

Regulatory Focus in Economic Contexts

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Abstract

The authors argue that behavior in economic contexts will be better understood when it is taken into account that contexts can evoke self-regulatory strategies reflecting a promotion or prevention focus and that such contexts meet individuals with preferences for a specific kind of self-regulation. They refer to research showing that promotion- and prevention-focused self-regulation has an important impact on judgments, choice, and behavior in economic contexts, and that such effects of regulatory focus are a consequence of behavioral strategies and differences in information processing associated with the self-regulatory orientations of a promotion or prevention focus. Furthermore, the authors emphasize that cognitive feelings are a motivational force that keeps such self-regulatory processes running. In particular, they argue that feeling right and anticipation and experience of regret increase the engagement of individuals in a promotion- or prevention-focused self-regulation and direct individuals towards the relevant self-regulatory goals. Finally, the authors provide examples documenting how knowledge about self-regulatory orientations of a promotion and a prevention focus can be applied to understand individuals' behavior and to develop reasonable intervention strategies addressing relevant behavioral tendencies in the economic context.

Keywords: regulatory focus, self-regulation, consumer behavior, decision making

Regulatory Focus in Economic Contexts

1. Introduction

Imagine two investment bankers with the possibility of earning USD 250,000 a year for the same work. However, the two bankers have different contracts. Banker A (Sue) has a contract with an income of USD 200,000 and the possibility to get a bonus of USD 50,000 for excellent work. Banker B (Matt) has a contract with an income of USD 250,000, but there is the possibility that at the end of the year only USD 200,000 are transferred to his bank account when his work is not excellent. Both bankers will have the goal to get USD 250,000 at the end of the year, but how do the different contracts shape the behavior of the bankers? To answer this question, first, we have to take into account that the two contracts elicit different self-regulatory strategies that have far reaching consequences for information processing and decision making. Second, we have to be aware that self-regulatory strategies evoked by the different framing of incentives might meet individuals with different preferences for self-regulation. In the present article, we review research on regulatory focus in economic contexts that takes these two aspects into account showing that an understanding of individuals' regulatory focus allows for the prediction of experiential and behavioral responses and provides a context that facilitates the production of desired behavioral outcomes.

A key proposition of regulatory focus theory (Higgins, 1997; 1998) is that the framing of a context as a gain / non-gain or loss / non-loss context has an important impact on the self-regulatory strategies individuals apply to pursue their goals. In the example mentioned above, the goals of the two bankers are identical (an outcome of USD 250,000). But for Sue the context is framed as a context in which she can gain or not gain a certain outcome (USD 200,000 + USD 50,000), while for Matt the context is framed as a one in which he can lose or not lose a certain outcome (USD 250,000 – 50,000). Regulatory focus predicts that such different framings lead to different self-regulatory strategies. The theory proposes that gain /

non-gain contexts elicit *promotion-focused self-regulation* in which individuals eagerly take the opportunities to maximize their outcomes and avoid missing the opportunity to advance from the current state. For example, a typical promotion-focused banker would buy promising stocks and avoid omitting good opportunities. By contrast, regulatory focus theory predicts that loss / non-loss contexts elicit *prevention-focused self-regulation* in which individuals apply vigilant and careful strategies to secure the current state. For example, a typical prevention-focused banker would prefer stocks with reduced volatility and avoid risky stocks (unless s/he already entered a state of loss; cf. Scholer, Zou, Fujita, Stroessner, & Higgins, 2010).

Besides the framing of an outcome, regulatory focus theory takes several factors into account that shape the regulatory focus of individuals. Additional determinants of a promotion focus are needs for growth and self-actualization or highly accessible ideals. Further determinants of a prevention focus are needs for safety and security or highly accessible responsibilities. A banker who is aware that she or he is responsible for the assets of individual customers might be more likely to be prevention-focused, while a banker who thinks about how to become more successful might be more likely to be promotion-focused. Hence, there are several situational factors that influence the current regulatory focus of individuals. But importantly, regulatory focus can be considered as an individual difference variable, as well. Even if situational influences on self-regulation are often strong, individuals' regulatory focus is also influenced by previous experiences such as the parenting styles individuals were confronted with (Keller, 2008). Thus, strategies associated with a specific regulatory focus may be predominantly accessible in memory of individuals leading to a higher likelihood that this regulatory focus characterizes self-regulation in a present context.

2. Regulatory Focus and Psychological Utility

2.1 Beyond Outcome Utility

A key contribution of regulatory focus theory is the idea that it is not only important to look at the expected outcomes as a motivation for individual behavior, but also on *how* individuals pursue their goals to approach a desired or avoid an undesired outcome. Thus, regulatory focus theory reaches beyond the classic conception of outcome utility in economics.

Many motivational approaches addressing behavior regulation propose that individual behavior is mainly guided by the utility of the expected outcomes (e.g., Hebb, 1955; Hull, 1943). Pleasant outcomes should motivate approach behavior and unpleasant outcomes should motivate avoidance behavior. Imagine our banker, Sue, from the introductory example is buying a new car. She will expect higher outcome utility when she perceives the car as being superior on important attributes (e.g., good price, reliable machine, nice design) compared to the given alternatives. A simple assumption is that Sue is likely to choose a car with a high outcome utility.

The importance of outcome utility is widely accepted in economics and psychology. Regulatory focus theory does not question the importance of this concept. But regulatory focus theory is based on the thought that this principle has its limits. A basic proposition of regulatory focus theory is that, to understand how outcomes direct the behavior of individuals, it is not only of importance whether outcomes are of value for individuals, but also how individuals try to pursue these outcomes. A promotion-focused banker might apply a completely different strategy to make the decision to buy the car than a prevention-focused banker. The two bankers might search for different information, apply different decision strategies, and focus on different attributes of the car. A specific regulatory focus can be elicited by the work context of the banker, by characteristics of the context in which the car is bought, or reflect chronic differences in regulatory focus.

Interestingly, more recent approaches of regulatory focus theory go even one step further (Higgins, 2006). They predict not only that individuals with a different regulatory

focus apply different strategies to pursue a goal, but that the strategies have value for them per se, and that this value can be transferred onto the perceived value of an outcome. The assumption is that merely behaving, deciding, or processing information in a way that fits a regulatory focus produces positive feelings that reflect a preference for the specific regulatory strategy (“feeling right” from regulatory fit) and that these positive feelings lead to a more positive evaluation of the outcome. According to this assumption, Sue would like the chosen car more when she applied selection strategies that are in accordance with her predominant regulatory focus than when she applied strategies that are not in accordance with her predominant regulatory focus.

2.2 Regulatory Focus and Other Conceptions of Utility

Certainly, regulatory focus theory is not the only theory implying that the way in which an outcome was produced or acquired is of importance, but it complements other theoretical perspectives. Thaler (1985), for instance, distinguishes acquisition utility from transaction utility. Acquisition utility is related to a chosen option. Transaction utility is related to the merits of the deal. As regards the example of the banker buying a new car, the acquisition utility results from the attributes of the car and its value. The car might have a high value for the consumer because it provides enough space for all family members. Transaction utility results from the experience of making a good deal. For example, the transaction utility would be higher when the consumer bought the car for a good price from a seller who is usually known for being overpriced than when she or he bought the car for the same price from a seller who is usually known for fair pricing.

Parallel to the concept of regulatory fit, the differentiation between acquisition utility and transaction utility implies that not only the outcome is of importance. However, while the concept of transaction utility stresses the perception of a transaction as a “good deal”, regulatory focus theory stresses the feeling individuals obtain from applying the right means to come to a good deal. Hence, both perspectives complement each other.

The present paper has the intention to stress the contribution regulatory focus theory makes to a deeper understanding of decisions and behavior in economic contexts. We suggest that considering individuals' regulatory focus helps us to better comprehend why individuals behave in a specific way. Moreover, we propose that, in understanding how regulatory focus shapes individuals' decision making process and behavior, we can learn how behavior and decision outcomes and the way people experience the consequences of their behavior and their decisions can be optimized. With this in mind, we first review literature on the differential impact of promotion and prevention self-regulation orientation on judgments, choice, and behavior in economic contexts. Second, we propose two motivational forces that drive individual self-regulation behavior – the “feeling right” with the applied self-regulation strategies and the anticipation of regret. Based on the literature we review in this paper, we finally provide an outlook on the practical implications of a deeper understanding of regulatory focus theory in economic contexts.

3. The Impact of Regulatory Focus on Behavior

3.1 Regulatory Focus and Purchasing Behavior

One of the basic predictions of regulatory focus theory is that individuals in a promotion focus apply eager strategies in order to approach advancement and growth from a current status quo, whereas individuals in a prevention focus apply vigilant strategies in order to avoid deterioration of a current status quo. As a consequence, individuals in a prevention focus are inclined to use less risky and more conservative tactics in pursuing a goal compared to individuals in a promotion focus, who tend to follow opportunities even at a high risk for mistakes.

On a behavioral level, these motivational strategies can influence which type of alternatives individuals with different regulatory foci prefer or choose (Aaker & Lee, 2001; Florack & Hartmann, 2007; Florack & Scarabis, 2006, Florack, Scarabis, & Gosejohann, 2005; Higgins, 2002; Lee & Aaker, 2004, Roy & Ng, 2012; Som & Lee, 2012) or whether

they stick with established and familiar options or choose new and unconventional alternatives (Herzenstein, Posavac, & Brakus, 2007; Liberman, Idson, Camacho, & Higgins, 1999; Shalvi et al., in press). Returning to Sue and her goal to buy a new car, regulatory focus theory predicts that, if Sue were a predominantly prevention-focused buyer she would consider a car that offers high security standards more attractive than a car that has much horsepower. Maybe she might even tend to stick with the same car model she bought the years before in order to avoid the risk of picking the wrong car model. However, if Sue were to be predominantly promotion-focused she might instead favor attributes like innovation or sportiness over security standards because these attributes fit her underlying need for advancement.

Indeed, a considerable body of research has shown that individuals evaluate a product more favorably and are more likely to subsequently choose this product if the product attributes fit their respective regulatory goal (see for an overview Florack et al., 2005). Consequently, which car people choose might simply depend on whether the product is instrumental for reaching a goal that is relevant to their dominant self-regulatory orientation.

Different product evaluations and product choices for promotion- and prevention-focused individuals may not only vary with certain product attributes but also with a specific product type. For example, in one study we provided evidence showing that individuals in a prevention focus preferred investment products with minimal risk for losses and small returns to investment products with higher returns but an increased risk for losses, because the first investment options are superior on a dimension that is most relevant to individuals in a prevention focus – the dimension of safety (Florack & Hartmann, 2007; see also, Zhou & Pham, 2004). In a similar vein, Herzenstein et al. (2007) demonstrated that consumers perceive new products differently depending on their self-regulation orientation. In three studies, they found that individuals in a promotion focus reported higher purchase intentions for novel high-tech goods compared to individuals in a prevention focus and actual ownership

of newly launched high-tech products was higher among promotion-focused consumers than among prevention-focused consumers.

3.2 Regulatory Focus and Behavior in Social Dilemmas

Differences in self-regulation orientations do not only influence why individuals preferably choose one object over another object, they can also affect how individuals respond to their social surroundings and the compliance with social rules. For example, in part of our work we applied regulatory focus theory in the domain of social dilemmas. Specifically, we addressed the question whether a prevention-focused orientation may foster costly punishment of uncooperative individuals in public goods situations. Costly punishment reflects the tendency to invest private resources to punish an interaction partner who showed uncooperative behavior in a preceding cooperation task (typically a one-shot public goods game under anonymous conditions; cf. Fehr & Gächter, 2002). It should be noted that there are no direct economic reasons (serving one's material self-interest) to engage in costly punishment in one-shot situations. Nevertheless, a series of studies revealed that individuals actually engage in costly punishment, which has strong and positive effects on the collective level of cooperative behavior (Balliet, Mulder, & van Lange, 2011; Fehr & Gächter, 2002). Accordingly, the intriguing question of why individuals are motivated to engage in costly punishment (even in one-shot situations where monetary reasons to punish directly are not applicable) needs to be answered.

We proposed that prevention-focused self-regulation fosters costly punishment in public goods situations taking several lines of reasoning into account (the two most relevant arguments are outlined here). First, the relevant standards of prevention-focused individuals' represent duties, responsibilities, and oughts reflecting normative standards (Higgins, 1997). Also, prevention focus is associated with special concern with interdependence and social connectedness (Aaker & Lee, 2001; Lee, Aaker, & Gardner, 2000), reflecting a tendency to act in accordance with the expectations of significant others (representing social norms) rather

than in accordance with personal ideals (Markus & Kitayama, 1991). In line with this notion, Keller, Hurst, and Uskul (2008) documented that individuals hold a stronger negative reciprocity norm the more they are prevention-focused. Given that uncooperative behavior in a public goods situation can be conceptualized as a fairness norm violation and a disrespect for interpersonal connectedness (Fehr & Fischbacher, 2004; Knoch, Gianotti, Baumgartner, & Fehr, 2010), individuals with a special concern with normative standards, that is, prevention-focused individuals, should be most likely to reciprocate and punish those who violate relevant normative standards.

Second, the differential sensitivity assumption of regulatory focus theory holds that prevention-focused individuals are particularly sensitive to the presence or absence of negative outcomes (Higgins, 1997; Higgins, 2009). In the context of public goods, unfair free riders provoke a negative outcome of the common group project. Accordingly, it seems reasonable to assume that prevention-focused individuals react particularly strongly to such a negative outcome and are prone to punish those identified as the cause for the negative outcome.

In our empirical work, we actually observed that prevention-focused self-regulation was positively related to costly punishment (Pfattheicher & Keller, in press). These findings indicate that vigilant, prevention-focused self-regulation plays a crucial role in the context of sanctions that enforce cooperation. Of note, we did not expect (and not observe) an association of the promotion focus and costly punishment since none of the factors characterizing this mode of self-regulation (eagerness, ideal-self, independence, need for personal development and growth) appears conceptually closely related to factors determining individuals' tendency to punish others. This differential relation is well in line with the conceptual distinction of the two modes of self-regulation.

4. Regulatory Focus and Information Processing

4.1 Selective Processing of Information

Regulatory focus can influence the outcome of a decision process at an early stage of the judgmental process, namely when people search and weigh information that is related to the decision. Research conducted within the framework of regulatory focus theory has demonstrated that individuals with different regulatory foci differ in the kind of information they selectively process when multiple pieces of information are available (Chernev, 2004; Florack, Ineichen, & Bieri, 2009 ; Florack & Scarabis, 2006; Higgins, Roney, Crowe, & Hymes, 1994; Pham & Chang, 2010; Wang & Lee, 2006). Moreover, they differ in their dominant information-processing style and in the source of information they consider relevant for making a decision in the first place (Florack, Friese, & Scarabis, 2010; Pham & Avnet, 2004; 2009).

Previous research has shown, for instance, that an individual's regulatory focus serves as a filter for incoming (as well as recalled information), primarily focusing the attention on information that is instrumental for a specific regulatory goal. In general, the eagerness of people in a promotion focus results in an increased sensitivity to positive information, whereas the vigilance of individuals in a prevention focus leads to an increased attention to negative information (Keller & Bless, 2008; Pattershall, Eidelman, & Beike, 2012, Wang & Lee, 2006; Yoon, Sarial-Abi, & Gurhan-Canli, 2012). Based on these findings, we demonstrated that the impact of regulatory focus on the selective processing of positive and negative information has an impact on how advertisements that contain positive and negative product-related information are perceived (Florack et al, 2009). More specifically, we found that two-sided advertisements were evaluated more positively by individuals in a promotion focus and less positively by individuals in a prevention focus because of the selective information participants with different regulatory foci considered in their decision making process.

4.2 Selective Reliance on Information Sources and Heuristics

Previous research has argued that not only the type of information individuals consider in their decision process can differ with different regulatory foci, but also the information source that is considered most relevant can vary with a specific regulatory focus. Previous research has found, for instance, that individuals in a promotion focus are more likely than individuals in a prevention focus to follow their internal impulses, like their affective responses and implicit preferences in deciding which alternative to choose (Florack, et al., 2010; Greifeneder & Keller, 2012; Pham & Avnet, 2004; 2009). Indeed, the reliance on affective or implicit responses can be seen as a strategy that matches the eagerness of promotion-focused self-regulation: Reliance on implicit responses and affect is fast and can lead to good decisions (cf. Wilson & Scholer, 1991). However, implicit internal signals are often equivocal and affected by multiple sources like emotions, mood or attributions that are unrelated to the actual quality of a choice alternative. Hence, relying on internal impulses and affect heuristics might lead to good decisions, but it is accompanied by an increased risk for decision errors (cf. Kahneman & Tversky, 1982), as well. Because individuals in a promotion focus tend to seize opportunities and fast decisions even at the cost of possible errors (Förster, Higgins, & Bianco, 2003) they are likely to be willing to take the risk of a wrong affective response in order to approach a positive outcome (e.g. eating a tasty chocolate bar). For individuals in a prevention focus, however, who are mainly driven by a desire to maintain security and to avoid mistakes, relying on implicit and affective responses is not an appropriate strategy to follow.

Although heuristics, like the reliance on implicit preferences can be error-prone, current findings indicate that there are certain heuristics that fit prevention-focused individuals' vigilance to avoid making mistakes, one such heuristic being the reliance on the behavior of others (Cialdini & Goldstein, 2004; Gigerenzer, 2008). Following the behavior other individuals display or have previously displayed in the same situation can be regarded as an adaptive tool, when inner guidelines and habitual preferences are missing. In that, it fits

the inclination of individuals in a prevention focus to make secure decisions despite the lack of substantive information about choice alternatives.

Following this reasoning, we recently found in two experiments that inducing different self-regulatory orientations led to different responses to external social cues (Florack, Palcu, Friese, 2013). More precisely, in one study, we provided participants with tasty food and told them that they were allowed to consume as much food as they liked. Moreover, we either paired participants with another participant who was allowed to consume freely or instructed not to consume any food at all. We observed that participants in a prevention focus matched their food consumption closely to the consumption of the social model that was present in the consumption situation. By contrast, those participants in a promotion focus did not follow the consumption of the social model, but seemed to rely on their implicit response to the tasty food in deciding how much food to consume.

4.3 Strategic Use of Information and Influence on Behavior

The research we reviewed above points to the importance of considering individual characteristics, as well as characteristics of the situation in order to understand how self-regulation mechanisms can affect individual behavior. More specifically, the chronically predominant regulatory focus, as well as the regulatory focus that is elicited by the context can produce different forms of behavior. Returning to our example of buying a car this means that, depending on how individual and contextual factors interact, our banker Sue might attend to different attributes of the car she wants to buy, she might weigh these attributes differently, and she might also rely on different information sources in making her decision. Sue could for instance rely on her instincts or her previous brand experiences or she could follow the recommendation of the car salesman when deciding which car she wants to buy. Regulatory focus theory helps predict which outcome is most likely given that information about the behavioral context as well as the individual's predominant self-regulation orientation is available. More than that, regulatory focus theory predicts that an individual's

predominant regulatory focus is malleable and can be influenced when the behavioral context situationally increases the accessibility of prevention (e.g., one's responsibilities) or promotion focus concerns (e.g., one's ideals). Hence, when attempting to understand individual behavior in economic contexts it is important to keep the assumptions made by regulatory focus theory in mind.

6. Regulatory Focus and Motivational Drivers

6.1 Regulatory Fit, Feeling Right, and Regulatory Engagement

The reason why individuals choose options, attend to information, or, in general, apply goal-attainment manners that sustain their regulatory focus is that, by doing so, they experience regulatory fit and this fit not only increases the strength with which they engage in their goal pursuit, it also positively influences the feelings individuals have with their manner of goal attainment. More specifically, individuals feel right when they pursue a goal in a way that is consistent with their regulatory orientation and this feeling right increases the value they assign to their own activity (Higgins, 2002; 2005; 2006; Higgins & Scholer, 2009; Scholer & Higgins, 2009).

Most interestingly, the value that is created when people apply strategies that fit their regulatory focus goes beyond the contribution these strategies make to the attainment of a desired outcome. In other words, regulatory focus theory argues that people not only value *what* outcomes they achieve, but also *how* they achieve these outcomes.

Regulatory fit can be created in many different ways. First, regulatory fit can occur between an individual's chronically predominant regulatory orientation and the goal attainment strategy this individual applies in a specific situation (Higgins, Idson, Freitas, Spiegel, & Molden, 2003; Uskul, Keller, & Oyserman, 2008).

Second, regulatory fit can also occur when a regulatory orientation that is triggered in a specific situation fits the goal-attainment manners the individual is able to apply in the same situation (e.g., Freitas & Higgins, 2002). Freitas and Higgins (2002) have shown, for instance,

that individuals who had been induced a specific regulatory focus rated activities to be more enjoyable if these actions fitted their regulatory strategies, that is, individuals who previously thought about their ideals and aspirations (promotion focus) rated eagerness-related actions (e.g., spend more time at the library in order to get a good mark in an exam) to be more enjoyable than vigilance-related actions (e.g., avoid missing classes in order to get a good mark in an exam), whereas for individuals who previously thought about their duties and responsibilities (prevention focus) the reverse was the case. Importantly, these effects occurred independently of the outcome of the goal pursuit, that is, independently of whether the actions were instrumental for achieving the target goal or not.

Third, regulatory focus theory also encloses the assumption that certain beliefs about the nature of social roles or object attributes can produce regulatory fit as well (e.g., Appelt, Zhou, Aurora, & Higgins, 2009; Monga & Zhou, 2005). If our banker Sue, for instance, in her attempt to buy a car, starts to negotiate the price with the car seller, she would experience regulatory fit to a greater degree if she were predominantly prevention-focused, because the “role” of being a buyer comprises the goal to minimize monetary losses.

The reason why it is important to understand regulatory fit effects in decision making is the fact that the experience of regulatory fit can create a “feeling right” about one’s actions and this feeling of rightness intensifies people’s evaluative responses to what they are doing as well as to the objects they are evaluating (cf. Higgins, Franks, Pavarini, Sehnert, & Manley, in press). Moreover, previous research has found that individuals increase the strength with which they engage in their goal pursuit under regulatory fit (Hong & Lee, 2007; Uskul et al., 2008). In our example of Sue, this would mean that the “feeling right” she is experiencing when negotiating for a car under a feeling of regulatory fit would lead her to engage more strongly in her “buyer role” which could for instance result in more demanding price offers (see, Appelt et al., 2009). Similarly, to return to our example from the beginning, we assume that if our banker Matt had a predominant promotion focus he would experience

regulatory fit if he was offered a contract in which he could gain a bonus of USD 50,000 at the end of the year. In this case, it is not only the outcome of winning a bonus at the end of the year that might motivate him to engage in his work more strongly, but also the fact that the prospect of gaining a bonus for good work fits his promotion regulatory orientation.

The experience of regulatory fit might even lead Matt to like his activity more strongly. Higgins and colleagues (2003) found that the value people experience when engaging in activities that fit their regulatory orientation can not only influence their evaluation of their own action but can also transfer to the subsequent evaluation of an object. They asked participants to choose between an objectively more attractive coffee mug and an unattractive pen in one of two manners: One half of the participants were asked to think about what they would gain by choosing the mug or the pen (eager choice strategy = promotion fit), whereas the other half of participants were asked to think about what they would lose by choosing the mug or the pen (vigilant choice strategy = prevention fit). Although the majority of the participants chose the option that was more attractive (coffee mug), the regulatory fit participants experienced had an effect on the price they were actually willing to pay for the choice alternative. In particular, participants who experienced regulatory fit between their regulatory focus and the choice strategy were willing to pay almost 70% more for the same coffee mug than participants who did not experience regulatory fit. Hence, because all participants received the mug at the end of the experiment and, therefore, successfully reached their goal to obtain an attractive product, it is unlikely that the outcome per se determined the value of the object. Instead, Higgins and colleagues argue that experiencing regulatory fit increased individuals' strength of engagement in the choice task and intensified the value individuals attributed to the finally chosen object.

It is important to note that the experience of regulatory fit and the "feeling right" about one's activity under regulatory fit cannot be equated with a mere hedonic experience. In other words, the experience of regulatory fit does not solely create a positive feeling, it also informs

individuals about the correctness of their concerns and the effectiveness of their actions and increases the confidence in the rightness of their own way of approaching a goal (Higgins, 2011). In this, the experience of regulatory fit is an important driver of goal-attainment behavior and the evaluation of one's own goal attainment actions.

6.2 Anticipation of Regret

Regulatory focus theory proposes that the feeling right or wrong that is evoked by the application of fitting or non-fitting regulatory orientations is an important feedback signal that informs an individual about whether she or he behaves in an effective manner. However, we assume that also a second cognitive feeling shapes promotion- and prevention-focused self-regulation: the anticipation of regret experienced in case of undesired outcomes.

When individuals face a difficult decision, they often think about what would happen if the decision outcome were undesired and how they would feel in this case (Zeelenberg, 1999). They tend to anticipate whether and to which degree they will experience regret about their decision. Similar to the conception of feeling right, research considers regret as a cognitive emotion that has an effect on behavior and choice in different domains including consumer decisions and financial decision making (e.g., Simonson, 1992; Smerecnik, & Ruiter, 2010; Zeelenberg & Beattie, 1997).

Theoretical approaches on regret regulation are based on a feeling-is-for doing approach (Zeelenberg & Pieters, 2007). These approaches consider regret as a motivational force that directs behavior. They assume that individuals are motivated to avoid decisions that might lead to the experience of regret afterwards and that individuals attempt to down regulate regret when experienced. Regret regulation received a lot of attention in research, because under certain circumstances, it produces decision anomalies or undesirable decisions. For example, strategies to regulate regret can be to delay or avoid a decision (e.g., Iyengar & Lepper, 2000) or to transfer the responsibility for a decision to other persons (Connolly, Ordóñez, & Coughlan, 1997). Individuals might choose a decision option, for example, that

has a higher likelihood for undesired outcomes than an alternative option, just because for this option they can attribute the responsibility to another person (e.g., if the person recommended the option).

Many of such examples showing the bounded rationality of individuals can be found (see for an overview Gilovich & Medvec, 1995). But the anticipation of regret can also be considered as a tool of self-regulation that has ecological validity and is based on the learning history of the individual and adapted to the specific context. This function of regret is also evident in our own research that shows that experienced regret may cause different behaviors depending on the link of the experienced regret to promotion and prevention self-regulation (Leder, Florack, & Keller, in press).

In one study, we asked participants to think about an event when they experienced promotion- or prevention-related regret (Leder, et al., in press, Study 3). Prevention-related regret occurs, for instance, in situations where individuals attribute a negative outcome to the fact that they did not think carefully enough about their behavior. Promotion-related regret occurs, for instance, in situations where individuals could have obtained a better result if they had shown a different behavior. After answering a few questions according to the specific regret, participants played a lottery task with real money. Importantly, the lottery included safe options where participants received an amount of money without risk, and risky options where participants had the chance to gain more money than with the safe option, but where they also could finish the lottery without money at all. We found that thinking about previously experienced promotion-related regret led to riskier behavior than thinking about previously experienced prevention-related regret. Hence, the thought about previously experienced regret might lead to different behavioral strategies when the regret is related to promotion or prevention focus. Obviously, individuals take previous experiences into account and their present self-regulation is influenced by these previous experiences.

While the mentioned study examined the influence of previously experienced regret on behavior, we found that also the anticipation of regret in the future can be strongly linked to regulatory focus (Leder et al., in press). In particular, we found that promotion-focused individuals anticipate more regret for the absence of positive outcomes and for not realizing ideal goals and that prevention-focused individuals anticipate more regret for the presence of negative outcomes and for not fulfilling ought goals. For example, we measured the chronic regulatory focus of employees and asked them under which circumstance they would regret to accept an offer for a new job. Promotion-focused individuals were more likely to anticipate regret if the new tasks linked to the job did not challenge them. Prevention-focused individuals were more likely to anticipate regret if they could not fulfill the expectations associated with the new job. We found similar patterns for different decision contexts and for real life decisions, as well.

In addition, the combination of regulatory focus and regret regulation provides insights into when the anticipation of regret leads to action or in-action. The assumption is that individuals are more likely to prefer action or in-action dependent on whether the action or the in-action fits the current regulatory focus and reduces focus-specific regret (Florack, Keller, & Leder, 2013). Even if there is a general tendency for individuals in a promotion focus to regret omitting an action more than for individuals in a prevention focus (Lieberman et al., 1999; Roese, Hur, & Pennington, 1999), it has to be taken into account whether the action or in-action serves the goals of the current self-regulation. For example, in one study we asked student participants whether they would accept an offer for a safe and good job or whether they would wait some time to see if they get even a better offer. Not surprisingly, prevention-focused participants were more likely to indicate that they would show action and accept the job offer than promotion-focused participants. The results show that a specific behavioral strategy of action or inaction has to be considered in the context of the behavior, and that sometimes behaviors that seem to be typical for a promotion focus, at first glance,

can under certain circumstances also be functional in a prevention focus, and vice versa. In a similar vein, Scholer et al. (2010) found that prevention-focused individuals even choose risky options if the risky options are the only way to return to a safe and pleasant status quo (see for the preference of risky options in loss contexts also Schwager & Rothermund, in press). Studies by Trötschel, Büsgens, Hüffmeier, and Loschelder (in press) show that individuals in a prevention focus are more likely to concede in negotiations when they reached a previously set goal, while individuals in a promotion focus are more likely to orient their concessions according to best attainable outcomes. Thus, individuals in a promotion focus may concede more than individuals in a prevention focus when set goals are unrealistic to meet, but they might concede less in a context in which set goals are fulfilled, but higher outcomes can be attained. The research of Scholer et al. (2010) and Trötschel et al. (in press) did not include an assessment of anticipated regret, but we are confident that prevention-focused individuals would strongly regret not to have taken the risk (choosing a risky option or not conceding with the risk of a worse outcome in the negotiation) when they lost their pleasant and safe status quo or when they did not fulfill a set goal.

Further examples for the fact that prevention-focused individuals can under certain circumstances prefer actions more than promotion-focused individuals come from the area of health decisions. Health decisions are relevant for the well-being of an individual, but are on a societal level also relevant for the economic prosperity of a society. Unhealthy behavior can cause high costs for health insurances and for companies who have to deal with reduced performances and absenteeism. There is evidence that prevention-focused individuals are more likely to show actions to support their health (Leder, Florack, & Keller, 2013; Uskul et al., 2008). For example, in a series of studies in which we measured vaccination behavior, we found that prevention-focused individuals were more likely to vaccinate than promotion-focused individuals, and, most importantly, the anticipation of regret for not vaccinating and getting the respective disease mediated this effect. However, we also found that promotion-

focused individuals could be motivated to vaccinate. Since vaccination is a prevention-related behavior, the solution was to let the promotion-focused individuals experience prevention-related regret. Decision justification theory (Connolly & Zeelenberg, 2002) proposes that the anticipation of regret increases when a decision is difficult to justify. Therefore, we asked participants whether they would vaccinate for a new disease, and stressed in one condition that the vaccination protects against the disease with a high likelihood and has no adverse effects. In the mentioned condition, it was more difficult to justify not vaccinating than in the control condition when less was known about the vaccination. As expected, we found that in the condition where the justification not to vaccinate was low, the anticipation of regret for not vaccinating and getting the disease increased in promotion-focused participants on a level we found for prevention-focused individuals across both conditions. Most important, however, was the resulting increase for promotion-focused individuals in the intention to vaccinate in such a situation.

The presented examples show that the impact of promotion and prevention self-regulation is better understood if we take into account how the specific options for behavior serve the self-regulatory focus and how the experience or the anticipation of regret directs the behavior in combination with the regulatory focus.

7. General Discussion and Conclusion

The goal of the present article was to show that behavior in economic contexts will be better understood when it is taken into account that contexts can evoke self-regulatory strategies of a promotion or prevention focus and that such contexts meet individuals with preferences for a specific kind of self-regulation. We referred to research showing that promotion- and prevention-focused self-regulation has an important impact on judgments, choice, and behavior in economic contexts. We argued that such effects of regulatory focus are a consequence of behavioral strategies and differences in information processing that serve the self-regulatory goals of a promotion or prevention focus. We also emphasized that

cognitive feelings are a motivational force that keeps such self-regulatory processes running. In particular, we argued that the feeling right and the anticipation and experience of regret increase the engagement of individuals in a promotion or prevention focus and direct individuals to reach their self-regulatory goals. Importantly, we argued, as well, that self-regulatory goals can often be identical in a promotion or prevention focus like the goal of the banker to earn USD 250,000 in the introductory example, but that the same goal can appear differently for promotion- or prevention-focused individuals. A prevention-focused individual might perceive the USD 250,000 as an ought goal that has to be secured. A promotion-focused individual might perceive the USD 250,000 as an ideal goal and an improvement compared to USD 200,000.

7.1 Designing Contexts: The Example of Regulatory Focus and Performance

From the research we reviewed in this paper it becomes evident that the interaction of an individual's predominant regulatory focus and the characteristics of the context she or he is acting in has to be taken into consideration when making attempts to evoke desired behavior by designing appropriate contexts. The practical relevance of the design of the context can be illustrated with an example of performance. Performance on college entrance tests or standardized tests in the context of the personnel selection process (e.g., as part of assessment centers) is related to very important consequences and in part determines the life outcomes of individuals taking these tests. Research has shown that salient stereotypes can impede the performance of stigmatized social groups in college entrance tests as a function of stereotype threat (Steele, 1997). Building on the basic notion proposed in regulatory focus theory that a prevention focus renders individuals particularly sensitive with regard to negative information such as negative performance expectancies, it can be argued that effects of negative expectations implied by stereotypes on test performance should be particularly pronounced under conditions where prevention-focused self-regulation is activated. Importantly, the

structural design of a test or a test context can elicit a prevention focus, for example, by emphasizing point deductions for mistakes.

Results of an archival data analysis of math tests documented a substantial differential math performance for stereotyped groups as a function of test instruction that involved point deductions for mistakes or not (Keller, 2012). The gap between women and men, for example, is substantially larger in math tests that involve point deductions for mistakes than in alternative math tests. Parallel findings documenting particularly strong detrimental effects of negative performance expectancies in prevention-focused test takers were documented in a series of (experimental) studies (Gaillard, Desmette, & Keller, 2011; Keller, 2007; Keller & Bless, 2008). Hence, if the goal were to avoid effects of stereotype threat on the performance of test takers confronted with negative stereotypes, it would be wise to use test methods that activate a promotion focus like tests that allow getting additional points for being successful on additional tasks, and to avoid methods that elicit a prevention focus.

7.2 Promotion and Prevention Self-Regulation as Permanent Process

From a theoretical and practical perspective, it is important to note that promotion- and prevention-focused regulation is a permanent process that increases with motivation and engagement (cf. Higgins, 2011). For example, it can be expected that regulatory fit (Higgins & Scholer, 2009), the possibility to avoid regret (Leder et al., in press), and the experience that a goal is close to be reached (Förster et al., 2003; Förster, Higgins, & Idson, 1998) increase the related behavioral and information processing strategies. A prevention-focused individual, for example, should be even more vigilant and careful when the strategy fits the frame of the task, when it helps to avoid regret, and when the individual feels that she or he can reach the goal in a short distance.

This perspective of a permanent process of self-regulation is different from perspectives that are concerned with positive or negative reference points (cf. Carver, Sutton, & Scheier, 2000). Reference points are important, but they do not reflect self-regulation as a

permanent and dynamic process. Distinguishing between positive and negative reference points means that motivation should decline when individuals move away from a negative reference point, but that motivation should increase when individuals move toward a goal. It is important to note that it is not the former case that represents prevention self-regulation and the latter that represents promotion self-regulation in a sense described in this paper. Rather promotion- and prevention-focused individuals can have positive and negative reference points, and, for example, the motivation of promotion- and prevention-focused individuals can increase when a goal becomes closer (Förster et al., 1998, 2003). Hence, promotion and prevention self-regulation is an enduring process varying in motivational intensity.

7.3 Promotion and Prevention Self-Regulation in a Broader Self-Regulatory System

Furthermore, a key aspect of our view on promotion- and prevention-focused self-regulation is that it is embedded in a complex self-regulatory system and that it is influenced by and strongly related to other concepts of self-regulation, such as achievement motivation (Elliot & Church, 1997; Van Yperen, & Orehek, in press), action and state orientation (Kuhl & Beckmann, 1991; van Putten, Zeelenberg, & van Dijk, in press), self-control (Dewitte, in press), and biopsychosocial responses (VanBeest, & Scheepers, in press).

It is reasonable to assume that any context that evokes some kind of uncertainty is likely to prime prevention-focused self-regulation, in particular, if potential failures are perceived as connected to negative consequences. Similarly, it is reasonable to assume that individuals who are more likely to experience uncertainty because of a chronically strong fear of failure or because of a low self-esteem are likely to show characteristics of prevention-focused self-regulation. However, these self-regulatory aspects (regulatory focus, self-esteem, fear of failure) are not redundant.

For example, the experience of uncertainty might prime a strong prevention focus, but the experience of certainty does not necessarily prime a weak prevention focus or a promotion focus. An individual who feels right when being vigilant and careful in making financial

decisions has no reason to switch the dominant strategy when goal pursuit is perceived to run smoothly and when certainty is experienced. But, by contrast, it might be more likely that individuals with a reduced prevention focus switch to a prevention-focused strategy when uncertainty is experienced. Finally, this might lead to a correlation between prevention focus and other variables that are related to uncertainty, even though the concepts are not the same.

In addition, variables like need for growth and self-actualization or hope of success can be assumed to directly influence promotion-focused self-regulation. Indeed, these variables can be considered being determinants of a promotion focus in the self-regulatory framework. But again, we would not suppose that these variables cover the same concept as regulatory focus.

Also, it has to be taken into account that other concepts like intuitive information processing (Baumann, & Kuhl, 2002), or locomotion and assessment (Giacomantonio, Mannetti, & Pierro, in press; Pierro, Giacomantonio, Pica, Mannetti, Kruglanski, & Higgins, in press) are similar to concepts proposed as output-factors in regulatory focus theory (such as eager and vigilant strategies). For example, based on our reasoning above we would expect intuitive decision making to correlate with promotion-focused self-regulation. However, we consider intuitive decision making as a consequence of the eager information processing of promotion-focused self-regulation rather than being identical with promotion-focused self-regulation.

A component of regulatory focus theory that has not received much attention in research is that promotion and prevention focus are conceptualized as being orthogonal concepts rather than two opposite modes of self-regulation (Higgins, 1997, 1998). Hence, individuals can be highly promotion-focused and highly prevention-focused at the same time. It is clear that predictions become more difficult for individuals high in promotion and prevention focus, but future research should also take such cases into account.

7.4 Conclusion

Referring again to the example mentioned at the outset the practical implications are apparent. If we had the possibility to design a context by providing a bonus of USD 50,000 or threatening with a fine of USD 50,000, we have to think about the consequences regarding information processing and behavioral strategies. Regulatory focus theory proposes that the consequences will be substantial. A bonus of USD 50,000 would not be particularly meaningful to induce vigilant, careful, and responsible behavior. Furthermore, we have to take into account that the context meets individuals who experience fit or non-fit in such a context (e.g., depending on their predominant habitual regulatory focus). Designing a context that leads to non-fit would lead to reduced engagement and, most probably, undesired results. An illustrative example comes from Holler, Hölzl, Kirchler, Leder, and Mannetti (2008). The researchers found that compliance to pay taxes decreased considerably under conditions of non-fit. The research discussed above also suggests conditions under which other measures to direct the behavior of individuals can be successful. It is apparent that knowledge about self-regulatory processes as outlined in regulatory focus theory carries a substantial potential for practical applications in different domains such as financial decision making, tax paying, health behavior, consumer behavior, and behaviors in organizations (such as personnel selection). Given this great potential, we hope that practitioners in such fields will take the intriguing perspective of regulatory focus theory into account.

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