Openness to Experience and Regulatory Focus: Evidence of Motivation from Fit

Leigh Ann Vaughn
Ithaca College, lvaughn@ithaca.edu

Jolie Baumann

Christine Klemann

Follow this and additional works at: http://digitalcommons.ithaca.edu/psych_fac_pubs

Part of the Personality and Social Contexts Commons

Recommended Citation
Vaughn, Leigh Ann; Baumann, Jolie; and Klemann, Christine, "Openness to Experience and Regulatory Focus: Evidence of Motivation from Fit" (2008). Psychology Department Faculty Publications and Presentations. 5.
http://digitalcommons.ithaca.edu/psych_fac_pubs/5
Openness to Experience and Regulatory Focus: Evidence of Motivation from Fit

Leigh Ann Vaughn, Jolie Baumann, and Christine Klemann

Ithaca College

Reference:
Abstract

Regulatory fit occurs when one’s strategies of goal pursuit sustain one’s interests in an activity, which can enhance motivation (e.g., Higgins, 2005). Because the strategic inclinations of people high (low) in Openness are similar to those of people in a promotion (prevention) focus, regulatory fit should be possible. We found that people higher in Openness were more motivated to pursue promotion-related goals (hopes/aspirations in Study 1 and a gain-framed goal in Study 2) and less motivated to pursue prevention-related goals (duties/obligations in Study 1 and a loss-framed goal in Study 2). We discuss how other traits might relate to motivation to pursue promotion- and prevention-related goals as well as other future research directions for regulatory focus and Openness.

Keywords: Regulatory focus; promotion; prevention; Openness to Experience; Big Five; motivation
Openness to Experience and Regulatory Focus: Evidence of Motivation from Fit

Heather is a college student who likes predictability and routine. Imagine that her academic advisor encourages her to visualize what she could gain by pursuing her hopes and aspirations. How motivated would she be? How motivated would she be, instead, if her advisor encourages her to fulfill her duties and obligations to the important people in her life and to make sure she does not lose the good things she is used to? Our questions pertain to whether she would be more motivated by goals that involve a promotion focus on gains and hopes or by goals that involve a prevention focus on nonlosses and obligations. The answer, we believe, depends on the regulatory fit between the promotion or prevention focus of the goal she considers and the general strategic inclinations that are associated with her level of Openness to Experience.

Regulatory fit occurs when one’s strategies of goal pursuit sustain one’s interests in an activity (e.g., Higgins, 2005, 2006). For example, regulatory fit can result from thinking about mistake-preventing, vigilant ways of pursuing one’s duties and obligations (which are prevention-focused goals) or from thinking about gain-promoting, eager ways of pursuing one’s hopes and aspirations (which are promotion-focused goals; e.g., Cesario, Grant & Higgins, 2004; Freitas & Higgins, 2002; Vaughn, Malik, Schwartz, Petkova, & Trudeau, 2006; Vaughn, O’Rourke, et al., 2006). When people experience regulatory fit they feel right about what they are doing, which can enhance their motivation to engage in goal pursuit (e.g., Higgins, 2005, 2006; though see Vaughn, Malik, et al., 2006). A great deal of research on regulatory fit has examined the relationship between self-regulatory interests and motivation to use strategies of goal pursuit that are more versus less consistent with those interests (e.g., Crowe & Higgins, 1997; Freitas & Higgins, 2002; Freitas, Liberman, & Higgins, 2002; Idson, Liberman, & Higgins, 2004; Shah & Higgins, 1997; Vaughn, Malik, et al., 2006). However, a topic that has
remained under-explored is how one’s promotion- or prevention-related interests in pursuing a goal might fit an aspect of the basic structure of one’s personality: one’s Openness to Experience.

In the Five Factor Model of personality (i.e., the “Big Five”; e.g., Digman, 1990; John & Srivastava, 1999; McCrae & Costa, 1999), Openness to Experience is manifested in the “breadth, depth, and permeability of consciousness, and in the recurrent need to enlarge and examine experience” (McCrae & Costa, 1997; p. 826). People higher in Openness to Experience have a stronger preference for novelty, variety, intense experience, and complexity (McCrae, 1996). Conversely, people lower in Openness to Experience have a stronger preference for familiarity, routine, security, and simplicity (McCrae, 1996).

According to Five Factor Theory (McCrae, 2005; McCrae & Costa, 1999), characteristic adaptations result from the interaction between one’s dispositions (one’s levels of the “Big Five” traits) and the specific opportunities and challenges in one’s environment. There are many possible characteristic adaptations, including general strategic inclinations, as well as more specific skills, plans, goals, habits, and attitudes. Characteristic adaptations associated with Openness could include strategic inclinations toward thinking in ways that are conducive to breadth, inclusiveness, and novelty of ideas. Indeed, people higher in Openness to Experience tend to be more creative and less conventional and to adopt a broader focus in the ideas they generate and the information they think deeply about (e.g., Baer & Oldham, 2006; Barrick & Mount, 1991; Flynn, 2005; George & Zhou, 2001; McCrae, 1987). These tendencies toward a broad focus are also similar to those of people considering promotion-related goals whereas tendencies toward a narrow focus are similar to those of people considering prevention-focused goals.
Regulatory focus theory (e.g., Higgins, 1997, 1998) distinguishes between a concern with positive outcomes (promotion focus) and a concern with negative outcomes (prevention focus). Goals can differ in their alignment with promotion- or prevention-focused interests, and research has shown that regulatory focus can be induced temporarily by asking people to think about goals with those interests in mind. Specifically, thinking about possible gains (e.g., what one would ideally like to attain, like one’s hopes or aspirations) induces a promotion focus. In contrast, thinking about possible losses (e.g., what one ought not to lose, like one’s sense of duty or obligation to do something) induces a prevention focus.

If one is to maximize the likelihood of obtaining gains and minimize the likelihood of missing anything good, an eager strategy of approaching “hits” makes sense. Conversely, if one is to minimize the likelihood of obtaining losses and maximize the likelihood of correctly eliminating possible problems, a vigilant strategy of avoiding mistakes makes sense (Crowe & Higgins, 1997). Not surprisingly, then, promotion-focused individuals tend to favor approach strategies, and prevention-focused individuals tend to favor avoidance strategies (Forster, Higgins, & Idson, 1998; Higgins, Roney, Crowe, & Hymes, 1994; Shah, Higgins, & Friedman, 1998). Consistent with approach strategies, promotion-focused individuals show inclinations toward creative thinking, novelty, and broad, abstract representations. In contrast, and consistent with avoidance strategies, prevention-focused individuals show inclinations toward careful, routine ways of thinking and an adherence to concrete, specific information (Forster & Higgins, 2005; Friedman & Forster, 2001; Liberman, Idson, Camacho, & Higgins, 1999; Liberman, Molden, Idson, & Higgins, 2001; Seibt & Forster, 2004; Semin, Higgins, de Montes, Estourget, & Vallencia, 2005; Zhu & Myers-Levy, 2007).
In short, there are similarities in strategic inclinations toward breadth, abstractness and novelty among those higher in Openness and those pursuing promotion-related goals, as well as similarities in strategic inclinations toward narrowness, concreteness, and routine among those lower in Openness and those pursuing prevention-related goals. These similarities suggest that regulatory fit should result when people higher in Openness consider promotion-focused goals and when people lower in Openness consider prevention-focused goals. Regulatory fit tends to enhance motivation (e.g., Higgins, 2005, 2006; though see Vaughn, Malik, et al., 2006). Therefore, we expected that Openness would be positively related to motivation to pursue promotion-related goals and negatively related to motivation to pursue prevention-related goals.

We tested these hypotheses in two studies. Participants in each one completed a measure of Openness to Experience. At that point, the procedures of the studies diverged. In Study 1, we asked participants to think about five promotion-related hopes/aspirations or prevention-related duties/obligations and to report how motivated they were to achieve each one. We predicted that the higher participants were in Openness to Experience, the more motivated they would be to pursue hopes and aspirations and the less motivated they would be to pursue duties and obligations. In Study 2, we instead asked participants to imagine a scenario in which they could strive to gain vacation time (a promotion-consistent emphasis on the presence of a positive outcome) or one in which they could strive to not lose vacation time (a prevention-consistent emphasis on the absence of a negative outcome). We predicted that the higher participants were in Openness, the more motivated they would be to pursue the goal when it was framed as a possible gain and the less motivated they would be to pursue the goal when it was framed as a possible nonloss.

Study 1
Method

Participants and Design

One hundred sixty-three undergraduates participated in the study for extra credit in their psychology courses. We randomly assigned them to regulatory focus (promotion vs. prevention) conditions. From these, we excluded three participants’ data: one because he only listed one goal and two because they ran out of time. This resulted in a final sample of 160 participants (49 male, 111 female). There were no significant gender effects when we regressed motivation onto effects-coded gender, effects-coded regulatory focus, z-scored Openness, and all interactions between gender and/or regulatory focus and Openness. Therefore, the results we report are collapsed across gender.

The Big Five Inventory

We measured the Big Five personality dimensions with the Big Five Inventory (BFI; Benet-Martinez & John, 1998; John & Srivastava, 1999). This 44-item questionnaire was designed to provide an efficient assessment of five personality dimensions (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism), making it ideal for this study, in which participants completed numerous tasks within a 30-minute session. Research has shown that the BFI scales have substantial internal consistency, retest reliability, clear factor structure, and good convergent and discriminant validity with longer Big Five measures (Benet-Martinez & John, 1998; John & Srivastava, 1999). Items are scored on a 5-point scale (1 = disagree strongly; 5 = agree strongly). For our main analyses we used the 10-item Openness scale (in this study, Cronbach’s alpha = .79).

Procedure
Individuals participated in sessions of up to 13 people in a computer lab with at least one seat separating each student from the next. We informed them that they would complete several different tasks on the Web.

The materials for this study were between sections of a Web questionnaire about topics unrelated to the current investigation. The first section for this study was titled “Self-Perceptions” and contained the BFI.

The next section of the questionnaire was titled “Hopes and Aspirations” (“Duties and Obligations”) and contained the regulatory focus manipulation and dependent measures based on those developed by Vaughn et al. (2006a). After reading a brief introduction stating that this part of the questionnaire was about students’ goals at this time of the semester, and after answering two questions about their year in college and their age, participants were asked to list five of their current hopes and aspirations (duties and obligations). Then they rated how much they were motivated to achieve each of the five hopes and aspirations (duties and obligations) they listed, using a 1 (not at all) to 7 (very much) scale for each rating. These ratings were highly related (Cronbach’s alpha = .71; in duties condition Cronbach’s alpha = .67; in hopes condition Cronbach’s alpha = .74), so we averaged them to form an index.

We collected demographic information at the end of the questionnaire. After participants completed the measures, they were thanked and debriefed.

Results

We effects-coded the regulatory focus variable (-1 = prevention, 1 = promotion), and standardized Openness scores (to minimize problems with multicollinearity between continuous predictors and related interaction terms; Cohen, Cohen, West, & Aiken, 2003). Because
standardizing an effects-coded predictor could introduce bias into resulting coefficients (Cohen et al., 2003), we also standardized the dependent variables so Bs could be interpreted as $\beta$s.

Simultaneously regressing the motivation index onto Openness scores, the regulatory focus variable, and the interaction term revealed a significant main effect for regulatory focus; $\beta = .23, t = 3.07, p = .003$. Participants reported more motivation to pursue hopes and aspirations ($M = 6.30, SD = 0.68$) than to pursue duties and obligations ($M = 5.93, SD = 0.89$).

Additionally, the regression analysis revealed a significant Openness X Regulatory Focus interaction; $\beta = .34, t = 4.58, p < .001$. Openness was positively related to motivation to pursue hopes and aspirations (Openness simple slope $\beta = .35, t = 3.43, p = .001$), and negatively related to motivation to pursue duties and obligations (Openness simple slope $\beta = -.33, t = -3.05, p = .003$). Figure 1 displays these results at $\pm 1$ and 2 $SD$s from the mean of Openness (to represent most of the range of Openness scores).

Discussion

The results of Study 1 supported our hypothesis. Openness to Experience was positively related to motivation to pursue (promotion-related) hopes and aspirations and negatively related to motivation to pursue (prevention-focused) duties and obligations.

We also observed an unexpected, significant main effect for the regulatory focus of the goal. It is possible that people often find thinking about hopes and aspirations more enjoyable and motivating than thinking about duties and obligations (Vaughn & Van de Wal, 2005). To control for this possible difference in Study 2, we held constant the goal that participants considered and instead varied how we framed it. Framing a goal in terms of gains/nongains fits a promotion focus, whereas framing it in terms of losses/nonlosses fits a prevention focus (e.g., Higgins, 1997, 1998). If a promotion focus (prevention focus) fits the strategic inclinations
associated with high (low) Openness to Experience, we should find that the Openness X Regulatory Focus pattern of results observed in Study 1 replicates in Study 2, even if the main effect for regulatory focus does not.

Study 2

Method

Participants and Design

One hundred forty-five undergraduates, who participated in the study for extra credit in their psychology courses, were randomly assigned to regulatory focus (promotion vs. prevention) conditions. From these, we excluded the data from one participant who did not read the directions sufficiently well and became distracted. This resulted in a final sample of 144 participants (43 male, 100 female, 1 gender unreported). As in Study 1, there were no significant gender effects when we regressed motivation onto effects-coded gender, effects-coded regulatory focus, z-scored Openness, and all interactions between gender and/or regulatory focus and Openness. Therefore, the results we report are collapsed across gender.

Procedure

Individuals participated in sessions of up to 7 people in a computer lab with at least one seat separating each student from the next. We informed them that they would complete several different tasks on the Web.

The materials for this study were between sections of a Web questionnaire about topics unrelated to the current investigation. The first section for this study was titled “Self-Perceptions” and contained the BFI. In this study, Cronbach’s alpha for the BFI Openness scale was .79, so we averaged the items to form an index.
The next section of the questionnaire was titled “Imagining a Scenario” and contained the regulatory focus manipulation and dependent measure. In it, we asked participants to imagine themselves in the following scenario as if it were right now, at this very moment.

You work at a facility that manufactures running shoes. You like your job; for someone with your education it pays very well and has good health benefits. It also has one other major benefit for you. Because you typically work a 40 hour week, it gives you time to pursue other interests when you’re not at work, which you appreciate.

Then, participants in the gain-framed (promotion) condition read:

Your company gives you the standard number of vacation days per year. However, if you produce an average of 50 sneakers at work each day, you will gain one extra paid vacation day each month. Conversely, if you do not produce an average of 50 sneakers at work each day, you won’t gain that extra vacation day each month.

After the first paragraph of the scenario, participants in the loss-framed (prevention) condition read the following instead:

Your company gives you the standard number of vacation days per year, plus one extra paid vacation day each month. However, if you do not produce an average of 50 sneakers at work each day, you will lose that extra vacation day each month. Conversely, if you produce an average 50 sneakers at work each day, you won’t lose that extra vacation day each month.

While imagining themselves in that scenario, we asked participants, “How motivated are you to produce an average of 50 sneakers per day?” Participants responded on a 1 (not at all) to 7 (very much) scale.
We collected demographic information at the end of the questionnaire. After participants completed the measures, they were thanked and debriefed.

Results

As in Study 1, we effects-coded the regulatory focus variable (-1 = prevention, 1 = promotion). Additionally, we standardized Openness scores and the dependent variable.

Simultaneously regressing motivation onto Openness scores, the regulatory focus variable, and the interaction term revealed a significant Openness X Regulatory Focus interaction; $\beta = .27$, $t = 3.20$, $p = .002$. As expected, Openness was positively related to motivation to pursue the gain-framed (promotion) goal; Openness simple slope $\beta = .22$, $t = 2.10$, $p = .04$. It was negatively related to motivation to pursue the loss-framed (prevention) goal; Openness simple slope $\beta = -.33$, $t = -2.42$, $p = .02$. Figure 2 displays these results at ± 1 and 2 SDs from the mean of Openness (to represent most of the range of Openness scores).

Discussion

The results of Study 2 supported our hypothesis. Openness to Experience was positively related to motivation to achieve a gain-framed (promotion-focused) goal and negatively related to motivation to achieve a loss-framed (prevention-focused) goal.

Additionally, the unexpected main effect for the regulatory focus of the goal observed in Study 1 did not conceptually replicate in Study 2: there was no significant main effect for the framing of the scenario on motivation. This finding indicates that stronger regulatory fit occurs when people higher in Openness consider promotion-focused goals and when people lower in Openness consider prevention-focused goals, even when the content of goals is held constant.
General Discussion

The primary goal of the current research was to examine whether regulatory fit can result from the interplay of Openness to Experience and consideration of promotion- or prevention-focused activities. It appears that it can: our results are consistent with the hypothesis that promotion-focused activities fit the strategic inclinations of those higher in Openness and prevention-focused activities fit the strategic inclinations of those lower in Openness. Regulatory fit tends to enhance motivation (e.g., Higgins, 2005, 2006; though see Vaughn et al., 2006). We found that Openness was positively related to motivation to pursue promotion-related goals (hopes and aspirations in Study 1 and a gain-framed goal in Study 2) and negatively related to motivation to pursue prevention-related goals (duties and obligations in Study 1 and a loss-framed goal in Study 2).¹

Developing a well-established taxonomy of characteristic adaptations is a long-term challenge for Five Factor Theory (e.g., McCrae, 2005; McCrae & Costa, 1999). The current research contributes to that effort by showing that Openness to Experience is positively or negatively related to people’s motivation to pursue promotion- and prevention-focused interests. A general strategic inclination toward promotion or prevention could be a general characteristic adaptation related to high or low Openness.

Additionally, regulatory focus theory and research have identified numerous activities, preferences, and emotional responses that are more or less likely among people in a promotion focus or prevention focus. For example, compared to individuals in a prevention focus, those in a promotion focus are more likely to use or prefer abstract language, see a “big picture” more quickly, and adopt a more distant temporal focus (Forster & Higgins, 2005; Pennington & Roese, 2003; Semin et al., 2005). People in a prevention focus are more likely to enjoy work that
involves avoiding distractions, prefer accuracy over speed and stability over change, and begin
tasks earlier (Forster, Higgins, & Bianco, 2003; Freitas et al., 2002; Freitas, Liberman, Salovey,
& Higgins, 2002; Liberman et al., 1999). Emotional responses are also related to regulatory
focus. Specifically, elation or dejection emotions (e.g., happiness or sadness) are associated more
strongly with success or failure in a promotion focus, whereas quiescence or agitation emotions
(e.g., calmness or anxiety) are associated more strongly with success or failure in a prevention
focus (e.g., Higgins, Shah, & Friedman, 1997; Idson, Liberman, & Higgins, 2000). There clearly
are many tendencies associated with regulatory focus that could, if experienced regularly
enough, become specific characteristic adaptations or typical life events of a person high or low
in Openness. We doubt, however, that they all relate to Openness equally well. Thus, we look
forward to research that examines just how far evidence of regulatory fit extends between
tendencies related to prevention or promotion focus and Openness to Experience.

Moreover, the current studies have important implications for regulatory focus theory and
research by suggesting a wide range of Openness-related individual differences or activities that
might fit promotion or prevention focus. Openness, like Conscientiousness, Extraversion,
Agreeableness, and Neuroticism, subsumes numerous more specific personality dimensions,
preferences, and skills (e.g., Digman, 1990; John & Srivastava, 1999; McCrae & Costa, 1999). In
the case of Openness, these diverse tendencies include political conservatism, absorption, latent
inhibition, and preference for jazz or for paintings with blurred edges (e.g., Jost, Glaser,
Kruglanski, & Sulloway, 2003; McCrae, 1996; Peterson, Smith & Carson, 2002; Rentfrow &
Gosling, 2003; Van Hiel & Mervielde, 2004). Given the fit between Openness and prevention-
or promotion-focused goals, these and other Openness-related aspects of personality might also fit
with prevention- or promotion-related interests or strategic inclinations. We look forward to research that explores these relationships, as well.

Conclusion

We return to Heather, the college student who likes predictability and routine and who is probably low in Openness to Experience. Imagine that her academic advisor wants to motivate her to study more. Our research suggests that encouraging her to imagine what she would gain by studying more would be less helpful than encouraging her think about what she would lose if she did not. This example is clearly just one of the many implications of the relationship between Openness to Experience and the motivation to pursue promotion- or prevention-related goals. Exploration of these implications could substantially enrich theory and research on regulatory focus and on Openness to Experience.
References


Footnote

1 Although the other Big Five traits were not the primary focus of our research, we analyzed results with them as well. In each study, we effects-coded the regulatory focus variable (-1 = prevention, 1 = promotion), and standardized scores on Openness, Conscientiousness, Extraversion, Agreeableness, Neuroticism and the dependent variables. There were no significant gender effects when we regressed motivation onto effects-coded gender, effects-coded regulatory focus, the z-scored Big Five traits, and all interactions between gender and/or regulatory focus and each trait. Therefore, the results we report are collapsed across gender.

In Study 1, simultaneously regressing motivation onto Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism scores, the regulatory focus variable, and all two-way interactions between a trait and manipulated regulatory focus revealed that the main effect for regulatory focus ($\beta = .21$, $t = 2.98$, $p = .003$) and the Openness X Regulatory Focus interaction ($\beta = .32$, $t = 4.28$, $p < .001$) were still significant. Additionally, the analysis revealed a significant main effect for Extraversion ($\beta = .16$, $t = 2.11$, $p = .04$) and a significant Neuroticism X Regulatory Focus interaction ($\beta = .15$, $t = 1.98$, $p = .05$). Neuroticism was unrelated to motivation to pursue hopes and aspirations; Neuroticism simple slope $\beta = .09$, $t = 0.83$, $p = .41$ (at > +1 SD on Neuroticism, motivation $M = 6.33$; and at < -1 SD on Neuroticism, motivation $M = 6.26$). However, it was negatively related to motivation to pursue duties and obligations; Neuroticism simple slope $\beta = -.22$, $t = -1.96$, $p = .05$ (at > +1 SD on Neuroticism, motivation $M = 5.75$; and at < -1 SD on Neuroticism, motivation $M = 6.36$).

In Study 2, simultaneously regressing motivation onto Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism scores, the regulatory focus variable, and all two-way interactions between a trait and manipulated regulatory focus revealed that the Openness X
Regulatory Focus interaction ($\beta = .26, t = 3.23, p = .002$) was still significant. Additionally, the analysis revealed significant main effects for Conscientiousness ($\beta = .19, t = 2.34, p = .02$), Extraversion ($\beta = .18, t = 2.32, p = .02$), and Neuroticism ($\beta = .16, t = 2.08, p = .04$), and a significant Neuroticism X Regulatory Focus interaction ($\beta = .17, t = 2.25, p = .03$). Neuroticism was significantly related to motivation to pursue the gain-framed goal; Neuroticism simple slope $\beta = .34, t = 3.26, p = .001$ (at $> +1 \text{SD}$ on Neuroticism, motivation $M = 6.00$; and at $< -1 \text{SD}$ on Neuroticism, motivation $M = 5.06$). However, it was unrelated to motivation to pursue the loss-framed goal; Neuroticism simple slope $\beta = -.01, t = -0.12, p = .91$ (at $> +1 \text{SD}$ on Neuroticism, motivation $M = 5.77$; and at $< -1 \text{SD}$ on Neuroticism, motivation $M = 6.13$).

It does not appear that people higher in Neuroticism were more prevention-focused in the current research; otherwise, there would have been evidence of greater regulatory fit in motivation to pursue prevention-related interests. However, it is not clear why. If anything, it appears that the Neuroticism subscale should be more strongly related to prevention focus, given that prevention focus is associated with feeling tense and nervous rather than downhearted after failure (e.g., Higgins, 1997; 1998). The items in the Neuroticism subscale of the BFI are “I see myself as someone who…”: “Gets nervous easily”; “Remains calm in intense situations” (reversed); “Can be moody”; “Worries a lot”; “Is emotionally stable; not easily upset” (reversed); “Can be tense”; “Is relaxed; handles stress well” (reversed); “Is depressed, blue” (e.g., John & Srivastava, 1999; p. 132). Future research will need to further explore relationships between Neuroticism and motivation to pursue promotion- and prevention-related interests to examine whether these unanticipated patterns replicate.
Figure Captions

Figure 1. Regression of motivation on Openness scores and regulatory focus condition in Study 1.

Figure 2. Regression of motivation on Openness scores and regulatory focus condition in Study 2.
Openness and Regulatory Focus

Motivation to Pursue Goals vs. Standardized Openness

- Promotion (hopes)
- Prevention (duties)
Openness and Regulatory Focus

Motivation to Pursue Goal

Standardized Openness

promotion (gain/nongain)
prevention (loss/nonloss)