategies, FIML does not delete (i.e., listwise or pairwise deletion strategy) nor replace data (e.g., imputation methods) but estimates model parameters based on all the information available in the variance-covariance matrix.

FIML has been found to be unbiased in longitudinal studies with missing time points even with a very high level of missing data (e.g., 50%; Enders, 2010; Enders & Bandalos, 2001; Schafer & Graham, 2002). However, we still performed dropout analyses to assess the extent to which attrition effects between time points should caution the interpretation of our

findings. We compared participants who completed both time points with participants who completed only one time point. None of the differences with regards to all of our constructs were found significant between the two groups. As for socio-demographic variables, chi-square independence tests revealed that there were no significant differences neither in gender proportions ($\chi^2(1) = 0.249, p = .617$) nor in parents' marital status proportions ($\chi^2(1) = 0.004, p = .947$) between the two groups. However, significant differences between dropout patterns were found with regard to the number of grade repetitions during high school ($t_{542} = 2.301, p < .05$).

Table D2. Factor correlation matrix

	1	2	3	4	5	6	7	8	9	10	11
<i>Socio-demographics</i>											
1. Gender	–										
2. Repetitions	.01	–									
3. Parents' marital status	.02	.11	–								
<i>Time 1</i>											
4. Positive anticipatory emotions	–.01	–.06	.01	–							
5. Negative anticipatory emotions	–.07	–.07	.00	–.31	–						
6. Career decidedness	–.02	.04	.02	.54	–.30	–					
7. Career adaptability	–.04	–.13	–.02	.58	–.26	.38	–				
<i>Time 2</i>											
8. Positive anticipatory emotions	–.11	–.04	.06	.69	–.35	.48	.53	–			
9. Negative anticipatory emotions	.11	–.04	–.07	–.29	.49	–.31	–.27	–.48	–		
10. Career decidedness	–.07	.01	–.02	.47	–.25	.73	.36	.57	–.41	–	
11. Career adaptability	–.05	–.10	–.01	.56	–.23	.40	.88	.63	–.35	.45	–

Note. Gender was coded 1 = girls, 2 = boys. Marital status was coded 1 = married or together, 2 = separated. All coefficients equal or above |.10|, |.13|, and |.23| are significant at the .05, .01, and .001 level, respectively.

1.1 Bivariate correlations

The bivariate correlations among constructs are displayed in Table D2. Overall, results showed that our constructs were correlated as expected. For example, positive and negative anticipatory emotions were negatively correlated within and across time points, suggesting that they are mutually exclusive to some extent at the sample level. Some constructs were reliably correlated across time. While career decidedness and career adaptability were relatively stable across time ($r = .73$ and $r = .88$, respectively), anticipatory emotions showed lower stability over time, especially for negative anticipatory emotions ($r = .49$).

1.2 Measurement and invariance analyses

Due to the complexity of measurement models with constructs measured at 2 time points and across 2 different cohorts, preliminary analyses were conducted for each construct separately. This strategy allowed us to assess longitudinal measurement invariance of all our variables across time. The results of longitudinal measurement invariance analyses are displayed in Table D3. Invariance configural models specify measurement models across time or across cohort without constraining any of the estimated model parameters and thus provide information about the quality of model fit for each time point. Consistent with modeling techniques of same constructs across time, same-item residuals were allowed to correlate across time points for longitudinal invariance models. These results showed that the configural measurement models across time fitted the data satisfactorily ($RMSEA \leq .082$; $CFI \geq .950$, $TLI \geq .914$, $SRMR \leq .059$). Before describing the results of the invariance analyses, we detail the specific modeling of several constructs: anticipatory emotions and career adaptability. As career decidedness was measured with a unique item, we were not able to perform measurement invariance analyses.

For the measure of positive and negative anticipatory emotions, we used exploratory structural equation modeling measurement model (ESEM; Morin, Marsh, Nagengast, 2013). These measurement models were used following recent advances in structural equation modeling, suggesting that constraining cross-loadings to be exactly zero between conceptually-related constructs (as positive and negative anticipatory emotions are) provide measurement bias that is very likely to be absorbed in inflated factor correlations (Morin, Arens, & Marsh, 2015). Given the important issues about the correlations between positive and negative emotions and the connected issue of mixed emotions, it was particularly relevant to use such modeling since exploratory structural equation modeling has been found to provide unbiased factor correlations even when there were no cross-loadings in the population model (Asparouhov, Muthén, & Morin, 2015; Morin, Arens, & Marsh, 2015). These measurement models were specified using a target rotation to reflect the confirmatory approach in the measurement models (Asparouhov & Muthén, 2009; Browne, 2001). Target rotation allows the a priori specification of indicators' factor loadings on their a priori construct while targeting cross-loadings as close to zero as possible.

Concerning career adaptability, we used parceling techniques due to the extremely high number of model parameters needed to be estimated at each time point. Given the multidimensional nature of career adaptability, we used aggregated scores of the concern, control, curiosity, and confidence dimensions as observed indicators of the four latent constructs representing career adaptability at each time point (Little et al., 2002).

Table D3. Longitudinal invariance models fit indices

Invariance models	MLR χ^2 (df)	SCF	MLR $\Delta\chi^2$ (df)	RMSEA [90% CI]	CFI	TLI	SRMR	Δ CFI
<i>Positive and negative anticipatory emotions (ESEM)</i>								
<i>Invariance across cohorts</i>								
Configural	456.55 (276)	1.013	–	.049 [.041;.057]	.950	.931	.053	–
Metric	509.35 (308)	1.001	52.79 (32)*	.049 [.041;.057]	.944	.931	.061	–.006
Scalar	524.91 (324)	0.996	14.34 (16)	.048 [.040;.055]	.944	.935	.061	–.000
Strict	541.65 (344)	0.998	17.16 (20)	.046 [.039;.053]	.945	.939	.065	.001
<i>Invariance across time</i>								
Configural	278.14 (138)	1.015	–	.043 [.036;.051]	.960	.945	.037	–
Metric	298.42 (154)	1.026	21.23 (16)	.042 [.035;.049]	.959	.949	.043	–.001
Scalar	312.58 (162)	1.010	13.61 (8)	.041 [.035;.048]	.957	.949	.043	–.002
Strict	348.23 (172)	1.028	32.00 (10)***	.044 [.037;.050]	.949	.944	.051	–.008
<i>Career adaptability</i>								
<i>Invariance across cohorts</i>								
Configural	84.27 (30)	0.935	–	.082 [.062;.103]	.954	.914	.059	–
Metric	87.84 (36)	0.929	3.15 (6)	.073 [.054;.093]	.956	.931	.072	.002
Scalar	89.34 (42)	0.941	2.42 (6)	.065 [.045;.083]	.960	.946	.075	.004
Strict	92.82 (50)	0.973	5.51 (8)	.056 [.038;.074]	.964	.959	.083	.004
<i>Invariance across time</i>								
Configural	55.17 (15)	1.154	–	.072 [.051;.091]	.966	.937	.048	–
Metric	67.43 (18)	1.075	12.96 (3)*	.072 [.054;.090]	.958	.935	.061	–.008
Scalar	77.35 (21)	1.017	9.23 (3)*	.071 [.054;.088]	.953	.937	.060	–.005
Strict	82.35 (25)	1.012	4.76 (4)	.065 [.050;.081]	.952	.946	.073	–.001

Note. MLR χ^2 = chi-square test of model fit associated with robust maximum likelihood estimator; df = degrees of freedom; SCF = scaling correction factor; RMSEA = root mean square error of approximation; CFI = comparative fit index; SRMR = standardized root mean residual. * $p < .05$ ** $p < .01$ *** $p < .001$.

We now turn on the measurement invariance analyses displayed in Table D3. Measurement invariance was tested by placing increasingly stricter invariance constraints on the parameters of the measurement models and comparing the fit of the competing nested models with chi-square difference tests (Vandenberg & Lance, 2000). In particular, invariance of (1) the pattern of fixed and free factor loadings (i.e., configural invariance), (2) factor loadings (i.e., metric invariance), (3) intercepts (i.e., scalar invariance), and (4) residual variances (i.e., strict invariance) was examined for each scale. To evaluate model fit, multiple fit indices were used: the comparative fit index (CFI), the Tucker-Lewis index (TLI), the root mean square error of approximation (RMSEA), and the standardized root mean square

residual (SRMR). CFI/TLI values greater than .90 and RMSEA/SRMR values smaller than .08 were interpreted as indicative of acceptable model fit (Hu & Bentler, 1998; Marsh et al., 2004). Besides chi-square difference tests that are generally too sensitive to sample size and minor model misspecifications in invariance tests (Cheung & Rensvold, 2002), all comparisons were also based on the Δ CFI (less than .01 indicating invariance) and Δ RMSEA (less than .015 indicating invariance) criteria suggested by Chen (2007). Results from the measurement invariance analyses are displayed in Table D3. Results were quite consistent across analyses and showed that all constructs were reliably measured and equivalent both across cohorts and time points.

2. Time-specific latent profile analyses

The fit indices associated with the time-specific profile enumerations are displayed in Table D4. Contrary to classical LPA, we focused on the discrete emotion terms rather than the higher order constructs of positive anticipatory emotions and negative emotions in order to finely assess the differences on the specific emotions across profiles. Accordingly, these models were equivalent to factor mixture models (Clark et al., 2013; Lubke & Muthén, 2005). All models were estimated with factor mean and factor variances fixed to 0 and 1, respectively, for model identification, item intercepts freely estimated across profiles, and with factor loadings and item residuals constrained to be equal across profiles.

At Time 1, all fit statistics kept on decreasing from the 1-profile solution to the 5-profile solution. Surprisingly, the 5- and the 6-profile solutions performed much better than the previous models. A thorough investigation of these two solutions showed that these models were not statistically proper due to very small profiles and the non-significance of one factor loading on one negative anticipatory emotion that led its item intercept to be fixed across profiles during the iteration process. This constraint thus explained the higher performance of these models compared to the previous ones. Taking this into account, the 3- and the 4-profile solutions were statistically proper, relatively equivalent with regards to the BIC and CAIC, and yielded meaningful profiles. These two solutions were thus good candidates for the optimal number of profiles. At Time 2, results were less equivocal as, even though AIC and SABIC kept on decreasing, BIC and CAIC reached their lowest point at 3 profiles. Again, we observed a sharp decrease in the fit statistics for the 6-profile solution. A careful investigation highlighted the same improper statistical features observed for the 5- and the 6-profile solutions at Time 1. The 3-profile solution was very similar to those of Time 1, was statistically proper, and meaningful with regards to the qualitative patterns of anticipatory emotions. These time-specific LPA were used as preliminary step before fitting longitudinal LPA models across all time points and were informative on the best model candidates to select for the subsequent analyses. Actually, these time-specific LPA were neither able to take into account the longitudinal invariance that hold in the data nor apply modern missing data techniques (i.e., FIML). These time-specific LPA are thus of limited value compared to the longitudinal profile enumeration reported in the main manuscript.

Table D4. Time-specific latent profile enumeration fit statistics

# of profiles	LL	fp	SCF	AIC	BIC	SABIC	CAIC	Entropy
Beginning of 12 th grade (Time 1)								
1	–6231.05	31	1.070	12524.11	12652.31	12553.93	12683.31	–
2	–6117.08	42	1.080	12318.17	12491.86	12358.56	12533.86	.925
3	–6067.60	53	1.225	12241.20	12460.38	12292.18	12513.38	.896
4	–6010.14	64	1.386	12148.29	12412.96	12209.84	12476.96	.928
5	–5773.65	75	1.195	11697.30	12007.47	11769.44	12082.47	.981
6	–5750.78	86	1.181	11673.55	12029.21	11756.27	12115.21	.980
End of 12 th grade (Time 2)								
1	–3510.70	31	1.0376	7083.40	7195.29	7097.00	7226.29	–
2	–3448.94	42	1.1992	6981.88	7133.48	7000.30	7175.48	.905
3	–3403.95	53	1.0865	6913.90	7105.20	6937.15	7158.20	.931
4	–3373.51	64	1.1502	6875.02	7106.03	6903.10	7170.03	.944
5	–3348.86	75	0.7972	6847.71	7118.42	6880.62	7193.42	.953
6	–3253.34	86	1.1423	6678.09	6989.09	6716.40	7075.09	.981

Note. LL = log likelihood ; fp = free parameters ; SCF = scaling correction factor; AIC = Akaike information criteria; BIC = Bayesian information criteria; SABIC = sample-size adjusted BIC; CAIC = consistent AIC; LMR = Lo-Mendell-Rubin likelihood ratio test; BLRT = Bootstrap Likelihood Ratio test.

Appendix E

Supplementary materials for Chapter 6

Emotional anticipation of high school graduation

In these online supplements, we detail the enumeration and the selection of the optimal profile solutions for the group-specific latent profile analyses (LPA).

1. Group-specific latent profile analyses

We specified LPA models ranging from 1- to 8-profiles in each group separately. Tables S3, S4, and S5 present the fit indices associated with these profile enumerations for gender, educational track, and grade, respectively. Besides the availability of fit statistics, issues of parsimony, theoretical adequacy, substantive meaning, profile redundancy, and profile size also drive the selection of the optimal profile solution (Nylund et al., 2007). LPAs were performed using 5,000 random sets of starting values with a maximum 200 iterations, the 200 best solutions being retained for optimization. Several fit statistics were used to evaluate the best fitting models: the Akaike Information Criterion (AIC), the Consistent AIC (CAIC), the Bayesian Information Criterion (BIC), the sample-size adjusted BIC (SABIC), and entropy. The best profile solution should display smaller AIC, CAIC, BIC, and SABIC values compared with other profile solutions, and an entropy greater than .70 (ranges from 0 to 1). Simulation studies previously showed that BIC and CAIC were better in discriminating best models (Nylund et al., 2007).

For boys, the BIC and CAIC reached their lowest point at 5-profile and then increased, thus suggesting to retain the 5-profile solution. We carefully investigated the 4- to 6-profile solutions in terms of statistical adequacy and errors, theoretical meaning, and profile redundancy. This investigation showed that all profiles in the 4-profile solution were well distinguished from each other and meaningful. However, the 5-profile solution did not replicate the log-likelihood value, suggesting that the solution might not be trustworthy with regard to local maxima (Hipp & Bauer, 2006). In addition, adding a profile resulted in the arbitrary division of one profile into two very similar profiles. This division also resulted in the definition of a very small profile ($n = 43$; 6.86% of the sample). We thus retained the 4-profile solution as the best description of the data for boys. A very similar pattern was found for girls. Strikingly, the 5-profile solution was not statistically proper with the definition of a fifth profile whose size was zero. We thus also retained the 4-profile solution for girls.

Table E1. Group-specific latent profile enumeration fit statistics for gender

	LL	fp	SCF	AIC	BIC	SABIC	CAIC	Entropy	Smallest profile
Boys									
1	-13,656.71	24	0.996	27,361.41	27,468.03	27,391.84	27,492.03	1	–
2	-13,046.71	49	1.177	26,191.42	26,409.11	26,253.54	26,458.11	.813	45.64%
3	-12,750.86	74	1.379	25,649.72	25,978.47	25,743.53	26,052.47	.858	15.61%
4	-12,531.74	99	1.542	25,261.48	25,701.29	25,386.98	25,800.29	.843	18.47%
5	-12,386.80	124	1.271	25,051.61	25,572.48	25,178.80	25,696.48	.878	6.85%
6	-12,333.29	149	1.182	24,964.58	25,626.52	25,153.46	25,775.52	.872	7.48%
7	-12,431.67	174	1.192	25,211.34	25,984.35	25,431.92	26,158.35	.883	0.00%
8	Non-convergence								
Girls									
1	-15,496.37	24	1.084	31,040.73	31,150.93	31,074.72	31,174.93	1	–
2	-14,720.75	49	1.206	29,539.50	29,764.49	29,608.90	29,813.49	.824	46.11%
3	-14,312.36	74	1.280	28,772.72	29,112.50	28,877.53	29,186.50	.841	27.98%
4	-14,164.28	99	1.868	28,526.56	28,981.13	28,666.78	29,080.13	.844	13.17%
5	-14,164.28	124	1.452	28,576.56	29,145.92	28,752.18	29,269.92	.866	0.00%
6	-14,164.29	149	1.310	28,626.57	29,310.73	28,837.61	29,459.73	.879	0.00%
7	-14,612.36	174	0.543	28,972.72	29,771.67	29,219.17	29,945.67	.910	0.00%
8	-14,612.36	199	0.477	29,022.72	29,936.46	29,304.57	30,135.46	.916	0.00%

Note. LL = log likelihood ; fp = free parameters ; SCF = scaling correction factor; AIC = Akaike information criteria; BIC = Bayesian information criteria; SABIC = sample-size adjusted BIC; CAIC = consistent AIC; LMR = Lo-Mendell-Rubin likelihood ratio test; BLRT = Bootstrap Likelihood Ratio test.

Profile enumeration statistics for educational track can be found in Table E2. For students in the academic track, the BIC and CAIC kept on decreasing until the 4-profile solution and then started to increase in the 6-profile solution. The 7- and 8-profile solutions failed to reach convergence. A careful investigation of the 4-profile solution revealed that profiles were well distinguished, meaningful, and very similar to profiles found for boys and girls. Adding a profile resulted in a non-replicated log-likelihood value and in a very small profile ($n = 20$, 2.69% of the total sample). We thus retained the 4-profile solution for the academic track. For students in the vocational track, values of BIC and CAIC reached their lowest point at 6 profiles and then increased in the 7-profile solution. The 8-profile solution failed to reach convergence. We carefully investigated solutions from 4 to 6 profiles. An inspection of statistical adequacy and errors revealed that the 5- and 6-profile solutions had improper parameter values. Profiles in the 4-profile solution were very similar to those found for students in the academic track, and adding a profile resulted in the arbitrary division of one profile into two profiles, with a very small profile with extreme values ($n = 37$; 6.07%).

Table E2. Group-specific latent profile enumeration fit statistics for educational track

	LL	fp	SCF	AIC	BIC	SABIC	CAIC	Entropy	Smallest profile
Academic track									
1	−15,730.98	24	1.115	31,509.96	31,620.68	31,544.47	31,644.68	1	—
2	−14,988.03	49	1.168	30,074.07	30,300.12	30,144.53	30,349.12	.822	45.77%
3	−14,607.85	74	1.356	29,363.71	29,705.10	29,470.12	29,779.10	.833	25.50%
4	−14,456.72	99	1.277	29,111.43	29,568.16	29,253.80	29,667.16	.835	11.01%
5	−14,390.77	124	1.301	29,029.53	29,601.59	29,207.85	29,725.59	.864	2.69%
6	−14,463.63	149	6.062	29,225.26	29,912.65	29,439.52	30,061.65	.857	0.00%
7	Non-convergence								
8	Non-convergence								
Vocational track									
1	−13,564.00	24	0.955	27,175.99	27,281.92	27,205.72	27,229.72	1	—
2	−12,884.34	49	1.280	25,866.69	26,082.95	25,927.38	26,131.95	.874	39.84%
3	−12,530.31	74	1.380	25,208.61	25,535.21	25,300.27	25,609.21	.848	28.64%
4	−12,351.15	99	1.257	24,900.29	25,337.22	25,022.92	25,436.22	.846	18.20%
5	−12,181.10	124	1.177	24,610.10	25,157.48	24,763.80	25,281.48	.893	6.07%
6	−12,077.26	149	1.665	24,452.53	25,110.13	24,637.09	25,259.13	.873	8.53%
7	−12,189.00	174	0.880	24,726.00	25,493.94	24,941.53	25,667.94	.893	0.00%
8	Non-convergence								

Note. LL = log likelihood ; fp = free parameters ; SCF = scaling correction factor; AIC = Akaike information criteria; BIC = Bayesian information criteria; SABIC = sample-size adjusted BIC; CAIC = consistent AIC; LMR = Lo-Mendell-Rubin likelihood ratio test; BLRT = Bootstrap Likelihood Ratio test.

Concerning grades, fit statistics consistently decreased until the 4-profile solution before starting to increase. An exception was found for Grade 11 in which the fit statistics reached a plateau around 4-profile solution and increased only at 6 profiles. We carefully investigated the 4- and 5-profile solutions from Grade 9 to Grade 12 to ensure that profiles were meaningful and statistically proper. This analysis revealed that, beyond similarity with solutions for gender and educational track, profiles were very similar across grades. Adding a profile from 4 to 5 generally resulted either on statistical errors (non-replicated best log-likelihood values or out-of-bound parameters) or the arbitrary division of one profile into two smaller profiles. We thus retained the 4-profile solutions as the best description of the data with regard to grade.

Table E3. Group-specific latent profile enumeration fit statistics for grade

	LL	fp	SCF	AIC	BIC	SABIC	CAIC	Entropy	Smallest profile
Grade 9									
1	-7,051.43	24	1.040	14,150.86	14,241.97	14,165.84	14,265.97	1	–
2	-6,670.80	49	1.079	13,439.59	13,625.60	13,470.17	13,674.60	.857	45.90%
3	-6,494.63	74	1.074	13,137.27	13,418.18	13,183.45	13,492.18	.863	27.18%
4	-6,402.45	99	1.267	13,002.90	13,378.71	13,064.68	13,477.71	.889	9.73%
5	-6,334.12	124	1.141	12,916.24	13,386.95	12,993.62	13,510.95	.877	10.94%
6	-6,268.55	149	1.299	12,835.10	13,400.71	12,928.09	13,549.71	.898	9.12%
7	-6,271.39	174	1.408	12,890.78	13,551.30	12,999.37	13,725.30	.900	0.00%
8	-6,225.96	199	0.964	12,849.93	13,605.34	12,974.12	13,804.34	.899	0.00%
Grade 10									
1	-7831.11	24	1.012	15,710.22	15,803.28	15,727.14	15,827.28	1	–
2	-7,446.91	49	1.323	14,991.82	15,181.83	15,026.38	15,230.83	.862	37.26%
3	-7,289.57	74	1.294	14,727.13	15,014.08	14,779.32	15,088.08	.890	15.51%
4	-7,143.48	99	1.205	14,484.95	14,868.85	14,554.77	14,967.85	.893	15.41%
5	-7,115.36	124	1.206	14,478.72	14,959.56	14,566.17	15,083.56	.924	2.52%
6	-7,060.23	149	1.034	14,448.45	14,996.24	14,523.54	15,145.24	.920	0.00%
7	-7,276.48	174	0.693	14,900.95	15,575.68	15,023.67	15,749.68	.913	0.00%
8	-7,111.94	199	0.713	14,621.88	15,393.55	14,762.23	15,592.55	.931	0.00%
Grade 11									
1	-6,834.30	24	1.033	13,716.59	13,806.73	13,730.61	13,830.73	1	–
2	-6,518.01	49	1.272	13,134.01	13,318.04	13,162.63	13,367.04	.814	48.42%
3	-6,276.80	74	1.229	12,701.59	12,979.52	12,744.81	13,053.52	.884	30.38%
4	-6,183.84	99	1.219	12,565.68	12,937.50	12,623.49	13,036.50	.896	16.14%
5	-6,091.69	124	1.167	12,431.38	12,897.09	12,503.80	13,021.09	.885	15.82%
6	-6,021.32	149	1.152	12,340.64	12,900.24	12,427.65	13,049.24	.897	11.39%
7	-6,026.04	174	0.984	12,400.09	13,053.59	12,501.70	13,227.59	.895	0.00%
8	-6,003.27	199	0.907	12,404.54	13,151.93	12,520.75	13,350.93	.905	0.00%
Grade 12									
1	-7,693.09	24	1.064	15,434.19	15,527.32	15,451.18	15,551.32	1	–
2	-7,286.24	49	1.283	14,670.47	14,860.62	14,705.16	14,909.62	.844	44.36%
3	-7,073.97	74	1.082	14,295.94	14,583.10	14,348.33	14,657.10	.859	27.93%
4	-6,982.68	99	1.106	14,163.37	14,547.54	14,233.46	14,646.54	.875	13.41%
5	-6,920.63	124	1.299	14,089.26	14,570.45	14,177.06	14,694.45	.882	7.82%
6	-6,943.32	149	1.117	14,184.63	14,762.83	14,290.13	14,911.83	.898	0.00%
7	-6,946.20	174	0.771	14,240.41	14,915.62	14,363.61	15,089.62	.913	0.00%
8	-6,954.23	199	0.747	14,306.45	14,078.68	14,447.36	15,277.68	.923	0.00%

Note. LL = log likelihood ; fp = free parameters ; SCF = scaling correction factor; AIC = Akaike information criteria; BIC = Bayesian information criteria; SABIC = sample-size adjusted BIC; CAIC = consistent AIC; LMR = Lo-Mendell-Rubin likelihood ratio test; BLRT = Bootstrap Likelihood Ratio test.

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Appendix F

Supplementary materials for Chapter 7

Emotional anticipation of the school-to-work transition

We detail the enumeration and the selection of the best profile solutions for the group-specific latent profile analyses.

1. Group-specific latent profile analyses

We conducted latent profile analyses through a profile enumeration process from 1 to 8 profiles in each group separately. Analyses for gender, educational institution, and remaining time before the transition are reported in Table F1, Table F2, and Table F3, respectively. LPAs were performed using 5,000 random sets of starting values with a maximum of 200 iterations. The best 200 best solutions were retained for the optimization stage. The strategy for choosing the best profile solutions are described in the main paper.

For men, all fit indices kept on decreasing until the 6-profile solution where they reached their lowest point (except for the AIC). However, the scree plot displayed an elbow at 3 profiles. Therefore, we investigated the 3-, 4-, 5-, and 6-profile solutions for statistical adequacy and substantive meaning. Our examination showed that adding a profile from 3 to 4 profiles resulted in the emergence of a meaningful profile that was distinct from other profiles in the solution. In contrast, adding a profile from 4 to 5, and from 5 to 6 profile resulted in the division of a large profile into smaller ones that were very similar. Therefore, we decided to retain the 4-profile solution as the best description of the data.

For women, all fit indices, except the AIC, reached their lowest point at 6 profiles and began to increase at 7 profiles. The 8-profile solution failed to reach convergence. However, an inspection of the scree plot showed that fit indices yielded to an elbow at 3 profiles. Therefore, we carefully investigated the 3-, 4, 5-, and 6-profile solutions. Our investigation showed that all profile solutions were statistically proper unless for the 6-profile solution for which the best loglikelihood value was not replicated, suggesting that a local maximum may have been found (Hipp & Bauer, 2006). Adding a profile from 3 to 4 yielded to the emergence of a meaningful profile that was distinct with regard to its shape and its levels of anticipatory and anticipated emotions. However, when adding a profile from 4 to 5 profiles resulted in the arbitrary division of one large profile into two smaller profiles that were very similar with regards to their shape and with small size (i.e., 9.21% of women, $n = 148$). Under the

parsimony principle, we decided to retain the 4-profile solution as the best description of the data for women.

Table F1. Group-specific latent profile enumeration fit statistics for gender

	LL	fp	SCF	AIC	BIC	SABIC	CAIC	Entropy	Smallest profile
<i>Men</i>									
1	-26,538.68	24	1.134	53,125.37	53,248.98	53,172.75	53,272.98	1	–
2	-25,456.27	49	1.944	51,010.53	51,262.91	51,107.27	51,311.91	0.795	47.45%
3	-24,694.75	74	1.241	49,537.50	49,918.65	49,683.59	49,992.65	0.827	20.00%
4	-24,349.82	99	1.295	48,897.65	49,407.57	49,093.10	49,506.57	0.836	17.49%
5	-24,101.56	124	1.162	48,451.11	49,089.80	48,695.91	49,213.80	0.818	10.04%
6	-23,931.87	149	1.844	48,161.74	48,929.19	48,455.89	49,078.19	0.819	9.65%
7	-23,873.67	174	1.327	48,095.34	48,991.56	48,438.85	49,165.56	0.829	1.57%
8	-23,934.81	199	1.036	48,267.83	49,292.82	48,660.70	49,491.82	0.859	0.00%
<i>Women</i>									
1	-32,157.87	24	1.243	64,363.75	64,492.92	64,416.68	64,516.92	1	–
2	-30,639.58	49	1.299	61,377.15	61,640.88	61,485.21	61,689.88	0.831	44.68%
3	-29,613.04	74	1.092	59,374.08	59,772.36	59,537.27	59,846.36	0.828	23.58%
4	-29,310.84	99	1.176	58,819.67	59,352.51	59,038.00	59,451.51	0.835	8.24%
5	-29,030.44	124	1.221	58,308.88	58,976.27	58,582.34	59,100.27	0.844	8.40%
6	-28,875.53	149	1.438	58,049.05	58,850.99	58,377.65	58,999.99	0.834	5.54%
7	-28,839.51	174	1.118	58,027.02	58,963.51	58,410.74	59,137.51	0.857	0.00%
8	Non-convergence								

Profile enumeration statistics for institutional type can be found in Table F2. For university students, all fit indices reached their lowest point at 7 profiles before increasing in the 8-profile solution. However, they tended to reach a plateau around 4 profiles. Similar to the profile enumeration process for gender, a careful investigation of the profiles solutions showed that adding a profile from 4 to 5 profiles, and from 5 to 6 profiles, resulted in the arbitrary division of one profile into two very similar profiles. For college students, all fit indices kept on decreasing and did not reach a lowest point. A plateau around 4 profiles was nonetheless noteworthy and more pronounced. Similar to university students, adding profiles from 4 to 5, and from 5 to 6 profiles resulted in the division of one profile into similar profiles. In both groups, the 4-profile solution was thus retained as the best description of the data, thus suggesting configural profile similarity between university and college students. Of note, the four profiles were very similar to those found for men and women.

Concerning remaining time before the school-to-work transition, fit statistics consistently decreased until reaching a plateau around 4 profiles. A careful investigation of 4 and 5 profiles in each group first revealed that all groups were very similar with regards to the profile solutions. Again, adding a profile from 4 to 5 generally resulted either on statistical errors (non-replicated best log-likelihood values or out-of-bound parameters) or the arbitrary division of one profile into two smaller profiles. We retained the 4-profile solution as the best

description of the data with regards to the remaining time before the transition, thus suggesting configural profile similarity across years of study.

Table F2. Group-specific latent profile enumeration fit statistics for institutional type

	LL	fp	SCF	AIC	BIC	SABIC	CAIC	Entropy	Smallest profile
<i>University students</i>									
1	-37,293.03	24	1.232	74,634.07	74,766.15	74,689.90	74,790.15	1	–
2	-35,448.79	49	1.416	70,995.59	71,265.25	71,109.58	71,314.25	0.861	42.94%
3	-34,398.99	74	1.309	68,945.97	69,353.21	69,118.12	69,427.21	0.835	22.77%
4	-33,894.14	99	1.193	67,986.97	68,531.10	68,216.58	68,630.10	0.824	16.59%
5	-33,584.24	24	1.418	67,416.48	68,098.89	67,704.94	68,222.89	0.828	11.08%
6	-33,364.82	149	1.401	67,027.64	67,847.63	67,374.27	67,996.63	0.842	6.89%
7	-33,241.75	174	1.346	66,831.50	67,789.08	67,236.29	67,963.08	0.841	4.91%
8	-33,425.72	199	1.083	67,249.43	68,344.59	67,712.37	68,543.59	0.836	0.00%
<i>College students</i>									
1	-20,950.39	24	1.068	41,948.78	42,066.94	41,990.72	42,014.72	1	–
2	-20,042.57	49	1.092	40,183.15	40,424.41	40,268.78	40,473.41	0.803	38.23%
3	-19,443.28	74	1.189	39,034.55	39,398.90	39,163.87	39,472.90	0.821	30.61%
4	-19,153.65	99	1.225	38,505.31	38,992.75	38,678.31	39,091.75	0.845	12.99%
5	-18,966.73	124	1.284	38,181.46	38,791.99	38,398.15	38,915.99	0.853	10.47%
6	-18,850.48	149	1.213	37,998.95	38,732.57	38,259.34	38,881.57	0.841	8.96%
7	-18,762.47	174	1.809	37,872.93	38,729.64	38,177.00	38,903.64	0.820	8.17%
8	Non-convergence								

Note. LL = log likelihood ; fp = free parameters ; SCF = scaling correction factor; AIC = Akaike information criteria; BIC = Bayesian information criteria; SABIC = sample-size adjusted BIC; CAIC = consistent AIC; LMR = Lo-Mendell-Rubin likelihood ratio test; BLRT = Bootstrap Likelihood Ratio test.

Table F3. Group-specific latent profile enumeration fit statistics for remaining time before the transition

	LL	fp	SCF	AIC	BIC	SABIC	CAIC	Entropy	Smallest profile
5 years									
1	-7,334.60	24	1.141	14,717.19	14,809.78	14,733.65	14,833.78	1	–
2	-6,971.66	49	1.243	14,041.32	14,230.36	14,074.91	14,279.36	.886	34.57%
3	-6,749.21	74	1.120	13,646.42	13,931.91	13,697.15	14,005.91	.868	27.43%
4	-6,628.96	99	1.186	13,455.92	13,837.86	13,523.79	13,936.86	.859	14.86%
5	-6,536.09	124	1.174	13,320.18	13,798.57	13,405.19	13,922.57	.880	11.71%
6	-6,492.45	149	1.180	13,222.90	13,797.74	13,325.06	13,946.74	.886	8.00%
7	-6,425.44	174	1.237	13,198.87	13,870.16	13,318.17	14,044.16	.875	9.14%
8	-6,417.35	199	1.042	13,232.70	14,000.43	13,369.13	14,199.43	.893	0.00%
4 years									
1	-7,975.06	24	1.248	15,998.12	16,093.43	16,017.28	16,117.43	1	–
2	-7,521.93	49	1.282	15,141.85	15,336.44	15,180.97	15,385.44	.873	49.49%
3	-7,309.70	74	1.131	14,767.40	15,061.27	14,826.47	15,135.27	.856	16.58%
4	-7,202.48	99	1.318	14,602.95	14,996.11	14,681.98	15,095.11	.873	8.18%
5	-7,110.03	124	1.303	14,468.05	14,960.49	14,567.04	15,084.49	.865	9.18%
6	-7,056.91	149	1.270	14,411.81	15,003.54	14,530.77	15,152.54	.849	7.65%
7	-7,014.64	174	1.215	14,377.29	15,068.29	14,516.19	15,242.29	.864	2.81%
8	-7,003.21	199	1.408	14,404.43	15,194.71	14,563.29	15,393.71	.851	4.85%
3 years									
1	-14,892.26	24	1.149	29,832.52	29,942.59	29,866.38	29,966.59	1	–
2	-14,196.86	49	1.299	28,491.71	28,716.43	28,560.84	28,765.43	.808	30.90%
3	-13,771.23	74	1.189	27,690.47	28,029.85	27,794.87	28,103.85	.827	25.93%
4	-13,598.51	99	1.214	27,395.01	27,849.04	27,534.69	27,948.04	.831	14.48%
5	-13,452.34	124	1.612	27,152.68	27,721.37	27,327.63	27,845.37	.865	5.66%
6	-13,470.74	149	1.147	27,239.48	27,922.82	27,449.70	28,071.82	.850	0.00%
7	-13,348.32	174	1.272	27,044.65	27,842.64	27,290.14	28,016.64	.856	2.48%
8	-13,391.21	199	1.008	27,180.42	28,093.07	27,461.19	28,292.07	.869	0.00%

Table F3. Group-specific latent profile enumeration fit statistics for remaining time before the transition (*continued*)

	LL	fp	SCF	AIC	BIC	SABIC	CAIC	Entropy	Smallest profile
2 years									
1	-14,996.84	24	1.163	30,041.68	30,151.98	30,075.77	30,175.98	1	—
2	-14,318.19	49	1.417	28,734.38	28,959.58	28,803.99	29,008.58	.866	34.29%
3	-13,866.46	74	1.212	27,880.93	28,221.02	27,986.04	28,295.02	.835	30.60%
4	-13,629.89	99	1.193	27,457.79	27,912.77	27,598.41	28,011.77	.843	17.08%
5	-13,520.10	124	1.269	27,288.20	27,858.08	27,464.34	27,982.08	.833	12.57%
6	-13,409.19	149	1.238	27,116.39	27,801.16	27,328.04	27,950.16	.836	8.33%
7	-13,319.65	174	1.448	26,987.29	27,786.96	27,234.45	27,960.96	.843	4.37%
8	-13,302.53	199	1.097	27,003.05	27,917.61	27,285.75	28,116.61	.848	0.00%
1 year									
1	-13,229.69	24	1.176	26,507.39	26,614.54	26,538.34	26,638.54	1	—
2	-12,579.43	49	1.713	25,256.87	25,475.63	25,320.06	25,524.63	.826	46.42%
3	-12,152.33	74	1.371	24,452.65	24,783.03	24,548.09	24,857.03	.844	39.56%
4	-11,958.07	99	1.247	24,114.13	24,556.13	24,241.81	24,655.13	.840	17.13%
5	-11,831.08	124	1.275	29,910.16	24,463.77	24,070.07	24,587.77	.840	13.40%
6	-11,753.26	149	1.193	23,804.52	24,469.75	23,996.68	24,618.75	.838	9.35%
7	-11,655.07	174	1.284	23,658.14	24,434.98	23,882.54	24,608.98	.845	7.94%
8	-11,664.10	199	1.187	23,726.21	24,614.66	23,982.85	24,813.66	.859	0.00%

Note. LL = log likelihood ; fp = free parameters ; SCF = scaling correction factor; AIC = Akaike information criteria; BIC = Bayesian information criteria; SABIC = sample-size adjusted BIC; CAIC = consistent AIC; LMR = Lo-Mendell-Rubin likelihood ratio test; BLRT = Bootstrap Likelihood Ratio test.