

The Influence of Regulatory Focus and Personal Need for Structure on Creative Idea

Evaluation and Selection

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### Abstract

The extensive study of idea generation has overshadowed research on idea evaluation and selection. This study was conducted to better understand which factors determine people's performance on idea evaluation and selection. Based on regulatory focus theory, it was hypothesized that people in a promotion focus show less originality evaluation error and select more original ideas relative to people in a prevention focus, but only when personal need for structure (PNS) is low. People in a prevention focus were expected to show less feasibility evaluation error and to select more feasible ideas relative to people in a promotion focus, but only when PNS is high. In an experiment, regulatory focus was manipulated and PNS was measured. The dependent variable, evaluation error, was measured by calculating squared differences between participants' and experts' idea ratings. Contrary to expectations, participants in a prevention focus (rather than in a promotion focus) showed less originality evaluation error. No effects were found with regard to feasibility evaluation error and idea selection, both originality and feasibility, respectively. Regulatory focus and PNS play a crucial role in the evaluation of creative ideas. Idea selection remains a troubled stage in the innovation process.

*Keywords:* regulatory focus, personal need for structure, idea evaluation, idea selection

## The Influence of Regulatory Focus and Personal Need for Structure on Creative Idea Evaluation and Selection

Organizations need and want to innovate in order to grow and to stay competitive. A prime example illustrating the success that can follow is Apple's first iPhone, the product that has put the giant concern on top of the list of the largest tech companies worldwide (Chen, 2015). With an ideal like this, it comes with little surprise that organizations eagerly pursue innovation, which can be further defined as the intentional implementation of new ideas, processes, products, or procedures (West & Farr, 1990).

While organizations acknowledge the importance of innovation, only a handful succeeds in running through the whole innovation process. This leads to the question where and why in the innovation process the potential of highly creative ideas disappears, on which this research will shed some light by showing how self-regulatory processes and certain personality characteristics influence a person's evaluation and selection of ideas.

### **Creativity**

In contrast to innovation, creativity can be defined as the generation of ideas or problem solutions that are both original and feasible (e.g., Amabile, 1983; N. Anderson, De Dreu, & Nijstad, 2004; Paulus & Nijstad, 2003; Sternberg & Lubart, 1999). On the one hand, any idea that is not in some way new cannot be called creative, rendering high originality a necessary condition. On the other hand, a creative idea also has to be easily implementable to distinguish it from simply odd ideas, rendering high feasibility a sufficient condition. Thus, the combination of high originality and feasibility makes an idea truly creative. Creativity is however only the first phase of the innovation process. Innovation is multifaceted, which makes it important to distinguish between idea generation and the implementation phase. This is crucial in order to pinpoint where the potential of creative ideas might decay. Research that has looked at antecedents of idea generation is rich (Anderson, Potocnik, &

Zhou, 2014; Shalley, Zhou, & Oldham, 2004). However, researchers have spent less attention to idea evaluation and selection because it has often been wrongly assumed that the most qualitative generated ideas smoothly translate into an innovative process or product.

### **Idea Evaluation**

In contrast to the idea generation phase, idea evaluation is often regarded as a distinct process (Amabile, 1996) that is part of the implementation phase. During idea evaluation, ideas get assessed and checked against a standard such as popularity or workability that will likely determine an idea's success (Loneragan, Scott, & Mumford, 2004). People try to predict an idea's success by forecasting the consequences of implementing an idea in a given context. Subsequently, ideas are either considered as good enough for implementation or revision, or are rejected altogether (Mumford, Loneragan, & Scott, 2002). Thus, during the evaluative process ideas are classified and given an indication of their potential success.

In line with this, a series of studies showed that people are indeed able to distinguish ideas based on different dimensions like originality and feasibility (Runco & Chand, 1994; Runco & Smith, 1992; Runco & Vega, 1990). Furthermore, Silvia (2008) asked participants to generate and choose their most creative ideas. Participants' choices strongly agreed with judges' ratings. In contrast, Licuanan, Dailey and Mumford (2007) found that people underestimate the originality of ideas. Evaluation errors were substantially greater for highly original ideas than for average or less original ideas. In support of this, Blair and Mumford (2007) showed that people favored ideas that were safe and in line with social norms, while they discounted original and risky ideas. Furthermore, research showed that participants in a low-tolerance condition rated a given idea as less creative than participants in a high-tolerance condition (Mueller, Melwani & Goncalo, 2012).

### **Idea Selection - a Bottleneck in the Creative Process**

In contrast to idea evaluation, idea selection really means coming to an ultimate decision which idea should be further worked on. Arguably, the idea selection phase works as a ‘filter’ between idea generation and idea implementation. Thus, while people during the evaluative process contemplate ideas’ potential success, they commit themselves to an idea during the selection phase. Poor selection performance is especially regrettable because high performance in the generation phase is of no avail if ideas do not get selected. Therefore, it is crucial to understand which factors might help or hinder people to select their most creative ideas. If people select ideas based on the same criteria according to which they evaluate ideas, then a more accurate evaluation will lead to a selection of better (i.e. more original and feasible) ideas. Based on this assumption, idea selection performance could still potentially remain poor if people struggle to recognize highly creative ideas.

One line of research that investigated idea selection in group brainstorming showed that differences between nominal groups (individuals’ ideas pooled) and interactive groups with regard to idea originality in the idea generation phase disappeared when these groups selected ideas (Faure, 2004). Furthermore, groups rarely selected their best ideas compared to expert ratings (Putman & Paulus, 2009), or even worse, showed a selection performance that was not significantly better than chance (Rietzschel, Nijstad, & Stroebe, 2006). Only when explicitly instructing participants to base their selection on originality did they show selection effectiveness above chance level (Rietzschel, Nijstad, & Stroebe, 2010). Other research found as the main reason for participants’ low selection performance their preference for a selection of feasible ideas over original ideas (Rietzschel, Nijstad, & Stroebe, 2014).

Research on innovation implementation showed that team creativity enhances innovation implementation only when the climate for innovation is high (Somech & Drach-Zahavy, 2013). Similarly, Baer (2012) found that highly creative ideas (compared to low creative ideas) only have the same likelihood of getting implemented if people expect

positive returns for their implementation efforts and if they have strong network ability. With regard to idea selection, people might thus only choose ideas that they feel will bring about benefits and that will receive support in their network.

In sum, these results suggest that idea generation alone does not directly lead to innovation, but that rather idea evaluation and selection seem to be weak points in the creative process. Undoubtedly, idea selection is especially risky because high quality ideas could be discarded and low quality ideas could be chosen. However, high quality ideas induce uncertainty since the consequences are often unknown. Uncertainty creates an aversive state that people want to reduce. In line with this reasoning, prior research revealed that participants show an implicit bias against creativity relative to practicality, when uncertainty is salient (Mueller, Melwani & Goncalo, 2012). The way in which people approach the uncertainty that is involved in the creative process might thus strengthen or weaken the bias against creativity. The most prominent theory today that explains how people differently encounter those uncertain situations is regulatory focus theory (Higgins, 1997).

### **Regulatory Focus**

While some people try to approach their goals in a motivational manner that is achievement-oriented, others obtain the same outcome by trying to avoid failure. Regulatory focus theory (Higgins, 1998) suggests that some people eagerly strive for growth, accomplishment and the experience of pleasure (promotion focus), while others pursue goals in a vigilant, secure, and protective manner (prevention focus). In terms of signal detection theory, people in a promotion focus try to maximize hits and risk errors of commission. People in a prevention focus try to maximize correct rejections, while also favoring misses over errors of omission (Crowe & Higgins, 1997).

A promotion focus welcomes novel ideas more than the relatively more risk-averse prevention focus and elicits a cognitive style that signals a prospering and safe environment, leading to a broadened, riskier information processing style (Friedman & Förster, 2001) in which people try out new things, seek after alternatives, and explore more categories and solutions. A prevention focus, triggers thought patterns in which people consider the environment to be threatening, therefore constraining information processing to common schemas, which might lead to weakened creative performance (Friedman & Förster, 2001; Gocłowska, Baas, Crisp, & De Dreu, 2014) and a repetition of well-established ideas (Crowe & Higgins, 1997; Liberman, Idson, Camacho & Higgins, 1999). People in a prevention focus shy away from novelty because they prefer playing it safe by using solutions that have been shown to work.

Friedman and Förster (2001) found that participants in a promotion focus generated ideas that were more creative than those generated by participants in a prevention focus. Other studies showed as well that participants in a promotion focus (induced and measured) generated more original ideas than participants in a prevention focus (Beuk & Basadur, 2016; Bittner, Bruena, & Rietzschel, 2016; Herman & Reiter-Palmon, 2011; Sacramento, Fay & West, 2013). Taken together, a promotion focus has consistently been shown to be associated with enhanced creative performance (mainly the generation of more original ideas) compared to a prevention focus. Less attention has been spent on the effect of regulatory focus on idea evaluation and selection, even though these steps are by no means less important since highly qualitative generated ideas are wasted potential if they do not survive the whole innovation process.

### **Regulatory Focus and Idea Evaluation**

It has been argued that a promotion focus elicits a risky cognitive processing style in which people explore more categories and welcome novel ideas more than those in a

prevention focus. People in a prevention focus, however, try to make sure that a solution works by focusing on familiar ideas that they know lead to success. Thus, it is conceivable that people in a promotion focus attend to an idea's originality more than to its feasibility, while people in a prevention focus should spend more attention to an idea's feasibility than its originality.

Some research that has been conducted on idea evaluation showed that participants with a strong trait promotion focus rated their ideas as more creative than participants with a relatively weak trait promotion focus (Lam & Chiu, 2002). However, there was no relation between the participants' rating and the judges' rating of originality. Prevention focus trait scores were not related to participants' idea ratings. Other research showed that participants in an induced promotion focus, compared to those in a prevention focus, evaluated novel stimuli more positively as well as familiar stimuli more negatively (Gillebaart, Förster, & Rotteveel, 2012). In line with this, recent research that looked at regulatory focus as a moderator illustrated that the relation between a target's (e.g. alien drawing) level of novelty and participants' novelty rating was stronger in an induced promotion state than in a prevention state (Zhou, Wang, Song, & Wu, 2017). Furthermore, under high normative novelty, novelty ratings were higher for participants who scored high on trait promotion- and for those who scored low on trait prevention measures. In a study by Herman and Reiter-Palmon (2011), participants generated solutions to a marketing problem and completed a state regulatory focus measure. Afterwards, participants evaluated their own generated ideas with regard to originality and quality (i.e. feasibility). Participants' evaluations were subtracted from those of expert judges and subsequently squared. Participants higher in a state promotion focus evaluated their ideas more accurately on originality, but less accurately on quality. Participants higher in a state prevention focus, however, evaluated their ideas more accurately on quality, but less accurately on originality. In sum, these findings show

that both regulatory foci can also benefit idea evaluation, in that a promotion focus helps people to recognize originality, while a prevention focus seems to help people to recognize feasibility.

### **Regulatory Focus and Idea Selection**

Regulatory focus should also affect idea selection for two reasons. Firstly, idea evaluation should feed into people's decisions making during idea selection. Hence, regulatory focus should influence idea selection through the effect it has on idea evaluation. Secondly, regulatory focus should also have a direct effect on idea selection because the tendency for people in a promotion focus to engage in riskier decisions should lead to a selection of more original ideas, while the preference for familiarity that people in a prevention focus show should lead to a selection of more feasible ideas. In concert with this, groups in a promotion focus are inclined to engage in riskier investments than are groups in a prevention focus, given there is no time pressure (Florack & Hartmann, 2007). To the best of my knowledge, no other previous research has looked at the effect of regulatory focus on idea selection. However, research has shown that a promotion focus is associated with openness to change while a prevention focus is linked to a preference for stability (Liberman, Idson, Camacho & Higgins, 1999). Because creative ideas tend to be associated with more substantive changes, it is likely that people in a promotion focus will embrace creative ideas more because they are open to the consequences of the accompanying change.

The aim of the current study was to conceptually replicate Herman and Reiter-Palmon's (2011) study, in which state regulatory focus was only measured, rendering any attempt to draw causal conclusions impossible. Even though Zhou et al. (2017) found similar effects after regulatory focus was induced, they only looked at originality. Therefore, this study employs an experimental design where regulatory focus will be manipulated while investigating its effect on originality and feasibility separately, as this distinction has been

shown to matter. Furthermore, I will also extend previous findings by investigating possible effects of regulatory focus on idea selection, in addition to idea evaluation.

Based on the relation between idea evaluation and selection and the reviewed literature it is hypothesized that regulatory focus will have an effect on idea evaluation and hence selection. Participants in a promotion focus should show less originality evaluation error and select more original ideas relative to participants in a prevention focus because they are willing to choose riskier options and recognize originality more easily. Participants in a prevention focus should show less feasibility evaluation error and select more feasible ideas relative to participants in a promotion focus because they avoid committing errors and thus tend to focus on the feasibility of an idea in order not to risk something that could potentially fail.

However, some people might simply not feel comfortable when evaluating and selecting original ideas since they can create feelings of uncertainty, ambiguity, and demand higher information processing because commonly used schemas and stereotypes often do not apply anymore. A personality trait that directly addresses this is Personal Need for Structure (PNS).

### **Personal Need for Structure and Creative Performance**

While some people enjoy autonomy and ambiguity (low PNS), others prefer a structured and unambiguous environment (high PNS) (Thompson, Naccarato, Parker, & Moskowitz, 2001). Low PNS individuals approach ill-defined situations rather open-minded and feel comfortable when a task is ambiguous. High PNS individuals have an aversion towards ill-defined situations, rather prefer predictability and repetition, tend to stick to their first idea that solves a problem (Thompson, Roman, Moskowitz, Chaikon, & Bargh, 1994) and are more likely to use stereotypes, which can hinder creative performance since it renders ‘thinking out of the box’ extremely difficult (Sassenberg & Moskowitz, 2005). Therefore,

PNS is usually negatively related to creativity (but see Rietzschel, De Dreu, & Nijstad, 2007). In line with this, research showed that disconfirming stereotypes, following schema-inconsistent information, and receiving an informational performance evaluation led to enhanced creative performance, but only for low PNS individuals (Gocłowska, Baas, Crisp, & De Dreu, 2014; Gocłowska & Crisp, 2013; Slijkhuis, Rietzschel, & Van Yperen, 2013).

Consequently, PNS might moderate the effect of regulatory focus on idea evaluation and selection, differently for originality and feasibility. Only for low PNS individuals should a promotion focus unfold its positive effect on the evaluation of original ideas. High PNS individuals should be reluctant to shift their attention towards more original ideas because they generally like more structured, predictable situations and shy away from uncertain ideas. In support of this argument, Silvia (2008) found that people high in openness to experience in particular show stronger agreements between their idea ratings and those of experts. As openness to experience is negatively related to PNS (Neuberg & Newsom, 1993), one might expect that also only low PNS individuals will show stronger agreements with experts' ratings. With regard to feasibility, only for high PNS individuals should a prevention focus shift a person's attention to an idea's feasibility because high PNS individuals generally tend to reduce information processing by following common schemata, which is easier for feasible ideas than for original ones. For low PNS individuals, a prevention focus should have no effect on feasibility because they are naturally inclined to enjoy ambiguity, which is why they should still focus on more novel ideas.

In a similar vein, PNS might moderate the relation between regulatory focus and idea selection, again differently for originality and feasibility. Since the outcome of choosing an original idea is very uncertain (Simonton, 1997), it is likely that a promotion focus will only lead to riskier decision making when PNS is low. High PNS individuals' preference for predictable situations should lead them to refrain from choosing unpredictable original ideas.

For feasibility in turn, a prevention focus should lead to a selection of more feasible ideas only for high PNS individuals because they prefer predictability and thus tend to choose ideas that have been shown to work in the past. When PNS is low, being in a prevention focus should have no effect on idea selection. The enjoyment of ambiguity that low PNS experience should keep them from systematically selecting more feasible ideas.

## **Method**

### **Participants**

Participants were 156 undergraduate psychology students from the University of Groningen who voluntarily took part as partial course fulfillment. Ten participants were not further considered in the analysis. They either indicated that their data should not be used or mentioned in the deception check that they were aware of the manipulation and the purpose of the study. Thus the final dataset contained data from 146 (41 male, 104 female, 1 did not indicate gender) participants that ranged in age from 17 to 52 ( $M = 20.60$ ,  $SD = 3.25$ ). Participants that took part were 74 German, 41 Dutch, and 31 belonging to some other nationality.

### **Procedure**

Upon arrival in the laboratory, participants were welcomed, assigned to a cubicle and seated in front of a computer on which they completed the study. The message on the first screen that participants saw included a welcome message and explained that they are about to rate and select some ideas, and to fill out some questionnaires. An informed consent form was also presented with which the participants either agreed or disagreed by ticking a corresponding box.

At first, participants completed questionnaires that measured PNS and trait regulatory focus. Afterwards, a screen message informed them that they are going to evaluate some pre-generated ideas. Thereafter, regulatory focus was manipulated by means of a goal frame.

After the manipulation took place, participants rated 18 ideas from a pre-generated idea set on originality and feasibility, respectively. Then, participants were asked to select out of these 18 ideas the three ‘best’ ideas, followed by an adapted version of the ‘Regulatory Focus State Measure’ (Herman & Reiter-Palmon, 2011). This state regulatory focus measure served as the manipulation check. Lastly, participants indicated how difficult they found the idea evaluation and selection task and completed some demographic questions together with a deception check. Participants were thanked and debriefed via mail after everyone had taken part in the study.

### **Independent Variables**

**Regulatory focus** was manipulated by means of a goal frame. In the promotion focus condition, participants were told that performance on the idea evaluation task helps realizing their ambitions in life. In the prevention focus condition, performance on the idea evaluation tasks was linked to avoidance of failure in life. Furthermore, descriptions in both conditions contained bogus research findings that supported the respective relationship between idea evaluation and life outcomes. The exact descriptions are given in the Appendix.

**Rating order.** The order of rating originality and feasibility in the idea evaluation task was counterbalanced, that is, it was randomized whether participants first rated originality and then feasibility or vice versa.

### **Measures and Dependent Variables**

**Trait regulatory focus** was assessed with the ‘Regulatory Focus Questionnaire’ (Higgins, Friedman, Harlow, Idson, Ayduk, & Taylor, 2001) prior to the regulatory focus manipulation. Six items measured promotion focus ( $\alpha = .69$ ) and five items measured prevention focus ( $\alpha = .72$ ). A sample item for the promotion focus scale was “Do you often do well at different things that you try?”. A sample item for the prevention scale was “Not being careful enough has gotten me into trouble at times” (reverse-coded).

**PNS** was measured with the 12-item ‘Personal Need for Structure Scale’ (Thompson, Naccarato, Parker, & Moskowitz, 2001). A sample item was “It upsets me to go into a situation without knowing what I can expect from it”, which participants answered on a 6-point scale (1 = *strongly disagree*; 6 = *strongly agree*). The scale showed good internal consistency ( $\alpha = .78$ ).

**Evaluation error.** Participants’ evaluation of an idea’s originality and feasibility was measured on a 5-point Likert scale (1 = *not at all original / feasible*; 5 = *extremely original / feasible*). In total, participants were presented with 18 ideas from a pre-generated idea set (Ritter, S., & Rietzschel, E. F. (2017) that dealt with the question “How can we get children to eat more fruits and veggies? ”. A sample idea was “Apply reverse psychology by telling children that they can’t have vegetables and fruits”.

The same ideas that the participants evaluated were also rated by experts on the same 5-point Likert scale. In line with earlier described research by Herman and Reiter-Palmon (2011), participants’ evaluation values of an item were subtracted from the respective expert rating values. The differences were squared so that larger values represent greater evaluation error, regardless of direction (i.e. whether participants inflated or deflated their evaluation) (Runco & Vega, 1990). For each participant, the mean squared difference was computed as a measure of evaluation error.

**Idea selection.** After participants evaluated the ideas, they were asked to select the three ‘best’ ideas by typing into corresponding boxes the number that preceded an idea. What ‘best’ means was not further specified in order to see whether participants indeed select on different criteria based on the condition they were in. For originality, the participants’ three selected idea scores as rated by the experts were then averaged. In the same manner for feasibility, participants’ idea scores as rated by the experts were averaged.

**State regulatory focus.** Following the idea selection task, participants completed a

version of a regulatory focus state measure used by Herman and Reiter-Palmon (2011) that was adapted to the idea set regarding the food problem. Respective sample items were “I focused on how I would achieve success in the idea evaluation and selection task” (promotion focus) and “I worry that I fell short of my abilities when solving the idea evaluation and selection task” (prevention focus). Participants gave answers to nine promotion focus items ( $\alpha = .78$ ) and to ten prevention focus items ( $\alpha = .83$ ).

**Other studies.** It was also recorded whether participants took part in other creativity-related research in a three-week period before data collection took place in order to check whether this in some way affected participants’ performance in this study.

**Difficulty.** Participants indicated on one-item measures how difficult they found the evaluation (selection) task (1 = *not at all*; 5 = *extremely*). The respective item was “I found the idea evaluation (selection) task difficult”.

## Results

### Descriptives and Correlations

Table 1 shows the main variables, its descriptive statistics, and correlations. Regulatory focus was significantly positively correlated with originality evaluation error ( $r = .18, p = .034$ ), which is unexpected since the error was expected to be smaller in a promotion focus (rather than a prevention focus). Similarly surprising, regulatory focus was not significantly correlated with feasibility evaluation error ( $r = -.08, p = .311$ ), selection originality ( $r = .05, p = .593$ ), and selection feasibility ( $r = .05, p = .573$ ), which is a first indication that the hypotheses might not receive full support. Also, regulatory focus and PNS ( $r = -.06, p = .465$ ) were not significantly correlated, which allows for an inspection of the interaction effect. Originality evaluation error strongly correlated with mean originality ( $r = .79, p < .001$ ) and feasibility evaluation error was moderately correlated with mean feasibility ( $r = -.48, p < .001$ ), suggesting that mean ratings might play an important role with regard to

the amount of evaluation error people show.

### **Manipulation Check**

Participants filled in a state regulatory focus measure adapted to this study from Herman and Reiter-Palmon (2011) after the idea selection took place. An independent samples *t*-test showed that participants in the promotion focus condition were indeed in a higher state promotion focus ( $M = 3.67$ ,  $SD = 0.65$ ) than participants in the prevention focus condition ( $M = 3.15$ ,  $SD = 0.61$ ),  $t(144) = 2.09$ ,  $p = .038$ . However, participants in the promotion focus condition were not in a significantly lower state prevention focus ( $M = 2.01$ ,  $SD = 0.67$ ) than participants in the prevention focus condition ( $M = 1.93$ ,  $SD = 0.71$ ),  $t(144) = 0.67$ ,  $p = .503$ .

### **Idea Evaluation Error**

**Originality.** Regression analyses<sup>1</sup> were used to test the hypotheses. Regulatory focus, PNS, the interaction between regulatory focus and PNS, and trait promotion- and prevention focus were entered as independent variables<sup>2</sup>. Originality evaluation error was the dependent variable and rating order was controlled for. The model explained a significant amount of variance in originality evaluation error,  $F(6,139) = 3.86$ ,  $p = .001$ , Table 2. Contrary to expectations, participants in a promotion focus showed more (rather than less) evaluation error for originality than participants in a prevention focus ( $B = 0.19$ ,  $SE = 0.09$ ,  $t = 2.10$ ,  $p = .037$ ). This main effect was qualified by a significant interaction with PNS ( $B = 0.29$ ,  $SE = 0.10$ ,  $t = 3.00$ ,  $p = .003$ ) (see Figure 1). Simple slopes analyses showed that, for participants high in PNS, regulatory focus had a significant effect on originality evaluation error ( $B = 0.48$ ,  $SE = 0.13$ ,  $t = 3.76$ ,  $p < .001$ ). However, for participants low in PNS, there was no such effect ( $B = -0.10$ ,  $SE = 0.14$ ,  $t = -0.70$ ,  $p = .484$ ). In the promotion focus condition, high PNS individuals showed significantly more originality evaluation error than low PNS individuals ( $B = 0.26$ ,  $SE = 0.12$ ,  $t = 2.17$ ,  $p = .032$ ). In the prevention focus condition, however, low

PNS individuals showed significantly more evaluation error than high PNS individuals ( $B = -0.32$ ,  $SE = 0.15$ ,  $t = -2.09$ ,  $p = .039$ ). Furthermore, participants who had higher trait prevention scores (compared to those who scored lower) showed significantly less originality evaluation error, on average ( $B = -0.25$ ,  $SE = 0.09$ ,  $t = -2.64$ ,  $p = .009$ ).

**Feasibility.** A regression analysis was performed with regulatory focus, PNS, and their interaction as independent variables. Feasibility evaluation error was entered as the dependent variable. Rating order and other studies were controlled for. The model explained a significant amount of variance in feasibility evaluation error,  $F(5,140) = 7.53$ ,  $p < 0.001$ , Table 3. It was predicted that participants in a prevention focus would show less feasibility evaluation error, relative to participants in a promotion focus. However, no differences between these two groups were found ( $B = -0.07$ ,  $SE = 0.06$ ,  $t = -1.09$ ,  $p = .280$ ). Interestingly, participants who first rated the idea set on feasibility (compared to those who first rated originality) showed significantly more feasibility evaluation error ( $B = 0.32$ ,  $SE = 0.06$ ,  $t = 5.20$ ,  $p < .001$ ). Furthermore, participants who did not participate in other creativity-related research showed less feasibility evaluation error than participants who took part in other creativity-related research ( $B = -0.35$ ,  $SE = 0.16$ ,  $t = -2.13$ ,  $p = .035$ ).

### Idea Selection

**Originality.** It was hypothesized that participants in the promotion focus condition would select more original ideas, relative to participants in the prevention focus condition, but only when PNS is low. When PNS is high, no effect of regulatory focus on originality was expected. A regression analysis was run with regulatory focus, PNS, and their interaction as independent variables. Selection originality was entered as the dependent variable and rating order was controlled for. Since the overall model was not significant,  $F(4,141) = 0.48$ ,  $p = .749$ ,  $R^2 = .01$ , Table 4, and thus did not support the hypothesis, no further analyses were conducted.

**Feasibility.** It was hypothesized that participants in the prevention focus condition, relative to those in the promotion condition, would select more feasible ideas, but only when PNS is high. When PNS is low, no effect of regulatory focus on feasibility was expected. As for selection originality, regulatory focus, PNS, and their interaction were entered as independent variables. Selection feasibility was entered as the dependent variable and rating order was controlled for. Again, the overall model was not significant,  $F(4,141) = 0.54$ ,  $p = .709$ ,  $R^2 = .02$ , Table 5, rendering further analyses unnecessary and providing no support for the hypothesis.

### Post-hoc Analysis

**Mean Originality.** Though not directly hypothesized, I also computed mean originality and feasibility ratings to check whether the manipulation affected participants' tendency to rate ideas consistently higher on originality or feasibility. Put differently, I checked whether participants, on average, evaluated ideas as more original, depending on the condition they were in. A regression analysis was run with regulatory focus, PNS, and their interaction as independent variables. Mean originality was entered as the dependent variable and rating order was controlled for. The overall model was significant,  $F(4,141) = 2.66$ ,  $p = .035$ , Table 6. Regulatory focus had a marginally significant effect on mean originality ratings ( $B = 0.08$ ,  $SE = 0.04$ ,  $t = 1.84$ ,  $p = .067$ ), which was qualified by a significant interaction between regulatory focus and PNS ( $B = 0.11$ ,  $SE = 0.05$ ,  $t = 2.51$ ,  $p = .013$ ) (see Figure 2). Simple slopes analyses showed that, for high PNS, regulatory focus had a significant effect on mean originality ( $B = 0.19$ ,  $SE = 0.06$ ,  $t = 3.21$ ,  $p = .002$ ) while there was no effect when PNS was low ( $B = -0.03$ ,  $SE = 0.06$ ,  $t = -0.53$ ,  $p = .595$ ). In the promotion focus condition, there was no significant difference between high- and low PNS individuals ( $B = 0.07$ ,  $SE = 0.06$ ,  $t = 1.28$ ,  $p = .203$ ). However, in the prevention focus condition, high PNS individuals had a significantly lower mean originality score than low PNS individuals ( $B$

= -0.16,  $SE = 0.07$ ,  $t = -2.20$ ,  $p = .029$ ).

**Mean Feasibility.** Regulatory focus, PNS, their interaction, and trait promotion- and prevention focus were entered as independent variables in the regression model. Mean feasibility was entered as the dependent variable and rating order was controlled for. The overall model was significant,  $F(6,139) = 3.67$ ,  $p = .002$ , Table 7. Regulatory focus had a significant main effect on mean feasibility ( $B = 0.08$ ,  $SE = 0.03$ ,  $t = 2.45$ ,  $p = .015$ ), suggesting that participants in a promotion focus rated the ideas as overall more feasible than participants in a prevention focus. Moreover, trait promotion focus had a significant effect on mean feasibility ( $B = 0.11$ ,  $SE = 0.04$ ,  $t = 3.26$ ,  $p = .001$ ).

**Overestimation Originality.** Based on the strong positive zero-order correlation between originality evaluation error and mean originality ( $r = .79$ ,  $p < .001$ ) it is plausible that regulatory focus had an effect on originality evaluation error because participants overestimated ideas' originality. In order to check this, mean originality was entered as a covariate. Regulatory focus, PNS, and their interaction were entered as independent variables, originality evaluation error as dependent variable, and rating order was controlled for. The model explained a significant amount of variance in originality evaluation error,  $F(5,140) = 51.10$ ,  $p < .001$ , Table 8. Indeed the effect of regulatory focus disappeared ( $B = 0.05$ ,  $SE = 0.06$ ,  $t = 0.86$ ,  $p = .394$ ) with mean originality as a covariate, suggesting that participants in a promotion focus showed significantly more evaluation error on originality because they systematically overestimated ideas' originality.

**Underestimation Feasibility.** In contrast to the originality dimension, there was a negative zero-order correlation between feasibility evaluation error and mean feasibility ( $r = -.48$ ,  $p < .001$ ). Based on this, I also checked whether effects change when mean feasibility is entered as a covariate. A regression was run with regulatory focus, PNS, and their interaction as independent variables. Rating order and other studies were controlled for, mean feasibility

was entered as a covariate and feasibility evaluation error was the dependent variable. The model explained a significant amount of variance in feasibility evaluation error,  $F(6,139) = 18.01, p < .001$ , Table 9. A significant interaction between regulatory focus and PNS was found ( $B = -0.12, SE = 0.05, t = -2.17, p = .032$ ) (see Figure 3). Simple slopes analyses showed that, for high PNS, regulatory focus had no effect on feasibility evaluation error ( $B = -0.10, SE = 0.07, t = -1.40, p = .165$ ). For low PNS, regulatory focus had a marginally significant effect on feasibility evaluation error ( $B = 0.14, SE = 0.08, t = 1.72, p = .088$ ). Within the promotion focus condition, high PNS individuals showed significantly less feasibility evaluation error than low PNS individuals ( $B = -0.13, SE = 0.07, t = -1.91, p = .058$ , marginally). Within the prevention focus condition, there was no significant difference between high and low PNS individuals ( $B = 0.11, SE = 0.09, t = 1.26, p = .211$ ).

**Difficulty.** Evaluation difficulty was regressed on regulatory focus and state promotion- and prevention focus, while rating order was controlled for. The model was significant,  $F(4,141) = 9.15, p < .001$ , Table 10. Regulatory focus had a significant effect on evaluation difficulty ( $B = -0.15, SE = 0.07, t = -2.22, p = .028$ ) as did state prevention focus ( $B = 0.57, SE = 0.10, t = 5.56, p < .001$ ). The same model was estimated with selection difficulty as the dependent variable and found to be significant,  $F(4,141) = 4.47, p = .002$ , Table 11. Regulatory focus had a marginally significant effect on selection difficulty ( $B = -0.14, SE = 0.08, t = -1.74, p = .084$ ). However, state prevention focus had a significant effect on selection difficulty ( $B = 0.48, SE = 0.13, t = 3.78, p < .001$ ).

### Discussion

It was hypothesized that participants in a promotion focus (relative to those in a prevention focus) show less originality evaluation error and select more original ideas, but only when PNS is low. This is because participants in a promotion focus should spot novel ideas more easily as well as select them more often due to their broadened information

processing, achievement orientation, and tendency to take risks as long as they also enjoy the uncertainty that comes with it. No effect of regulatory focus on originality evaluation error and on the selection of original ideas was expected for high PNS individuals. Participants in a prevention focus (relative to those in a promotion focus) were expected to show less feasibility evaluation error and to select more feasible ideas, but only when PNS is high. The risk-averse tendency that people experience in a prevention focus should lead them to focus on common solutions that have been shown to work in the past as long as they are not bored and rather prefer unpredictable, ambiguous solutions. Regulatory focus should have no effect on feasibility evaluation error and the selection of feasible ideas when PNS is low.

Contrary to expectations, participants in a prevention focus showed less originality evaluation error than participants in a promotion focus. Furthermore, an interaction between regulatory focus and PNS was found that differed slightly from the prediction. High PNS individuals showed significantly more originality evaluation error in the promotion focus condition than in the prevention focus condition, while there was no difference between conditions for low PNS individuals. Moreover, in the prevention focus condition, low PNS individuals showed significantly more originality evaluation error than high PNS individuals. The only pattern consistent with the interaction hypothesis was that in the promotion focus condition, high PNS individuals showed significantly more originality evaluation error than low PNS individuals. Additionally, participants with higher trait prevention scores showed, on average, less originality evaluation error, which supports the finding that participants in a prevention focus showed less originality evaluation error as well. With regard to feasibility evaluation error, no significant differences were found between the promotion focus condition and the prevention focus condition. Furthermore, contrary to expectations, neither regulatory focus nor PNS (nor their interaction) predicted selection performance. This was the case for originality as well as feasibility. Though not directly hypothesized, participants in

a promotion focus found the evaluation and selection task less difficult, while participants with high state prevention focus scores found it more difficult. Even though regulatory focus could not bring about expected effects on idea selection, it affected at least how difficult participants perceived the task.

With regard to Herman and Reiter-Palmon's (2011) study, this research did not replicate their results. While they showed that a higher state promotion focus is related to less originality evaluation error, this study found that participants in a prevention focus show less originality evaluation error. Furthermore, Herman and Reiter-Palmon (2011) found that a higher prevention state focus is associated with less feasibility evaluation error. However, this study could not find an effect of regulatory focus on feasibility evaluation error.

Drawing a conclusion from this research regarding my theory seems straightforward at first glance. An opposite pattern than predicted occurred for originality evaluation error and null findings were found for feasibility evaluation error and idea selection (both originality and feasibility), suggesting that this theory does not hold. When taking a closer look, it becomes apparent that there is at least an interaction between regulatory focus and PNS. Concretely, the error in originality evaluation was smallest for low PNS individuals in the promotion focus condition and for high PNS individuals in the prevention focus condition. This pattern is in line with research on regulatory fit (Higgins, 2004). Regulatory fit occurs when one's strategy of goal pursuit matches, for example, one's personality structure. This creates a comfortable state because people feel right about what they do if they experience fit. Previous research has already shown that fit between regulatory focus and openness to experience enhances motivation (Vaughn, Baumann, & Klemann, 2007). Therefore, it is conceivable that fit between regulatory focus and PNS enhanced motivation, which in turn might have facilitated creative process engagement (Tan, Lau, Kung, & Kailsan, 2016). As people who are engaged in the creative process spend more effort, persist

longer, and search for more relevant information, they might also show less evaluation error.

Still, such an opposite finding compared to what was hypothesized remains puzzling. Some research though has investigated under which circumstances a prevention focus might enhance creativity. Baas, De Dreu, and Nijstad (2011) argued and found that a prevention focus leads to similar levels of creativity as a promotion focus when regulatory closure (i.e. whether a goal is fulfilled or not) is not reached because people have not fulfilled their prevention goals yet, which leads to activating fear. Under closure, people have fulfilled their prevention goals and feel relieved, which leads to deactivation and a decrease in creativity. It is very well possible that regulatory closure has not been reached in this study because the manipulation was framed in a way that led the outcome of the performance on the evaluation task open.

Another explanation for the pattern found in this study is that participants in a promotion focus might simply inflate their evaluations in general, regardless of dimension. This is plausible because participants in a promotion focus had significantly higher mean originality ratings and also higher mean feasibility ratings relative to participants in a prevention focus. Indeed, the effect of regulatory focus on originality evaluation error disappeared when controlling for mean originality. Similarly, the effect of regulatory focus on feasibility evaluation error disappeared when controlling for mean feasibility, but only for high PNS.

Lastly, it should be noted that the idea-set participants rated on originality and feasibility in this study was pre-generated in another study and thus were not participants' own ideas. In the study by Herman and Reiter-Palmon (2011), however, participants rated their own ideas that they had previously generated. Earlier research showed that differences exist between the evaluation of one's own ideas and those of others (Runco & Smith, 1992). Most importantly, this intra-interpersonal distinction interacted with the uniqueness and

popularity of ideas. Participants who rated other's ideas on popularity were significantly more accurate than when they rated other's ideas on uniqueness. However, participants who rated their own generated ideas were significantly more accurate when rating their ideas on uniqueness compared to popularity. Even though it is not clear how these results relate to regulatory focus, it might have biased the results of this study if people systematically evaluate other's ideas on originality less accurately than on feasibility.

### **Strengths and Limitations**

Certainly, also this study has some limitations. Firstly, the manipulation check revealed that only a promotion focus was significantly induced, but not a prevention focus. However, employing a manipulation check is rather uncommon in research on regulatory focus. Therefore, it is also impossible to say how manipulations in other research that did not use a manipulation check affected regulatory focus. Additionally, no control condition was employed because people are inevitably to some extent in a promotion- and prevention condition by nature. Consequently, it is impossible to say in which direction and to what extent the manipulation affected regulatory focus states. A nonsignificant manipulation check for prevention focus should thus be interpreted with caution and should not be overvalued in this research. On the other hand, the experimental manipulation was employed as an extension of Herman and Reiter-Palmon's study (2011), why also measuring regulatory focus on a trait- and state-level. Moreover, this study looked at potential effects on idea selection, which has not received too much attention so far. Lastly, originality and feasibility were strictly treated as two separate dependent variables throughout this research as it has been shown that regulatory focus affects these dimensions differently (Herman & Reiter-Palmon, 2011). Indeed, this distinction also appeared in the results of this study.

### **Future directions**

Idea evaluation and selection apparently remain complex processes. As

recommendations for future research, I suggest replicating this study with a manipulation that ensures regulatory closure will be achieved in order to check whether this explanation can be eliminated. Furthermore, as has become clear, people in a promotion focus seemed to inflate their evaluative judgments, which suggests that regulatory focus might not particularly benefit an *accurate* evaluation of originality and feasibility. Future studies therefore should consider other measures next to evaluation error. Moreover, future research should take into account to which degree intra- and interpersonal evaluation plays a role in regulatory focus research. Hence, this factor should be taken explicitly into account by letting one condition evaluate other's ideas while participants in another condition should evaluate their own ideas. Lastly, the amount of research that has investigated the underlying mechanism of the relation between regulatory focus and creativity is small. To better understand the discrepancy between Herman and Reiter-Palmon's (2011) findings and the results of this study, future research should check whether intrinsic motivation and creative process engagement act as a mediator for regulatory focus and PNS in a similar way as for openness to experience (Tan, Lau, Kung, & Kailsan, 2016).

### **Practical implications**

Conclusions for practice have to be drawn with caution. What can be said, based on this study, is that framing messages in terms of promotion might inflate people's evaluative judgments. An idea that therefore ends up being evaluated as highly original and feasible might therefore be considered or discussed longer in organizations than if this idea was evaluated as moderately original and feasible. Still, the effect did not translate to idea selection, which is why practical implications in this regard are impossible.

### **Conclusion**

The creative process, especially idea evaluation and selection remain phases that crucially determine the future of highly creative ideas. Regulatory focus and PNS seem to

play a major role in the innovation process, albeit differently for different phases. While regulatory focus and PNS seem to significantly affect the idea evaluation phase, no effects could be found with regard to idea selection, calling for future research to detect factors that enhance performance in the idea selection phase. Ostensibly, idea selection is too difficult to be majorly determined by regulatory focus.

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## Notes

<sup>1</sup> In all regression analyses, regulatory focus, PNS, trait promotion focus, trait prevention focus and rating order were standardized (Aiken & West, 1991).

<sup>2</sup> It was always checked exploratively whether the manipulation of regulatory focus interacted with trait regulatory focus measures. However, there was no such an effect present, so I always reported the parsimonious model.

Table 1. Means, standard deviations, and correlations ( $N = 146$ ).

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Regulatory focus <sup>a</sup>	0.00	1.00	–												
2 Rating order <sup>b</sup>	0.01	1.00	0.00	–											
3 Trait promotion focus	3.40	0.58	0.07	0.06	–										
4 Trait prevention focus	3.35	0.72	0.01	0.02	0.05	–									
5 PNS	3.75	0.65	-0.06	0.03	-0.13	0.18*	–								
6 Originality evaluation error	1.56	1.17	0.18*	-0.11	-0.06	-0.20*	-0.01	–							
7 Feasibility evaluation error	1.80	0.81	-0.08	0.42**	-0.13	-0.13	0.05	0.07	–						
8 Mean originality	2.77	0.52	0.17*	0.00	-0.08	-0.13	-0.04	0.79**	-0.03	–					
9 Mean feasibility	3.57	0.43	0.21*	0.00	0.28**	0.00	-0.12	0.07	-0.48**	0.15	–				
10 Selection originality	2.18	0.53	0.05	-0.07	-0.01	0.00	0.07	-0.14	-0.23**	-0.06	0.13	–			
11 Selection feasibility	3.97	0.36	-0.05	-0.08	-0.12	0.08	-0.06	0.08	-0.03	0.08	-0.09	-0.25**	–		
12 State promotion focus	3.26	0.64	0.17*	-0.13	0.25**	-0.09	-0.09	0.17*	-0.18*	0.12	0.30**	0.16	-0.14	–	
13 State prevention focus	1.97	0.69	0.06	-0.06	-0.19*	-0.12	0.01	0.22**	-0.06	0.28**	-0.05	0.05	0.02	0.34**	–

Note. <sup>a</sup>Regulatory focus: -1 = *Prevention focus*, 1 = *Promotion focus*. <sup>b</sup>Rating order: -1 = *Originality first*, 1 = *Feasibility first*.

\*  $p < .05$  (2-tailed).

\*\*  $p < .01$  (2-tailed).

Table 2. Regression coefficients originality evaluation error

Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>Model R<sup>2</sup></i>	<i>F</i>	<i>p</i>
Intercept	1.58	0.09	17.14	<.001	.14	3.86	.001
Regulatory focus	0.19	0.09	2.10	.037			
PNS	-0.03	0.10	-0.30	.762			
Regulatory focus x PNS	0.29	0.10	3.00	.003			
Rating order	-0.08	0.09	-0.81	.419			
Trait promotion focus	-0.06	0.09	-0.60	.548			
Trait prevention focus	-0.25	0.09	-2.64	.009			

Table 3. Regression coefficients feasibility evaluation error

Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>Model R<sup>2</sup></i>	<i>F</i>	<i>p</i>
Intercept	2.42	0.31	7.95	<.001	.21	7.53	<.001
Regulatory focus	-0.07	0.06	-1.09	.280			
PNS	0.02	0.06	0.26	.797			
Regulatory focus x PNS	-0.07	0.06	-1.07	.288			
Rating order	0.32	0.06	5.20	<.001			
Other studies	-0.35	0.16	-2.13	.035			

Table 4. Regression Coefficients Selection Originality

Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>Model R<sup>2</sup></i>	<i>F</i>	<i>p</i>
Intercept	2.18	0.05	48.71	<.001	.01	0.48	.749
Regulatory focus	0.03	0.05	0.60	.551			
PNS	0.04	0.05	0.95	.345			
Regulatory focus x PNS	-0.01	0.05	-0.13	.897			
Rating order	-0.04	0.05	-0.90	.371			

Table 5. Regression Coefficients Selection Feasibility

Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>Model R</i> <sup>2</sup>	<i>F</i>	<i>p</i>
Intercept	3.97	0.03	131.81	<.001	.02	0.54	.709
Regulatory focus	-0.02	0.03	-0.56	.579			
PNS	-0.02	0.03	-0.48	.634			
Regulatory focus x PNS	-0.02	0.03	-0.62	.534			
Rating order	-0.03	0.03	-1.07	.287			

Table 6. Regression Coefficients Mean Originality

Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>Model R<sup>2</sup></i>	<i>F</i>	<i>p</i>
Intercept	2.78	0.04	65.36	<.001	.07	2.66	.035
Regulatory focus	0.08	0.04	1.84	.067			
PNS	-0.04	0.04	-0.96	.338			
Regulatory focus x PNS	0.11	0.05	2.51	.013			
Rating order	0.02	0.04	0.37	.714			

Table 7. Regression Coefficients Mean Feasibility

Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>Model R<sup>2</sup></i>	<i>F</i>	<i>p</i>
Intercept	3.57	0.03	104.17	<.001	.14	3.67	.002
Regulatory focus	0.08	0.03	2.45	.015			
PNS	-0.02	0.04	-0.54	.592			
Regulatory focus x PNS	-0.06	0.04	-1.57	.119			
Rating order	-0.02	0.04	-0.46	.650			
Trait promotion focus	0.11	0.04	3.26	.001			
Trait prevention focus	0.00	0.04	0.08	.938			

Table 8. Regression Coefficients Overestimation Originality

Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>Model R<sup>2</sup></i>	<i>F</i>	<i>p</i>
Intercept	-3.20	0.33	-9.72	<.001	.65	51.10	<.001
Regulatory focus	0.05	0.06	0.86	.394			
PNS	0.01	0.06	0.11	.913			
Regulatory focus x PNS	0.09	0.06	1.45	.151			
Mean originality	1.72	0.12	14.75	<.001			
Rating order	-0.11	0.06	-1.87	.064			

Table 9. Regression Coefficients Underestimation Feasibility Evaluation Error

Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>Model R<sup>2</sup></i>	<i>F</i>	<i>p</i>
Intercept	5.59	0.50	11.26	<.001	.44	18.01	<.001
Regulatory focus	0.02	0.05	0.34	.736			
PNS	-0.01	0.05	-0.20	.839			
Regulatory focus x PNS	-0.12	0.05	-2.17	.032			
Mean feasibility	-0.91	0.12	-7.46	<.001			
Rating order	0.31	0.05	6.01	<.001			
Other studies	-2.92	.14	-2.10	.037			

Table 10. Regression Coefficients Evaluation Difficulty

Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>Model R</i> <sup>2</sup>	<i>F</i>	<i>p</i>
Intercept	0.88	0.37	2.40	.018	.21	9.15	<.001
Regulatory focus	-0.15	0.07	-2.22	.019			
State promotion focus	-0.08	0.11	-0.67	.512			
State prevention focus	0.57	0.10	5.56	<.001			
Rating order	0.04	0.07	0.53	.597			

Table 11. Regression Coefficients Selection Difficulty

Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>Model R<sup>2</sup></i>	<i>F</i>	<i>p</i>
Intercept	1.05	0.45	2.34	.021	.11	4.47	.002
Regulatory focus	-0.14	0.08	-1.74	.084			
State prevention focus	0.48	0.13	3.78	<.001			
Rating order	-0.00	0.08	-0.01	.989			

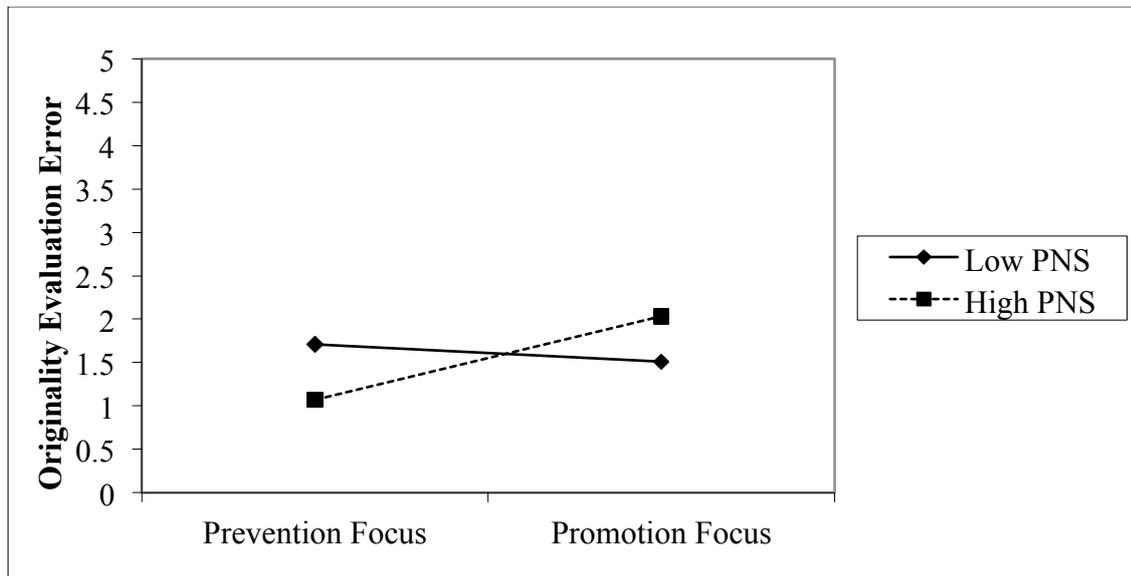


Figure 1. Originality Evaluation Error as a function of regulatory focus and PNS.

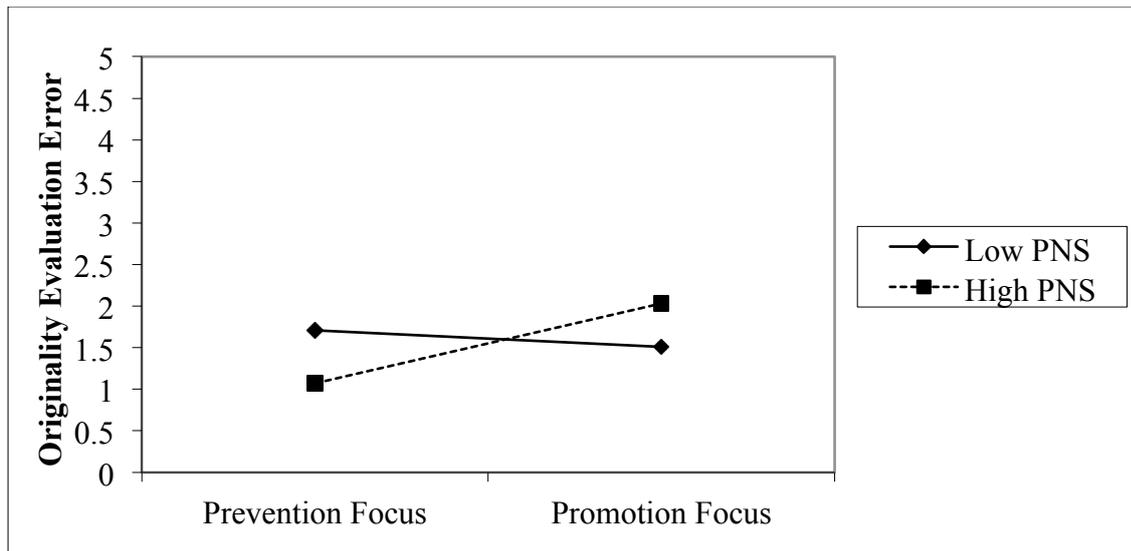
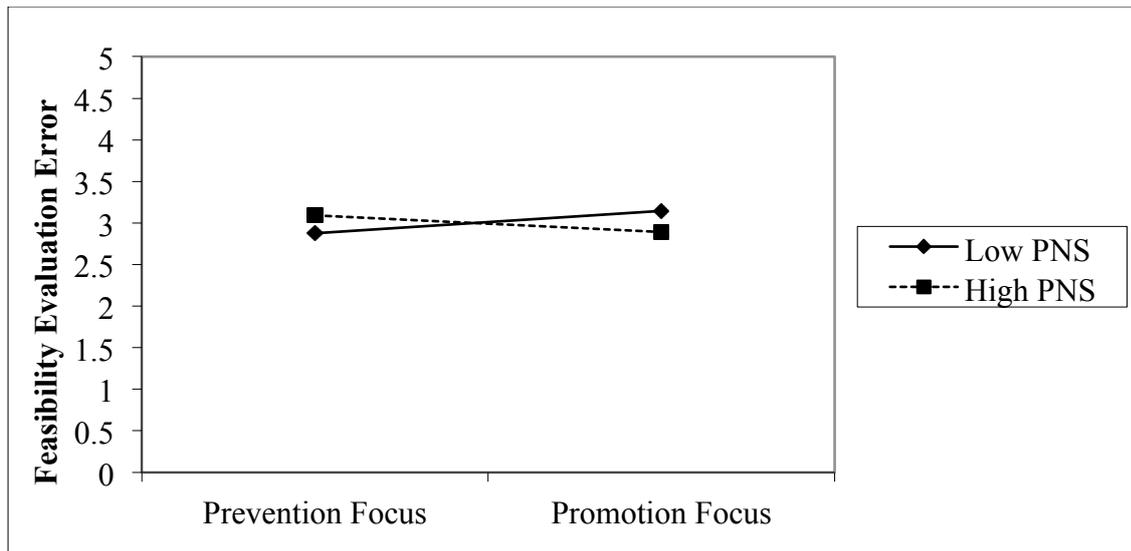


Figure 2. Mean Originality as a function of regulatory focus and PNS.



*Figure 3.* Feasibility Evaluation Error as a function of regulatory focus and PNS with mean feasibility as a covariate

## Appendix

**Promotion Focus Manipulation Text**

“Performing well on the idea evaluation task can help you realize your ambitions in life. In many jobs and tasks, there are always competing ideas available. **The real challenge is to find the best ones.** To do this, you have to be really **eager and ambitious** in evaluating the ideas!

Research shows that people who are good at evaluating ideas tend to be highly successful in their academic career and in their working life. In fact, the ability to discover good ideas is associated with higher income, more promotions, a more fulfilling professional and family life, and the attainment of personal goals (Gilson, 2008). These are all great things to strive for!

In other words, **make sure you succeed in finding those good ideas when you see them**, because this will help you to develop yourself and become successful.”

**Prevention Focus Manipulation Text**

“Performing well on the idea evaluation task can help you avoid failure in life. In many jobs and tasks, there are always competing ideas available. **The real problem is to weed out the bad ones.** To do this, you have to be really **vigilant and careful** in evaluating the ideas.

Research shows that people who are good at evaluating ideas tend to encounter very few problems in their academic career and in their working life. In fact, the ability to correctly identify bad ideas is associated with a stable income, job security, contentment in one's professional and family life, and the steady fulfillment of responsibilities (Gilson, 2008). These are all important things to safeguard.

In other words, **make sure you do not fail to correctly identify the bad ideas**, because this will help you to fulfill your responsibilities and avoid failure.” (Prevention focus)