

YOUNG PEOPLE AND PARANORMAL EXPERIENCES

COGNITIVE AND EMOTIONAL OUTCOMES

Thèse de doctorat
en Sciences psychologiques et de l'éducation présentée par

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Introduction

"And then, wow! In that moment, it sent shivers down my spine (voice falters). It really terrified me! Because I couldn't believe it and then, boom! I mean, I actually went from "I don't believe it" to "I do believe it". I believe in spiritualism. I believe there must be something in the afterlife."

Michael

During an interview on his paranormal experience of spiritualism at around 16 years old

Testimonies of people who claim to believe in the paranormal are often accompanied by an admission of having been sceptical before something powerful and unusual forced them to concede that it must be incontrovertibly true (Lamont, 2007). For Lamont, this type of discourse allows justification of the eccentricity of such beliefs by heading off any dispute from the outset; *I empathise with you, I was like you. But what I experienced forced me to see things differently.* The implication is that you cannot understand (and thus dispute) what you have not experienced for yourself.

And yet, what if this type of argument was actually used because it corresponds to what a person really (subjectively) experienced? And what if there was a sudden transformation in their way of thinking about and seeing the world?

Our research brings together a series of qualitative and quantitative studies, which reveal a cognitive and emotional structure for the transformation of knowledge and understanding of reality. This paradigm shift, this change within a person, is sudden, sometimes brutal and occurs in four stages: cognition-emotion-cognition-emotion.

These four stages appear when a person has an experience that radically calls into question their fundamental beliefs and knowledge. This is not something that already exists or occurs regularly in someone's life. The person is confronted, out of the blue or without prior expectation of how the situation will unfold, by an event that categorically renders the experience inconsistent with what the person was anticipating or assuming. A powerful event, an accident, some grave personal news, the perception of an unusual or para-normal phenomenon.

The structure uncovered in this research is not exclusive to paranormal experiences, but these, by their exceptional nature, are predisposed to produce such paradigm disruptions and shifts. And the study of these experiences and their cognitive and emotional impact is all the more important since it affects almost 20% of young people in the West and there is a risk that this impact not only changes their framework for understanding reality, but also leaves them traumatically scarred.

It is primarily young people with an experiential intelligence, that is to say, the more creative and emotional, who tend to believe in and desire paranormal experiences, seeking among other things to fulfil a need for a relationship or deal with their fears. However, some of these experiences are in turn a source of anxiety and destabilisation due to the risk of paradigm disruption. A disruption which, if mishandled, if it does not result in a new stable internal structure, could be one of the keys to understanding the emergence of a schizotypal personality.

Note

The chapters are written in the form of articles, because they either have been published or could be submitted for publishing. This can sometimes make certain paragraphs seem redundant (such as measurements and procedures) despite the originality of each text.

Lamont, P. (2007). Paranormal Belief and the Avowal of Prior Scepticism. *Theory & Psychology*, 17(5), 681–696.

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Glossary

Glossaire

Our research investigated areas of belief and experience in young people commonly labelled *paranormal*, that is to say, beyond what is generally considered and understood to be common phenomena or processes, which can be explained using existing knowledge.

The concepts contained in this glossary are phenomena or beliefs according to the generally accepted definitions in this field, even when these terms were not used as such by the young people themselves. For example, when they talk about consulting someone to heal a burn, they do not say they have experienced *psi phenomena*, but we identify this as such in our analyses. This desire to avoid applying labels in advance is 1) part of an inductive approach with a view to understanding what the young people themselves say about this type of experience, and 2) intended to prevent the problem of *Differential Item Functioning* when the researcher and interviewee do not share the same definition of a paranormal belief or experience (Lange, Irwin & Houran, 2001).

Clairvoyance (also called *remote viewing*), the apparent visual perception of objects or events beyond the natural vision. *Clairaudience* refers to the same process but with apparent auditory perception.

Extrasensory perception (ESP) or *Psi phenomena* refer to the occurrence of perception independently of sight, hearing or other sensory processes. *The term is purely descriptive; it neither implies that such phenomena are paranormal nor connotes anything about their underlying mechanisms* (Bem, 2010). People who have extrasensory perception are said to be

psychic. ESP refers to telepathy, clairvoyance (and clairaudience) and precognition.

Precognition: conscious cognitive awareness of something in advance of its occurrence. It is close to *premonition*: the affective apprehension of a future event that could not otherwise be anticipated through any known inferential process.

Psychokinesis (PK) is the apparent moving or affecting of physical objects by the mind, without any physical contact (bending keys and spoons, stopping watches with thoughts).

Spiritism or spiritualism is the belief that the human personality survives death and can communicate with the living through a sensitive medium by making sounds, materializing objects, making lights glow, levitating tables and moving objects across the room.

Telepathy: the apparent transfer of information from one person to another without the mediation of any known channel of sensory communication.

Witchcraft or Magic is the claimed art of manipulating aspects of reality either by supernatural means or through knowledge of occult laws unknown to science. There are two main kinds: white magic to heal or help and black magic to harm or manipulate someone (e.g. some aspects of voodoo).

Bem, D. (2011). Feeling the Future: Experimental evidence for anomalous retroactive influences on cognition and affect. *Journal of Personality and Social Psychology*, 100, 407-425.

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**Empirical research and paranormal beliefs:
going beyond the epistemological debate
in favour of the individual.***

Abstract

A brief look at the empirical literature of the past ten years reveals the clear debate raging over the pertinence of paranormal study to the field of psychology. Each of the arguments put forward by sceptics and believers is the product of the epistemological context in which they find themselves. Each addresses a different issue, using different terminology and different scientific approaches. However, these studies do reveal certain personality traits among paranormal believers who use their paranormal beliefs to exercise mental control and organisation, to cope with and manage anxiety, while moderating this with a certain emotional intelligence. Anxiety could well be a common factor underlying all aspects of the personalities of paranormal believers. It seems necessary therefore to leave psychology out of any epistemological debate, in order to enable the study of how being a paranormal believer helps or hinders the individual and their relationships. Refocusing on the experiences of the individual may provide a consensus for future research in this field.

Keywords: paranormal, anxiety, personality, emotional intelligence, religion, epistemology

*Mathijssen, F. (2009). *Archive for the Psychology of Religion*, 31(3), 319-333.

1. Introduction

Although the appeal, beliefs or practices associated with the paranormal have been studied thoroughly for decades, there is currently no consensus in this field, which is still considered ‘dubious’ by a lot of researchers. Consequently, the diversity of the studies, the variation in what is considered paranormal and the many different aspects of such beliefs render it difficult to arrive at an interpretation or general overview of the results. However, it seems problematic for a human science to ignore a phenomenon which affects all sections of the population and individuals of all ages. This overview of the related empirical literature only features research published in mainstream psychological journals, rather than those specialising in parapsychology or psychic phenomena. Most of the publications specializing in parapsychology may be of comparable scientific quality (Mousseau, 2002) and some researchers may publish in both types of publications, but they do not enable us to take into account the general trends seen in mainstream psychology over the last ten years.

However, there are some recurring trends and problems from which we can form a consensus for future research in this field. Indeed, the debate over the pertinence of paranormal study to the field of psychology is taking place in two different contexts which could be complementary to each other. On one hand, the dispute is rooted in research paradigms and the definitions and interpretations of the beliefs or experiences concerned, since, in the study of beliefs more than any other, the personal opinion of the researcher (Smith, 2003) and the measuring tools selected can lead to different results. This invites caution. On the other hand, these beliefs and practices seem widespread and concern not only social psychology but also developmental and clinical psychology. This invites our interest.

2. Differing opinions within psychological sciences regarding the paranormal

A first point of disagreement concerns research paradigms. Those who strictly reject any psychological approach to this field cite the argument of scientific impossibility. Stanovich (2004) recalls that, in 90 years of ESP research, it has not been possible to create anything which could be considered duplicable or real. Neither have those studies yielded convincing evidence (Jeffers, 2003). For Burns (2003a), this will always be the case, since there is no method based on the laws of physics as we know them today which would enable a reliable (re)production of paranormal beliefs or experiences. In addition, most of the studies are based on data obtained through self-administered questionnaires. According to French (2003), the variables which correlate with “false memory” also correlate with a tendency to report paranormal experiences. Consequently, a lack of prior knowledge, generalised methodology and clear patterns leads to the problem of non-duplicability, and thus unpredictability, rendering it impossible to falsify hypotheses. Stanovich (2004) concludes that this creates confusion between a pseudoscience and psychological science and states that continuing this kind of research threatens the scientific credibility of psychology. However, Mousseau (2002) points out that, while this field of research remains marginalised due to a lack of duplicability, falsifiability and predictability, these are the very qualities which are inherent to the study of anomalies. He remarks that, in terms of its principles, methodology, epistemology and communication, parapsychological research should be taken just as seriously as research in more conventional fields.

A second problem is that definitions of phenomena considered paranormal and associated beliefs do not always take into account the same facts and thus lead to variations in interpretation and comprehension. The great majority of these

studies used the measuring scale created by Tobacyk & Milford (1983) with variants (see below). Their Paranormal Belief Scale provided the starting point for more systematic psychological research in this field. They defined the paranormal according to 3 criteria: 1) inexplicability in terms of current science, 2) explicability achieved only by major revisions in basic limiting principles of science and/or 3) incompatibility with normative perceptions, beliefs and expectations about reality. While the first two elements of this definition can, within reason, be used by all researchers, the third element can be problematic. What are ‘normative perception’, ‘belief’ and ‘expectation’ about ‘reality’? These concepts allow for very different starting points and interpretation of results depending on the observer. Lindeman and Aarnio (2006) for their part, define PBs as a group of beliefs in physical, psychological or spiritual phenomena combined with some ontological properties of another type (for example, the psychic combined with the physical defines psychokinesis, the spiritual combined with the physical defines miraculous healings, etc.)

This pitfall is exacerbated by the fact that the majority of studies are based on self-reported data and that several paranormal belief scales have been developed from predefined research assumptions about what these types of beliefs are or should be based on, without their necessarily being rooted in the personal experience of the sample. The researcher and the interviewee do not always share the same definition of what is paranormal and differential item functioning (DIF) may then affect the results (Aarnio & Lindeman, 2005 ; Lange & Thalbourne, 2002).

The third difficulty stems from the use of very different measuring scales, sometimes only used in one previous study, and their multidimensionality. Tobacyk and Milford’s Paranormal Belief Scale (PBS), (1983) was based on 61 items of paranormal belief which are gathered, through factor analysis, into 7

dimensions underlying the structure of this belief: traditional religion, psi belief, witchcraft, superstition, spiritualism, extraordinary life forms and precognition. The number of initial items is reduced to 26 in the Revised PBS and then to 16 by Lange, Irwin and Houran (2001) who 'purify' it of differential item functioning according to gender and age. This purified RPBS has two factors: Individually Oriented Beliefs or New Age Philosophy (11 items), and Socially Oriented Beliefs or Traditional Paranormal Beliefs (5 items) (Watt, Watson and Wilson, 2007). The indiscriminate use of these scales makes it difficult to compare results. The Anomalous Experience Inventory or the five-factor Spiritual and Religious Dimension Scale (SRDS) defines 3 dimensions: Traditional Christianity, New Age or Unaffiliated Contemporary Spirituality and Paranormal Beliefs (Nasel & Haynes, 2005). Not to mention those scales only used in one previous study, which are not always very reliable.

In addition, some researchers raise the problem of a lack of interpretation. Bierman (2001) questions whether the lack of duplicability may be less due to a statistical error than to the possibility that, in a field where the mind interacts with matter, another reality could emerge. Equally, a lack of knowledge about certain functions of our brain and about our beliefs, needs and expectations could explain psi phenomena (Alcock, 2003). If this were the case, it could completely transform the limits of our knowledge and understanding of the mind (Burns, 2003b). Parker (2003) questions whether the unpopularity of psi phenomena, fraudulent or genuine, in the field of psychology, does not explain why these parapsychological issues remain unanswered.

While these paradigmatic flaws are very real, several studies rely on the magnitude of the phenomenon in order to attract the attention the field merits from psychologists. Bobrow (2003) observes that, according to a research on Medline using the keywords 'paranormal' and 'psychic', most people in the

USA and UK have at least one paranormal belief, as confirmed by Rice (2003). If interest in the paranormal is therefore real, perhaps it is not without consequence, since it could lead to social marginalisation and pathological behaviours (Muris, Merckelbach & Peeters, 2003 ; Roussaux & Dubois, 2002). Finally, Cardena, Lynn & Krippner recall that: *“Psychology cannot claim to be comprehensive if it fails to account for varieties of experiences distinct from those considered normal. To fully understand the totality of human experience, we need to provide reasonable accounts of phenomena that, although unusual (...) or apparently far-fetched (...) are an important part of the totality of human experience.”* (2004).

3. Who believes in or experiences paranormal phenomena, and why?

3.1. Pathology and personality

The definition of exactly what may be classed as ‘paranormal’ has still not been adequately resolved. However, the large amount of research concerning PBs, even that carried out on different populations, with different procedures and patterns, reveals some tendencies which predict types of personality, pathology, or specific cognitive abilities. These are only tendencies however and it is beyond the scope of this brief look at the literature to make judgements on the psychometric qualities and predictive value of the measures used.

Thus, while no psychopathological predictor of religiosity (among students) was found by Thalbourne (2007), some research does demonstrate a potential association between psychopathology and general spiritual functioning (MacDonald & Holland, 2003), and more precisely, higher scores on measures relevant to schizophrenia for paranormal believers (Roussaux & Dubois, 2002).

It seems acknowledged, according to the DSM IV TR criteria (Delbrouck, 2008), that a mystical mentality and reference to paranormal experiences are linked to a schizophrenic personality. However, these schizotypal tendencies would only be related to individually-oriented beliefs (New Age philosophy) of the paranormal beliefs (Houran, Irwin & Lange, 2001). Hergovich, Schott and Arendasy (2008) point out that, although the dimensions of precognition, spiritualism, psi and witchcraft are predicted by adolescent schizotypy, this is not the case for the 3 other dimensions (traditional religion, superstition and belief in extraordinary life forms). Moreover, it would seem that cognitive disorganisation may act as a moderator, enabling reference to paranormal experiences or beliefs to offer a belief framework for interpretation of the experiences of the schizotypal individual (Genovese, 2005 ; Goulding, 2005 ; Schofield & Claridge, 2007). Thus, paranormal beliefs would play a role in providing mental control and organisation (Wain & Spinella, 2007).

In a borderline personality, narcissism correlates with belief in *extrasensory perception* (ESP) _ hearing or seeing things without a sensory process _ and *psychokinesis* (PK) _ affecting physical objects without contact _ , but not with general PB scores (Roe & Morgan, 2002). However, extrasensory perception and psychokinesis are both examples of ‘extraordinary capacities’, and a prevalence of these in a narcissistic personality is therefore not surprising, although there seems to be no link between narcissism and paranormal beliefs generally. In the field of hysterical neuroses, some dissociative tendencies are reportedly linked to paranormal beliefs (excluding precognitive experiences) (Rattet & Bursik, 2001) or New Age philosophy (Houran, Irwin & Lange, 2001) and fantasy proneness among adolescents (Muris, Merckelbach & Peeters, 2003). Dissociative tendencies that would be linked to anxiety (Muris & al., 2003), while anxiety and depression are predicted by superstition (Dudley, 2000).

The link between paranormal beliefs and anxiety or fear (Lange & Houran, 1999) is frequently observed and even seems to be a common factor. It is possible that paranormal beliefs serve to manage anxiety, especially when rooted in childhood. Indeed, biographical research (Streib, 1999) reports belief in ghosts and demons to be a way of coping with childhood anxieties. Furthermore, New Age orientation is directly linked to attachment insecurity (Granqvist & Hagekull, 2001) and paranormal belief may offer a powerful emotional refuge to individuals who endured the stress of physical abuse in childhood (Perkins, 2006). However, this coping function would be dependent on moderation by emotional intelligence. According to Rogers, Qualter, Phelps and Gardner (2006) the tendency not to use active behavioural coping is moderated by low emotional appraisal in predicting paranormal beliefs. Moreover, using avoidant coping moderated by a high utilisation of emotions predicts New Age philosophies. Thus, superstition may be a way to cope with a world perceived as hostile for suggestible and field-dependant individuals (Hergovich, 2003). However, even if literature shows that childhood experiences of diminished control can lead to anxiety, and that anxiety can lead to fantasy proneness and paranormal beliefs as a form of coping, or dissociative tendencies and psychopathology as an adult, what about the majority of adults who believe in the paranormal and do not report such childhood experiences (Watt & al., 2007)? In this case, it is interesting to see if these individuals report anxiety in another form.

The link between PB and anxiety can also be observed in individual personality traits (Eysenck's Big Three). Indeed, among adolescents, only neuroticism personality traits and a perception of the exterior world as hostile or a source of problems seem fundamental to paranormal beliefs, while extraversion and psychoticism seem unrelated (Williams, Francis & Robbins, 2007). Fear and

mistrust of the exterior world which can translate into the feeling that you are not in control of your life and that you are subject to forces outside your control. A hypothesis which is all the more interesting since this feeling of an external locus of control can be precisely linked to childhood abuse as previously mentioned. For Dag (1999) paranormal beliefs may be a personality-system that brings a kind of control feeling when insufficient internal control perception with a cost of psychopathology occurs. In the same way, Dudley (1999) observes that superstition is used as an external locus of control to overcome feelings of failure. Similarly, Watt and al. (2007) point out that paranormal belief correlates negatively with perceived childhood control and shows little relationship with any of the spheres of the Control Questionnaire. Spinelli, Reid and Norvilitis (2003) add that belief in and experience with the paranormal is related to thinness of personality boundaries. However, Auton, Pope and Seeger (2003) remark that non-pathological personality traits such as achievement, understanding, education, affiliation, and a positive cognitive structure do not differ between low and high paranormal believers.

3.2. Emotional intelligence, cognition and gender

Belief in and experience with the paranormal seems related to gender role (Spinelli & al., 2003; Auton & al., 2003) and to a form of intrasexual competition (Weiss, Egan & Figueredo, 2004). Dag (1999) points out that females' scores are higher in superstition, dissociative experience, psi belief, witchcraft and precognition and males score higher in extraordinary life forms. Lange, Irwin & Houran (2001) observe that gender seems to have a main effect in socially-oriented beliefs or traditional paranormal beliefs. Aarnio and Lindeman (2005) explain this by pointing out that women's lower analytical and

higher intuitive thinking have been shown to be the generative mechanisms for women's larger endorsement of paranormal beliefs compared to men.

Now, although intuitive and lower analytical thinking is linked to cognitive abilities of subjects reporting a paranormal belief, it may be an explanation. Indeed, the link between lower cognitive capacities, higher suggestibility, lack of critical consideration and paranormal beliefs has been repeatedly observed since it was first pointed out more than 30 years ago (Hergovich, 2004 ; Musch & Ehrenberg, 2002 ; Tobacyk & Milford, 1983 ; Tobacyk, Miller & Jones, 1984) albeit without a satisfactory explanation. Several studies have questioned a direct predictive link between analytical ability and PBs. Thus, Roe (1999) observed that it was the congruence of the contents of the research with participants' existing beliefs that motivated critical analysis rather than their belief in the paranormal. Moreover, cognitive capacity should increase with education, or there is no relationship between belief in and experience with the paranormal and year in college or college major (Spinelli & al., 2003).

However, cognitive capacities may not be limited to analytical and critical abilities. Several studies emphasise the emergence of a more intuitive form of intelligence, a high emotional intelligence, a creative thinking, positively correlated with paranormal beliefs (Bressan, 2002 ; Dudley, 2002 ; Genovese, 2005 ; Gianotti, Mohr, Pizzagalli, Lehmann & Brugger, 2001). According to Aarnio and Lindeman (2005), these differing conclusions arise from the presumption of unidimensional reasoning that prevails in most studies; you are either rational or superstitious. However, according to them, reasoning is bidimensional: an analytical system and an intuitive system, each having evolved separately, with their own neurological basis and function. Some responses attributed to a lack of analytical capacity among paranormal believers could in fact be due to a predominant intuitive system. This same difference

would also explain the gender disparity. Lindeman and Aarnio (2006) observe as much: the best measures to distinguish believers (superstitious, magical and paranormal beliefs) from sceptics are ontological confusion and intuitive thinking. Superstitious and other paranormal beliefs arise from the intuitive system and not from a malfunctioning analytical system.

The cognitive function may also be related to age as Vitulli, Tipton and Rowe (1999) have demonstrated a link between age, gender and level of intellectual education and paranormal beliefs, reinforcing the theoretical link between social rejection and PBs. However, these sociodemographic elements prove nothing to Rice (2003) or Irwin (2000), who explain that this may be merely a difference in the interpretation of those items used in the PB measuring scale, which could equally be linked to age and educational level. Indeed, once the differential item functioning (DIF) bias is taken into account, the age and gender effect is extremely low or even non-existent (Lange & Thalbourne, 2002; Aarnio & Lindeman 2005). Furthermore, for reasons of convenience, many studies have been carried out on a student population and lack the longitudinal data needed to reach effective conclusions.

3.3. Paranormal beliefs and religious beliefs

In their Paranormal Belief Scale, Tobacyk and Milford (1983) included traditional religious beliefs among the 7 dimensions of paranormal beliefs, only to observe later on that traditional religiosity is negatively correlated with paranormal belief (Tobacyk & al., 1984). Of course, this all depends on what is understood by religious belief. Indeed, greater religious belief is associated with greater paranormal belief (Orenstein, 2002), since, according to Goode (2000), there is an overlap between paranormalism and religious beliefs because

religious beliefs also have a paranormal component as creationism, angels and devils, heaven and hell, etc., in short, a shared belief in a non-material causality. An overlap also rooted in prefrontal system functioning between religion and paranormal beliefs (Wain & Spinella, 2007). Some paranormal experiences are actually quite similar to borderline states of consciousness (Lange, Thalbourne, Houran, Storm, 2000) which are themselves close to mystic experience (Lange & Thalbourne, 2007). Similarly, awareness of mortality intensifies religiosity and belief in supernatural agents (Norenzayan & Hansen, 2006). Rice (2003) observes that close to 40% of the population hold both traditional religious beliefs and classic paranormal beliefs without any problems. Therefore, religious belief would not indicate an alignment with paranormal belief but with affiliation to a traditional religion (Goode, 2000) characterised by regular participation in religious services (McKinnon, 2003) rendering this a socialisation-based religiosity (Granqvist & Hagekull, 2001). However, it should be noted that, while religious practice reduces interest in the paranormal, it does predict openness to the supernatural unless this is moderated by the experience of a negative affect in the preceding year. Indeed, the combination of openness to the supernatural and the experience of a negative affect predicts paranormal belief whereas non-adherence to a religion, moderated by the experience of a negative affect, can predict openness to the supernatural and paranormal (Beck & Miller, 2001). Thus there are certain facets of religious adherence which correlate with certain dimensions of paranormal belief. The confusion linked to sometimes contradictory results arises from the use of generic concepts such as ‘religiosity’ and ‘paranormal’ without defining these in terms of specific categories.

4. Comments

The numerous studies which have demonstrated human deficiencies or highlighted specific abilities have allowed us to identify various elements which in turn enable a better understanding of certain conscious and unconscious reasons for adherence to paranormal beliefs. A general overview should allow PBs to serve as predictors for certain types of psychosocial, cognitive, behavioural and pathological personalities. Indeed, adherence to paranormal beliefs seems to correspond to a type of anxious personality lacking control (which can correspond to schizotypy moderated by cognitive disorganisation) and can be linked to a trauma suffered as a result of abuse or abandonment during childhood. This anxiety can indicate a greater and more spiritualised awareness of the world (Sjöberg & Af Wahlberg, 2002), which acts as a coping mechanism and allows positive human development (Benson, Roehlkepartain & Rude, 2003). It is marked by a more intuitive and emotional intelligence, a less analytical cognitive approach (particularly among women) and adherence to an unconventional religion. Nevertheless, emotional intelligence can also be a cognitive capacity, allowing greater “creativity” (Gianotti & al., 2001) when the person is stressed by logic they do not understand, a ‘semantic noise’. Anxiety could therefore be a common factor in all the personality traits linked to PB.

However, there is a lack of the longitudinal data needed to establish to what extent adherence to this type of belief serves to compensate, reinforcing certain deficiencies, or whether it allows the individual to overcome them. Indeed, we can acknowledge that the use of paranormal beliefs may allow an individual to establish certain levels of mental control and rationalization when confronted with anxiety, by using a form of intuitive intelligence related to this deficiency (“I trust what I perceive”) rather than analytical intelligence (“I do not trust external information because it could harm me”). However, it is useful to

understand to what extent adherence to paranormal beliefs helps individuals to overcome a state of suffering or whether it is merely a crutch to cope with feelings of malaise (Dudley 2000) while the individual remains in a state of suffering. One also wonders, could a fragile personality result from an adherence to a system of individual and irrational beliefs and experiences? Understanding which comes first is fundamental to understanding the purpose of paranormal beliefs for individuals, both in terms of the management and possible trigger of a state of suffering. This could be explored in future research.

With regard to future research, we believe it necessary to study not only form but also content. We have seen how, while some individuals consider the paranormal to be related to walking under a ladder, others consider it the perception of extrasensory phenomena or belief in a form of life after death. To speak about the paranormal in general terms is thus a generalisation which leads to contradictions. There is not one paranormal belief but many paranormal beliefs. Independently of what this concept encompasses, the plurality of beliefs echoes the many dimensions of this type of belief. Where these different dimensions have not been defined, it is difficult, even impossible, to compare and replicate results. Distinguishing and clearly separating each studied dimension will allow a more consistent approach to the role and impact of each paranormal belief.

A fundamental bias arises from the fact that the paranormal is often considered 'abnormal'. However, literature tells us that a great many individuals are concerned with paranormal beliefs, to such an extent that, statistically, it could hardly be labelled an abnormality. On the other hand, while it is a very real anomaly in the context of the classical scientific system, this is because the paranormal, whether in the form of beliefs or experiences, seems to have a particular system of knowledge, with specific laws and limits. However, to study

a system which has its own rationality and logic from the viewpoint of another system of knowledge can only lead to an epistemological impasse. The arguments put forward by sceptics of PB on one hand, and by supporters of PB on the other, are the products of the epistemological context in which they find themselves. Each addresses a different issue, using different terminology and different scientific approaches. As we have seen, Lindeman and Aarnio (2006) tried to resolve this conflict by defining the paranormal using ontological cross references between different physical, psychic and spiritual realities. But this does not resolve the root of the problem, which is the confusion of two different systems. The only way to avoid this problem is to consider the paranormal as a personal conviction or experience. Indeed, while the study of the form and the subject of an individual's conviction places us in an inaccessible position, the fact of believing and adhering to a particular belief and a defined referential system can be approached from the paradigmatic position commonly used in the scientific field. Whether the concerned phenomena are objectively real or whether they are the results of a sort of pathological or non-pathological subjective induction does not change the fact that people believe in or claim to have experienced something for the various reasons discussed above. Beyond the 'veracity' of the phenomena, there is the reality of human experience.

This is why psychology cannot ignore the psychosocial and clinical impact of these beliefs and practices. To believe is in itself a human reality and is justified in itself. Many decades passed before psychology even dared to address the phenomenon of religious beliefs without prejudice with the necessary distance imposed by the scientific study of a mostly personal and subjective human experience. A similar approach could be taken to research into paranormal beliefs. In studying the impact of religion, spirituality or transcendence on the human experience, psychology does not seek to prove the existence or non-existence of God since this falls outside its paradigmatic field. Similarly, they

should not, in our opinion, seek to prove or disprove paranormal phenomena as such (regardless of the form they take: real or illusory, objective or subjective), but should instead take into account that some individuals do adhere to these beliefs. It is this adherence, what it engenders, creates and brings to the individual, what this belief enables or prevents, internally and in different situations, which would constitute a valid subject of a study of paranormal beliefs from a scientific perspective.

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2

Young people and paranormal experiences:

Why are they scared?

A cognitive pattern.*

Abstract

Two qualitative projects have brought together non-directive and semi-directive interviews with 49 young people who had a paranormal experience (mainly spiritualism) between the ages of 11 and 18. A sequential analysis shows an emotional and cognitive pattern comprising four stages, accompanied by periods of anxiety. Young people move through those stages that correspond to a cognitive acceptance or rejection of what they are experiencing in order to maintain or re-establish paradigmatic stability. This study complements the many observations linking paranormal beliefs and anxiety, bringing with it the new discovery of a mechanism underlying the link between anxiety and some aspects of paranormal or anomalous experiences in young people.

Keywords: adolescence, paranormal experience, anomalous experience, spiritualism, anxiety, cognitive structure, paradigm.

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1. Introduction

There seems to be a recurring link between paranormal beliefs and anxiety (Lange & Houran, 1999). Several studies show a link between paranormal beliefs (PBs) and anxiety due to a feeling of helplessness stemming from childhood experiences (Granqvist & Hagekull, 2001 ; Perkins, 2006 ; Streib, 1999). PBs would therefore function mainly as a means of finding balance or coping. Indeed, to believe that forces external to oneself are at work may facilitate acceptance that events and suffering are beyond the control of the individual and may explain why superstition, which reinforces personal responsibility (Groth-Marnat & Pegden, 1998), is a predictor of anxiety (Wolfradt, 1997). A link between PB and anxiety is also reflected in some distinguishable personality traits, particularly among adolescents, for whom neuroticism seems linked to PBs, while extraversion and psychoticism are not (Williams, Francis & Robbins, 2007). Indeed, fear and distrust of the outside world, particularly in young people with neurotistic characteristics, may be linked to anxiety over not being in control of one's life, and being the subject of forces beyond one's control. Anxiety in connection to PBs seems to stem from a sense of a heightened relationship to the world (Sjöberg & Af Wahlberg, 2002), marked by a more intuitive and emotional intelligence and a less analytical cognitive approach (Aarnio & Lindeman, 2005). In fact, emotional intelligence may be a cognitive faculty which is further activated when a person is distressed by a situation of logical stress, a cognitive situation beyond their control (Gianotti, Mohr, Pizzagalli, Lehmann & Brugger, 2001). In this system of experiential thought, events and the ensuing reactions are seen as self-evident: seeing is believing. This is crucial to the paranormal experience (King & Drigotas, 2007).

In addition, adolescence is a crucial stage in the formation of a person's identity (Erikson, 1972), and what young people experience and do during this period may affect them in the long-term. These experiences can be meaningful insofar as they offer young people new perspectives on their own identity and allow them to regain self-esteem (Bee, 1997 ; Berk, 1994). They may also be marginalising or painful, especially since adolescents are marked by a feeling of invulnerability, a kind of “magical” way of thinking about danger (Klacznski, 1997 in Bee & Boyd, 2003), which rarely protects young people from “extreme” experiences. As such, 20% of young people have had paranormal experiences (Le Vallois & Aulenbacher, 2006). During this kind of experience, the young person approaches the world based on their subjective experience (Irwin, 1993), whether real or imagined (Houran, Kumar, Thalbourne & Lavertue, 2002), attracted by, among other things, the thrillseeking more specifically linked to psi beliefs and spiritualism (Groth-Marnat & Pegden, 1998 ; Tobacyk & Milford, 1983).

In this context, the paranormal may be defined as that which cannot be explained scientifically or which calls into question established scientific principles, and which is incompatible with normative perceptions, beliefs and expectations about reality (Tobacyk & Milford, 1983). Furthermore, PBs can still be understood as the belief in a phenomenon, whether physical, biological or even psychological, which is given ontological attributes that belong to one of two other categories (e.g. The house lives and knows its own history) (Lindeman, Cederström, Simola, Simula, Ollikainen & Riekk, 2008).

It should be noted that attraction to the paranormal is not the same in all cultures, as those which embrace animism (such as African culture) are based on belief in the daily presence and action of spirits. This research therefore concerns young people in post-modern Western cultures. Finally, it should be

remembered that, in our opinion, the role of psychological science is not to prove or disprove paranormal phenomena, but instead to examine what they engender, enable or prevent for people who believe in them (Cardena, Lynn & Krippner, 2004 ; Mathijssen, 2009).

2. Research project

This research aims a) to delve into the interest of adolescents and young people in paranormal experiences. Paranormal beliefs are studied routinely, but paranormal experiences remain the poor relative as it were. Moreover, it is difficult to discuss the paranormal in general terms, since it is a generic, multifactorial term and each dimension covers a reality of objects and experiences which renders comparisons and cross references if not impossible, then at least dangerous. It is difficult to compare belief in the Bigfoot with the practice of black magic, for example. Initially, we shall leave the door open to what the people concerned by this type of belief and practice call paranormal themselves. A qualitative biography of the attraction of young people to occultism and the paranormal may address the structures underlying the experiences of young people in this area.

b) A further objective is to better identify the links and structures between paranormal experiences, anxiety and cognition in young people. A greater understanding of the emotional impact of PE on young people is particularly important given that they are more vulnerable to extreme emotions, such as anxiety, which can be very destructuring (Muris, Merckelbach & Peeters, 2003).

3. Method and procedure

This study lent itself to an inductive approach. Although less common, the development of hypotheses from field observations meets the goals of the research project more effectively, since it is a matter not of verifying but of identifying the functions and structures of the experiences. This approach was chosen in order to gain a better understanding of the young people's experiences.

Thus, two qualitative analysis projects were carried out in 2008 and 2009. The first phase of the study comprised thirteen ($n = 13$) non-directive "life story" interviews with young people aged between 16 and 25 ($M = 21$, $SD = 2.6$) who had had PEs (in the broadest sense, rather than pre-defined) mostly when they were aged between 15 and 18. The aim of such a qualitative approach is to analyse the content of the interviews both sequentially, in order to generate a structure of the experience, and narratively, in order to gain an understanding of the young person's experience. Indeed, a spontaneous life story, insofar as it avoids self-censorship, enables a better understanding of some mechanisms within the experience (Streib, 1999). In fact, young people regularly try to justify to themselves as rationally as possible an experience that, above all, seems beyond reason and evokes much emotion. Recruitment was carried out through advertising and the young people thus knew the overall theme of the interview and were paid for their participation. The interviews took place at the psychology faculty and were recorded, with the agreement of the interviewees, for transcription. Their names were changed and participants were able to talk about their PE freely. After a brief introduction to the terms and conditions of the interview, the young person being interviewed is asked to describe their socio-demographic circumstances. The story itself is then introduced with as broad an open question as possible, such as "Tell me about your experience."

The social cohesion of the young person is then discussed by inviting them to position themselves at a chessboard and to describe their normal social life using the pieces, ignoring their meaning within the game. Only the young people's experiences were analysed. Of the 13 non-directive interviews on the paranormal in general, seven refer spontaneously to spiritualism, four to abnormal sensory phenomena (voices, visions, paralysis) and two to witchcraft.

The second project concerned the analysis of 36 semi-directive interviews led by Salsa Bertin (2000) with young people aged between 12 and 18 ($M = 15$, $SD = 1.3$) about spiritualism. This survey was published in Presses de la Renaissance under the title: "Et si on parlait du spiritisme. Des jeunes témoignent" [Let's talk about spiritualism. Young people share their stories]. With the agreement of the author, these short semi-directive interviews were taken and analysed in detail. Since they had already been published, the names of the young people were retained. Practically all the young people interviewed (83%) lived in an urban environment and were the children of executives and professionals (2/3) or workers and artisans (1/3). Of the 34 interviews selected, five young people confused, sometimes intentionally, spiritualism and witchcraft. Two accounts were excluded, as the young people involved had no direct experience of their own of the subject. Together, the two surveys analysed a total of 18 boys and 29 girls ($n = 47$).

4. Analysis and results

The categorical analysis *a posteriori* of the interviews and the selection and definition of units of meaning were carried out in two stages. After casting a glance over the interviews, two dimensions emerged spontaneously: experience and emotions. Indeed, all the interviews reported a particularly affecting

experience, charged with emotions of brief excitement and long-term anxiety. Two codebooks were then established, working from the words and units of meaning that appeared in both the qualitative interviews and the semi-directive interviews. The qualitative interviews revealed three types of paranormal experience: spiritualism (more than half of the young people), witchcraft and abnormal sensory perceptions. Several broad categories of perception emerged from the semi-directive interviews concerning the young people's experiences of spiritualism, corresponding to five themes: a) the contextualisation: Who does what, with whom (possible role of adults), where, when and how? b) experimentation: ritual, perception/physical manifestation, contact with what? c) cognition: doubt/denial, belief/conviction, explanations, contradictions d) emotion: benefit or danger, coping; and e) socialisation/marginalisation: in- and out-groups, witchcraft practices and Satanism. In addition, the sequential analysis showed a structure of experience that seems to be a recurring pattern in most of the life stories. Through the narrative of a PE (mainly spiritualism), the majority of subjects seem to undergo an emotional and cognitive journey that can comprise four stages. This pattern of cognitive stages appears constant, since this structure is found in six out of seven experiences of spiritualism in the qualitative interviews, and to more or less the same level in 18 out of 22 of the semi-directive interviews that mention fear or malaise, regardless of the PE involved.

The sequential analysis of the two samples reveals a structure to the development of PEs in general, and spiritualism in particular. We see the young people go through stages marked by emotions that correspond to cognitive acceptance or rejection (Piaget, 1975) of what they are perceiving. Indeed, it is as if the young people's paradigmatic structure, that is to say the occasions of discourse and levels of knowledge that shape their thought, has been undermined. Therefore, the young people, sometimes going back and forth

between arguments, try to maintain this structure before accepting or rejecting a change to it. This experience is marked by the appearance of anxiety.

To clarify these stages, some extracts of the life stories are presented here. The first three, Suzanne, Michaël and Claire (names have been changed), are taken from the qualitative interviews, the fourth, Paco, is taken from the semi-directive interviews. The first three reports show the cognitive stages that are key to understanding what young people are going through when having a paranormal experience. Paco's story, discussed in the comments, complements this as it shows how this young person is trying to re-conquer the cognitive stages that he has gone through too young and which have left them traumatised.

4.1. Suzanne

Suzanne is 17 and in her first year of studying biology at university. She enjoys her studies, has a boyfriend and a large circle of friends. Although her parents are divorced, she has a good relationship with both of them and is close to her brother and sisters. When she was 16, Suzanne had an experience that affected her for a long time when she spent the weekend at her father's house with her sister. She says:

"I go to sleep as normal and everything is fine. About 2:30 am, I wake up and go to the toilet, as normal. My sister wakes up at the same time and lets me go first...I arrive at the toilet, put my hand on the handle, and I see someone in the armchair. But subconsciously, I tell myself 'No, no, it's nothing.' Some part of me said 'It's nothing, it's not possible! It's just your mind playing tricks on you, or whatever.' I went to the toilet and then went back into the bathroom. I brushed my teeth and washed myself completely all over again, as I really wanted to make myself really

believe that nothing had happened. I went back to my bedroom, my sister went to the toilet as normal too and we went back to sleep.”

Suzanne finds herself confronted with a situation that disturbs her. She sees or believes she is seeing something that is totally beyond what her mind can admit. At this stage, she cannot understand or accept what she has seen. So she tries to ignore it: *“I told myself: ‘No, no, it’s nothing.’ Some part of me said: ‘It’s nothing, it’s not possible! It’s just your mind playing tricks on you’”*. Suzanne enters a sort of cognitive fight to try to realign what she has seen with what she can reasonably admit, or rather, what she can admit without calling into question the stability of her knowledge and thought structure, her paradigmatic structure. She even goes to the lengths of washing herself to try to pull herself together, to *“make myself really feel like nothing had happened”*.

She continues: *“And in the morning I say to my father, ‘Hey Dad, I saw someone in the armchair, over there.’ But I was saying that as a bit of a joke - in the morning you say these things. And then my sister says, ‘Hey, me too!’ Then we look at each other and Dad takes us to one side individually and asks each of us to explain what we had seen. We had both seen a girl, well, an old woman, in the armchair, watching the television as if it were switched on – but neither of us had seen the television on – with her hands on her knees. An old lady with her hair behind her ears, staring completely motionless, and we both described her and how she was dressed exactly the same way. So we saw the same person. If I had been alone in having seen her, I would say to myself ‘No, go on, it’s just my imagination’...So here I am, not believing this before but now I am sure and certain (voice chokes up slightly)”*.

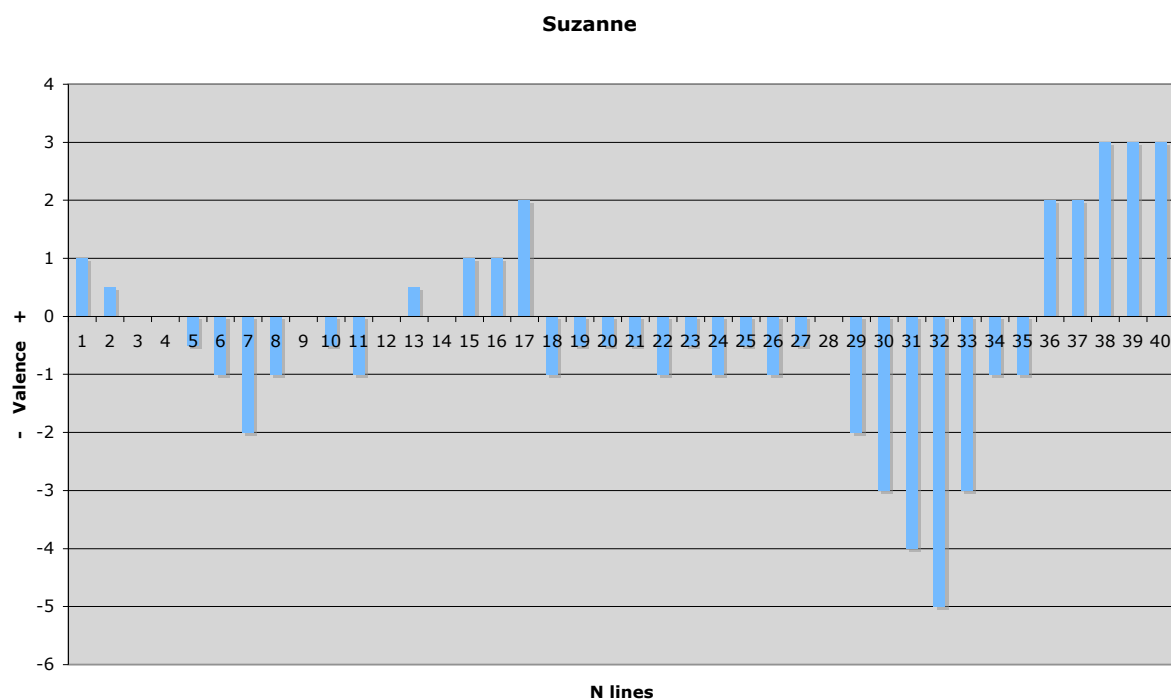
After the stage of cognitive disturbance (first stage), Suzanne tries to protect her paradigmatic plan with denial: *“I tell myself ‘No, no, it’s nothing.’”* which translates as a doubt that she is going to try to maintain at any price, in order to protect her existing conceptions of reality: *“If it had just been me, I would say to myself ‘No, it’s not serious’”*. Most of the young people interviewed experienced this fight for cognitive control (second stage) as a sort of internal debate of arguments and counter-arguments. However, once her sister said she had seen the same phenomena, the barrier of doubt or self-persuasion crumbled. A little later in her story, Suzanne explains: *“But it is really the fact that my sister had exactly the same description as me that really convinced and shocked me.”* From that moment, the paradigmatic information with which Suzanne understands and interacts with reality was called into question: *“So here I am, not believing this before but now I am sure and certain”*. This is a cognitive disruption (third stage).

This cognitive disruption (CD) leads to anxiety: *“But there I was, really scared, and I didn’t know how to react at all.”* This fear arises when Suzanne must admit that the abnormality appears to be real in her eyes and could therefore be a sort of “normality”. From this moment on, all the certitudes, all the stability of her paradigmatic structure is in doubt. However, a paradigm shift implies a profound questioning of all knowledge and the manifestation of a fundamental uncertainty which may cause fear: *“I was really panicking inside and asking myself if I had seen that, what might be next?”* At this third stage, like the hermit crab which outgrows its first shell and leaves it for a larger one, Suzanne abandons her previous paradigmatic structure to broaden her cognitive horizons and, like the crustacean, she is very vulnerable at that moment, as she says: *“What might be next?”* Management of the anxiety linked to a paradigm shift (or inability to manage it) pushes the young person to make a choice. Either pure

and simple denial, or integration of the abnormality into a new cognitive model, restoring the paradigms of reality by moving the existing limits. Suzanne is choosing paradigmatic growth: *“And now, ever since that happened, I tell myself, ‘Yes, that could happen. It could really be there, something like that really could exist. Whereas before I was really totally against it.’”* This is the fourth stage that brings some internal stability.

By taking the story of Suzanne chronologically, phrase by phrase, and allocating a positive or negative valence coefficient, we can visualise the four stages of her experience: stage 1: lines 1-17; stage 2: 18-28; stage 3: 29-35 and stage 4: 36-40. Despite the allocation of coefficients by agreement between raters, these remain a compromise between subjective judgements. These charts are therefore only a representation of overall emotional trends during the stages of PE.

Chart 1: the four stages of paradigm shift



4.2. Michaël

Michaël, who is 22 and in his final year of studying psychology, has been through similar emotional and cognitive stages. His case highlights further the fight for cognitive control. Indeed, Michaël goes to participate in several spiritualist séances with a friend and his parents. But, in contrast with Suzanne, he harbours long-lasting doubts, denial in fact, despite the occurrence of phenomena which he deems “*impressive*” three times before a definitive CD:

“(...) It’s true that the glass moved on its own, and that in itself is impressive. At the start, I thought that someone was pushing it, but when you really see that the finger sometimes came off the glass, it was really moving on its own. That in itself is impressive, but I don’t know, I was really questioning it.”

(graph: lines 13-16).

As in the case of Suzanne, the maintenance of his structure of knowledge and thought (second stage) passes as denial: “*Me, I didn’t believe any of that, I kept in mind that it was bullshit. So, for me, it was the woman that had...moved the glass, who had ‘cheated’ to try to make me swallow it. I did not see her interest but....well, I didn’t believe any of that.*” Michaël goes on to witness two more feats (lines 21-23 and 40-44) which he cannot explain and which he deems “*super bizarre*”, but still refuses to challenge his paradigms and continues the denial. However, his paradigmatic plan shifts when he has an experience which sweeps away the protective doubt through CD (stage 3):

“The thing which made me truly believe in spiritualism was one day when I started asking what I was going to get for my birthday... knowing that I had already received a present from my parents. I wanted to set a trap, to see if it was true or not. (...) And the glass moved five times... finally, the number 5. So, that didn’t

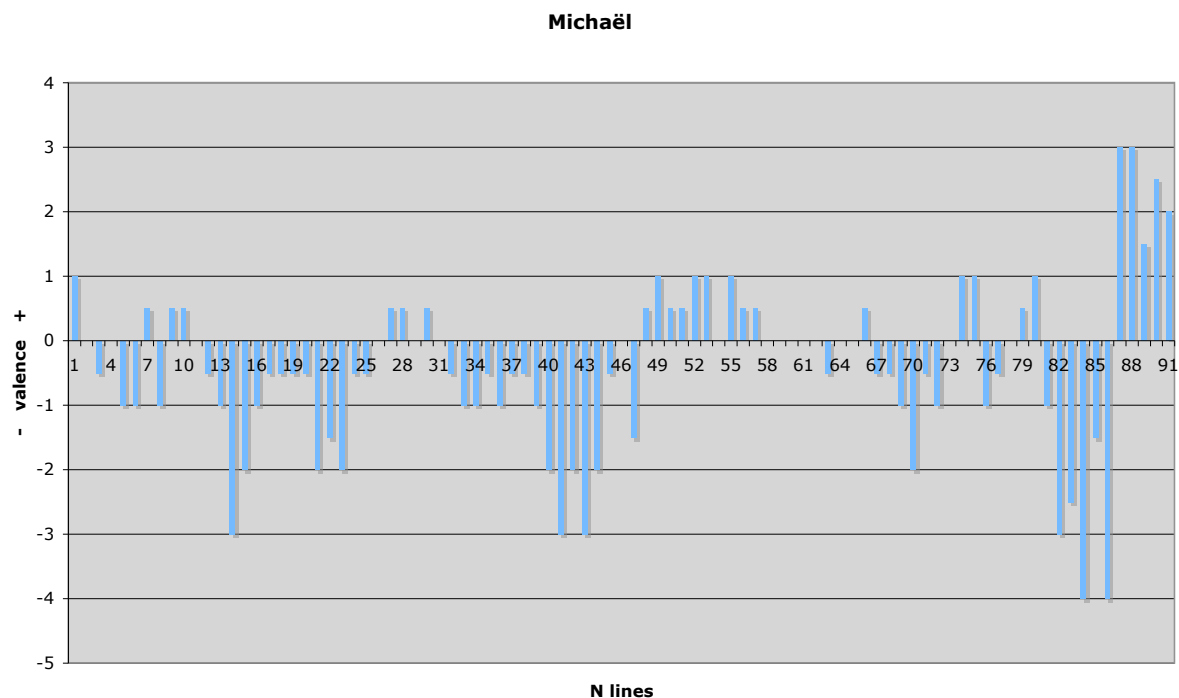
really mean anything. To us, that zapped the question (...) But what made me believe was that on my birthday, I received an envelope containing money from my parents, when I wasn't supposed to get anything. (...) and inside were five notes of five. And there you have it: Wow! At the time it gave me a strange thrill (voice breaks up). It truly filled me with real fear!" (82-86).

Here also, as in the case of Suzanne, the cognitive disruption and paradigm shift is accompanied by fear. A “*real fear*” that Michaël explains further:

“Because I did not believe it and then finally, bam! In fact, I had gone from ‘I don’t think so’ to ‘I believe’. I believe in spiritualism. I believe there must be something in the afterlife.”

This is paradigmatic remodelling, the fourth stage (87-91).

Chart 2: Several episodes of denial before cognitive disruption



4.3. Claire

This third case illustrates how serious the anxiety of stage 3 can become. Claire, who is 22 and studying theology, shared her experience of spiritualism, which she had aged 16 with a friend who was a fan of occultism. As in the other cases, she experienced something beyond her understanding when it seemed to her that the glass moved (stage 1): *“But, wait, it’s impossible!”*

Claire then experiences a cognitive balancing act as she searches for a tentative explanation which “fits” with her existing paradigmatic information (stage 2):

“ If he touched the glass, he was going to have to move his finger and set it up in a certain way.” But without success: “However, we were both on top. Neither of us was touching the glass. I’m the one who set up the glass and the letters, there was nothing there, it was my room....and this glass was moving. What the hell? It was completely...! (voice breaks)”

And that is the cognitive disruption and paradigm shift which leads to anxiety (stage 3). In the case of Claire, this turns into a state of panic:

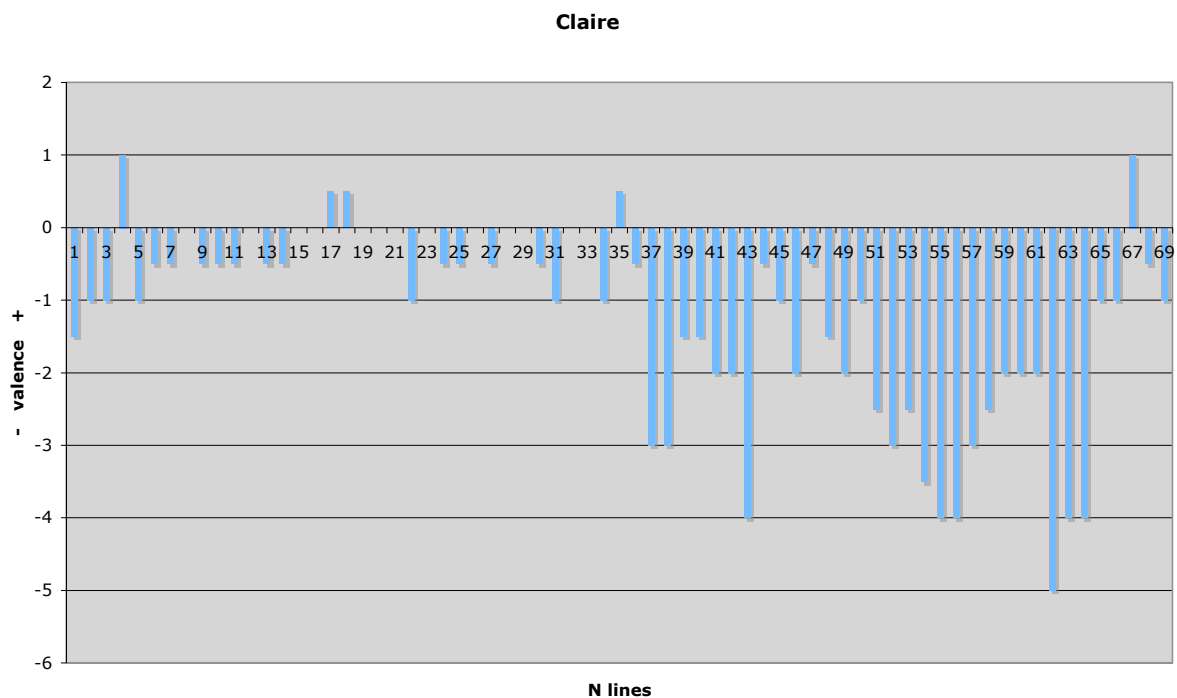
“At that very moment, something started to jam up inside me. All the trouble started right there and then (...) I get up and go to the mirror. My eyes had totally exploded. There was no more blue, no more white; my eyes were totally black. Everything was black, everywhere, totally black. And he comes up to me and says ‘I saw that your eyes were turning black, you went all pale, I started to panic and I broke’. It must have been a good 10 minutes before my eyes were back to normal.”

This psychophysiological panic attack is an extreme example of the state of anxiety that can result from the momentary loss of fundamental benchmarks that

we have called ‘hermit crab syndrome’ (see above). This experience continues to affect Claire to this day:

“The one thing that stays with me, even today, is that when I return to my room, I always have the impression that there’s something there” (stage 4).

Chart 3: Anxiety-inducing CD (Hermit Crab Syndrome)



5. Discussion and comments

The link between cognition and emotion has been studied for a long time (Janet, 1904 ; Piaget, 1975). What we observe confirms a process revealed by Bernard Rimé (2005). He recalls an aspect of theoretical *catastrophe theory* developed by Epstein (1980, 1991) and by Janoff-Bulman (1992, 1999). Seymour Epstein

considers that a person forms a set of operational theories about the reality surrounding them *a priori*, which is constantly being adjusted as a result of daily experiences. A simple cognitive action enables this continual adjustment for common and tangible objects (*concrete postulates*). In contrast, *abstract postulates*, defined by Miller, Galanter & Pribram (1960) as “a set of accumulated knowledge constituting the organised representation that the organism has of itself and the world” and which we call paradigms, are much less malleable and an unusual traumatic experience can disturb them. When an event experienced is discordant with the established paradigm, a feeling of ‘surprise’ occurs. This translates into a cognitive reaction linked to whatever is perceived to be a threat (Oatley, Keltner & Jenkins, 2006) or at odds with fundamental preconceptions. This feeling of discordance with the established paradigm – like the observation of an abnormal physical manifestation in our study – appears as a result of “surprise” and engenders a defensive cognitive reaction (Gendolla & Koller, 2001 ; Luminet, Bouts, Delie, Manstead & Rimé, 2000 ; Oatley, Keltner & Jenkins, 2006). The person tries to protect themselves using denial, which allows him to preserve his *a priori* conceptions of reality for as long as possible and gives him time to prepare for progressive transition (Janoff-Bulman, 1989 ; Janoff-Bulman and Timko, 1987). The individual will have to undertake cognitive restoration in order to banish the feeling of dissonance provoked by the experience. The adaptive response that the individual forms will either facilitate or obstruct the updating of their knowledge structure (Izard, Ackerman, Schoff & Fine, 2000).

From this perspective, our study highlights a recurring structure in the way in which young people react to paradigmatic discordance linked to PEs and particularly spiritualism. Young people who have a conclusive paranormal experience, that is to say a PE where they perceive or believe they are perceiving (French, 2003) – this subjectivity does not change the process – a

phenomena beyond normal limits, experience these stages at a cognitive level. It seems then that these stages are intended to achieve a destabilisation of the paradigmatic structure, with varying levels of violence and drama, accompanied by anxiety. To escape from this, young people must either deny their experience or accept the experience as real and broaden or change their paradigmatic structure. In the case of denial, which can be effective in the short-term (Suls & Fletcher, 1985), doubts over an experience rooted in memory persist, and get weaker over time. In the case of acceptance of a perceived phenomenon, labelling it as paranormal helps to neutralise the ambiguity (Lange & Houran, 1999) and to integrate the new paradigmatic information.

The four stages can be summed up as follows:

a) First stage: cognitive disturbance. This occurs when confronted with a disturbing situation. Perception (subjective or not) of something that is completely beyond what the mind can admit or understand.

b) Second stage: the fight for cognitive control. An attempt, of varying duration, to maintain the paradigmatic information which enables an understanding of reality, either by denial, or by weighing up arguments and counter arguments.

c) Third stage: cognitive disruption. The barrier of doubt or self-persuasion crumbles. Perception prevails over reason. The paradigmatic information with which reality is understood is called into question. This creates a paradigmatic void, a sudden instability in the knowledge structure, which leads to anxiety (hermit crab syndrome)

d) Fourth stage: paradigmatic growth. The state of anxiety will be resolved either by rejecting the cognitive disruption and establishing permanent doubt (permanent second stage), or by accepting a paradigm shift that brings some stability to the internal structure.

This anxiety- inducing cognitive disruption, as seen in the case of Claire, can be very serious. By managing this anxiety, or rather, due to their inability to manage it, young people may choose outright denial: “There was never anything there, I must have misperceived”. This disbelief is intended to maintain the paradigms of the reality as they were before the experience. Conversely, the search for a new and sufficiently ‘serious’ abnormal manifestation may reflect a desire to escape a malaise linked to such a denial.

As such, the semi-directive interview with Paco, aged 16, is interesting. When he was very young, he watched programmes on the supernatural and was “*bloody petrified*”. He had to sleep in his younger brother’s bedroom and underwent therapy for six years before it “*began to fade away*”. In his interview, he explains: “*The fact that people die and then remain here....that there are people who communicate with them, that would really shock me... but it would also interest me... to really know whether it is true or whether they are just saying it to scare you. I don’t want other children to go through what I have been through.*”

His desire to know “*whether it is true*” translates this need to fit his experience into what he conceives as “true”, as being compatible with the reality that he knows, that he can understand. The programmes he watched with the cognitive faculties of a child and a reduced ability to distance himself from the situation were not consistent with the foundations of his perceptions of reality, and have been the source of his anguish. While the years of therapy have been able to soothe him, they apparently have not enabled him to fit his experiences into a paradigm of normality, since, aged 16, he still wants to know “*whether it is true or whether they are just saying it to scare you.*”

The spiritualist séances he attempts correspond to his need to address the cognitive disruption he suffered in childhood. If the experience is not repeated,

then “they are just saying it to scare you” and he can ‘close the case’ knowing that the paradigms of reality constructed when he was younger remain intact. Should the séances result in the perception of a manifestation, he will be able to try to overcome his anxiety by telling himself that changing the paradigms of reality no longer has to be a source of fear since it is “normal”, that is to say, it corresponds to a reality, new and disturbing perhaps, but a “reality” nonetheless.

Young people are clearly sometimes aware of CD: “*Something happens inside...a kind of click*” (Sonia, 15) and of the risk of anxiety when they wish to maintain the status quo, as summed up by the ambiguous words of Tiphaine, 18: “*I don’t believe it but I don’t want to try because I tell myself that if anything ever happened, I would be a bit scared anyway*”. To protect themselves, some people establish a cognitive barrier by clearly refusing any participation in this type of experience for scientific or religious reasons. Thus, Pierre, 16, says he is a believer and explains:

“I am convinced that spiritualism, spirits and everything, really exist and really work (...) It was out of the question that I participate in that. I prayed that it wouldn’t work and it didn’t”. And Robin, 18: “I don’t think any of it exists. Nothing has been proven scientifically.”

6. Conclusion and future research

This study complements the many observations linking paranormal beliefs (PBs) and anxiety, bringing with it the new discovery of a mechanism underlying the link between anxiety and some aspects of not only paranormal beliefs but also the paranormal experiences (PEs) which can result in PBs. Thus, paranormal experiences would not function solely as a means of managing anxiety but

would also be a cause for anxiety. Furthermore, these results enable the identification of specific aspects of paranormal experiences that contribute to anxiety, and thus avoid confusion relating to the general concept of the paranormal. This would then permit a more refined development of the types of anxiety and coping mechanisms that young people develop through some paranormal experiences to try to moderate their fears.

In addition, highlighting a multi-phase structure for a phenomenon that induces anxiety among young people enables a better understanding of the issues underlying paranormal beliefs and practices. The particular interest that young people have in spiritualism, witchcraft and extrasensory elements is not trivial. The fear and, in some cases, knowledge, that young people can have of the risk of the onset of fear when experiencing some aspects of the paranormal, can help us to understand why these practices attract them, to comprehend their attraction to experiences which are scary, exhilarating or extreme (Groth-Marnat & Pegden, 1998). While bungee jumping or other extreme sports can also offer moments of fear, they do not challenge young people's initial paradigm. On the contrary, they form part of it. Furthermore, in extreme sports, fear is momentary while, according to our hypothesis, the anxiety which results from experiences like spiritualism stems from a destructuring and long-lasting paradigmatic transformation. Therefore the risks and damage would not be the same. This is one hypothesis to be confirmed by other studies on the subject.

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**Adolescents and spiritualism:
Is this a good way to cope with fear?
A qualitative approach.***

Abstract

Two qualitative studies complement existing literature on coping and paranormal belief, by analysing the link between paranormal experiences of spiritualism and coping. 36 semi-directive interviews of young people aged between 12 and 18 ($M = 15$, $SD = 1.3$) and 13 non-directive “life story” interviews with young people aged between 16 and 25 ($M = 21$, $SD = 2.6$) were analysed. It appears that an experience of spiritualism can be an active coping mechanism to compensate for both a need to understand and feel reassured in the face of fear of death, and a need for contact and interaction following, amongst other things, a death. However, most of these stories revealed episodes of anxiety linked as much to the experience itself as to the difficulty of managing the emotions arising from it. This anxiety calls into question the relevance of paranormal experiences as a possible coping device.

Keywords : paranormal experiences, spiritualism, coping, anxiety, adolescents, qualitative survey

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1. Introduction

1.1. Paranormal beliefs and coping

In moments of crisis or loss of orientation, belief can play an important role in maintaining internal stability, giving meaning to the situation or even providing a solution. Within this, religion can have a role as recognised for many years (Koenig, Larson & Larson, 2001 ; Paloutzian & Park, 2005 ; Pargament, 2001 ; Park, 2005) and other types of belief, sometimes very similar, can play the same role. Furthermore, some types of paranormal belief (PB) include belief in the existence of external forces, such as extraordinary life forms, spirits or demons as well as faith in God from among the 7 forms of PB established by Tobacyk et Milford (1983). PBs can thus be used by people as a psychological and behavioural strategy to overcome, reduce or render bearable (to cope with) difficult situations and failures, by giving these external forces a part to play their lives. In doing this, the person absolves themselves of a part of the responsibility for their existence (external locus of control), their actions and the outcome that results. Someone can believe that what happens to him has a function, a *raison d'être* that is related to a higher purpose (Svedholm, Lindeman & Lipsanen, 2009). In the same way, it is noticeable that superstition, another type of PB, is also used as an external locus of control to overcome situations of failure or crisis (Dudley, 1999 ; Lillqvist & Lindeman, 1998) or “cope” with a world perceived as hostile by suggestible and field-dependent people (Hergovich, 2003). PBs can thus be a personality mechanism, which produces a feeling of control when a sense of internal control is lacking (Dag, 1999).

PBs can therefore be a form of passive coping through avoidance or escape (avoidant coping) or active coping (problem solving): active cognitive coping and active behavioural coping. For some authors, use of PB as a way of

managing problems is similar to escape or denial, or *avoidant coping* (Callaghan & Irwin, 2003). And in this sense, as we have seen, absolving oneself of responsibility can be a form of escape or denial. In contrast, for Rogers, Qualter, Phelps and Gardner (2006), some types of PB (such as *witchcraft* or *spiritualism*) could be considered active cognitive coping mechanisms since they involve re-thinking and re-reading problems in seeking to give them meaning. A strategy of re-adjustment would be more the preserve of people who have developed an emotional intelligence, experiential rather than analytical or rational (Rogers & al., 2006). This recourse to some aspects of the paranormal, moderated by emotional intelligence (EI) (Epstein, 2003), has already been highlighted in several works (Aarnio & Lindeman, 2005 ; Bressan, 2002 ; Dudley, 2002 ; Genovese, 2005 ; Gianotti, Mohr, Pizzagalli, Lehmann & Brugger, 2001 ; King, Burton, Hicks & Drigotas, 2007 ; Lindeman & Aarnio, 2006).

1.2. Research project : Paranormal experiences and coping

Belief is not the same as experience: it seems clear that some types of paranormal belief can serve as a means of coping, but what about paranormal *experiences*? While PBs can be a means of coping through escape and denial (passive coping), or through a “fatalist” re-reading (active cognitive coping), other PBs such as spiritualism, psi phenomena or witchcraft can seem to allow people to compensate for the lack of control they feel (active behavioural coping) (Watt, Watson & Wilson, 2007).

While forms of PB (Tobacyk et al., 1983) such as *traditional religious beliefs*, *extraordinary lifeforms* and *superstition* enable belief in external action, which

is somehow “imposed”, others such as *spiritualism*, *psi phenomena*, *witchcraft* and *precognition* enable belief in the possibility of an “active” personal approach. Thus, someone who goes to a hypnotherapist (*psi phenomena*) or a clairvoyant (*precognition*) takes a practical approach because they believe they can find a solution to a problem. The same can be said of the practice of witchcraft or attempts to enter into communication with the deceased (*spiritualism*). So there is a use for certain types of PB which enable a shift from the realm of ideas and beliefs to that of a lived experience and its associated emotions, in order to actively resolve problems (Groth-Marnat & Pegden, 1998).

In addition, some experiences such as spiritualism appear to be felt across a group and it is possible this may be *social support seeking* (Amirkhan, 1990) combined with the need to share an experience, especially one that is emotionally charged (Luminet, Bouts, Delie, Manstead & Rimé, 2000), which could itself act as a coping mechanism. If this is the case, does this coping mechanism produce real improvement in cognitive and/or emotional wellbeing?

2. Method

2.1. Concepts and sampling

Our study will focus on the practice of spiritualism as a possible form of active behavioural and cognitive coping among young people aged 12-25 years old. Behavioural, because the young person is taking a pro-active and practical approach, and cognitive, because they believe that through this experience they can address their needs and questions. This research concerns francophone young people born into post-modern Western culture, for whom the daily

presence of spirits is not culturally normal (as in African culture, for example). Two qualitative studies were conducted on the relationship between paranormal experience and coping, with a sample of young French and Belgian adolescents in 2008 and 2009.

It should be noted that this research analyses paranormal belief in or experience of spiritualism as a coping approach, in so far as it can be a tool for trying to resolve a problem or discomfort. It is not our role to prove or disprove spiritual (transpersonal psychology) or psychic reality (parapsychology) of these activities, but to examine a human experience that a human science should not disregard (Cardena, Lynn & Krippner, 2004 ; Mathijsen, 2009).

2.2. Study 1

This is the analysis of 36 semi-directive interviews which were transcribed by Salsa Bertin (2000) with young people aged between 12 and 18 ($M = 15$, $SD = 1.3$) about spiritualism and published in Presses de la Renaissance under the title: “Et si on parlait du spiritisme. Des jeunes témoignent” [Let’s talk about spiritualism. Young people share their stories]. The work consists of short interviews (between 3 and 8 minutes long), which were presented unedited, thus permitting analysis. Although relatively short, these interviews go to the heart of the experience from the practical and emotional point of view of the young people. The vocabulary and the phrase structure are those used by the young people themselves and has not been altered. The author has agreed to the use of her work in the context of this research. Two of the 36 interviews were excluded, as the young people involved had not had direct experience of spiritualism by themselves.

2.3. Study 2

13 non-directive “life story” interviews were conducted with young people aged between 17 and 25 ($M = 21$, $SD = 2.6$) who had had paranormal experiences (PEs) (these were not pre-defined) during adolescence. The decision to carry out non-directive interviews was motivated by a desire to elicit a descriptive and spontaneous approach from the subject, and to explore in depth the emotions experienced by the young person. The young people were recruited through advertising. It was free for them to participate and they were paid for their contribution. The context of academic research (the interview took place in the offices of the Psychology faculty) and anonymity helped to elicit spontaneous participation. Only those accounts concerning spiritualism were retained for greater analysis of this type of PE, in line with the first study. Related occurrences, such as abnormal sensory phenomena (voices, visions, paralysis) or the practice of witchcraft, were only taken into account when the young person connected them spontaneously to their experience of spiritualism (almost 15% of cases). Of the 13 non-directive interviews, seven refer spontaneously to spiritualism and thus were retained.

Together, the two studies analysed 16 boys and 26 girls, the children of executives and professionals (2/3) or workers and artisans (1/3), living mostly in an urban environment.

3. Measures

Two codebooks were established, based on a categorical analysis *a posteriori* of the interviews. This inductive approach prevented categorisation *a priori*. A

classification of the verbatim accounts by inter-rater agreement enabled the selection and definition of the units of perception that appeared in the non-directive and semi-directive interviews. The categorisation arising from the non-directive interviews revealed three types of paranormal experience: *spiritualism* _ or spiritism, is the alleged communication with the spirits of the deceased _ (practiced by more than half of the young people), *witchcraft* _ the alleged use of supernatural or magical powers _ and abnormal sensory perceptions. This coincidentally corresponds to the three types of PB that enable the active behavioural coping described above (Watt et al., 2007).

An initial “open” approach analysed the content of the interviews from a sequential point of view and revealed a structure to the experience of anxiety, comprising four phases (Mathijsen, 2010). These emotional and cognitive stages appear consistently in 6 of the 7 experiences of spiritualism in the interviews (and to a lesser extent in 18 of the 22 published accounts, regardless of the type of paranormal experience, where anxiety was mentioned).

A second analysis took a narrative approach to the two samples, making it possible to enter into an understanding of the experience lived by the young people, insofar as it evoked more emotion the less they seemed to understand the experience. Thus, of the semi-directive interviews, 5 themes relating to experiences of spiritualism emerged. Contextualisation: Who does what, with whom (possible role of adults), where, when and how? Experimentation: ritual, physical perception/manifestation, contact with what? Cognitive categorisation: doubt/denial, belief/conviction, explanations, contradictions. Emotional evaluation: an impression of wellbeing or feeling of danger. And socialisation/marginalisation: in- and out-groups, witchcraft and Satanism practices.

4. Results

4.1. Spiritualism and coping

The use of spiritualism as an active cognitive coping device appears in interviews (Study 1) to be an attempt to understand a painful experience (active emotion-focused coping). A third of the young people mention the need to be comforted or respond to the malaise associated with suffering: *“shortly after the death of my sister...”* – Nathalie, 17 years old. The young people interviewed on this subject are aware that PEs of spiritualism can be a response to something lacking or a way of dealing with a problem: *“It’s got to help them somehow”* (Betty, 13 years old); *“I think they have a lack of self-confidence, they want to seek refuge in something (...) which will protect them”* (Kelly, 15 years old). This active coping device seems to respond to a lack in two things: 1) cognitive coping: the need to understand, to be reassured by knowledge and 2) affective coping: the need for contact and interaction. The first responds more to the fear of death, the second to an affective emptiness following, amongst other things, a death (see i.a. Norenzayan & Hansen, 2006).

Cognitive coping or the need to understand is often mentioned by the young people in the third person: *“my mother”*, *“the people”*, *“people who”* or in a more impersonal way: *“one”* *“One practices spiritualism mostly for reassurance.”* (Antoine and Jean-François, 16 years old). The young people say they are less directly concerned by this type of coping in a PE. For them, it is more the preserve of adults: *“It’s been a great blessing to my mother (...) When she knew there was something in the afterlife, she felt better in herself”* (Nathalie, 17 years old) or Caroline, 15 years old: *“It reassures people to communicate with them...it answers question about what happens when we die”*.

In contrast, the practice of spiritualism as an affective coping device is commonly expressed in the first person: “I”, “me”. The young people emphasise the relationship that springs from the experience of “communication”: *“Summoning the dead is comforting...it’s like my grandfather is still there”* (Aurélie, 16 years old). It is as much about a need to say what they want to say: *“It gives you a chance to say what you didn’t have time to say to people who were gone too soon.”* (Paco, 16 years old), as it is about a need to be listened to and understood: *“It feels like there is someone listening to me, who wants to help me...Spirits are like human beings; they understand us even better than human beings...I don’t shut myself away anymore...I trust them.”* (Tess, 13 years old)

In addition, spiritualism is undoubtedly practiced by groups of young people of the same age. And therein lies one of its *raison d’être*. Yet the young people do not mention the bonds these unusual practices could build between them. The possibility of coping through sharing emotions (Amirkhan, 1990 ; Rimé, 2005) is limited (we see an example of this in the case of Julie) because the degree of “strangeness” of a PE makes it difficult to understand outside the group.

4.2. Spiritualism and anxiety

While experiences of spiritualism may act as a coping mechanism, such experiences are also accompanied by a fear mentioned by practically all the interviewees. There is an ambivalence between the kind of “game” and the “risk” the young people ascribe to the practice of spiritualism: *“It’s not a game.”* They talk about their experiences with some apprehension: *“Even while we do this, my heart is beating madly”* (Sonia, 15 years old). *“I avoid doing it too often because it can be dangerous...it can kill... Be careful, do not joke about it.”*

(Barbara, 16 years old). This fear returns in half of all cases and is commonly associated with “going too far”, a fear related to the experience itself: “*Sometimes it goes wrong*” (Joséphine, 16 years old) or “*It gets crazy*” (Sabrina, 16 years old). On one hand, the young people mention an anxiety linked to harmfulness they attribute to the spiritual elements with which they “enter into contact”. On the other, close to half of those interviewed claim to have been afraid of being internally overwhelmed by the perception of something they could not cope with: “*I will stop when I am really afraid of a manifestation I find too big*” (Adrien 12 years old); “*I hope I won't get crank*” (Sonia, 15 years old) “*We wanted to do something more serious, to really summon a spirit...It scared us, so we stopped.*” (Kelly, 15 years old).

The sequential analysis of the non-directive interviews confirms (Study 2), both that people practicing spiritualism are in some cases seeking a coping mechanism, and that there is an anxiety linked to an inability to deal with the outcome of this experience (Frijda, 1988). The link between the PE, the anxiety this engenders and a re-interpretation of the experience appears in a structured and recurring form in four stages: a) cognitive disturbance: The young person perceives (subjectively or otherwise) something which is completely beyond what his mind can admit or understand. b) the fight for cognitive control: the young person tries to safeguard his paradigms either by denial, or by weighing up arguments and counter arguments. c) cognitive disruption: The paradigmatic information with which reality is understood and integrated is called into question and this sudden instability in the knowledge structure leads to strong feelings of fear and anxiety (Epstein, 1980). This is *Hermit Crab Syndrome* (Mathijssen, 2010). d) paradigmatic growth: The state of anxiety is resolved either by rejecting the cognitive disruption and establishing permanent doubt, or by accepting a paradigm shift that brings some stability to the internal structure.

4.3. Spiritualism, coping and anxiety : Julie's case

An example using extracts of the interview with Julie (her name has been changed) offers a better understanding of the relationship between PEs of spiritualism, coping and anxiety.

Julie is 17 years old and comes from an intellectual family. She practiced spiritualism between the ages of 12 and 13. During this time, she began questioning herself because she needed reassurance about death. In her case, she was already aware of the paranormal through stories told to her by her mother. Julie was therefore more open to an experience of this type in her search for an active cognitive coping mechanism when faced with death:

“I was always very interested in anything to do with the afterlife... it intrigued me enormously. And as I am a little afraid of what happens after you die, it is something which particularly affects me.”

From the outset, her positive attitude to the paranormal weakens her paradigmatic bases, that is to say, the knowledge structure through which she views and understands reality (Miller, Galanter & Pribram, 1960 ; Rimé, 2005). Julie oscillates between her desire “to try it”, motivated by her need for reassurance about death, and her fear that a manifestation could lead to internal destabilisation:

“When we summoned the spirit, I got really scared. It was a relief that the cup didn't move, because I wasn't comfortable. I was afraid something would happen. Actually, I was relieved that nothing did happen, but I still wanted to try it.”

The following day, Julie will repeat the experience. As the spiritualism séance proves successful, she will go through the four stages that will lead to a modification of her paradigms and to an anxiety. Julie will be faced with a perception – real or subjective – of a phenomenon that falls outside her existing paradigms (stage 1). Her reason tries to maintain the existing paradigmatic structure by maintaining a sense of doubt (stage 2):

“On one hand, it seemed like she was moving the cup, so I was feeling uncomfortable about it at that point.”

In contrast, once doubts are raised, paradigmatic disruption occurs (stage 3):

“During the second séance, I asked my friend to take her finger off the cup. Because as I said, I was scared she was the one moving the cup. So, I had confidence in myself and she lifted her finger off the cup, but the cup carried on moving...”

together with an accompanying period of anxiety:

“I don’t know how to explain it... There were only the two of us. To begin with, I felt sick. I was actually retching. Really, as if I was having a terror attack (voice becomes choked and laughs nervously). Because actually, I could not believe it. And it is totally different to see it with your own eyes!”

This results in paradigmatic adaptation (stage 4):

“And then I said to myself: ‘It’s true!’ And that’s what changed my view of things. Because if it had still been the two of us, there would still have been doubts in my mind. But there was no more doubt about it. It had just been me and the cup moved. I said to myself: ‘Wow, it’s true, it works!’ And at that level, something changed in the sense that I know now – and the whole world

doesn't have to believe it – but I have confidence in myself, and so I know it's true."

While Julie's experiences were traumatising, they nevertheless responded to her need to cope with death. Julie describes well this double cognitive shift: 1) a modification of her paradigms and anxiety and 2) a relief in finding the answers to her questions:

"But bizarrely, when I got home, I was really glad I had this experience. I was afraid but I wanted to do it and I did. What I mean is, I actually saw what happened, in the sense that it is different to see and experience it. When I saw the cup move, it triggered something in me. I told myself 'It exists!' My fears also disappeared. Because the question I asked myself was: Is there life after death? And I told myself: Actually yes! What that means is, even when we physically die, there is still something afterwards. And that reassured me. It always reassures me. In the sense that I tell myself it's not over. So I am less afraid of death."

However, for Julie, the problem of communicating something that is no longer in the same paradigmatic realm prevents her from coping through *social support seeking* and the need to share an emotionally charged experience (Amirkhan, 1990 ; Luminet & al., 2000):

"When I got home, I was aware of something. I wanted to talk about it but at the same time I didn't want to talk about it because people might think I was stupid. I wasn't sure whether to tell my mother in the car but in the end, I didn't tell her. I decided not to tell her because I know there was something on her mind and she wouldn't have been happy about it."

Julie was caught between improved wellbeing relating to existential issues such as death, and decreased wellbeing faced with the anxiety resulting from the experience:

“So I didn’t do it again. Even though I enjoyed it, it also frightened me. It was truly the worst time of my life. I couldn’t sleep or think of anything except this and how it made me feel... It really wasn’t good, I was scared all the time and I couldn’t get to sleep.”

Anxiety resulting from PEs such as Julie’s appears in a regular pattern throughout the majority of the accounts that mention fears.

5. Discussion

Analysis of the semi-directive and non-directive interviews confirms and complements the literature on the use of paranormal beliefs as a coping mechanism. Confirms, because a move towards coping is described by the young people themselves. Complements, because it deals with experiences rather than beliefs (Mathijssen, 2009).

As we have seen in the analysis of the semi-directive interviews, the majority of young people between 13 and 18 years old are aware of using spiritualism as a means of coping. They practice it to compensate for a deficiency or meet a need. Both a need to understand and a need for contact. The use of spiritualism by adolescents as a means of active coping (solution seeking) may be explained by the fact that this type of paranormal experience seems like a practical way to meet their needs. Indeed, the more a young person feels capable of facing what appears to be a difficulty, the more he will use an active coping mechanism rather than avoidance (Verplanken, Kok & Werrij, 2003). The need to

understand is relatively rarely mentioned by the young people themselves. When they do refer to it, it is primarily while talking about the adults around them. They themselves use spiritualism more to address their need for contact and communication with the deceased, with those whom they would have liked to somehow stay in contact. This approach can enable detachment and mourning (see *continuing bonds theory* of Klass, Silverman & Nickman, 1996). It can even be a way of fulfilling the need for a relationship, a way of feeling listened to when adults are not always around enough.

In addition, the PE of spiritualism is not only a means of coping with anxiety, but also seems to be a cause of anxiety in the majority of respondents. This anxiety relates to two aspects of the experience. Firstly, the experience creates an anxiety, which could itself have originated in a paradigm shift. The more unexpected the phenomenon, the more likely it is to engender a cognitive reaction of violent defence (Gendolla & Koller, 2001 ; Luminet & al., 2000 ; Oatley, Keltner & Jenkins, 2006). A crisis ensues which can sometimes cause an extreme sense of anguish. The strategies of re-adjustment or coping that a person tries to put in place to protect their paradigmatic structure are either in the order of denial (avoidant coping), allowing them to maintain for as long as possible their *a priori* conceptions of reality and leaving them time to prepare a progressive transition (Janoff-Bulman, 1989 ; Janoff-Bulman et Timko, 1987), or the individual undergoes a process of cognitive adaptation to eradicate the dissonance caused by the experience (active cognitive coping). Therefore, there exists a coping mechanism that alleviates the adverse effects of an experience that is in itself pursued as a coping mechanism.

If there really is an overall coping effect, due to the comfort this experience brings, can we talk of an effective coping mechanism, when it produces such

anxiety and paradigmatic modification? Some studies show the onset of anxiety can moderate a benign or pathological dissociation in adolescents (Muris, Merckelbach & Peeters, 2003), and it seems that cognitive disorganisation may act as a moderator enabling PEs or PBs to become a framework for interpreting the experiences of a schizotypal personality (Genovese, 2005 ; Goulding, 2005 ; Schofield & Claridge, 2007). But the paradigmatic modification we have emphasised in the cognitive and emotional structure of the PE could induce a cognitive disorganisation, which leads us to think that, while this may be a means of coping using PE, it risks a schizotypal cognitive disturbance in young people (DSM IV in Delbrouck, 2008). Moreover, it is precisely the three types of paranormal experiences studied in our two qualitative studies: spiritualism, witchcraft and extrasensory phenomena, which are believed to be linked to schizotypy among adolescents (Hergovich, Schott & Arendasy, 2008). A better understanding of these mechanisms would enable us to more effectively help young people suffering from social and emotional upheaval or prone to episodes of anxiety following an experience of this kind. This should be explored in future research.

6. References

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