

**Associations Between Personal Values and Regulatory Focus:  
A Partial Replication for Basic Values and an Extension to Refined Values**

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### Abstract

Together human values (trans-situational goals) and self-regulatory focus on promotion versus prevention (aspirations/gains versus obligations/losses reference standards) provide a more complete view of human motivation. Scarce previous work with relatively small samples related these motivational systems but provided mixed results. Following previous studies, we examined associations between self-regulatory focus on promotion versus prevention and the 10 *basic* values ( $N_{\text{joint\_samples}}=1,035$ ). Additionally, we examined associations between promotion and prevention focus and the 20 *refined* values ( $N_{\text{joint\_samples}}=2,779$ ). Replicating past work, prevention was positively (negatively) associated with conservation (openness-to-change) values. Unlike in previous work, promotion was positively associated with most openness-to-change values (self-direction-thought, stimulation, and less consistently also hedonism), and negatively associated with most conservation values (security-societal, conformity-interpersonal, face, and less consistently also tradition). Regarding self-transcendence versus self-enhancement values, no systematic associations (universalism, humility) or associations contradicting past work emerged, with *both* foci being differently associated with achievement and positively (negatively) associated with benevolence (power).

**Keywords:** basic and refined values, regulatory focus, promotion, prevention, motivation

Prominent approaches considering constructs that drive people's motivation to engage and persist in various behaviors have, by and large, focused on two different levels of analyses. On the one hand, *values* are general guiding principles in people's lives that apply across contexts (Rokeach, 1973; Schwartz, 1992). On the other hand, *self-regulation* approaches (Carver & Scheier, 2019) are concerned with particular goals and reference standards that provide orientation to people in their specific goal pursuit and entail different strategic inclinations. A case in point is regulatory focus theory (Higgins, 1997, 1998), which distinguishes a promotion focus on aspirations and ideals using eager strategies to ensure gains from a prevention focus on obligations and oughts using vigilant strategies to avert losses. Self-regulation entails volitional and cognitive processes people apply to reach desired states (Sassenberg & Woltin, 2008), whilst values are cognitive representations of basic motivations in terms of broad trans-situational goals (Sagiv & Schwartz, 2022). Both approaches complement each other in providing a more complete view of human motivation.

Gaining more insight into possible associations between these motivational systems is important to the extent that values as trans-situational goals will be pursued differently with promotion compared to prevention self-regulatory concerns (e.g., the value of achievement by pursuing excellence compared to avoiding failure; Higgins et al., 2001) and that congruence between values and promotion and prevention concerns constitute a so-called regulatory fit, which increases goal pursuit enjoyment and persistence (Higgins, 2005). Moreover, this will allow for the crafting of more persuasive messages by means of matching them to align with individuals' values *and* their regulatory focus (i.e., motivational message matching; for a meta-analysis see Joyal-Desmarais et al., 2022). However, though associations of values and regulatory focus have been considered (Kark & Van Dijk, 2007; Rohan & Zanna, 1998;

Schwartz, 2006), there is only limited empirical work demonstrating such relations. An exception is Leikas et al.'s (2009) study of relations between human values and regulatory foci. However, reported correlations are limited to only one study of undergraduate students, with less participants than recommended for correlations to stabilize (i.e.,  $n = 173$ , compared to recommendations of  $n = 250$ , Schönbrodt & Perugini, 2013). Moreover, this study was limited to examining relations with the ten basic values introduced by Schwartz (1992), which have recently been partitioned into a more refined set of 19 (Schwartz et al., 2012) and then 20 (Lee et al., 2019) motivationally distinct values, allowing for more fine-grained analyses.

To the best of our knowledge, only one other empirical study by Keller and Kesberg (2017) examined regulatory focus–value associations. However, this work also focused on basic rather than refined values and used small samples. Further, instead of replicating Leikas et al.'s (2009) study by using the well-established Regulatory Focus Questionnaire (RFQ; Higgins et al., 2001), the authors employed less commonly used scales (i.e., the General Regulatory Focus Measure, GRFM, Lockwood et al., 2002; scales proposed by Ouschan et al., 2007; and by Keller & Bless, 2008), making direct comparisons between studies difficult. Moreover, some of these scales received criticism (e.g., Scholer et al., 2019; Summerville & Roese, 2008). Indeed, having assessed different regulatory focus measures, Haws et al. (2010, p. 979) unwaveringly suggest using the RFQ as “(...) it alone is adequate in internal consistency, homogeneity, and stability, and it performs the best in terms of predictive validity and representativeness” and as “it is the only scale to distinguish explicitly between approach and avoidance in each regulatory focus and to encapsulate the key tenants of regulatory focus theory.”<sup>1</sup>

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<sup>1</sup> We are aware that other scales to measure regulatory focus have since been proposed. For example, Sassenberg et al. (2012) developed a scale based on criticisms that the internal consistency of the RFQ prevention sub-scale is sometimes low; and Vriend et al. (2023) developed a scale to disentangle (minimal vs. maximal) goals from

In the present research we thus revisit possible associations between regulatory focus and basic values (replication perspective) as well as refined values (extension perspective), with the aim to gain a more complete understanding of relations between these two motivational systems. We present key propositions of regulatory focus theory (Higgins, 1997, 1998) before turning to the Schwartz (1992) theory of human values. We then detail theorizing and findings regarding regulatory focus-values associations, before testing such associations in large samples using the RFQ and two different measures of values. Specifically, we use a modified version of the PVQ21 (Davidov et al., 2008), which measures the absolute importance of the 10 *basic* values. We employed this measure of basic values, as PVQ measures were used by Leikas et al. (2009; PVQ40) and Keller and Kesberg (2017; PVQ21 samples 2 & 3, PVQ57 sample 4). Employing this measure of basic values thus allows us to directly compare our results with existing findings. In addition to the PVQ21, we also used the Best-Worst Values Refined scale (BWVr; Lee et al., 2019), which directly measures the relative importance of the 20 *refined* values. Considering this larger set of refined values (see Lee et al., 2019; Schwartz et al., 2012) is important because it allows for more fine-grained analysis of relations between values and focal constructs. Moreover, the refined values have been found to have greater predictive precision than basic values (see Cieciuch et al., 2013; Lönnqvist et al., 2013). Of note, as the present work relies on much larger samples than past work investigating relations between regulatory focus and personal values, it has larger statistical power to uncover potential relations that might simply have been masked before (this holds especially for relations with promotion focus, which in past work have been rather limited).

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(vigilant vs. eager) strategies in the measurement of prevention and promotion. We focus here on the RFQ as (a) it was developed by E. Tory Higgins and thus presumably best captures the original foci conceptualization, (b) it is the most frequently used scale across various research domains (e.g., health, consumer, clinical psychology), and (c) it allows direct comparison to some of the limited previous work.

## Regulatory Focus

Regulatory focus theory (Higgins, 1997, 1998) distinguishes between two different motivational systems regulating judgments and behavior: promotion and prevention focus. With a predominant promotion focus, people are concerned with ideal states, stress advancement needs, and are sensitive to the presence or absence of positive outcomes. Promotion-focused individuals use eager strategies in the pursuit of wishes, hopes, and aspirations, and they seek to ensure against errors of omission. They strive for promotion success (gains) and try to avoid promotion failure (non-gains), which entail cheerfulness- versus dejection-related emotions. In contrast, with a predominant prevention focus, people are concerned with ought states, stress safety needs, and are sensitive to the presence or absence of negative outcomes. Prevention-focused individuals use vigilant strategies in the pursuit of duties, responsibilities, and obligations, and they seek to ensure against errors of commission. They strive for prevention success (non-losses) and try to avoid prevention failure (losses), which entail quiescence- versus agitation-related emotions (Crowe & Higgins, 1997; Higgins et al. 1994; Higgins et al., 1997; Higgins et al., 2001; Higgins & Spiegel, 2004; Idson et al., 2000; Shah et al., 1998; Spiegel et al., 2004). These foci are conceptualized as independent from each other;<sup>2</sup> individuals have a chronic inclination for one of the two foci, but they can also be influenced by contextual factors (Higgins et al., 2001).

Promotion self-regulation serves needs of nurturance and personal growth, implying effort towards accomplishing ideals and a preference for approach-based strategies. Conversely, prevention self-regulation serves needs of security and stability, implying effort towards fulfilling obligations and duties and a preference for avoidance-based strategies (Higgins, 1997;

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<sup>2</sup> This implies that when expecting a particular relation between one focus and specific constructs – such as specific values – this has no bearing regarding any expected relations between the other focus and the respective construct.

Higgins et al., 2001). Consequently, promotion focus goals tend to be maximal – reflecting an ideal, whereas prevention focus goals tend to be minimal – reflecting a minimum one should not fall below (Brendl & Higgins, 1996; Freitas & Higgins, 2002; Lalot et al., 2018). Proverbs conveying the essence of these foci are “Fortune favors the bold” and “Where there is a will, there is a way” (promotion); and “Better safe than sorry” and “An ounce of prevention is worth a pound of cure” (prevention; Faur et al., 2017; Hamstra et al., 2011).

### **Personal Values**

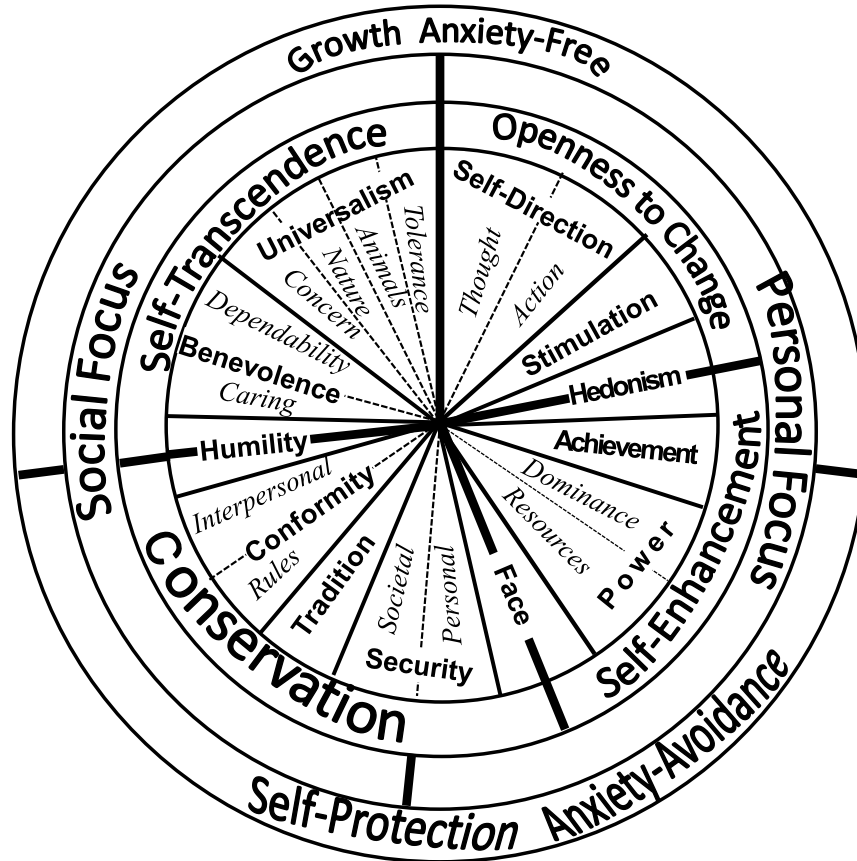
Personal values are broad, desirable goals that serve as guiding principles in people’s lives, (Rokeach, 1973; Schwartz, 1992). They are cognitive representations of motivations as goals to be pursued (Schwartz, 1992). Individuals differ in the relative importance they attribute to specific values, giving rise to a personal hierarchy of value priorities (Sagiv & Schwartz, 2022; Schwartz, 1992). The more a person prioritizes a specific value, the more it is likely to inform their attitudes and motivate their behaviors (Lee et al., 2022; Sagiv & Roccas, 2021).

In the current study we focus on the most widely cited values theory, the Schwartz (1992) theory of human values (see Maio, 2010; Wolf et al., 2020), which proposes a universal set of values that differ in the motivational goals they express and that form a circular continuum based on their underlying motivations (see Figure 1). In this circular structure, neighboring values reflect compatible motivations (i.e., an individual can prioritize and pursue them simultaneously) and opposing values reflect conflicting motivations (i.e., the pursuit of one value inhibits prioritizing or pursuing the other). Studies from over 80 countries have confirmed the universality of the circular structure of basic values (Sagiv et al., 2017; Schwartz & Cieciuch, 2022).

The basic values forming the circumplex can be summarized into four higher-order values that reflect two motivational conflicts. The first conflict contrasts *openness-to-change* values emphasizing independent thought and action (self-direction), excitement, and novelty (stimulation) with *conservation* values emphasizing adherence to norms and expectations (conformity), commitment to preserving customs (tradition), and stability and safety (security). The second conflict contrasts *self-enhancement* values emphasizing the pursuit of personal interests through gaining control (power) and/or attaining success (achievement) with *self-transcendence* values emphasizing concern for close (benevolence) and distant others or nature (universalism). Hedonism values are supposed to share motivational characteristics of both openness-to-change and self-enhancement values and are located between these dimensions. However, empirical work generally finds hedonism to be more strongly associated with openness-to-change (i.e., stimulation values) than with self-enhancement (i.e., achievement values; e.g., Cieciuch & Schwartz, 2012; Schwartz & Boehnke, 2004). Research on personal values has predominately focused on the 10 basic and these four higher-order values (Schwartz, 2017). However, at higher levels of abstraction, Schwartz (2012) identified two organizing principles for the ordering of values around the circular structure: values that (1) focus on *personal* versus *social* outcomes, and (2) express *anxiety-free* versus *anxiety-based* motivations (see Figure 1).

More recently the structure of basic values has been partitioned into 19 (Schwartz et al., 2012) and subsequently 20 (Lee et al., 2019) refined values that reflect narrower expressions of distinct motivations (see Figure 1; for definitions see Table 1). These refined values have been shown to provide new insights into relations with demographics (e.g., gender and age; Schwartz, 2017) and behaviors (e.g., everyday behaviors, Schwartz et al., 2017; creative behaviors,

Lebedeva et al., 2019; prosocial behaviors, Lönnqvist et al., 2013; charitable donations, Sneddon et al., 2020). Samples from over 40 cultures have confirmed the circular structure of refined values (Lee et al., 2019; Schwartz & Cieciuch, 2022).



**Figure 1.** The circular motivational continuum for the 4 higher-order values, 10 basic values and 20 refined values. Adapted from “Testing and extending Schwartz refined value theory using a best-worst scaling approach” by J. A. Lee et al., 2019, *Assessment*. 26(2), 166-180.

**Table 1.** The 20 Refined Values with Definitions

| <b>Refined Value</b>      | <b>Value definition in terms of motivational goal</b>              |
|---------------------------|--------------------------------------------------------------------|
| Self-direction-thought    | Freedom to cultivate one's own ideas and abilities                 |
| Self-direction-action     | Freedom to determine one's own actions                             |
| Stimulation               | Excitement, novelty, & change                                      |
| Hedonism                  | Pleasure & sensuous gratification for oneself                      |
| Achievement               | Personal success according to social standards                     |
| Power-dominance           | Power through exercising control over people                       |
| Power-resources           | Power through control of material & social resources               |
| Face                      | Maintaining one's public image & avoiding humiliation              |
| Security-personal         | Safety in one's immediate environment                              |
| Security-societal         | Safety & stability in the wider society                            |
| Tradition                 | Maintaining & preserving cultural, family, or religious traditions |
| Conformity-rules          | Compliance with rules, laws, & formal obligations                  |
| Conformity-interpersonal  | Avoidance of upsetting or harming other people                     |
| Humility                  | Recognizing one's insignificance in the larger scheme of things    |
| Benevolence-dependability | Being a reliable & trustworthy member of the in-group              |
| Benevolence-caring        | Commitment to the welfare of ingroup members                       |
| Universalism-concern      | Commitment to equality, justice, & protection for all people       |
| Universalism-nature       | Preservation of the natural environment                            |
| Universalism-animals      | Enhance & protect the welfare of animals                           |
| Universalism-tolerance    | Acceptance & understanding of those different from oneself         |

*Note.* Adapted from "Testing and extending Schwartz refined value theory using a best-worst scaling approach" by J. A. Lee et al., 2019, *Assessment*. 26(2), 166-180.

## **Associations Between Personal Values and Regulatory Focus**

To the extent that promotion entails growth needs linked to maximal goals and that prevention entails security needs linked to minimal goals (Brendl & Higgins, 1996; Lalot et al., 2018), one might expect promotion to be associated with what Schwartz (2006) identified as anxiety-free (self-expansion) values and prevention with anxiety-based (self-protection) values. However, as Schwartz (2006) pointed out, some values may serve both principles (albeit to different degrees). For example, achievement values can entail the pursuit of meeting social standards to control anxiety, but also the affirmation of one's sense of competence. The personal versus social focus values distinction likewise entails ambiguity. For example, benevolence (a social focus value) can entail a sense of personal accomplishment akin to achievement (a personal focus value). As these abstract organizing principles are too broad to predict specific relations with other constructs, past work on values and regulatory focus focused on the openness-to-change versus conservation values dimension as opposed to the self-transcendence versus self-enhancement values dimension (Keller & Kesberg, 2017). We turn to discuss how regulatory focus might relate to the basic and refined values comprising these dimensions.

### **The openness-to-change versus conservation values dimension**

Rohan and Zanna (1998) as well as Kark and Van Dijk (2007) proposed that promotion- (vs. prevention-) focused individuals should prioritize openness-to-change (vs. conservation) values. In a similar vein, openness-to-change (vs. conservation) values have been used in empirical work as indicators of individuals' promotion (vs. prevention) focus (Kluger et al., 2004; Van Dijk & Kluger, 2004). Also, research by Liberman et al. (1999) suggests that promotion (vs. prevention) entails a preference for change (vs. stability). In their studies, prevention-focused individuals were more inclined to resume an interrupted task and more

reluctant to exchange objects they possessed than promotion-focused individuals. However, in the absence of a control condition, this work does not inform about prevention, promotion or both driving effects. When considering the findings across four samples in Keller and Kesberg's (2017) study of values and regulatory foci, it appears to be prevention focus that uniquely relates to values on the conservation (positive correlation) versus openness-to-change dimension (negative correlation); only four (out of a possible 36) correlations between promotion focus and either conservation or openness-to-change values emerged. Similarly, Leikas et al. (2009) found prevention to be positively associated with the conservation values of security and conformity (and marginally with tradition), and to be negatively associated with the openness values of self-direction and stimulation. However, contrary to Keller and Kesberg (2017), they also found promotion to be negatively related with the conservation value of tradition (and marginally with security).

We agree that values on the openness-to-change versus conservation dimension should be associated with regulatory focus. However, different to past work we posit that associations exist for *both* foci; and that refined values (Lee et al., 2019; Schwartz et al., 2012) will allow for more fine-grained insights to emerge on associations between these motivational systems. An overview on past findings for basic values, and our predictions regarding refined values is provided in Table 2.

**Table 2.** Overview of Past Associations between Regulatory Focus and Basic Values and Predicted Associations with Refined Values

| Value                  | Promotion Focus |               |             | Prevention Focus |               |             |
|------------------------|-----------------|---------------|-------------|------------------|---------------|-------------|
|                        | Keller &        | Leikas et al. | Predicted   | Keller &         | Leikas et al. | Predicted   |
|                        | Kesberg (2017)  | (2009)        | association | Kesberg (2017)   | (2009)        | association |
| Self-direction         | ns              | ns            |             | negative         | negative      |             |
| Self-direction-thought |                 |               | positive    |                  |               | negative    |
| Self-direction-action  |                 |               | /           |                  |               | /           |
| Stimulation            | ns              | ns            | positive    | negative         | negative      | negative    |
| Hedonism               | ns              | ns            | /           | (negative)       | ns            | negative    |
| Achievement            | positive        | positive      | positive    | ns               | ns            | negative    |
| Power                  | (positive)      | (positive)    |             | ns               | negative      |             |
| Power-dominance        |                 |               | negative    |                  |               | negative    |
| Power-resources        |                 |               | negative    |                  |               | negative    |
| Face                   |                 |               | /           |                  |               | /           |
| Security               | ns              | (negative)    |             | positive         | (positive)    |             |
| Security-personal      |                 |               | /           |                  |               | positive    |

|              |                           |            |          |          |            |          |
|--------------|---------------------------|------------|----------|----------|------------|----------|
|              | Security-societal         |            |          | negative |            | positive |
| Tradition    | ns                        | negative   | /        | ns       | (positive) | positive |
| Conformity   | ns                        | ns         |          | positive | positive   |          |
|              | Conformity-rules          |            | /        |          |            | positive |
|              | Conformity-interpersonal  |            | negative |          |            | positive |
| Humility     |                           |            | /        |          |            | /        |
| Benevolence  | (negative)                | ns         |          | ns       | ns         |          |
|              | Benevolence-caring        |            | positive |          |            | positive |
|              | Benevolence-dependability |            | positive |          |            | positive |
| Universalism | ns                        | (negative) | /        | ns       | ns         | /        |

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*Note.* For Keller and Kesberg (2017), less than three out of six possible significant correlations of the foci with a given value are indicated as “ns”, three out of six are shown in parentheses (positive or negative), and four or more are shown as positive or negative; for Leikas et al. (2009), marginal correlations are shown in parentheses (positive or negative) and significant correlations without; ns = non-significant; / = no prediction is made; for universalism, we do not detail all four refined values (universalism-concern, universalism-nature, universalism-animals, and universalism-tolerance) in the table as they were not investigated in past work and as we did not have expectations of associations with prevention and promotion focus.

The prevention system reflects “end states associated with what a person feels he or she ought to be, encompassing a person’s *duties, responsibilities, and obligations* (...) – *vigilantly* avoiding mismatches from the ought end state while moving carefully toward or *maintaining* this desired end state”. Conversely, the promotion system reflects “end states associated with one’s ideal self, which may encompass a person’s *hopes, wishes, and personal aspirations* (...) – *eagerly* approaching matches to the ideal end state through *advancement*” (Higgins et al., 2020, p. 77; emphasis added). Based on the conceptualization of both foci, we predict the refined values of conformity-interpersonal (i.e., avoidance of upsetting or harming other people) and security-societal (i.e., safety and stability in the wider society) to be positively associated with prevention and negatively associated with promotion, as their attainment implies fulfilling social obligations and duties as well as stability, while impeding the pursuit of personal wishes and advancement. Note that for prevention (but not promotion) focus, these predictions also mirror previous findings regarding basic values.

Bearing in mind the conceptualization of the foci, we also predict prevention to be positively associated with conformity-rules (i.e., compliance with rules, laws, and formal obligations) and tradition (i.e., maintaining and preserving cultural, family, or religious traditions), as these values fit the above definition in terms of expressing motivations reflecting compliance with rules and maintenance of the status quo (Higgins et al., 2001). Especially regarding conformity-rules, predictions mirror findings regarding basic values (associations for tradition values were less clear in past work). Finally, we also predict prevention to be positively related to security-personal (i.e., safety in one’s immediate environment), which dovetails the vigilant component of the prevention focus. At the same time, the pursuit of *personal* safety and security corresponds somewhat less with the duties and responsibility as well as maintenance of

status quo conceptualization of prevention focus, which seem better captured by the security-societal value. It is thus worth exploring if indeed correlations of prevention with security-societal are stronger than those with security-personal. Whilst past work suggests a negative association with the broader security values, it does not inform such nuances.

For promotion focus, we predict no systematic correlations with conformity-rules, tradition, or security-personal values, as complying with rules, maintaining traditions, or ensuring one's safety does not necessarily impede the pursuit of personal aspirations and ideals. This reasoning dovetails with past findings regarding these values in their basic level of abstraction.

Overall, our reasoning regarding expected associations between prevention and the refined conservation values converges both with Keller and Kesberg's (2017) and Leikas et al.'s (2009) findings regarding basic values. However, our expectations regarding negative associations between promotion and the refined values of conformity-interpersonal and security-societal do not dovetail with the findings of Keller and Kesberg (2017), who, for the basic values, found only two such significant correlations with conformity (and one with tradition) out of a total of 18 correlations regarding conservation values across their studies. Further, Leikas et al. (2009) do not report significant negative correlations between promotion and the basic values of conformity and security (though they do report a negative correlation with the basic value of tradition).

Turning to the promotion system, it largely reflects the content of self-direction values, and especially the refined value of self-direction-thought (i.e., freedom to cultivate one's own ideas and abilities). Based on the theoretical conceptualizations of the foci (see above), we predict this value to be positively associated with promotion and its concern with personal aspirations and

independence, but to be negatively associated with prevention, as its attainment may impede the pursuit of responsibilities and obligations one has to others and jeopardize interdependence. For prevention (but not promotion) focus, these predictions mirror findings regarding basic values.

We predict similar positive and respectively negative associations with promotion and prevention for the neighboring stimulation value (i.e., excitement, novelty, and change) to the extent it converges with advancement (promotion) but runs counter to maintaining the status quo (prevention). Indeed, advancement and maintenance form part of the core conceptualization of promotion and prevention focus, respectively (Higgins et al., 2020).

Hedonism (i.e., pleasure and sensuous gratification for *oneself*) is incompatible with fulfilling duties and obligations one has to others and as such we predict it to be negatively associated with prevention. However, we predict no systematic association with promotion focus, as a positive association could only be conceived to the extent that only and specifically pleasure and sensuous gratification are the hoped and wished for end state.

Of note, while our reasoning regarding negative associations between prevention and the values of self-direction-thought, stimulation, and hedonism reflects previous findings (Keller & Kesberg, 2017; Leikas et al., 2009), our reasoning regarding largely positive associations between promotion and these values (except for hedonism) runs counter to the findings of Keller and Kesberg (2017), who across their studies only found one such correlation out of a total of 18 possible correlations pertaining to the higher order openness-to-change values. Similarly, Leikas et al. (2009) report none.

Overall, for the openness-to-change versus conservation values dimension, we predict opposing associations of promotion and prevention focus with conformity-interpersonal, security-societal, and self-direction-thought values, and to a lesser extent also with stimulation

and hedonism.<sup>3</sup> Further, we predict positive associations between prevention and the remaining refined conservation values.

### **The self-transcendence versus self-enhancement values dimension**

Promotion and prevention have been shown to be associated with an independent versus interdependent self-construal, respectively (Aaker & Lee, 2001; Lee et al., 2000). One could thus expect that promotion- (vs. prevention) focused people would prioritize the self-enhancement values of achievement and power (vs. the self-transcendence values of benevolence and universalism). Indeed, people with an independent self-construal define themselves in terms of their uniqueness and are assumed to be especially concerned with personal success, reflecting the content of self-enhancement values. In contrast, people with an interdependent self-construal define themselves in terms of their close relationships (Markus & Kitayama, 1991), reflecting the content of self-transcendence values. Furthermore, approach (vs. avoidance) strategies are associated with both social power and promotion focus (vs. lack of power and prevention focus; Higgins et al., 2001; Keltner et al., 2003); and high (vs. low) power groups are deemed more attractive by individuals with a promotion focus (vs. prevention focus; Sassenberg et al., 2007).

However, the findings of Keller and Kesberg (2017) suggest that promotion, but not prevention, relates to the self-enhancement versus self-transcendence values dimension. Specifically, across four samples they mainly found positive correlations between promotion and self-enhancement values, and negative correlations between promotion and self-transcendence values (though mostly for benevolence), but no correlations with prevention. Similarly, Leikas et

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<sup>3</sup> As determining one's own actions (self-direction-action values) can be in the service of personal wishes as well as social obligations, we predict no systematic association between this refined value and the foci. Also, we do not have *a priori* reasons to expect systematic associations between the foci and the refined value of face, neither based on considerations derived from regulatory focus theory, nor on past work regarding regulatory focus-values relations.

al. (2009) found promotion to be positively associated with achievement as well as marginally with power values, and to be marginally negatively associated with universalism. Contrary to Keller and Kesberg (2017) they also found prevention to be negatively associated with power values.

We, however, do not expect systematic (i.e., opposing) relations between values along the self-enhancement versus self-transcendence dimension and promotion focus. First and foremost, research on human values consistently shows that people overwhelmingly prioritize benevolence values (Sagiv & Schwartz, 2022), which emphasize cooperation and solidarity within the family and society. At the same time, people overwhelmingly assign the lowest importance to power values, which conflict with the pursuit of benevolence values (Schwartz, 2016). For example, research found benevolence to be the most and power the least important value in samples from over 60 countries (Schwartz & Bardi, 2001; see also Schwartz & Cieciuch, 2022, for the refined values). Against this background, and the fact that stronger promotion and prevention orientations are indicative of stronger motivation (rather than amotivation), they can be expected to accentuate these positive (benevolence), and respectively negative (power) value priorities. Moreover, the personality trait agreeableness has been shown to be positively associated with benevolence values and to be negatively associated with power values (Roccas et al., 2002; for meta-analyses see Fischer & Boer, 2015, and Parks-Leduc et al., 2015), whilst at the same time agreeableness is positively associated with *both* promotion and prevention focus (Fuglestad et al., 2024; Vriend et al., 2023; see also Lanaj et al., 2012). Consequently, we expect *both* foci to show positive associations with the refined benevolence values, and negative associations with the refined power values. These expectations contradict previous findings of largely *positive* associations between power and promotion (Keller & Kesberg, 2017; Leikas et al., 2009, who

also report a negative association with prevention), of no associations of the foci with benevolence (Leikas et al., 2009), or *negative* (no) relations between promotion (prevention) and benevolence (Keller & Kesberg, 2017).

For achievement, we predict positive (negative) associations with promotion (prevention), to the extent that this value reflects *personal* success and thus the successful pursuit of one's personal ideals and aspirations at the cost of fulfilling social duties and obligations. Our reasoning thus only partially dovetails past work, reporting positive correlations with promotion focus, but no negative correlations with prevention focus (Leikas et al., 2009; Keller & Kesberg, 2017). However, to the extent that fulfilling the duties and obligations one has to *others* is a major concern of the prevention system (Higgins 1998; Higgins et al., 2020), this is rather incompatible with prioritizing *personal* advancement.

Finally, we do not have any grounds to expect systematic associations between either focus and refined universalism values – neither based on considerations derived from regulatory focus theory, nor on past empirical findings. The same holds for the refined values of humility, which, moreover, has not been investigated in past work.

Overall, for the self-transcendence versus self-enhancement values dimension, we expect systematic opposing relations between achievement values and the foci, positive relations between benevolence values and both foci, negative relations between power values and both foci, and no associations between the foci and universalism or humility values.

### **The Present Research**

This work investigates associations between personal values and regulatory focus in four samples adequately large for correlations to stabilize (Schönbrodt & Perugini, 2013). It does so using the most commonly employed measure of regulatory focus, the Regulatory Focus

Questionnaire (RFQ; Higgins et al., 2001) and different measures of values. For comparison with past work, in two samples basic values are measured with the Portrait Values Questionnaire (PVQ21; Davidov et al., 2008). Going beyond past work, in two other samples refined values are measured with the Best-Worst Values Refined instrument (BWV-R; Lee et al., 2019).

## Method

### Participants

Participants in all samples were Australian adults recruited by an online commercial panel provider (PureProfile) and compensated in line with industry standards after being debriefed.

*Sample 1.* In total, 817 participants completed an online survey. As an indicator of data quality, we checked for straight-lining on the scales of interest.<sup>4</sup> We removed 8 participants with standard deviations of 0 on the PVQ (Davidov et al., 2008) and 14 participants with standard deviations of 0 on the RFQ (Higgins et al., 2001), leaving a final sample comprised of 795 participants (429 female, 53.96%;  $M_{\text{age}} = 48.65$ ,  $SD_{\text{age}} = 16.47$ ).

*Sample 2.* In total, 247 participants, recruited as part of a larger study on values stability over time, completed an online survey. We removed 7 participants for straight-lining on the PVQ and/or on the RFQ, leaving a final sample comprised of 240 participants (142 female, 59.17%;  $M_{\text{age}} = 48.99$ ,  $SD_{\text{age}} = 17.42$ ).

*Sample 3.* In total 1,991 participants completed an online survey. They were recruited from a pool of participants ( $N = 7,761$ ) in a larger study on value expression across the lifespan.

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<sup>4</sup> We removed participants who provided identical answers to all items in the scales used in the respective study (i.e., the RFQ and PVQ measure of values) as ‘straight-lining’ is an acceptable indicator of poor response quality in survey data (see Kim et al., 2019; Zhang & Conrad, 2014) and is commonly used to improve data quality in personality research (e.g., Asendorpf & Wilpers, 1998; Parks-Leduc et al., 2015).

We removed 59 participants for straight-lining on the RFQ,<sup>5</sup> leaving a final sample of 1,932 participants (1,164 female, 60.25%;  $M_{\text{age}} = 48.50$ ,  $SD_{\text{age}} = 15.31$ ).

*Sample 4.* In total, 849 participants completed an online survey. We removed one participant who failed two embedded attention checks<sup>6</sup> and one for straight-lining on the RFQ, leaving a final sample of 847 participants (498 females, 58.8%;  $M_{\text{age}} = 49.45$ ,  $SD_{\text{age}} = 15.59$ ).

Sensitivity analyses performed using G\*Power (Faul et al., 2007) determined that with an alpha level of .05 and 80% power, correlations of at least  $r = .099$  in Sample 1, of  $r = .180$  in Sample 2, of  $r = .064$  in Sample 3, and of  $r = .096$  in Sample 4, could reliably be detected (all two-tailed).

## Procedures

After providing informed consent, participants in Samples 1 and 2 completed an adapted version of the PVQ21 (Davidov et al., 2008) as a measure of the importance of their *basic* values. In Samples 3 and 4, they completed the BWV-R (Lee et al., 2019) as a measure of the importance of their *refined* values. In all samples, participants completed the RFQ (Higgins et al., 2001) as a measure of their regulatory focus and reported their gender and age.

In Samples 1, 3 and 4, participants also reported their work status and highest level of education attained. The surveys for each sample also included other measures that were not the focus of the current study and that were taken later in the surveys (see details in Supplementary Online Materials; SOM). The current investigation of relations between personal values and regulatory focus was not the original focus of research when collecting data for all samples, and the current analyses were not pre-registered. At the same time, the data of all samples, data-

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<sup>5</sup> For values, assessed here and in Sample 4 with the BWV-R, there is no possibility of people *not* showing response variance.

<sup>6</sup> There were no attention checks in the surveys of Samples 1–3.

analysis scripts, and supplemental information including materials are available in the SOM on the Open Science Framework at <https://osf.io/wm5xn>. All data were collected in accordance with the guidelines of and after approval from the Human Research Ethics Committee at the University of Western Australia.

## Measures

*Basic values.* In Samples 1 and 2, basic values were assessed using a modified version of the 21 item PVQ (Davidov et al., 2008). This scale was originally developed to measure human values in the European Social Survey and is effective in discriminating between basic values in samples with over 150 respondents (Schwartz, 2021). Participants are presented with 21 vignettes that describe people who hold specific values, with each basic value being represented by 2 or 3 vignettes. They indicate how similar each of the people described is to them (1 = *not like me at all* to 6 = *very much like me*). Examples of vignettes are “It is important for him/her/them to be rich. He/she/they wants to have a lot of money and expensive things” for power values; and “Tradition is important to him/her/them. He/she/they tries to follow the customs handed down by his/her/their religion or his/her/their family” for tradition values. For both samples, an additional vignette (“It is important to her/him to adapt to nature and to fit into it. She/he believes that people should not change nature”) was added for universalism values, providing an equal number of items measuring societal concern and nature aspects of universalism (Schwartz & Boehnke, 2004). In Sample 2 the PVQ response modalities were modified to elicit greater variability in values scores, with responses being measured on an extended 11-point scale with the same end-points as the 6-point scale.

Prior to analysis, participants’ responses to the 22 value items were mean-centered to create ipsative values, thus eliminating individual differences in response scale use (Schwartz et

al., 2001). Means, standard deviations, and reliabilities of basic values are reported in Table 3.<sup>7</sup> Consistent with findings from other adult samples (e.g., Schwartz & Bardi, 2001), benevolence had the highest mean score and power the lowest in Samples 1 and 2.

*Refined values.* In Samples 3 and 4, refined values were assessed with the BWV-R (Lee et al., 2019), which measures the relative importance of refined values by asking participants to select the most and least important value item from a total of 21 sets of 5 value items. This instrument is based on a Youden balanced incomplete block experimental design, in which 21 value items appear 5 times and every pair of items appear together once across sets. The simple count method (Louviere et al., 2015) was used to score values on a scale of -1 to +1 (least to greatest relative value importance). Means and standard deviations for refined values are reported in Table 3. Value priorities were consistent with findings from other adult samples (Lee et al., 2019; Schwartz & Cieciuch, 2022), with refined benevolence values having the highest mean scores and refined power values having the lowest mean scores in Samples 3 and 4.

*Regulatory focus.* In all samples, Higgins et al.'s (2001) RFQ was used to measure participant's regulatory focus. This scale consists of 6 promotion focus (e.g., "Do you often do well at different things you try?") and 5 prevention focus subscale items (e.g., "How often did you obey rules and regulations that were established by your parents?"), measured on 5-point scales (1 = *never or seldom/certainly false* to 5 = *very often/certainly true*). Means, standard deviations, and Cronbach's alphas for promotion and prevention for all samples are provided in Table 4.

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<sup>7</sup> Correlations between the two items used to measure each of the basic values for Samples 1 and 2 are reported in the online Supplemental Materials. Of note, reliabilities for self-direction and tradition values were low; and though the correlations of items measuring these values were significant at  $p < .001$ , they were smaller than correlations of items measuring the basic values (i.e., for self-direction  $r_{\text{sample1}} = .33$  and  $r_{\text{sample2}} = .36$ ; and for tradition  $r_{\text{sample1}} = .18$  and  $r_{\text{sample2}} = .20$ ). As such, caution about making strong inferences based on these measures is warranted.

**Table 3**

*Basic (first Column, left) and Refined (first Column, right) Value Means, Standard Deviations, and Reliabilities*

| Values                 | Sample 1 ( <i>N</i> = 795) |           |          | Sample 2 ( <i>N</i> = 240) |           |          | Sample 3 ( <i>N</i> = 1,932) |           | Sample 4 ( <i>N</i> = 847) |           |
|------------------------|----------------------------|-----------|----------|----------------------------|-----------|----------|------------------------------|-----------|----------------------------|-----------|
|                        | <i>M</i>                   | <i>SD</i> | $\alpha$ | <i>M</i>                   | <i>SD</i> | $\alpha$ | <i>M</i>                     | <i>SD</i> | <i>M</i>                   | <i>SD</i> |
| Self-direction         | 0.40                       | 0.79      | .48      | 0.77                       | 1.48      | .52      | 0.11                         | 0.26      | 0.11                       | 0.26      |
| Self-direction-thought |                            |           |          |                            |           |          | 0.02                         | 0.36      | 0.01                       | 0.34      |
| Self-direction-action  |                            |           |          |                            |           |          | 0.20                         | 0.32      | 0.20                       | 0.32      |
| Stimulation            | -0.62                      | 0.98      | .67      | -1.19                      | 1.91      | .78      | -0.02                        | 0.37      | -0.04                      | 0.37      |
| Hedonism               | -0.29                      | 0.91      | .69      | -0.71                      | 1.73      | .76      | 0.09                         | 0.37      | 0.08                       | 0.39      |
| Achievement            | -0.70                      | 1.02      | .78      | -1.39                      | 2.05      | .82      | -0.36                        | 0.44      | -0.36                      | 0.42      |
| Power                  | -0.94                      | 0.99      | .57      | -1.71                      | 2.08      | .65      | -0.53                        | 0.33      | -0.55                      | 0.32      |
| Power-dominance        |                            |           |          |                            |           |          | -0.58                        | 0.35      | -0.61                      | 0.32      |
| Power-resources        |                            |           |          |                            |           |          | -0.49                        | 0.42      | -0.49                      | 0.43      |
| Face                   |                            |           |          |                            |           |          | -0.36                        | 0.35      | -0.36                      | 0.34      |
| Security               | 0.52                       | 0.88      | .66      | 0.85                       | 1.65      | .68      | 0.33                         | 0.26      | 0.36                       | 0.25      |
| Security-personal      |                            |           |          |                            |           |          | 0.26                         | 0.31      | 0.29                       | 0.31      |

|              |                           |       |      |     |       |      |      |       |      |       |      |
|--------------|---------------------------|-------|------|-----|-------|------|------|-------|------|-------|------|
|              | Security-societal         |       |      |     |       |      | 0.39 | 0.32  | 0.42 | 0.32  |      |
| Tradition    |                           | 0.11  | 0.91 | .30 | 0.10  | 1.83 | .32  | -0.23 | 0.42 | -0.24 | 0.40 |
| Conformity   |                           | -0.02 | 1.00 | .69 | -0.01 | 1.96 | .71  | -0.13 | 0.29 | -0.15 | 0.28 |
|              | Conformity-rules          |       |      |     |       |      |      | -0.03 | 0.38 | -0.03 | 0.35 |
|              | Conformity-interpersonal  |       |      |     |       |      |      | -0.23 | 0.37 | -0.27 | 0.38 |
|              | Humility                  |       |      |     |       |      |      | -0.10 | 0.33 | -0.07 | 0.33 |
| Benevolence  |                           | 0.65  | 0.76 | .66 | 1.30  | 1.40 | .65  | 0.47  | 0.30 | 0.46  | 0.29 |
|              | Benevolence-caring        |       |      |     |       |      |      | 0.46  | 0.34 | 0.46  | 0.33 |
|              | Benevolence-dependability |       |      |     |       |      |      | 0.47  | 0.37 | 0.47  | 0.37 |
| Universalism |                           | 0.44  | 0.65 | .73 | 0.99  | 1.40 | .78  | 0.16  | 0.24 | 0.19  | 0.24 |
|              | Universalism-concern      | 0.54  | 0.80 | .66 | 1.29  | 1.56 | .70  | 0.26  | 0.37 | 0.25  | 0.37 |
|              | Universalism-nature       | 0.34  | 0.89 | .73 | 0.70  | 1.82 | .71  | 0.10  | 0.37 | 0.17  | 0.39 |
|              | Universalism-animals      |       |      |     |       |      |      | 0.05  | 0.41 | 0.13  | 0.40 |
|              | Universalism-tolerance    |       |      |     |       |      |      | 0.23  | 0.36 | 0.20  | 0.38 |

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*Note.* Overall means of self-direction, power, security, conformity, benevolence, and universalism in Samples 3 and 4 are based on all refined values within the respective basic value. Cronbach's alphas are not available for Samples 3 and 4 as means are based on choices rather than rating scales, for which "reliability metrics, such as the Krippendorff's alpha or the Cronbach's alpha, [are] not suitable" (Rosi et al., 2022, p. 3).

**Table 4***Promotion and Prevention Focus Subscale Means, Standard Deviations, and Reliabilities*

|            | Sample 1 ( <i>N</i> = 795) |           |          | Sample 2 ( <i>N</i> = 240) |           |          | Sample 3 ( <i>N</i> = 1,932) |           |          | Sample 4 ( <i>N</i> = 847) |           |          |
|------------|----------------------------|-----------|----------|----------------------------|-----------|----------|------------------------------|-----------|----------|----------------------------|-----------|----------|
|            | <i>M</i>                   | <i>SD</i> | $\alpha$ | <i>M</i>                   | <i>SD</i> | $\alpha$ | <i>M</i>                     | <i>SD</i> | $\alpha$ | <i>M</i>                   | <i>SD</i> | $\alpha$ |
| Promotion  | 3.27                       | 0.56      | .58      | 3.30                       | 0.55      | .54      | 3.35                         | 0.62      | .70      | 3.35                       | 0.60      | .67      |
| Prevention | 3.33                       | 0.79      | .80      | 3.38                       | 0.80      | .79      | 3.23                         | 0.79      | .81      | 3.29                       | 0.80      | .80      |

## Results

As in past work, Pearson correlations were used to estimate relations between values and promotion and prevention focus. Pearson correlations between the basic (Samples 1 and 2) and refined (Samples 3 and 4) values and the foci are reported in the right (promotion focus) versus left (prevention focus) hand columns in Table 5. As is common in values research (see Cieciuch, 2017; Schwartz, 1992), we also used multidimensional scaling to visualize the spatial arrangement of values and regulatory foci for each sample. The interested reader can find details on these supplementary analyses in the Supplemental Materials on the OSF.

### Openness-to-change versus conservation values

In Samples 1 and 2, prevention focus was positively associated with all basic values in the higher-order conservation value domain, with the exception of one non-significant correlation in Sample 2 with security. At the same time, promotion focus was negatively associated with these values, the exception being correlations with conformity and security that were non-significant in Sample 2.

In Samples 3 and 4, prevention focus was positively associated with all refined values in the higher-order conservation domain, except for the association with the security-personal value in Sample 4 that was only marginal. In Sample 3 the correlation between prevention and security-societal was stronger than with security-personal ( $z = 2.692, p = .004$ ), and the correlation between prevention and conformity-rules was stronger than with conformity-interpersonal ( $z = 3.252, p = .001$ ), as expected. However, in Sample 4 these differences regarding associations with prevention focus were only marginal (for security-societal vs -personal:  $z = 1.428, p = .077$ ; for conformity-rules vs. -interpersonal:  $z = 1.414, p = .079$ ). In contrast, promotion focus was negatively associated in a consistent manner only with security-societal and conformity-interpersonal values. Tradition and conformity-rules were

not correlated with promotion in either sample, and for security-personal only a weak negative correlation with promotion emerged in Sample 3. Overall, significant correlations with prevention focus were higher for the (basic and refined) conservation values than with promotion focus.

Regarding openness-to-change values, prevention focus was significantly negatively associated with all basic values in this domain in Samples 1 and 2 (in Sample 2 the correlation with self-direction was negative but not significant). In contrast, promotion focus was significantly positively associated with stimulation in both samples, and significantly positively correlated with self-direction in Sample 1. A positive correlation with hedonism in Sample 2 did not reach significance levels.

In Samples 3 and 4, participants' prevention focus was negatively associated with the refined openness-to-change values, except for self-direction action (marginal) and stimulation (non-significant) in Sample 4. In contrast, the only consistent positive correlation with promotion focus emerged for self-direction-thought values. There were no correlations with self-direction-action, and positive correlations with stimulation and hedonism were found only in Sample 4. Finally, the refined face value was negatively correlated with promotion (but not prevention) in both samples.

### **Self-transcendence versus self-enhancement values**

Regarding basic self-enhancement values, participants' prevention and promotion focus were both negatively associated with power, but significantly so only in Sample 1. Further, a negative correlation between achievement and prevention focus emerged in this Sample. For refined values, in Samples 3 and 4 prevention and promotion focus were both negatively associated with the refined self-enhancement values power-dominance and power-resources. Further, negative correlations between achievement and prevention consistently

emerged in both samples; for promotion a positive correlation emerged in Sample 4 but not in Sample 3.

Turning to the basic self-transcendence values, participants' prevention and promotion focus were both positively associated with benevolence in all samples, except for Sample 2. For universalism, no clear picture emerged (prevention focus was once positively and once negatively associated with universalism and twice not associated; and for promotion focus only two – out of four possible – small positive correlations with universalism emerged).

The pattern of associations was much clearer for the refined self-transcendence values. Benevolence-caring and -dependability were positively correlated with both foci (the only exception being a positive but non-significant correlation in Sample 4). Regarding universalism, both foci were negatively correlated with universalism-animals, promotion was positively associated with universalism-tolerance, and there were a few but unsystematic correlations between the two foci and universalism-nature and -concern.

Finally, only in Sample 3 the refined humility value was negatively associated with promotion focus.

**Table 5**

*Correlations between Basic (first Column, left) and Refined (first Column, right) Values and Regulatory Focus (Promotion and Prevention)*

|                        |          | Sample 1                  | Sample 2                 | Sample 3                 | Sample 4                  | Sample 1                   | Sample 2                   | Sample 3                   | Sample 4                   |
|------------------------|----------|---------------------------|--------------------------|--------------------------|---------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Values                 |          | Promotion Focus           |                          |                          |                           | Prevention Focus           |                            |                            |                            |
| Self-direction         | <i>r</i> | <b>.143<sup>***</sup></b> | .055                     | <b>.066<sup>**</sup></b> | <b>.116<sup>***</sup></b> | <b>-.095<sup>**</sup></b>  | -.054                      | <b>-.111<sup>***</sup></b> | <b>-.133<sup>***</sup></b> |
|                        | <i>p</i> | <.001                     | .400                     | .004                     | <.001                     | .007                       | .408                       | <.001                      | <.001                      |
| Self-direction-thought | <i>r</i> |                           |                          | <b>.074<sup>**</sup></b> | <b>.126<sup>***</sup></b> |                            |                            | <b>-.092<sup>***</sup></b> | <b>-.138<sup>***</sup></b> |
|                        | <i>p</i> |                           |                          | .001                     | <.001                     |                            |                            | <.001                      | <.001                      |
| Self-direction-action  | <i>r</i> |                           |                          | .026                     | .053                      |                            |                            | <b>-.079<sup>***</sup></b> | -.067 <sup>†</sup>         |
|                        | <i>p</i> |                           |                          | .259                     | .122                      |                            |                            | <.001                      | .051                       |
| Stimulation            | <i>r</i> | <b>.104<sup>**</sup></b>  | <b>.191<sup>**</sup></b> | .020                     | <b>.104<sup>**</sup></b>  | <b>-.271<sup>***</sup></b> | <b>-.253<sup>***</sup></b> | <b>-.123<sup>***</sup></b> | -.045                      |
|                        | <i>p</i> | .003                      | .003                     | .384                     | .003                      | <.001                      | <.001                      | <.001                      | .191                       |
| Hedonism               | <i>r</i> | -.029                     | .113 <sup>†</sup>        | .021                     | <b>.124<sup>***</sup></b> | <b>-.214<sup>***</sup></b> | <b>-.169<sup>**</sup></b>  | <b>-.152<sup>***</sup></b> | -.063 <sup>†</sup>         |
|                        | <i>p</i> | .420                      | .080                     | .357                     | <.001                     | <.001                      | .009                       | <.001                      | .067                       |
| Achievement            | <i>r</i> | .055                      | .101                     | -.007                    | <b>.105<sup>**</sup></b>  | <b>-.145<sup>***</sup></b> | -.055                      | <b>-.195<sup>***</sup></b> | <b>-.119<sup>***</sup></b> |
|                        | <i>p</i> | .121                      | .117                     | .755                     | .002                      | <.001                      | .398                       | <.001                      | <.001                      |

|                   |          |                            |                           |                            |                            |                            |                          |                            |                            |
|-------------------|----------|----------------------------|---------------------------|----------------------------|----------------------------|----------------------------|--------------------------|----------------------------|----------------------------|
| Power             | <i>r</i> | <b>-.199<sup>***</sup></b> | -.065                     | <b>-.095<sup>***</sup></b> | <b>-.095<sup>**</sup></b>  | <b>-.227<sup>***</sup></b> | -.084                    | <b>-.193<sup>***</sup></b> | <b>-.111<sup>**</sup></b>  |
|                   | <i>p</i> | <.001                      | .316                      | <.001                      | .006                       | <.001                      | .194                     | <.001                      | .001                       |
| Power-dominance   | <i>r</i> |                            |                           | <b>-.069<sup>**</sup></b>  | <b>-.083<sup>*</sup></b>   |                            |                          | <b>-.187<sup>***</sup></b> | <b>-.113<sup>***</sup></b> |
|                   | <i>p</i> |                            |                           | .003                       | .015                       |                            |                          | <.001                      | <.001                      |
| Power-resources   | <i>r</i> |                            |                           | <b>-.094<sup>***</sup></b> | <b>-.077<sup>*</sup></b>   |                            |                          | <b>-.151<sup>***</sup></b> | <b>-.078<sup>*</sup></b>   |
|                   | <i>p</i> |                            |                           | <.001                      | .025                       |                            |                          | <.001                      | .023                       |
| Face              | <i>r</i> |                            |                           | <b>-.150<sup>***</sup></b> | <b>-.160<sup>***</sup></b> |                            |                          | -.021                      | .025                       |
|                   | <i>p</i> |                            |                           | <.001                      | <.001                      |                            |                          | .365                       | .460                       |
| Security          | <i>r</i> | <b>-.107<sup>**</sup></b>  | -.116 <sup>†</sup>        | <b>-.080<sup>***</sup></b> | -.067 <sup>†</sup>         | <b>.183<sup>***</sup></b>  | .022                     | <b>.123<sup>***</sup></b>  | <b>.122<sup>***</sup></b>  |
|                   | <i>p</i> | .002                       | .074                      | <.001                      | .052                       | <.001                      | .729                     | <.001                      | <.001                      |
| Security-personal | <i>r</i> |                            |                           | <b>-.057<sup>*</sup></b>   | -.039                      |                            |                          | <b>.056<sup>*</sup></b>    | .063 <sup>†</sup>          |
|                   | <i>p</i> |                            |                           | .012                       | .256                       |                            |                          | .014                       | .067                       |
| Security-societal | <i>r</i> |                            |                           | <b>-.073<sup>**</sup></b>  | <b>-.068<sup>*</sup></b>   |                            |                          | <b>.142<sup>***</sup></b>  | <b>.132<sup>***</sup></b>  |
|                   | <i>p</i> |                            |                           | .001                       | .048                       |                            |                          | <.001                      | <.001                      |
| Tradition         | <i>r</i> | <b>-.072<sup>*</sup></b>   | <b>-.179<sup>**</sup></b> | -.002                      | -.011                      | <b>.241<sup>***</sup></b>  | <b>.182<sup>**</sup></b> | <b>.105<sup>***</sup></b>  | <b>.119<sup>***</sup></b>  |
|                   | <i>p</i> | .044                       | .005                      | .921                       | .758                       | <.001                      | .005                     | <.001                      | <.001                      |

|                           |          |               |                    |                |                 |                |                   |                   |                |
|---------------------------|----------|---------------|--------------------|----------------|-----------------|----------------|-------------------|-------------------|----------------|
| Conformity                | <i>r</i> | <b>-.085*</b> | .013               | -.023          | <b>-.111**</b>  | <b>.323***</b> | <b>.267***</b>    | <b>.241***</b>    | <b>.207***</b> |
|                           | <i>p</i> | .017          | .839               | .303           | .001            | <.001          | <.001             | <.001             | <.001          |
| Conformity-rules          | <i>r</i> |               |                    | .023           | -.003           |                |                   | <b>.236***</b>    | <b>.195***</b> |
|                           | <i>p</i> |               |                    | .320           | .932            |                |                   | <.001             | <.001          |
| Conformity-interpersonal  | <i>r</i> |               |                    | <b>-.060**</b> | <b>-.161***</b> |                |                   | <b>.135***</b>    | <b>.128***</b> |
|                           | <i>p</i> |               |                    | .009           | <.001           |                |                   | <.001             | <.001          |
| Humility                  | <i>r</i> |               |                    | <b>-.052*</b>  | -.010           |                |                   | .040 <sup>+</sup> | .028           |
|                           | <i>p</i> |               |                    | .020           | .782            |                |                   | .078              | .410           |
| Benevolence               | <i>r</i> | <b>.109**</b> | .063               | <b>.146***</b> | <b>.099**</b>   | <b>.144***</b> | .118 <sup>+</sup> | <b>.194***</b>    | <b>.154***</b> |
|                           | <i>p</i> | .002          | .328               | <.001          | .004            | <.001          | .068              | <.001             | <.001          |
| Benevolence-caring        | <i>r</i> |               |                    | <b>.094***</b> | .056            |                |                   | <b>.140***</b>    | <b>.115***</b> |
|                           | <i>p</i> |               |                    | <.001          | .102            |                |                   | <.001             | <.001          |
| Benevolence-dependability | <i>r</i> |               |                    | <b>.150***</b> | <b>.105**</b>   |                |                   | <b>.185***</b>    | <b>.139***</b> |
|                           | <i>p</i> |               |                    | <.001          | .002            |                |                   | <.001             | <.001          |
| Universalism              | <i>r</i> | <b>.088*</b>  | -.111 <sup>+</sup> | <b>.055*</b>   | -.037           | <b>.072*</b>   | .029              | .017              | <b>-.101**</b> |
|                           | <i>p</i> | .013          | .087               | .016           | .283            | .044           | .654              | .459              | .003           |

|                        |          |               |       |                |                |              |       |               |               |
|------------------------|----------|---------------|-------|----------------|----------------|--------------|-------|---------------|---------------|
| Universalism-concern   | <i>r</i> | <b>.105**</b> | -.085 | .024           | <b>-.071*</b>  | <b>.077*</b> | .093  | .036          | -.055         |
|                        | <i>p</i> | .003          | .191  | .299           | .038           | .029         | .150  | .118          | .108          |
| Universalism-nature    | <i>r</i> | .033          | -.097 | <b>.079***</b> | -.012          | .034         | -.035 | .024          | -.054         |
|                        | <i>p</i> | .351          | .132  | <.001          | .718           | .332         | .588  | .298          | .119          |
| Universalism-animals   | <i>r</i> |               |       | <b>-.051*</b>  | <b>-.094**</b> |              |       | <b>-.047*</b> | <b>-.088*</b> |
|                        | <i>p</i> |               |       | .026           | .006           |              |       | .040          | .011          |
| Universalism-tolerance | <i>r</i> |               |       | <b>.100***</b> | <b>.090**</b>  |              |       | .036          | -.050         |
|                        | <i>p</i> |               |       | <.001          | .009           |              |       | .112          | .150          |

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*Note.* Sample 1  $N = 795$ , Sample 2  $N = 240$ , Sample 3  $N = 1,932$ , Sample 4  $N = 847$ . \*  $p < .10$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . Significant effects are in bold.

## Discussion

Across four samples and using instruments that measured basic value priorities with the PVQ22 (based on Davidov et al., 2008; Schwartz & Boehnke, 2004) as well as refined value priorities with the BWV-R (Lee et al., 2019) and relating them to regulatory focus, results largely supported the expected associations. As such they confirmed some, but also contradicted several previously reported relations between values and regulatory focus.

Regarding the openness-to-change versus conservation values dimension, we expected essentially opposite associations of promotion and prevention focus, but with associations being stronger and clearer overall for prevention. Indeed, across all samples and for both basic and refined values, prevention focus was rather consistently positively associated with basic and refined conservation values (i.e., 18 out of 20 correlations were significant for security, tradition, and conformity) and rather consistently negatively associated with all basic and refined openness-to-change values (i.e., 8 out of 12 correlations were significant for self-direction, stimulation, and hedonism). These findings of systematic relations between prevention focus and basic and refined values along the openness-to-change and conservation values dimension largely dovetail with previous work (although Leikas et al., 2009, and Keller & Kesberg, 2017, report no systematic association with hedonism). Our results suggest that a prevention focus aligns with prioritization of conservation values over openness-to-change values.

Also as expected, promotion showed opposing relations with values on this dimension, but more selectively and weakly. Specifically, promotion was negatively associated with security values and with the refined conformity-interpersonal value. Negative associations between promotion and tradition emerged only when basic values were assessed using the PVQ, and no associations emerged for the refined conformity-rules value. These findings contradict previous work suggesting no relations between promotion and

conservation values (Keller & Kesberg, 2017) or only a negative relation with tradition (Leikas et al. 2009). However, to the extent that promotion entails risky goal pursuit strategies and decisions (Crowe & Higgins, 1997; Hamstra et al., 2011), it is not surprising that promotion also aligns with a low prioritization of security values. Further, to the extent that it is concerned with personal aspirations and advancement, promotion being aligned with a lower concern for avoiding upsetting other people also corresponds with its conceptualization. Indeed, when individual and group interests are out of alignment, promotion-focused individuals are more likely than prevention-focused individuals to pursue their own success at the expense of the group (Zaal et al., 2015).

Turning to openness-to-change values, promotion was positively associated with self-direction, specifically self-direction-thought values, as well as with stimulation. These findings contradict previous work suggesting no relations between promotion and openness-to-change values (Keller & Kesberg, 2017; Leikas et al. 2009). However, they dovetail with promotion being linked to independence (Lee et al., 2000), and with notions that, just like high Openness to Experience trait, promotion focus privileges opportunities for growth and the pursuit of new experiences (Manczak et al., 2014; Vaughn et al., 2008) as well as creativity (Friedman & Förster, 2001). For the hedonism value, as in past work but contrary to our expectations, no clear associations emerged. It may be that such relations only occur to the extent that ‘pleasure and sensuous gratification for oneself’ are indeed regarded as a personal wish or aspiration and they may consequently be sample dependent.

Regarding the self-transcendence versus self-enhancement values dimension, we expected and found positive relations between benevolence values and both foci, as well as negative relations between power values and both foci. Concerning benevolence, this again contradicts previous work reporting either no relations (Leikas et al., 2009) or a negative association with promotion focus (Keller & Kesberg, 2017). Likewise, and regarding power

values, the present findings are not in line with previous work reporting positive associations with promotion focus (Keller & Kesberg, 2017; Leikas et al., 2009). However, they corroborate abundant research with samples from various countries and cultures showing, for both basic and refined values, that for the vast majority of people, benevolence is the most and power the least important value (Schwartz & Bardi, 2001; Schwartz & Cieciuch, 2022).

We also expected systematic relations between achievement values and *both* foci. However, whilst the expected negative associations with prevention focus emerged across samples and measures (though one of the four negative correlations was not significant), largely contrary to the findings of Keller and Kesberg (2017) and Leikas et al. (2009) there was only one positive association with promotion focus (out of four possible correlations) that we had expected based on the content of this value emphasizing personal success and results from previous studies. Rather than speculating on reasons for an absence of promotion focus–achievement relations in our work, we encourage future research to explore potential moderators.

Finally, we did not have any grounds to expect systematic associations between either focus and (refined) universalism values or the refined values of humility and face, which were not addressed in previous work. Indeed, no systematic associations emerged for the refined humility value, but unexpectedly promotion was negatively associated with the refined face value (i.e., maintaining one’s public image and avoiding humiliation). This is surprising as one might expect prevention-focused individuals to be sensitive to and apprehensive of social expectations – in light of their relevant standards entailing duties and social obligations (Higgins, 1997) – and consequently their reputation. Indeed, prevention has been shown to be associated with an interdependent self-construal, concerned with social connectedness and others’ expectations (Aaker & Lee, 2001; Lee et al., 2000), and a positive association of prevention focus and reputational concerns has been reported (Pfattheicher,

2015). The negative relations between promotion and the face value thus might be explained by promotion-focused individuals' emphasis on independence as well as their heightened propensity to take risk (even at social costs; Lee et al., 2000; Zou et al., 2014). In any event, future work will need to confirm associations of the face value with both foci.

We found convergent, divergent as well as absent associations between the foci and universalism values, attesting to the importance of considering refined rather than basic values to gain more fine-grained insights. Both foci were negatively associated with universalism-animals. However, these correlations emerged only in two samples, were rather weak (i.e.,  $r_s < -.10$ ), and might be sample specific. More interestingly, only promotion focus was positively associated with universalism-tolerance, which entails acceptance and understanding of those different from oneself. This finding dovetails with recent work suggesting that especially promotion focus contributes to more positive diversity beliefs (Vongswasdi et al., 2023) as well as work demonstrating a fit between the personality trait Openness to Experience and promotion focus (Vaughn et al., 2008). As such, diversity initiatives should benefit from a joint situational activation of promotion focus and the universalism-tolerance value (see Maio et al., 2009). Neither focus was systematically associated with universalism-concern or universalism-nature. These values might therefore lend themselves to targeted messages, framed in promotion or prevention terms, to increase persuasion by creating regulatory fit (Cesario et al., 2008; Woltin et al., 2022).

### **Contributions and Implications**

In terms of implications for values and regulatory focus, the present findings help to clarify patterns of relations between these two motivational systems. By examining values at a more refined level of abstraction we were able to identify more nuanced patterns of relations based on the (mis)alignment of the content of values and the foci. For instance, while we did find somewhat systematic patterns of relations between the basic values of

conformity and self-direction and the foci, at the level of refined values these opposing foci-values relations appear to be driven by conformity-interpersonal rather than conformity-rules and by self-direction-thought rather than self-direction-action, respectively. Also, and as already mentioned, we found unique relations between promotion focus and universalism-tolerance as well as face values. These findings provide support for the proposition that this narrower conceptualization of values can provide greater precision and explanatory power than basic values (see Schwartz et al., 2012) in terms of the value underpinnings of regulatory focus (for a similar, more nuanced and recent insight into the relations between the big five personality traits and refined values, see Vecchione, 2023). Thus, more meaningful knowledge about values-regulatory focus relations may be facilitated by examining refined rather than basic values.

Further to this point, the present results suggest that the concerns of people high (rather than low) in prevention focus center on maintaining the status quo and stability, including in the wider society (security-societal) and for oneself by complying with rules and formal obligations (conformity-rules). They also highlight their concern with avoiding not only anything that could disturb this stability, but also and especially with avoiding upsetting or harming other people (conformity-interpersonal), thus suggesting a harmony-seeking, conflict avoidance social facet of prevention focus. These value priorities largely converge with original conceptualizations and past findings (Higgins, 1997, 1998; Keller & Kesberg, 2017; Leikas et al., 2009) as well as behavioral consequences. For example, prevention entails conflict resolution in terms of preservation of relationship stability, including stepping out of and avoiding conflict (Rodrigues et al, 2019), and has been linked to a preference for stability over change (Liberman et al., 1999) and socially desirable responding (Lalwani et al, 2009).

However, in stark contrast to previous work we found no evidence that the concerns of people high (rather than low) in promotion focus center on being “more concerned with their personal success” (Leikas et al., 2009, p. 422) or that they “strive for power, dominance, and status” (Keller & Kesberg, 2017, p. 181). Instead, rather than characterizing promotion focus as egoistic and dominant, the present findings highlight its prioritization of personal growth in terms of advancing one’s ability, ideas and understanding (self-direction-thought) and in terms of being stimulated by new experiences and change (stimulation) – whilst also understanding and accepting others who have their own – and often – different ideas, priorities and preferences (universalism-tolerance). As such, they dovetail, for example, with promotion-focused individuals preferring change over stability (Lieberman et al., 1999) as well as autonomy-oriented over dependency-oriented help-seeking behavior (Komissarouk & Nadler, 2014), having an explorative processing style facilitating creative thought especially under stimulation (Friedman & Förster, 2001; Zhou et al., 2012), and varying rather boring tasks to benefit from this stimulation boosting their motivation (Smith et al., 2009). They also converge with a promotion focus on positive interactions being beneficial in interracial exchanges compared to a prevention focus on avoiding prejudice (Trawalter & Richeson, 2006).

### **Limitations and Future Directions**

There are a number of limitations of the present study that must be noted. Perhaps most importantly, while our four samples were relatively large and diverse across a range of socio-demographic characteristics (e.g., age, education), the present results rely on Australian adults – and thus on ‘WEIRD’ participants (Henrich et al., 2010). This may limit the generalizability of our findings. Future comparative studies drawing on samples from a wider range of cultural backgrounds may serve to either strengthen the present findings or highlight further complexities. To this point, to the extent that relations between certain values and

regulatory focus may be moderated by differences in independent versus interdependent self-construal (Leikas et al., 2009; Markus & Kitayama, 1991), in particular comparisons of samples from individualistic versus collectivist cultures would be desirable.

Secondly, the findings are limited in being correlational in nature. Regulatory focus can be temporarily induced (e.g., Higgins et al., 2001), and priming values (e.g., Maio et al., 2009; Verplanken & Holland, 2002) or having people simply reflect on their values (e.g. Maio et al., 2001) has been shown to increase their accessibility. As such, future work may consider testing some of the relations found in the present study in a causal manner.

Thirdly, as in all past work, we relied on self-reports for the measurement of values and regulatory focus. Arguably, for these motivational systems, self-reports may be the most valid means of assessment to the extent that individuals have access to their inner thoughts and priorities. However, these measures are of course prone to social desirability and response biases. The within-person mean-centering of responses regarding values in samples 1 and 2 (generally employed in research using versions of the PVQ; cf. Schwartz & Cieciuch, 2022) and the forced comparison nature of the BWV-R instrument, used in samples 3 and 4, helped to mitigate such biases. Nonetheless, future research may attempt to replicate our findings using other measures, such as acquaintance reports of values (e.g., Dobewall et al., 2014) and accounts of life narratives to gauge people's regulatory foci (Manczak et al., 2014).

Fourthly, as previously noted, similar to past work on regulatory focus more generally (e.g. Sassenberg et al., 2012; Semin et al., 2005) and on relations of regulatory focus and values (Keller & Kesberg, 2017; Leikas et al. 2009), the internal consistency of the promotion scale of the Regulatory Focus Questionnaire (RFQ; Higgins et al., 2001) was rather low across all current studies (with alphas ranging from .54 to .70). This might have contributed to the relationships reported in the present work between prevention focus and

conservation (versus openness-to-change) values being stronger than the relationships between promotion focus and openness-to-change (versus conservation) values. The lower reliability of the promotion focus sub-scale presumably introduced more noise in terms of random error and attenuated effect sizes, reducing the likelihood of finding significant associations. Whilst we used the RFQ in order to be able to compare findings with past work, future research could employ more recent measures of regulatory focus that have been reported to be reliable, such as the Regulatory Focus Scale (Sassenberg et al., 2012), or the only recently proposed Regulatory Goals and Strategies Questionnaire (Vriend et al., 2023) as well as the International Personality Item Pool Regulatory Focus Scale (Fuglestad et al., 2024). This is especially important in light of the current work having unveiled some associations between values and promotion focus that were not significant in past work. However, as past work relied on smaller sample sizes, it had less power to detect small but statistically significant correlations. Corroborating our findings in large samples with measures other than the RFQ thus seems even more important.

Finally, we only considered relations between values and regulatory focus. Other motivational systems have been discussed and it will be interesting to see future research exploring their relations with values. For example, according to regulatory mode theory (Higgins et al., 2003; Kruglanski et al., 2000), people with a predominant locomotion mode are concerned with movement from state to state and with initiating and maintaining goal pursuit with the aim to get things done and to move on, whereas people with a predominant assessment mode are concerned with critical comparisons and evaluations of entities and states (e.g., goals and means, but also the self) in relation to alternatives with the aim to get things right. As such, one might reasonably assume for relations between the stimulation value and locomotion mode or between the conformity values and assessment mode, to give but two examples. Future work might also explore other relations of values with motivational

systems, such as with action versus state orientation (Kuhl, 1985) or with more general approach versus avoidance motivational differences (Elliot & Church, 1997).

## **Conclusion**

Across two studies and four samples, the present research revealed clear patterns of relations between personal values and regulatory foci. While prevention and promotion focus were more systematically related with basic and refined values along the openness-to-change versus conservation dimension, we also found some consistent patterns of relations along the self-transcendence versus self-enhancement dimension. These relations reflect an alignment between the motivational content of values along these dimensions and the foci. The results of the present research have implications not only for future values and regulatory focus research, but also for understanding how these two motivational systems may interact in other domains, such as communication, where messages can be framed to express both values and regulatory focus to increase persuasiveness.

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