

## WHY VALENCE IS NOT ENOUGH IN THE STUDY OF EMOTIONS: BEHAVIORAL DIFFERENCES BETWEEN REGRET AND DISAPPOINTMENT

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**Abstract:** This paper reflects on the role of emotions in decision-making. The authors stress the limitations of a valence (“positivity” versus “negativity”) based approach. Emotions and their experiential content are synthetically exposed. Research has shown that even closely related emotions – such as regret and disappointment –, whether anticipated or experienced, have differential influences on the behavior of decision makers. This favours emotion-specific research in decision-making context, i.e., the pragmatic “feeling-is-for-doing” approach. We believe the emotional system is the primary motivational system for goal-directed behavior.

**Keywords:** emotions, decision-making, valence, regret, disappointment.

**Porque é que a valência não é suficiente no estudo das emoções: Diferenças comportamentais entre arrependimento e desilusão (Resumo):** Este artigo reflecte sobre o papel das emoções na tomada de decisão. Os autores ressaltam as limitações da abordagem de valência (“positividade” versus “negatividade”). As emoções e o seu conteúdo experiencial são sinteticamente descritos. Algumas investigações têm mostrado que as emoções, mesmo intimamente relacionadas – como o arrependimento e a desilusão –, quer antecipadas quer experienciadas, têm influências distintas sobre o comportamento dos decisores. Esta realidade favorece a investigação de emoções específicas no contexto de tomada de decisão, ou seja, a abor-

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dagem pragmática “feeling-is-for-doing”. Acreditamos que o sistema emocional é o principal sistema que motiva o comportamento dirigido por objectivos.

**Palavras-chave:** emoções, tomada de decisão, valência, arrependimento, desilusão.

### **Introduction**

All people have to make decisions all the time: which clothes to wear in the morning, how to commute to school or work, what to eat for lunch, where to go on holidays, which car/house to buy, and so forth. Some decisions are more complex than others and may require extra reflection and/or information processing time. Moreover, intuition plays an important role in decision-making (Zeelenberg, Nelissen, & Pieters, 2007). Thus, people do not always strive for optimal decisions, they often settle for satisfactory outcomes. Although making a choice is not a purely rational task, emotions have been considered irrational and dysfunctional for centuries and theories of rational choice view decision-making as a pure cognitive process in which the decision maker chooses the option with the highest expected utility. Nevertheless, the rationality question should not focus on the emotions itself but rather on whether it is rational to act on our emotions (Zeelenberg, 1999). Unfortunately, emotions have been neglected in traditional decision-making theories for a long time. However, this scenario is changing, because nowadays decision researchers recognize that emotion is a force to be reckoned with (Zeelenberg & Pieters, 2006a).

Emotions can be conceived as experiences that differ on a number of dimensions (e.g., Russell, 1980) or as experiences that represent discrete categories (Izard & Ackerman, 2000; Lerner & Keltner, 2000). Despite the diversity of emotional states that people experience, research in emotion and decision-making field tends to concentrate on a single aspect of emotion, i.e., the (dimensional) valence-based approach (Russell, 1980). Valence refers to the positivity (utility or satisfaction) or negativity (disutility or dissatisfaction) of an emotion. The distinction between “positive” and “negative” emotions is as ancient as the formalization of “medieval” theories of emotion (Solomon & Stone, 2002). According to Zeelenberg and Pieters (2006a), this approach may be commonly adopted for reasons of parsimony, communicability and measurability. First, in the valence-based approach, emotion can be reduced to a single underlying dimension, such as utility, satisfaction or value. The communication within and across disciplinary boundaries is also facilitated, mainly due to the fact that valence is a well-known construct in psychology and other academic fields. Finally, it is

also easier to obtain reliable measures at the level of a broad dimension, such as valence, than at the level of specific emotions (Izard & Ackerman, 2000; Lazarus, 1991).

### **Limitations of the valence-based approach**

However, by ignoring all the specific elements that make emotions distinct from one another, the strict focus on valence is hindering the progress in decision-making theory and application. Therefore, it is necessary to go beyond valence and adopt a generalized specific-emotions approach, because emotions with the same valence have different effects on the judgments and behaviors of decision makers (Zeelenberg & Pieters, 1999, 2004, 2006a, 2006b, 2007). Since the 1980s, emotion theorists hold a much more complex view of emotions, and they commonly differentiate a large number of distinct emotional experiences – such as, guilt, shame, regret, disappointment, envy, gloating, anger, fear, sadness, joy, pride, love and happiness, to name only a few (e.g., Frijda, Kuipers, & Ter Schure, 1989; Lerner & Keltner, 2000; Roseman, Wiest, & Swartz, 1994).

Zeelenberg and Pieters (2006a) state that there are situations where a valence-based approach may be useful or complementary to a specific-emotions approach. First, for low intensity emotional experiences, such as the case for certain moods (e.g., being in a “good” or “bad” mood), the behavioral implications may be mostly in line with the positive or negative valence. Second, when decision makers first experience a primary emotion, with an overall positive or negative valence, which evokes and shapes more refined secondary emotions. Third, when the behavioral options are closely aligned with a positive or negative valence (for instance, buy the car or not buy the car). In these cases, it may be sufficient to know the valence of the emotional experience to predict future behavior.

However, even considering these situations, focusing on specific emotions is worth the effort. Zeelenberg and Pieters (2006a) suggest at least five reasons to go beyond valence and distinguish specific emotions. First, the multiplicity and richness of emotional experience, since different emotions have idiosyncratic functions and signal specific problems to be dealt with to the decision maker. Second, the intrinsic bi-valence of some emotions, that is, some emotions carry aspects of both positive and negative valence in them. For instance, pride can be considered a positive emotion (e.g., a positive evaluation of one’s performance) or a negative emotion (e.g., by adopting a moral perspective, pride is one of the seven deadly sins). In these cases, it remains unclear the criterion used to determine the valence of an emotion. Third, decision makers sometimes experience mixed

emotions, such as approach-avoidance conflicts, when the preferred alternative also carries negative consequences or when none of the options dominates. For example, experiencing hope and fear, being optimistic and worried at the same time, is somewhat ambivalent and cannot be reduced to an overall good-bad position. Fourth, the fact that valence is often measured by assessing specific emotions and summarizing these. Measures of specific emotions are often combined to form an overall measure of emotional positivity or negativity. Hence, valence does not result from a theoretical stance and the measure turns out to be more elaborate than adopting a specific-emotions approach. Finally, contrary to one-dimensional effects in most decision research, in real life decision makers have multiple options to choose from and they can even delay or postpone a decision. Some emotions, such as regret, may promote inaction, in order to minimize future regrets due to counterfactuals – although Gilovich and Medvec (1995) referred that actions generally produce more regret than inactions, inaction is regretted more than action in cases where action is the norm (Zeelenberg, Van den Bos, Van Dijk, & Pieters, 2002). Similarly, decision makers in real interdependent situations may have the opportunity to consult others, include clauses in agreements that permit them to change their choice at a later moment, include more parties in a negotiation, or even leave the situation. Thus, even closely related emotions such as regret and disappointment have distinctive effects on choice behavior. We will discuss this last point later. Overall, decision makers are sensitive to the differential experiential qualities of emotion. In order to understand and predict behavior, the valence-based approach is insufficient and often counter-productive.

Adopting a pragmatic perspective will benefit our understanding of the influence of emotions, as suggested by Zeelenberg and Pieters (2006a). The so-called “feeling-is-for-doing” perspective means that we should develop theories based on its practical implications, and rigidly test it. The concept of emotion must prove its worth by virtue of its correlation with behavioral decisions. In other words, the survival potential of emotion lies in its behavioral instrumentality. Thus, by adopting this perspective, we are forced to study behavior, focusing on the meaning of the emotion for the decision maker and taking the motivational aspect of emotion seriously. That is, we need to be aware of the feelings, thoughts and motivations that are part of an emotional experience and predict the behavioral consequences of emotions on basis of this meaning. Our propositions are summarized in Table 1.

Table 1. “Feeling-Is-For-Doing” Summarizing Propositions

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1. The emotional system is the primary motivational system for goal-directed behavior.
  2. Each specific emotion serves distinct motivational functions in goal striving.
  3. These motivational functions cannot be reduced to the overall valence of the specific emotions.
  4. The distinct motivational functions are rooted in the experiential qualities of the specific emotions.
  5. Emotions can be either endogenous (an integral part) or exogenous (environmentally invoked) to the goal-striving process, their effect on behavior being contingent on their perceived relevance to the current goal.
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*Note:* adapted from Zeelenberg and Pieters (2006a).

### **Emotions and their experiential content**

Emotion definition has been controversial among researchers (Kleinginna & Kleinginna, 1981). In spite of the complexity of the subject, which difficults a consensual exact definition, psychologists agree that emotions are acute, relatively momentary, object-based experiences of goal relevance (Zeelenberg & Pieters, 2006a). Emotions are about something or someone. They differ from moods, which are more transient, last longer and do not have a clear object. Emotions also differ from affective personality traits that are person-based and more persistent. For instance, receiving a small free gift may promote a better mood (Isen, 1993), but one does not become emotional over something trivial. Thus, emotions typically arise when one evaluates an event or outcome as relevant for one’s concerns or preferences (Frijda, 1986).

Emotions have evolved in evolution mainly due to their adaptive functions in the survival of the species and the individual (Ketelaar, 2004). Among others, the informational and motivational functions of emotions are particularly important for decision-making theory (for other functions see, e.g., Pieters & Van Raaij, 1998; Izard & Ackerman, 2000). In order to understand these functions, we consider goal-directed behavior as a feedback-control system, with a sequence of goal setting, goal striving, monitoring, and goal adaptation (Zeelenberg & Pieters, 2006a). Basically, the informa-

tional function of emotions is monitoring the extent of goal progress. Positive emotions signal that goal progress is according to plan, while negative emotions act as an “alarm signal” (Simon, 1994). Recent research has led to important new insights in this “feeling-as-information” (Schwarz & Clore, 2003, Loewenstein & Lerner, 2003). However, the mere immersion in affective feedback information is clearly insufficient in goal striving, because the decision makers also need clear guidelines in order to pursue their long-term goals. That is what the motivational function is about. Emotions do fuel and direct goal-directed behavior.

As multi-component concepts, emotions can be differentiated from each other both in terms of their cognitive appraisals and in terms of their experiential content (Zeelenberg & Pieters, 2006a). According to appraisal theory (Scherer, Schorr, & Johnstone, 2001), appraisal refers to the process of judging the significance of an event for personal well-being. A particular event may elicit different specific appraisals to different people, although the same patterns of appraisals always give rise to the same emotions, i.e., specific emotions are associated with specific patterns of cognitive appraisals of a particular situation.

However, the experiential content of emotions is more relevant for the behavioral implications of emotion, mainly because the appraisal patterns only address the antecedent part. Roseman *et al.* (1994) have proposed and demonstrated that emotions can be differentiated in terms of the following five experiential categories: feelings, thoughts, action tendencies, actions, and motivational goals. Feelings are perceived physical or mental sensations. Thoughts refer to ideas, plans, conceptions, or opinions produced by mental activity. Action tendencies are impulses or inclinations to respond with a particular action. Actions include behavior that may or may not be purposeful. Finally, motivational goals describe the goals that accompany discrete emotions. From a pragmatic perspective, the experiential content of an emotion is the true emotional experience, so it allows specific behavioral predictions. At present, in order to illustrate differences between emotions and make a contribution to specific emotion theory, we will focus on two specific negative-valence emotions: regret and disappointment.

### **Regret and disappointment differences**

Regret and disappointment are very much tied to the decision process and its outcomes. As Zeelenberg and Pieters (2006a, 2006b) put it, these two emotions are by far the most important emotions in the context of decision-making. Shimanoff (1984) states that regret is, after love, the second most frequently named of all emotions. Although this fundamental role was

recognized a long time ago (see e.g. Savage, 1954), the formalization of these presumed effects took some time. Economists independently developed a regret theory (Bell, 1982; Loomes & Sugden, 1982) and a disappointment theory (Bell, 1985; Loomes & Sugden, 1986). These theories assume that decision makers experience emotions as a consequence of making a decision and, more importantly, anticipate the experience of these emotions and take them into account when making decisions. Thus, decision-making is determined by the tendency to avoid negative post-decisional emotions (i.e. regret and disappointment aversion) and to strive for positive emotions (such as rejoicing, that occurs when the rejected option would have been worse than the chosen one).

Most decisions involve an element of uncertainty. Decision makers cope with uncertainty by forming expectancies about the possible outcomes of different courses of action, and also by speculating how they would evaluate these outcomes if they were to occur. Although expectancies tend to be confirmed most of the time (Olson, Roese, & Zanna, 1996), there are many situations where expectancies are violated. When the state of affairs is worse than initially expected, negative emotions often arise. There are at least two ways in which violated expectancies can give rise to negative emotions (Zeelenberg, Van Dijk, Manstead, & Van der Pligt, 2000). First, if the chosen option ends up being worse than the rejected options, i.e., when “bad decisions” are made, regret often arises. Second, if the chosen option results in an outcome that is worse than expected, i.e., when “disconfirmed expectancies” occur, disappointment may be experienced. Thus, regret and disappointment occur in response to negative decision outcomes and stem from comparing a foregone outcome to the obtained outcome. They can be considered negative emotions that often result when our current state of affairs is worse than initially expected. As such, regret and disappointment have much in common: both are related to risky decision-making and uncertain outcomes, and both involve comparisons between an obtained decision outcome and one that might have been. However, they are different emotions, with distinguishable consequences for decision-making (Zeelenberg *et al.*, 2000).

There are mainly two reasons why regret and disappointment can be considered really distinct emotions: they have different antecedents and they feel different in terms of their phenomenology (Zeelenberg *et al.*, 2000; Zeelenberg & Pieters, 2007). In what concerns their antecedents, regret is more closely related to self-agency, whereas disappointment is more related to other-agency (Frijda *et al.*, 1989). This link between regret and responsibility is consistent with the results of recent studies (e.g., Zeelenberg, Van Dijk, & Manstead, 1998a; Zeelenberg & Pieters, 2004b). Regret and disappointment seem to be associated with different appraisal patterns, the first being

associated with control potential, and the latter being associated with circumstances beyond anyone's control. Appraisals are regarded as a key component of emotional experience, and can be seen as causing emotions (e.g., Frijda *et al.*, 1989; Roseman, Antoniou, & Jose, 1996).

The other reason why regret and disappointment are different emotions is their phenomenology. Following Roseman *et al.* (1994) procedure, Zeelenberg, Van Dijk, Manstead, and Van der Pligt (1998b) asked participants to recall an instance of intense regret or disappointment, and assessed their feelings (what they felt), thoughts (what they thought), action tendencies (what they felt like doing), actions (what they did) and motivations (what they wanted). Although the results revealed significant differences in each component, the two most pronounced ones were the motivational components: action tendencies and motivations. Regret involves feeling that one should have known better, thinking about the possibility that one made a mistake, feeling a tendency to kick oneself and to correct one's mistake, and wanting to undo the event and to get a second chance. On the other hand, disappointment involves feeling powerless, accompanied by a tendency to do nothing and get away from the situation. Hence, although they have the same valence, regret and disappointment serve distinct motivational functions which are rooted in the experiential qualities of these emotions.

The ways how regret and disappointment influence decisions and behavior has been the subject of a growing number of recent empirical research studies. Zeelenberg and Pieters (1999, 2004a) compared the behavioral consequences of these emotions, concerning consumers who were dissatisfied with the delivery of a service. It was found that experienced regret resulted in switching to another service provider, whereas experienced disappointment resulted in complaining to the service provider and talking to others about the bad experience (word-of-mouth), but not switching to another service provider. Even after the effects of general dissatisfaction had been accounted for, regret and disappointment showed different behavioral effects. Thus, whereas regretful consumers realize that switching to an alternative service provider is a better option, disappointed consumers complain to the service provider and share the experience with others. This evidence supports the fact that regret and disappointment have different experiential contents.

Regret arises when we realize or imagine that our present situation would have been better had we acted differently, whereas disappointment is assumed to originate from the comparison between the factual outcome and the counterfactual outcome that might have been had other state of the world occurred (Zeelenberg *et al.*, 2000). That is, disappointment is felt when an outcome appears to be worse than expected and one typically does



not feel responsible for the obtained outcome, and regret is especially salient in situations in which decision makers should have known better, that is, it has a close link to responsibility. Moreover, regret usually leads to a reparative action, i.e., learn from mistakes, whether disappointment typically involves feeling powerless and inactive, accompanied by a tendency to get away from the situation (Zeelenberg *et al.*, 1998b). Thus, regret is likely to promote goal persistence and disappointment may result in goal abandonment (Zeelenberg *et al.*, 2000). As for regret, this “action effect” is supported by a large number of studies (e.g., Connolly, Ordóñez & Coughlan, 1997; Gilovich & Medvec, 1994, 1995; Kahneman & Tversky, 1982; Ordóñez & Connolly, 2000; Zeelenberg, Van Dijk, & Manstead, 1998a). However, Feldman, Miyamoto, and Loftus (1999) challenge the generalization of those conclusions. Moreover, Zeelenberg *et al.* (2002) state, in a series of experiments involving sequences of decisions, that the “action effect” only occurs when prior outcomes are positive or absent. Following negative prior outcomes, more regret is attributed to inaction. Similarly, Anderson (2003) showed that some emotions – including regret – are likely to promote decision-aversion.

These emotions, when anticipated, can also influence decisions. It has been found that anticipated regret influences behavioral choice in several contexts, such as: lotteries (Ritov, 1996; Zeelenberg & Pieters, 2004b), investment decisions (Zeelenberg & Beattie, 1997), negotiations (Larrick & Boles, 1995; Zeelenberg & Beattie, 1997), consumer choice in the context of both products and services (Inman & Zeelenberg, 1998), whether to engage in unsafe sex (Richard, Van der Pligt, & De Vries, 1996), and whether to engage in unsafe driving behavior (Parker, Stradling, & Manstead, 1996). Anticipated regret can induce people to avoid or delay decisions, or even avoid feedback regarding foregone outcomes. This can promote either risk-seeking or risk-avoiding behavior. As for disappointment, there has been virtually no empirical research. Zeelenberg *et al.* (2000) suggest there are several strategies for avoiding disappointment: to try to live up to the initial expectations by investing more effort; to strategically lower the likelihood of obtaining a desired outcome; to derogate the attractiveness of a desired outcome; and to set global expectations that are hard to disconfirm.

### **Concluding remarks**

Taken together, ample research has shown that even closely related emotions (such as regret and disappointment), whether they are anticipated or experienced, have differential influences on the behavior of decision makers. This favours emotion-specific research in decision-making context.

Following the explanatory success of regret and disappointment in individual research, it urges to investigate these dynamics in social decision-making. Regret and disappointment can be regarded as individual emotions, since a social context is not needed in order to experience these emotions. Maybe it is for that reason that the impact of these emotions on choices in interdependent situations has hardly been studied, even though there has been ample speculation about the role of regret in early game theory research (Luce & Raiffa, 1957). Thus, in order to further our understanding of the role of emotion in decision-making, we believe research considering situations in which one's own interest is in conflict with the interest of the group (i.e. social dilemmas) is clearly needed, in accordance with the concept of social diversity (Rijsman, 1997) and patterns of interpersonal communication (Rutkowski, Fairchild, & Rijsman, 2004).

Overall, we claim that a pragmatic approach is clearly needed in order to have a better understanding of the experience of emotions, the behaviors they motivate and how they can shape subsequent decision-making (Zeelenberg & Pieters, 2007). According to this theory, emotions exist for the sake of behavioral guidance, the so-called "feeling-is-for-doing" approach (Zeelenberg & Pieters, 2006a; Zeelenberg *et al.*, 2007). We hope that a fuller understanding of different emotions and its idiosyncratic regulatory processes will lead to a better insight into the psychology of decision-making.

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