Something old, something new: when people favor novelty over familiarity and how novelty affects creative processes
Gillebaart, M.

Citation for published version (APA):

General rights
It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations
If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: http://uba.uva.nl/en/contact, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.
I started this dissertation with the observation that even though people tend to find new things scary (like moving to a new house and leaving your old, familiar one), people also tend to want new things (personally, I am now immediately thinking of shoes). In the empirical chapters I have tried to map what motivations, social factors, and perceptual variables co-determine whether people like novelty and find familiarity a bit boring, or appreciate familiarity and dislike novelty. Beyond this, I have investigated whether novelty can benefit yet also inhibit creative performance.

How people react to novelty and familiarity has already been a much-studied topic in several fields of psychology. Personality research and theorizing has demonstrated that ‘openness to novelty’ is an essential personality trait (Eysenck & Eysenck, 1985; McCrae & Costa, 1999), and that sensation seekers tend to approach novelty (Zuckerman, 1994). Furthermore, studies have shown that novelty can trigger as well as satisfy curiosity (Loewenstein, 1994), and that novelty is an important source of interest (Silvia, 2006; 2008). Additionally, within social and cognitive psychology, many scholars have focused on the preference people have for familiarity (Garcia-Marques, Mackie, Claypool, & Garcia-Marques, 2004; Monahan, Murphy, & Zajonc, 2000). For instance, an abundance of studies has investigated the classic ‘mere exposure effect’, which entails a positive effect of mere presentation of stimuli on their subsequent evaluations (Bornstein, 1989; Kunst-Wilson & Zajonc, 1980; 2001). However, what exactly determines whether novelty is appreciated or not was not yet known, and this is what I have investigated throughout this dissertation.

In this dissertation, I examined Novelty Categorization Theory (NCT; Förster, Marguc, & Gillebaart, 2010), a theory in which the effects of novelty on basic cognitive processes are described. This theory served as basis for the empirical chapters, in which studies were conducted to demonstrate when people respond positively and negatively to novelty and familiarity. NCT proposes that novelty is independent from valence, so that a novel stimulus can cause curiosity (Loewenstein, 1994) and interest (Silvia, 2006; 2008), but can also be considered a potential threat
(Bornstein, 1989). Examining the conditions under which novelty is evaluated positively or negatively, I propose in Chapters 2 and 3 that when people are focused on growth, they will find novelty more appealing because of its potential for learning and exploration, while when people are focused on security, they will find novelty less appealing because of its potential for threat.

Furthermore, NCT proposes that stimuli are experienced as novel or new when they do not fit into existing mental categories, and that people generally have an epistemic motivation to understand new things. Global information processing facilitates this understanding. It entails a perceptual focus on ‘the forest’ instead of on ‘the trees’ and in addition triggers opening and use of broader, more inclusive mental categories (Navon, 1977). It is suggested that this way of information processing benefits understanding of novelty, resulting in a ‘when-novel-then-process-globally-routine’. Through this routine, confrontation with something novel would automatically lead to a more global processing style. Research consistently shows that priming and framing of novelty leads to both more global perception, and more global information processing than priming and framing familiarity (Förster, Liberman, & Shapira, 2009). As such, both growth versus security as well as broad versus narrow categorization could moderate evaluations of novel and familiar stimuli, and these distinctions may in fact be related or even overlap, ideas I have tested in Chapters 2 and 3.

Experiments 2.1-2.3 and 3.1 and 3.2 in Chapters 2 and 3 demonstrate what situational aspects as well as individual differences affect evaluations of novel and familiar stimuli. Throughout the studies, a mere exposure paradigm was used. The mere exposure effect entails an increase in liking after repeated exposure of stimuli. In the paradigm used in Chapters 2 and 3, participants were presented subliminally with neutral stimuli (Hebrew stimuli piloted as ‘neutral’) 0, 5, 15, or 40 times. Subsequently, they rated each of the stimuli on a Likert-scale from 1 (I do not like this symbol at all) to 7 (I like this symbol very much). This way, novel (0 exposures) as well as familiar (40 exposures) stimuli were evaluated.
In Chapter 2, three studies investigated how regulatory focus (Higgins, 1997) influences evaluations of novel and familiar stimuli. Regulatory focus theory refers to two qualitatively different motivational orientations. On the one hand, people can be focused on ambitions and ideals, framing their goals, behavior, and outcomes as wins versus non-wins (a promotion focus). On the other hand, people can be focused on obligations, ‘oughts’, and frame their goals, behaviors, and outcomes as losses versus non-losses (a prevention focus). In a promotion focus, one is focused more on growth and exploration than in a prevention focus. In a prevention focus, one is more attuned to security goals and needs (Crowe & Higgins, 1997; Friedman & Förster, 2001; Liberman, Idson, Camacho, & Higgins, 1999). Because new stimuli appear to be more supportive of exploration and growth related goals, it was hypothesized that novel stimuli would be more positively evaluated in a promotion as compared to a prevention focus. Moreover, seen as though familiar stimuli are suggested to be more functional and supportive for reaching a security goal, the opposite was hypothesized for familiar stimuli. A promotion focus would then lead to a more negative evaluation of familiar stimuli than a prevention focus. To test these hypotheses we conducted three experiments in which we manipulated and measured regulatory focus before administering a mere exposure paradigm including evaluations of novel and familiar stimuli.

In Experiment 2.1 regulatory focus was manipulated through task instructions in which task performance was associated with gaining or losing extra points (Crowe & Higgins, 1997). Participants were presented with Hebrew symbols on a subliminal level, and were subsequently asked to rate each of these symbols on an evaluative scale. In Experiment 2.2, a similar paradigm was used, but regulatory focus was manipulated by having participants perform a paper and pencil maze task. In this task, participants had to lead a cartoon mouse out of a maze, and either a piece of cheese (priming a promotion focus) or a hovering owl (priming a prevention focus) was depicted with the maze (Friedman & Förster, 2001). In Experiment 2.3 chronic regulatory focus was measured (Friedman & Förster, 2001; Higgins, Shah, & Friedman, 1997) before exposure to the stimuli and the evaluation phase. All three stud-
ies demonstrated a similar pattern of results. Novel stimuli (0 exposures) were evaluated more positively in a promotion focus than in a prevention focus, while familiar stimuli (40 exposures) were evaluated more negatively in a promotion focus than in a prevention focus. Moreover, the classic mere exposure effect was replicated in the control conditions.

The ideas from Chapter 2 were expanded in Chapter 3. A promotion focus has been associated with a focus on growth and exploration, while a prevention focus is mainly associated with a focus on security. However, regulatory foci are not the only variables that can be related to these growth versus security concerns. For instance, having power is associated with growth, exploration, and creativity, while not having power is actually related to a focus on security and control (Förster, 2009b; Keltner, Gruenfeld, & Anderson, 2003). Besides the social variable of power, the perceptual variable of color has also been associated with the distinction between growth and security. Research demonstrates that blue is associated with tranquility, growth, and peace (Maier, Elliot, & Lichtenfeld, 2008; Kaya & Epps, 2004; Mehta & Zhu, 2009), while red is associated with danger and failing (Braun & Silver, 1995; Elliot et al., 2007). Consequently, in Chapter 3 I proceeded to investigate the effects of power and color on the mere exposure effect, because these are examples of variables that can also be related to growth versus security concerns (Förster, 2009b; Friedman & Förster, 2010). In Experiment 3.1 high and low power were primed, before administering a similar mere exposure paradigm as in Chapter 2. In Experiment 3.2, the background of the mere exposure paradigm on the computer was made either blue or red.

Results from Experiments 3.1 and 3.2 showed that novel stimuli were evaluated more positively following high rather than low power priming. Familiar stimuli were evaluated more negatively following high rather than low power priming. A similar pattern arose in the color study: Novel stimuli were evaluated more positively following the color blue than following the color red, while familiar stimuli were evaluated more negatively following the color blue than following the color red. To summarize, Experiments 2.1 – 3.2 thus show that motivational orientations,
social, and perceptual factors affect evaluations of novel and familiar stimuli. Variables that according to former studies were associated with growth or exploration, lead to more positive evaluations of novel stimuli and more negative evaluations of familiar stimuli, as compared to variables associated with security.

Another assumption from NCT (Fürster et al., 2010) entails that broadening of mental categories facilitates integration of novel stimuli, which enables understanding of these stimuli and renders them less novel because they become more similar to familiar category members. This process may lead to more positive evaluations of these novel stimuli. Accordingly studies show that a promotion focus, as well as high power and the color blue lead to broadening of mental categories, while a prevention focus, low power, and the color red lead to narrowing of these mental categories (Elliot, Maier, Moller, Friedman, & Meinhardt, 2007; Friedman & Fürster, 2001; 2010; Smith & Tropé, 2006). This may be an underlying mechanism in the effects of regulatory focus, power, and color on evaluations of novel and familiar stimuli. In Experiment 3.3 the direct effect of category breadth on evaluations of novel and familiar stimuli was investigated, again using the mere exposure paradigm. Broad versus narrow categories were primed before exposing participants to the Hebrew letters and the evaluations of these letters. Novel stimuli were evaluated more positively following broad category priming than following narrow category priming. Familiar stimuli were evaluated more negatively following broad category priming than following narrow category priming.

Summarizing, Chapters 2 and 3 demonstrate that factors associated with a focus on growth and exploration or a focus on security moderate how people evaluate novel and familiar stimuli. While growth-related cues lead to a preference shift towards novel and away from familiar stimuli, security-related cues lead to a preference shifts towards familiar and away from novel stimuli. Moreover, activating broad mental categories also leads to more positive evaluations of novel stimuli than activating narrow mental categories, indicating that this may be an underlying mechanism in the moderating effects of growth and security cues.
After having elaborated on the evaluation of novel and familiar stimuli, Chapter 4 shifted the focus of attention to effects of novelty on creativity, since NCT also predicts more complex cognitive effects of novelty. Novelty has been shown to lead to global information processing, broadening of mental categories, and a more abstract way of thinking (Förster, Liberman, & Shapira, 2009). Creativity research shows that creativity can benefit from global processing (Friedman, Fishbach, Förster, & Werth, 2003). Building on these notions we hypothesized in Chapter 4 that novelty may enhance creative thought, but only if a form of creativity is tested that benefits from a divergent thinking style. A divergent thinking style entails producing multiple original responses to a singular stimulus (Clarke, Veldman, & Thorpe, 1965). It is suggested that global processing, broader mental categories, and abstract thinking facilitate this thinking style, and that novelty would thus lead to increased performance on these kinds of creativity tasks. However, there are also creativity tasks that benefit from a convergent thinking style, which entails deduction of a singular correct response following a set of stimuli or alternatives. Because local processing may facilitate performance on these kinds of tasks, novelty may in fact inhibit performance on these tasks.

In Experiment 4.1, either novelty or familiarity was primed. Subsequently, participants performed a generation of creative solutions task (Friedman & Förster, 2001), a task in which divergent thinking was beneficial. Furthermore, participants performed a noncreative task in order to rule out a possible general motivational effect of the prime. Results showed a positive effect of the novelty prime on original responses on the creative generation task, and no effect of the primes on the noncreative task. This indicates that novelty had a specific beneficial effect on originality in a divergent creativity task, while leaving other tasks unaffected.

In Experiment 4.2, a creativity task that benefits from a convergent thinking style (a Remote Associates Task, Mednick, 1962) was framed as either novel or familiar. Results demonstrated that novelty inhibited task performance. Novelty thus has differential effects on the creative process, dependent on the thinking style required for creative task per-
formance. These results not only support earlier research and theory on the effects of novelty (Förster et al., 2009; Förster et al., 2010), but also shed light on the effects of mentioning creativity in creativity task instructions (Harrington, 1975; Manske & Davis, 1968; Shalley, 1991; 1995; Speller & Schumacher, 1975). Simply mentioning ‘creativity’ in creativity task instructions may prime novelty, since novel, original responses are essential for creative performance. Via this pathway mentioning creativity may lead to increased performance on certain creativity tasks. Furthermore, these two studies support work that approaches creativity as a multi-component construct (Baas, De Dreu, & Nijstad, 2008; De Dreu, Baas, & Nijstad, 2008; Nijstad, De Dreu, Rietzschel, & Baas, 2010). The results are partly in line with the ‘dual-pathway to creativity model’ (De Dreu et al., 2008; Nijstad et al., 2010), but at the same time offer suggestions for an extension of this model.

All studies in this dissertation were based on NCT (Förster et al, 2010). NCT proposes that novelty is independent from valence, so that a novel stimulus can cause curiosity (Loewenstein, 1994) and interest (Silvia, 2006; 2008), but can also be considered a potential threat (Bornstein, 1989). Chapters 2 and 3 demonstrate that evaluations of novel and familiar stimuli can indeed change depending on context and individual differences. Moreover, Experiment 3.3 shows that the cognitive variable of category breadth may in fact underlie these effects. As such, these studies form empirical evidence for NCT’s notions on information processing, novelty perception, and novelty evaluation, besides shedding new light on ideas about novelty and familiarity preferences.

Studies from Chapters 2 and 3 also hold implications for the frequently mentioned and investigated ‘warm glow of familiarity’, which entails that people have an inherent preference for familiarity. It is suggested that this preference developed from the ‘fluency’ with which familiar stimuli can be processed (Clore et al., 2001; Clore & Huntsinger, 2007, 2009; Clore & Palmer, 2009; Phaf & Rotteveel, 2005; Rotteveel & Phaf, 2007; Wyer, Clore, & Isbell, 1999). However, Chapters 2 and 3 show that this ‘inherent preference’ for familiarity easily flips around to a preference for novelty. Subtle changes in motivational orientation,
or a change in background color, cause strong, consistent changes in evaluations of novel and familiar stimuli. Furthermore, these results add to former studies on moderators of the mere exposure effect. Earlier research demonstrated that age (Bornstein, 1989) and boredom (Bornstein, Kale, & Cornell, 1990) moderate effects of mere exposure. These variables can be interpreted within the theoretical rationale of this dissertation and NCT. Older people show a stronger preference for familiarity than children. Notions from NCT and Chapters 2 and 3 lead to the suggestion that children may be more focused on growth and exploration, while older people focus more on security. Consistently, research shows that children often prefer novel toys to familiar ones (Cahill-Solis & Witryol, 1994; Mendel, 1965) and that they prefer novel pictures to familiar ones (Cantor & Cantor, 1964). Moreover, Ebner, Freund, & Baltes (2006) showed that teenagers pursue goals of growth, exploration, and wins versus non-wins, while with age this focus shifts to conservative goals and avoiding losses.

Results from this dissertation hold implications for applied domains such as consumer behavior and communications research. Conclusions from Chapters 2 and 3 can be applied to introducing and framing novel and familiar products. This way, one may be able to predict which advertising strategy may work for which kind of consumer (see also Förster, 2009c). For instance, when introducing a new product, it may be wise for the advertiser to consider the kind of consumer they wish to reach. It may be beneficial to add a growth-cue to your campaign, so that novel products may be evaluated more positively. On the other hand, one could emphasize the similarities the novel product has with familiar products, to make it more likely that the product is integrated into an existing mental category. This may render the product less novel, and thus more likeable. An interesting finding in this dissertation is that the mentioned growth-cue need not be content wise related to the product itself. The regulatory focus, power, and color cues in the studies were not related to the mere exposure paradigm content wise, and they were introduced as procedurally independent as well, by mentioning it as a separate study. One may conclude that growth versus security
signals in advertisements do not need to be content-wise linked to the product as well.

The creativity results from Chapter 4 not only have implications for creativity in individuals, but also for creativity in organizations. If one desires creativity from co-workers or employees, it may be sensible to consider which kind of creativity is being pursued. If the goal is to produce multiple unique, original ideas, a novelty prime in the work environment or preceding the creativity task may be helpful. For instance, the task of problem may be introduced as novel. However, again, the prime need not be related to the task per se. Placing unusual, novel objects in the office may for instance also stimulate divergent creativity. If the goal on the other hand is to stimulate a more convergent form of creativity, like reaching that ‘aha-moment’ or gaining that one specific insight, novelty may in fact inhibit performance. Then, it may be a good idea to not confront your employees or co-workers with too much novelty, but instead have them perform in their familiar office surroundings.

Generally, this dissertation shows that besides our inherent preference for the safe and comfortable familiar, we also want something new from time to time. This preference seems to relate to context, motivational states, and the way we handle novel and familiar stimuli. Possibilities for exploration, growth, and development offered by novel stimuli may appeal to us sometimes. While shifting between these two preferences, we are constantly being steered by our chronic as well as situationally induced motivations, social factors, and even perceptual variables, such as color. Furthermore, novelty can help us in creative processes, but can also work against us, depending on the kind of creativity we pursue. Summarizing, the studies demonstrate the value, characteristics, and effects of novelty, and add valuable insights to existing theory and the existing framework of empirical research on this subject.