Something old, something new: when people favor novelty over familiarity and how novelty affects creative processes
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CHAPTER 2
Regulatory focus and the mere exposure effect

How do we decide whether it’s ‘out with the old, in with the new’ or ‘unknown, unloved’? While in cognitive psychology novel events are usually described as negative or even threatening experiences, and usually people prefer familiar over novel events (Zajonc, 1968), obviously, novelty cannot always be frightening, and people cannot always prefer the old to the new, because, for instance, novelty offers us learning opportunities that familiarity does not. Moreover, personality psychologists have taught us that a great many of us are open to novelty (Eysenck & Eysenck, 1985; John & Srivastava, 1999; McCrae & Costa, 1999) and seek its sensations (Zuckerman, 1971; 1979; 1994), that curiosity can be triggered as well as satisfied by novelty (Loewenstein, 1994), and that we tend to be more interested in the novel than in the familiar (Silvia, 2006; 2008). So, which traits, states, processes, or situations would cause people prefer novelty to familiarity, instead of relying on familiarity’s warm glow? In the following we will introduce regulatory focus theory (RFT, Higgins, 1997), and combine it with novelty categorization theory (NCT, Förster, Marguc & Gillebaart, 2010), addressing some basic questions concerning novelty perception and evaluation.

We propose that people may have a general preference for familiar events because they carry fewer risks than novel ones, as has been shown in research on preferences for familiarity (Garcia-Marques, Mackie, Claypool, & Garcia-Marques, 2004; Winkielman, Schwarz, Fazendeiro, & Reber, 2003), and on the mere exposure effect, entailing increased liking of repeatedly presented stimuli (Bornstein, 1989; Zajonc, 1968). However, we also propose that in many situations people are curious and interested in novelty, and perceive familiar events as boring, since they can for instance be led by a ‘motive to know’ (Kagan, 1972). Based on NCT, we suggest that the context in which something novel or familiar is presented contributes to the evaluation of novel versus familiar events, and that one’s current concerns with growth versus security play an important role. As a result, the same novel event can increase curiosity (Loewenstein, 1994) and interest (Berlyne, 1960) in one situation or it can be perceived as an event that carries too many risks or is even threatening (Bornstein, 1989) in a different situation.
Combining NCT (Förster et al., 2010) and RFT (Higgins, 1997), we predict that whereas when one is focused on growth, a novel event is likely to be interpreted as appealing, the same event would more likely be appraised as negative when one is preoccupied with security motives. The conceptual distinction between growth versus security concerns is key to RFT. RFT distinguishes two separate motivational orientations during goal pursuit, namely a promotion focus in which people focus on growth, and a prevention focus in which people focus on maintaining or attaining security. Prevention-focused individuals are sensitive to the presence or absence of negative outcomes (losses versus non-losses). As a result, they avoid risks and use vigilant strategies of problem solving. In contrast, promotion-focused individuals are sensitive to the presence or absence of positive outcomes (gains versus non-gains), and show eager, exploratory behavior. A promotion focus has been shown to lead to a risky response bias in signal detection paradigms, while a prevention focus leads to a conservative response bias (Crowe & Higgins, 1997) and reduced creative thought (Friedman & Förster, 2001).

Such distinct regulatory systems can either be chronic personality traits or can be induced by specific situations (see Higgins, Shah, & Friedman, 1997).

The regulatory focus in which we find ourselves may alter perceptions of novelty. When in a promotion focus, we might want to explore the world and thus find novelty supportive of the pursuit of our growth-goals, leading to more positive evaluations. When in a prevention focus, familiar events however may emit a warm glow that supports security goal attainment, whereas novelty would not support the pursuit of our security-goal. We propose that novel stimuli are evaluated more positively in a promotion focus than in a prevention focus, and that the opposite would occur for familiar stimuli.

Previous research has suggested that people high in promotion focus favor change over stability, while the reverse is true for people high in prevention focus (Liberman, Idson, Camacho, & Higgins, 1999). While the latter finding might generally reflect explorative motives for people in promotion focus, in this study, participants had to consciously choose between tasks and objects and it is neither clear whether familiarity
played a role nor whether effects would also be obtained when there is less room for strategic processes. Would there for example also be a preference for familiar events when such familiarity has been produced outside of participant’s awareness? In our studies, using a subliminal mere exposure paradigm, we examine this question.

Importantly, one would maybe intuitively link security concerns directly to negative affect, but within RFT, security is also a desired end state people want to attain and at least theoretically independent of affective valence, and independent of approach versus avoidance motivations (Förster, Liberman, & Kuschel, 1998). People can attain or not attain security by displaying either approach or avoidance behavior, and similarly they can attain or not attain their ideals or growth goals by displaying either approach or avoidance behavior. Using a subliminal mere exposure paradigm to test the effects of regulatory focus on affective evaluations of novel and familiar stimuli, we will, in the present studies also add affective valence to our design, hoping to show again (e.g., Friedman & Förster, 2001) that regulatory focus can operate independent of affective valence.

We examined the effects of regulatory focus on evaluations of novel and familiar stimuli in three experiments. In all three experiments, evaluations of novel and familiar stimuli were measured via a subliminal mere exposure paradigm. In the mere exposure phase of the experiment participants were subliminally presented with unknown Hebrew letters for varying exposure frequencies (0, 5, 15, and 40). Subsequently, in the test phase of the experiment, participants indicated how much they liked each of the letters. In Experiment 2.1 and 2.2, we used a task-related framing technique and a task-unrelated induction technique to temporarily change participants’ regulatory focus before the mere exposure phase of the experiment. In Experiment 2.3, we measured participants’ chronic regulatory focus before the mere exposure phase and examined whether strength of focus could predict evaluations of novel and familiar stimuli in the test phase of the experiment. Over all three studies, we expected novel stimuli to be more positively evaluated in a promotion than in a prevention focus, and familiar stimuli to be more
negatively evaluated in a promotion focus than in a prevention focus.

**Experiment 2.1: Regulatory focus framing and evaluations of novel and familiar stimuli**

Using a classic mere exposure paradigm, we suggest that a promotion focus leads to more positive evaluations of novelty and more negative evaluations of familiarity than a prevention focus. Such effects could even happen outside of peoples’ awareness and they should not be mediated by peoples’ emotions.

In this first experiment, we triggered regulatory foci by using a classic framing technique (Crowe & Higgins, 1997) and explored its impact on evaluations of novel and familiar stimuli using a mere exposure paradigm.

**Participants**

66 Undergraduate students (39 females, $M_{age} = 21.3$ years, $SD = 2.84$ years) participated in the study. They were recruited for a 2-hour session of ‘a number of diverse psychological tests’, signed an informed consent form, and were paid €16 for their participation.

**Mere exposure paradigm**

We used Förster’s (2009a) subliminal mere exposure paradigm (see also Kunst-Wilson & Zajonc, 1980) to assess evaluations of novel and familiar stimuli in experiments 2.1-2.3. Target stimuli consisted of 12 Hebrew letters, pretested as valence-neutral and presented 0, 5, 15 or 40 times within participants in the mere exposure phase of the experiment, rendering them novel or increasingly familiar. Assignment of the letters to the exposure frequencies was fully counterbalanced over all participants, and order of stimuli was randomized for each participant.
To prevent for conscious inferences driving mere exposure effects (such as “I have seen this item 10 times, therefore I must like it”, Bem, 1972), we chose to present our targets subliminally for 14 ms, and backward and forward masked (masks consisted of black dotted white squares of the same size as the critical stimuli, presented each for 80 ms). Notably, former research has demonstrated stronger mere exposure effects at a subliminal than at a supraliminal exposure level (Bornstein, 1989; Zajonc, 1980; 2001).

The first (mere exposure phase) of the experiments was introduced as an ‘attention task’, in which participants were instructed to use designated keys (‘a’ and ‘/’) to indicate whether a grey square (4 x 4 cm in size, resulting in a visual angle of 3.3˚) would appear to the right or the left of the screen, as soon as it appeared. This grey square was presented 6.5 cm away from the center of the screen at a visual angle of 5.4° along an invisible horizontal axis, after presentation of a 1s fixation cross, a forward mask, a target stimulus, and a backward mask. Target stimuli (2.5 x 2.5 cm in size) were presented in the center of a computer screen from which participants sat approximately 70 cm away. The resulting horizontal as well as vertical visual angle was 2.1°. Following the backward mask, a grey square remained on the screen until participants pressed one of the designated keys, and 1 second later the next trial began with a fixation cross in the center of the screen.

Following the mere exposure phase of the letters, participants were told they were going to perform an allegedly unrelated task on ‘aesthetic preferences’, which was actually the evaluation phase of the mere exposure paradigm where participants rated how much they liked each letter on a scale from 1 (not at all) to 7 (very much). This was a paper-and-pencil task and self paced.

Several studies on the mere exposure effect show an attenuation of the mere exposure effect on likeability judgments at extremely high exposure frequencies (Bornstein, 1989). This attenuation is expressed in either a flattening of the liking curve between 15 and 40 exposures, or even a small decrease in liking at this point. We would expect that security cues (such as a prevention focus) would cause people to not show this ‘boredom’ effect, since extreme familiarity to them is just ex-
treme reassurance, and still appealing. Growth cues (such as a promotion focus), on the other hand, would not only cause people to evaluate novel stimuli more positive, but also to show a boredom effect at the extremely familiar end of the scale.

*Regulatory focus framing*

Participants were randomly assigned to different framing conditions to manipulate their regulatory focus. Besides regulatory focus, we also manipulated affective valence to control for its effects, resulting in 4 contingent framing conditions (promotion-positive, promotion-negative, prevention-positive, prevention-negative) in which participants’ performance on one task was linked to either increasing (promotion conditions) or decreasing (prevention conditions) a monetary reward (with the same net result for each participant), and one non-contingent control condition in which there was no such link (see Crowe & Higgins, 1997).

The promotion-positive framing of this first mere exposure experiment entailed ‘we want you to correctly indicate the locations of 95% or more of all squares. If you do so, you will get one extra euro’. The promotion-negative framing entailed ‘we want you to correctly indicate the locations of 95% or more of all squares. If you do not do so, you will not get one extra euro’. According to regulatory focus theory both valence-specific framings should induce a promotion focus because they both evoke focus on gains rather than losses (Higgins, 1997). The prevention-positive framing stated that ‘we want you not to incorrectly indicate the locations of 5% or more of all squares. If you do not do so, you will not lose one euro’. The prevention-negative framing stated that ‘we want you not to incorrectly indicate the locations of 5% or more of all squares. If you do so, you will lose one euro’. The latter two conditions should induce a focus on security, since they evoke focus on losses rather than gains. In the control condition, participants were not given any reward or punishment contingencies.
Mood and emotions

We included emotion measures in the experiments to be able to control for emotions, feelings or mood driving our effects. Since former research did not find mood effects using similar procedures, we did not expect beforehand that our manipulations would affect self-reported moods or emotions (see for examples on the influence of regulatory focus on emotions Friedman & Förster, 2001; 2002; 2005; 2008; Werth & Förster, 2007; for a similar procedure see also Langens, 2007).

Directly after the regulatory focus manipulation, participants rated how they were feeling on a 7-point scale ranging from 1 (very bad) to 7 (very good), and how worried, happy, relaxed, nervous, sad, disappointed, joyful, concerned, tense, depressed, anxious, excited and relieved they were on 7-point scales ranging from 1 (not at all) to 7 (very much). Next, participants were informed they would perform two more allegedly unrelated tasks. Respectively, these were the mere exposure phase and the evaluation phase of the mere exposure paradigm described in the ‘Mere exposure paradigm’ section on page 33.

Upon completing all tasks, participants were thoroughly debriefed and released. No participants indicated subjective awareness of the Hebrew letters in the exposure phase of the experiment, showing that in fact, exposure was subliminal. Moreover, none of them perceived a link between the different tasks showing that participants were not aware of the source of their evaluations.

Results

Preliminary analyses showed no significant main or interaction effects of framing valence on evaluations of the target stimuli, $Fs < 1$. Therefore, these conditions were collapsed, resulting in one promotion condition (promotion-positive and promotion-negative), one prevention condition (prevention-positive and prevention-negative), and the control condition. Results on the collapsed conditions are reported here.

We calculated the means for liking of letters presented 0, 5, 15 and
40 times and subjected them to a 3 (regulatory focus) x 4 (exposure frequency) mixed factorial ANOVA. The analysis showed a main effect of exposure frequency, $F(3,189) = 10.94, p < .01, \eta^2_p = .39$, with an increase in liking up to 15 exposures ($M_0 = 2.71, SD = .86; M_5 = 3.06, SD = .70, M_{15} = 3.46, SD = .76$), and a small decrease at 40 exposures ($M_{40} = 3.24, SD = 1.05$), showing a traditional mere exposure effect with a boredom effect at the highest exposure frequency.

Importantly, the main effect of exposure frequency was qualified by the predicted significant two-way interaction between regulatory focus and exposure frequency, $F(6,189) = 7.52, p < .01, \eta^2_p = .24$, for which means are displayed in Table 2.1.

**Table 2.1.** Mean evaluation ratings and standard deviations obtained in Experiment 2.1 for all three regulatory focus conditions.

<table>
<thead>
<tr>
<th></th>
<th>$M_0$</th>
<th>$M_5$</th>
<th>$M_{15}$</th>
<th>$M_{40}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promotion</td>
<td>3.18$^b$ (.99)</td>
<td>3.09 (.78)</td>
<td>3.20 (.88)</td>
<td>2.67$^a$ (.94)</td>
</tr>
<tr>
<td>Control</td>
<td>2.82$^b$ (.95)</td>
<td>3.16 (.71)</td>
<td>3.98 (1.49)</td>
<td>3.51 (.63)</td>
</tr>
<tr>
<td>Prevention</td>
<td>2.21$^a$ (.50)</td>
<td>2.89 (.70)</td>
<td>3.62 (.77)</td>
<td>3.82$^b$ (.60)</td>
</tr>
</tbody>
</table>

*Note. Means with different superscripts in the same column differ at the $p<.05$ level.*

Contrast analyses showed that novel stimuli (0 exposures) were more positively evaluated by participants in the promotion condition than by participants in the prevention condition, $t(31.12) = 4.11, p < .001$. The promotion condition and the control condition did not differ at 0 exposures, $t(39.18) = 1.67, p = .10$, but participants in the prevention condition showed less liking at 0 exposures than participants in the control condition, $t(36.60) = 2.77, p < .01$. The most familiar stimuli (40 exposures) were evaluated more negatively by participants in the promotion condition than by participants in the prevention condition, $t(35.83) = -4.82, p < .001$. Participants in the prevention condition liked the letters marginally significantly more than participants in the control condition, $t(31.06) = -2.01, p < .10$, and participants in the promotion condi-
tion liked the letters marginally significantly less than participants in the control condition, $t(39.77) = -1.77, p < .10$. Contrast analyses showed no effects of regulatory focus on liking at 5 and 15 exposures. These results confirm our expectations that promotion-focused participants would like novel letters more and familiar letters less than prevention-focused participants.

One-way ANOVAs showed no effects of regulatory focus on the mood and emotions ratings, $Fs < 1.23$. Adding the mood and emotion ratings as mediators into separate regression analyses showed no mediation of the reported effects of regulatory focus on evaluations of the Hebrew letters, $ts < 1.60$.

Before turning to our next study, let us emphasize that the findings go beyond any affective valence or mood-based account. Our effects were purely driven by a promotion versus prevention focus framing while affective valence of framing had no effects at all. If affect drove effects one would for example have expected that a prevention positive framing (you will not lose money) would enhance liking of novel events compared to a promotion negative framing (you will not receive extra money). This was not the case. Moreover, mood and emotion ratings did not mediate results.

Experiment 2.2: Regulatory focus induction and evaluations of novel and familiar stimuli

In this second experiment, we wanted to conceptually replicate the pattern of results obtained in Experiment 2.1 using mouse maze tasks that are content wise completely unrelated to the mere exposure task, as opposed to the task-related instruction manipulations used in Experiment 2.1. These tasks are a more subtle and often used way of inducing regulatory foci, and have also been shown to produce effects without eliciting self-reported moods (De Lange & Van Knippenberg, 2007; Friedman & Förster, 2001; 2005; Förster, Friedman, Özelsel, & Denzler, 2006; Sassenberg & Hansen, 2007). We expected a similar pattern of results as obtained in Experiment 2.1, where participants in a promotion
focus evaluated novel stimuli more positively and familiar stimuli more negatively than participants in a prevention focus.

Participants

58 Undergraduate students (27 females, $M_{\text{age}} = 21.3$ years, $SD = 3.29$ years) participated in the study. They were recruited for a 2-hour session of ‘a number of diverse psychological tests’, signed an informed consent form, and were paid €16 for their participation.

Method

To manipulate a promotion or prevention focus, a paper-and-pencil maze task was used. Participants had to lead a cartoon mouse from the center of a maze to the exit. In the promotion condition, a piece of cheese was depicted at the exit of the maze. By activating the cognitive representation of ‘seeking reward’, a promotion focus was unobtrusively activated. In the prevention condition, an owl was depicted hovering over the maze. The maze would in this case activate the cognitive representation of ‘seeking security’, thereby activating a prevention focus (see for a similar procedure Friedman & Förster, 2001; 2005). In the control condition, no cheese or owl was depicted with the maze.

Directly after completing the regulatory focus manipulation participants filled in a mood questionnaire asking how they were feeling on a scale from 1 (very bad) to 7 (very good), and to what extent they were feeling anxious, worried, happy, relaxed, nervous, sad, disappointed, joyful, concerned, tense, depressed and relieved on scales from 1 (not at all) to 7 (very much).

Next, participants were informed they would perform two more allegedly unrelated tasks similar as in Experiment 2.1 and performed the two tasks from the mere exposure paradigm (see p. 33 for details). Upon completing all tasks, participants were thoroughly debriefed and released. No participants indicated subjective awareness of the letters
in the exposure phase of the experiment, showing that in fact, exposure was subliminal (see also Förster, 2009a). Moreover, none of them perceived a link between the different tasks showing that participants were not aware of the source of their judgment.

Results

We calculated the means for liking of letters presented 0, 5, 15, and 40 times and subjected them to a 3 (regulatory focus) x 4 (exposure frequency) mixed factorial ANOVA. The analysis revealed a main effect of exposure frequency, $F(3,165) = 14.56, p < .01, \eta_p^2 = .37$, with an increase in liking with number of exposures up to 15 exposures ($M_0 = 2.88, SD = 1.02; M_5 = 3.28, SD = .88, M_{15} = 4.03, SD = .97$), and a small decrease at 40 exposures ($M_{40} = 3.65, SD = 1.20$), showing a traditional mere exposure effect with a boredom effect at the highest exposure frequency. Importantly, the main effect of exposure frequency was qualified again by the significant two-way interaction between regulatory focus and exposure frequency, $F(6,165) = 9.09, p < .01, \eta_p^2 = .28$, for which means are displayed in Table 2.2.

<table>
<thead>
<tr>
<th></th>
<th>$M_0$</th>
<th>$M_5$</th>
<th>$M_{15}$</th>
<th>$M_{40}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promotion</td>
<td>3.56c</td>
<td>3.65b</td>
<td>3.83 (.83)</td>
<td>2.80a</td>
</tr>
<tr>
<td>Control</td>
<td>2.98b</td>
<td>3.09a</td>
<td>4.33 (.95)</td>
<td>3.61b</td>
</tr>
<tr>
<td>Prevention</td>
<td>2.24a</td>
<td>3.14 (1.03)</td>
<td>3.95 (1.08)</td>
<td>4.38c</td>
</tr>
</tbody>
</table>

Note. Means with different superscripts in the same column differ at the $p < .05$ level.

Contrast analyses showed that at 0 exposures, promotion-focused participants liked the letters more than prevention-focused participants, $t(55) = 4.75, p < .001$, and participants in the control condition, $t(55) = \ldots$
1.98, \( p < .05 \). Liking scores in the control condition were higher than in the prevention condition, \( t(55) = 2.67, p < .05 \). At 40 exposures, these differences were reversed: Liking scores in the prevention condition were higher than in the promotion condition, \( t(30.42) = -4.21, p < .001 \), and the control condition, \( t(36.26) = -3.01, p < .01 \), and liking scores in the control condition were higher than in the promotion condition, \( t(24.25) = -2.35, p < .05 \). Although we did not predict any effects at five and fifteen exposures, at five exposures, liking scores were higher in the promotion than in the control condition, \( t(33.48) = 2.26, p = .031 \). No other effects were significant.

One-way ANOVAs showed no effects of regulatory focus manipulation on the mood and emotions ratings, \( F_s < 1.90 \). Adding the mood and emotion ratings as mediators into separate regression analyses showed no mediation of the reported effects of regulatory focus on evaluations of the Hebrew letters, \( t_s < 1.75 \).

The results of Experiment 2.2 replicate the findings of Experiment 2.1 conceptually, in showing more positive evaluations of novel stimuli and more negative evaluations of familiar stimuli in for participants in a promotion focus as compared to participants in a prevention focus. This is in line with the proposed reasoning that people are more open to novelty and tend to approach it more when they are focused on growth concerns, and that they stick to the reassurance that familiarity can supply them with when focusing on security concerns. Again, these effects do not seem to be mediated by mood or emotions.

**Experiment 2.3: Chronic regulatory focus and evaluations of novel and familiar stimuli**

Besides a temporary induced state regulatory focus can also be considered a trait that differs between individuals (Higgins, 1997). Chronic concerns with security versus growth can for instance evolve from a difference in early interaction experiences (Higgins et al., 2001; Higgins & Silberman, 1998; Moretti & Higgins, 1990). People may develop chronic regulatory foci due to for instance different parenting styles. Security
parenting, with an emphasis on the presence or absence of negative outcomes (i.e., criticism vs. safeguarding), may lead to strong chronic prevention concerns of duties. Another person might have acquired strong chronic promotion concerns of hopes because of nurturing parenting with an emphasis on the presence or absence of positive outcomes (i.e., bolstering vs. withholding of affection). Thus, people may develop chronic concerns with safety or growth. Heightened chronic accessibility of promotion and prevention focus concerns can drive behavior even when people are not aware of such influences and thus serves as implicit affective cues signaling benign or uncertain situations. For people chronically concerned with ideal goals security concerns are less accessible than for those who are chronically concerned with (re)attaining security. Therefore, and in order to broaden the scope of our phenomenon from induced regulatory focus to chronic or trait regulatory focus, in this study we measured regulatory focus instead of inducing it, conceptually replicating the results from Experiments 2.1 and 2.2 with a personality trait.

Participants

40 Undergraduate students (21 females, $M_{\text{age}} = 21.6$ years, $SD = 3.78$) participated in the study. They were recruited for a 2-hour session of ‘a number of diverse psychological tests’, signed an informed consent form, and were paid €16 for their participation.

Method

In order to measure individual differences in regulatory focus, a classic and well-validated measurement developed by Higgins et al. (1997) was used. This measurement is based on the notion that goal accessibility reflects goal strength (Bruner, 1957). Participants were instructed to provide traits of their ideal and ought selves. The ideal self was defined as the kind of person they would like to/hoped to/aspired to be, whereas
the ought self was the kind of person they thought they ought to/were obliged to/supposed to be. They were asked to be as accurate and fast as possible in providing the traits. Participants provided three to five ideal-self traits; these were traits they thought fitted their ideal self. For each trait they provided, they also rated how much they wanted to possess the trait (ideal-self rating), and how much they thought they possessed the trait (actual-self rating). A similar procedure was followed for the ought-self traits. All ratings were done on scales ranging from 1 (slightly) to 4 (extremely) and were done using a computer.

For each ideal- and ought-self trait separately, three response times were collected: the time it took the participant to enter the trait after being prompted for it on the computer screen, to make the ideal-self or the ought-self rating after being prompted for it on the computer screen, and to make the actual-self rating after being prompted for it on the computer screen. Then, for each ideal- and ought-self trait separately, these latencies were added, resulting in one response time for each ideal-self trait, and one response time for each ought-self trait. By averaging these response times for the first three ideal-self traits and the first three ought-self traits, indices of ideal-self strength (promotion focus) and ought-self strength (prevention focus) were calculated. For both indices, only the first three traits were used because output primacy is believed to be a criterion for chronic accessibility (Higgins, 1996). However, using four or five traits did not change the pattern of result reported below.

After completing the regulatory focus measure, participants were asked about their mood and several emotions. Participants rated how they were feeling on a 7-point scale ranging from 1 (very bad) to 7 (very good), and how anxious, worried, happy, relaxed, nervous, sad, disappointed, joyful, concerned, tense, depressed and relieved they were on 7-point scales ranging from 1 (not at all) to 7 (very much).

Next, they were informed they would perform two more allegedly unrelated tasks similar as in Experiment 2.1 and 2.2 (see p. 33 for details on the mere exposure paradigm). Upon completing all tasks, participants were thoroughly debriefed and released. No participants indicated awareness of the letters they had been exposed to, indicating that
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in fact, exposure was subliminal (see also Förster, 2009a). Moreover, none of them perceived a link between the different tasks showing that participants were not aware of the source of their judgment.

Results

To assess relative preferences for novelty and familiarity in promotion and prevention focus, we conducted linear regression analyses for all exposure frequencies, using the promotion and prevention indices from the regulatory focus measure as predictors.

Promotion focus predicted liking of the Hebrew letters at 0 exposures, $\beta = .63$, $t = 2.47$, $p < .05$, as did prevention focus, $\beta = -.75$, $t = -2.94$, $p < .01$. As we expected, a stronger promotion focus predicted more liking at 0 exposures, while a stronger prevention focus predicted less liking at 0 exposures. At 40 exposures, liking was predicted again by both promotion focus, $\beta = -.89$, $t = -3.66$, $p < .01$, and prevention focus, $\beta = .76$, $t = 3.12$, $p < .01$, as we expected. A stronger promotion focus predicted less liking at 40 exposures, while a stronger prevention focus predicted more liking at 40. Strength of both promotion and prevention focus did not predict evaluations at intermediate levels of exposure (5 and 15 exposures), comparable to Experiments 2.1 and 2.2. Regression analyses showed that although chronic regulatory focus was correlated to some of the emotion ratings, mood or reported emotions did not mediate the effects of regulatory focus on evaluations of the Hebrew letters.

In sum, the pattern of results of our third experiment conceptually replicates the former studies with a personality measure of regulatory focus, showing a relative preference for novelty and a dislike of familiarity for people high in promotion focus as compared to people high in prevention focus. The study indicates that increased chronic accessibility of security versus growth concerns leads to differences in liking of novel versus familiar stimuli.
Discussion

In 3 studies, we have demonstrated that completely novel stimuli (presented 0 times before evaluation) are evaluated more positively in a promotion than a prevention focus, and that the opposite is true for familiar stimuli (presented 40 times before evaluation). This seems to hold for state as well as trait regulatory focus, and seems not to be driven or mediated by mood or emotion.

People in a promotion focus are focused on ideals, ambition, growth, and exploration. In contrast, people in a prevention focus are focused on oughts, obligations, and security (Higgins, 1997). People in a promotion focus pursue different goals than people in a prevention focus. While novelty may be supportive of goal pursuit in a promotion focus where one aims to achieve growth and ideals, it might threaten goal pursuit in a prevention focus, since novelty carries risk, and one’s goal is to maintain or attain security. We believe, however, that the phenomenon is much broader and covers more than just regulatory focus, and actually expands to several self-regulatory, social, and perceptual cues that can be related to a growth versus security distinction, such as power and color. Research suggests for instance that high power is related to growth concerns whereas low power is related to concerns with security (Förster, 2009b; Keltner, Gruenfeld, & Anderson, 2003). Moreover, the color red is related to safety whereas the color blue is associated with growth (Elliot et al., 2007; Maier, Elliot, & Lichtenfeld, 2008; Kaya & Epps, 2004; Mehta & Zhu, 2009). These cues may differ in content, but they may nevertheless trigger similar concerns with growth and security concerns, leading to similar effects on affective evaluations of novel versus familiar stimuli as in Experiments 2.1 – 2.3.

Moreover, novelty categorization theory (NCT; Förster, Marguc, & Gillebaart, 2010) suggests that category breadth may be a cognitive underlying mechanism in these effects. Category breadth has been shown to change across situations. NCT states that through broader mental categories, novelty may be easier included into existing categories, rendering it more familiar and thus less threatening and more likeable. A promotion focus had indeed been linked to broadening of mental cate-
gories, while a prevention focus has been linked to narrowing of mental categories (Friedman & Förster, 2000; 2001). Thus, changes in category breadth following regulatory foci may drive the preference shifts in the mere exposure paradigm. Other growth versus security related cues such as power and color have also been linked to changes in category breadth (see Smith & Trope, 2006 for power and (Elliot et al., 2007; Mehta & Zhu, 2009 for color). Importantly, all studies mentioned found no driving or mediating effects of self-reported mood. We will elaborate on the expansion of growth versus security cues from regulatory focus to power and color, and on breadth of categorization as an underlying process further in Chapter 3.

Related Research

Other studies on regulatory focus and its effects on phenomena related to the mere exposure effect have been done. For instance, Freitas, Azizian, Travers, and Barry (2005) found that a promotion focus reduces the preference for easy-to-process stimuli, while a prevention focus did not, showing that context plays a vital role in this link between fluency and affective preference (see also Briñol, Petty, & Tormala, 2006 on changes in the fluency=good heuristic). The study from Freitas et al. (2005) might form a precursor for our studies, since the mere exposure effect is frequently interpreted through a fluency account, which in short proposes that familiar stimuli are liked better because they are easier to process, causing higher processing fluency (Bornstein, 1989; Kunst-Wilson & Zajonc, 1980; Seamon, Marsh & Brody, 1984; Zajonc, 1968). An interesting line of further research would be to bring these results together. Perhaps, regulatory focus' effects on fluency effects play a mediating or moderating role in our findings on regulatory focus' effects on mere exposure and evaluative judgment of novel and familiar stimuli.

Our findings also add to Liberman, Idson, Camacho, and Higgins (1999), who showed that people in a promotion focus are more likely to exchange objects and to switch to a different task, whereas people in a prevention focus prefer to keep the objects they received and to
continue with a task they are already doing. Whereas in their studies, changes in preference were related to participants’ current goals and were relevant for them (Which object should I keep as a gift? Would I like the new task or would it be worse than the one I am working at?), in our studies, evaluative changes were not conducive to any current goal. It seems therefore that the impact of regulatory focus is more general and occurs at an earlier stage of information processing: peoples’ preference for novel versus familiar events seems to automatically change dependent on specific situations.

We will go beyond studies by Freitas et al. (2005) and Liberman et al. (1999) and our own in the next chapter, where we will expand our notion on the effects of regulatory focus on evaluations of novel and familiar stimuli to a broader theorizing on growth (promotion) versus security (prevention) concerns. We will test whether power and color can produce similar effects, since they are related to similar overarching concerns as regulatory foci. Furthermore, we will introduce breadth of categorization as a common underlying process and test its direct effects on evaluations of novel and familiar stimuli.

Concluding Remarks

For now, results hold some applied implications. In the consumer domain for instance, the frequency with which a product is advertised may be something to think about, since apparently, a high exposure frequency does not necessarily lead to increased liking. It may in fact backfire when the consumer’s dominant motivation does not fit with the frequency of advertising: a promotion-focused individual may be more attracted to novel products, and the more it is advertised, the less novel it becomes.

Furthermore, since regulatory focus can be chronic in nature, and not just situationally induced, there are some implications for the field of education as well. For example, when a child moves on from elementary to high school, a promotion-focused child may benefit from an emphasis on the new things he is going to learn, the new people he is going
to meet, and the adventure it is going to be, whereas for a prevention-focused child, one may frame the event as less novel by focusing on the similarities between elementary and high school, so that the child finds it less scary.

In Chapter 3 we will empirically test whether the present findings on regulatory focus indeed generalize to other important social and perceptual variables. More specifically, we will conceptually replicate our experiments with power (Experiment 3.1) and color (Experiment 3.2) as expansions on the security vs. growth concern notion, and explore effects of categorization breadth on evaluations of novel and familiar stimuli (Experiment 3.3) as a potential underlying mechanism.