

A Theory of Regret Regulation 1.0

Marcel Zeelenberg and Rik Pieters

Tilburg University, The Netherlands

We propose a theory of regret regulation that distinguishes regret from related emotions, specifies the conditions under which regret is felt, the aspects of the decision that are regretted, and the behavioral implications. The theory incorporates hitherto scattered findings and ideas from psychology, economics, marketing, and related disciplines. By identifying strategies that consumers may employ to regulate anticipated and experienced regret, the theory identifies gaps in our current knowledge and thereby outlines opportunities for future research.

The average consumer makes a couple of thousands of decisions daily. These include not only the decision of which products and brands to buy and in which quantity, but also what to eat for breakfast, what kind of tea to drink, whether to read the morning newspaper, which specific articles and ads (and whether to act on them), when to stop reading, which shows to watch on which TV-channels (and whether to zap or zip), or maybe watch a DVD, and for how long, how to commute to work or school, and so forth. Even though consumers do not always strive for optimal decisions and often settle for satisfactory decisions, it is evident that with this number of decisions there is plenty room for regret. Indeed, as we will show later, regret is omnipresent and only few of us are free from regrets (and this comes at a very high price). Regret is the emotion that we experience when realizing or imagining that our current situation would have been better, if only we had decided differently. It is a backward looking emotion signaling an unfavorable evaluation of a decision. It is an unpleasant feeling, coupled with a clear sense of self-blame concerning its causes and strong wishes to undo the current situation.

In recent years, students from many different disciplines realized that regret is not only an affective reaction to bad decision outcomes or processes, but also that it is a powerful force in motivating and giving direction to behavior. This insight has spurred many research efforts and produced an equal amount of interesting and relevant findings

concerning regret. Regret research originated in basic research in economics (Bell, 1982; Loomes & Sugden, 1982), and psychology (Gilovich & Medvec, 1995; Kahneman & Tversky, 1982; Landman, 1993). Nowadays one can find examples of regret research in many different domains, such as marketing (Inman & McAlister, 1994; Simonson, 1992), law (Guthrie, 1999; Prentice & Koehler, 2003), organizational behavior (Goerke, Moller, & Schulz-Hardt, 2004; Maitlis & Ozcelik, 2004), medicine (Brehaut et al., 2003; Djulbegovic, Hozo, Schwartz, & McMasters, 1999), cross-cultural psychology (Gilovich, Wang, Regan, & Nishina, 2003), economic psychology (Lin, Huang, & Zeelenberg, in press), health psychology (Chapman & Coups, 2006; Connolly, & Reb, 2005; Richard, Van der Pligt, & De Vries, 1996), and neuroscience (Camille et al., 2004; Coricelli et al., 2005).

Approximately a quarter of a century after economists and psychologists independently started regret research, the time is right for an attempt to review what we have learned, summarize the findings, and amalgamate them into a single overarching model. The goal of this article is to make such an effort and to propose a theory of regret regulation that integrates the different perspectives and their results.

The core idea in our approach is that consumers are regret averse and that, as a consequence, they try to regulate their regrets (Zeelenberg & Pieters, 2006b). That is, they are motivated to avoid regret from happening and when it happens they engage in ameliorative behaviors (e.g., reverse the decision or undo the consequences). When this is not possible, they manage, deny, or suppress this experience in one of many possible ways. Although already much is known about various aspects of regret, the regulatory aspect of regret has not yet received much

Correspondence should be addressed to Marcel Zeelenberg, Tilburg University, Department of Economic and Social Psychology, PO Box 90153, 5000-LE Tilburg, The Netherlands. E-mail: Marcel@uvt.nl or to Rik Pieters, Tilburg University, Department of Marketing, PO BOX 90153, 5000-LE Tilburg, The Netherlands. E-mail: Peiters@uvt.nl

systematic attention, despite the fact that relevant studies are surely available. Therefore, we will provide an overview of the appropriate studies and theorizing by advancing a set of propositions that, in our view, capture the current state of the art in the research on regret, and—we hope—stimulates further research about this highly relevant and consequential emotion. The propositions are presented in Table 1 and form the common thread in the first half of this article. These propositions reflect the now abundant knowledge of the antecedents and experience of regret and how this emotion can be differentiated from related experiences. In the second half we propose a number of strategies that decision makers may use to regulate their regrets. Research has clearly shown the behavioral correlates of both anticipated and retrospective regret. These efforts, however, mostly demonstrated the fact that there are behavioral implications, rather than providing insights into when these occur. Therefore, the second part of this article is necessarily more speculative. Together, this forms the basis of our theory of regret regulation.

Our theory is a pragmatic theory that stresses that emotions exist for the sake of behavioral guidance. Put differently, the theory assumes that “feeling is for doing” (Zeelenberg, Nelissen, & Pieters, in press; Zeelenberg & Pieters, 2006a). Such a pragmatic approach is needed to understand what the experience of regret entails, which behaviors it motivates, and how it can shape subsequent decision making. Our regret regulation theory 1.0 thus acknowledges that regret bridges the past and the future in the present. The theory is nascent (see for an embryonic version, Zeelenberg & Pieters, 2006b) and will be subject to up-dates. Before turning to the propositions that form the building blocks of our theory, let us start by addressing the prevalence of regret experiences in daily life and by providing some insights into the incidence of regret research.

REGRET IS WHAT YOU GET

I see it all perfectly; there are two possible situations—one can either do this or that. My honest opinion and my friendly advice is this: do it or do not do it—you will regret both.

—Søren Kierkegaard

Regret is a widespread emotion that all of us seem familiar with, especially because it is sometimes unavoidable, as the quotation of Kierkegaard suggests. Humberstone (1980) presented the following reasoning to point out the inevitability of regret: Imagine contemplating whether or not to make a bet on the occurrence of some event (e.g., The Netherlands beating Brazil in the final of the 2010 World Championship Soccer). Placing a bet and losing it will surely result in regret over wasting the money. However, winning the bet is not a guarantee against regret either, because one may regret not having placed more money on it. Studies by Carmon and Ariely (2000) provided support for this notion in the sense that they found that people have a natural tendency to focus on the forgone instead of the obtained. Such a focus clearly opens the door for regret and related experiences. In line with these findings, Carmon, Wertenbroch, and Zeelenberg (2003) found that the mere act of choosing already produces a sense of immediate postdecisional regret that is accompanied by an increased attractiveness of the nonchosen alternative (similar to the notion that the grass is always greener on the other side of the fence). This result is compatible with reactance theory (Brehm, 1966), which would interpret it as a response to the self-imposed restriction of freedom that accompanies choice. All in all, it seems that people’s cognitive machinery is preprogrammed for regret as they are constantly thinking about what might have been and hence are dissatisfied with what they have and as a result persistently strive for something better.

TABLE 1
Propositions in Regret Regulation Theory

1. Regret is an aversive, cognitive emotion that people are motivated to regulate in order to maximize outcomes in the short term and learn maximizing them in the long run.
2. Regret is a comparison-based emotion of self-blame, experienced when people realize or imagine that their present situation would have been better had they decided differently in the past.
3. Regret is distinct from related other specific emotions such as anger, disappointment, envy, guilt, sadness, and shame and from general negative affect on the basis of its appraisals, experiential content, and behavioral consequences.
4. Individual differences in the tendency to experience regret are reliably related to the tendency to maximize and compare one’s outcomes.
5. Regret can be experienced about past (“retrospective regret”) and future (“anticipated or prospective regret”) decisions.
6. Anticipated regret is experienced when decisions are difficult and important and when the decision maker expects to learn the outcomes of both the chosen and rejected options quickly.
7. Regret can stem from decisions to act and from decisions not to act: The more justifiable the decision, the less regret.
8. Regret can be experienced about decision process (“process regret”) and decision outcomes (“outcome regret”).
9. Regret aversion is distinct from risk aversion, and they jointly and independently influence behavioral decisions.
10. Regret regulation strategies are decision-, alternative-, or feeling-focused and implemented based on their accessibility and their instrumentality to the current overarching goal.

The commonness of regret is also evident in the book *Damn!: Reflections on Life's Biggest Regrets* (Cadish, 2001). This book presents a selection of personal regrets that were provided by adults and teenagers from different countries via the Web site *RegretsOnly.com*. Cadish concluded that “regrets are universal; nearly everyone has them. Regrets transcend age, gender, race, culture, nationality, religion, language, social status, and geographic location” (p. 2). In another effort, Saffrey and Roese (2006) investigated how frequent and intense people experienced a range of different positive and negative emotions. The negative emotions were anger, anxiety, boredom, disappointment, fear, guilt, jealousy, regret, and sadness. Regret was rated as being the most intense of these negative emotions and second most frequent (only anxiety was rated as experienced more frequently). Finally, these findings are consistent with those of Shimanoff (1984), who studied verbal expressions of emotions. He found that regret was the most frequently named negative emotion (and the second most frequently named emotion overall, with love being the first).

Recent evidence from the field of neuroscience also shows that a life without regrets is highly unlikely. Camille et al. (2004) found that patients with orbitofrontal cortex damage did not seem to experience regret over decisions that went awry. They had patients and nonpatients make decisions between gambles and assessed the emotional responses towards the outcomes of the gambles. Camille et al. manipulated whether the participants only learned the outcome of the chosen option, or also the outcome of the rejected option (a prerequisite for regret). Not only did the patients lack the experience of regret after the results were known, but also predecisionally they appeared not take regret into account (they seem to rely solely on the expected value of the options). The nonpatients in their study clearly showed regret effects (in both emotion ratings and in their choices). Follow-up studies with fMRI-techniques corroborated the role of the orbitofrontal cortex in specifically the experience of regret (Coricelli et al., 2005). Although this research suggests that lobotomy may be an efficient strategy to get rid of our regrets, without ever regretting this decision, consumers employ many other strategies to avoid regret or to undo regretted decisions. We will address these later in this article.

A very different way of gaining insight into the prevalence and relevance of regret, and a more indirect one, is to accumulate the research efforts that address this emotion. We did this in the following way. We searched for articles and book chapters that mentioned regret in either the title or abstract, via the Web applications such as Web of Science, PsychLit, EconLit, REPEC, dissertation abstracts, and JSTOR, and complemented that with other publications that we were aware of. We tracked the number of these publications per year. The result is offered in Figure 1 and clearly visualizes the development of interest in regret in academic publications. Of course, we may have missed some relevant

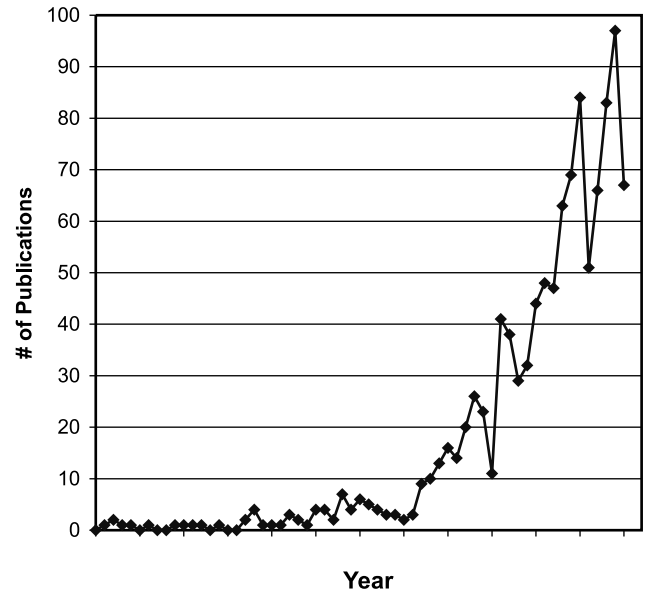


FIGURE 1 The Development of interest in Regret over Time: Number of Regret Publications per Year (from 1945–2005 based on a survey of publication databases).

articles and picked up some irrelevant ones, but the trend is unambiguous: From the 1990s onwards, there is a sharp increase in regret publications. This increase has produced many robust findings, as we review in the next sections.

WHAT IS THIS THING CALLED REGRET?

Let us now provide a more detailed description of regret. Regret is generally not considered to be one of the basic emotions. Regret is not characterized by a unique and distinct facial expression or posture that is invariant over cultures. The ability to feel regret is acquired relatively late in our emotional development. Babies can feel fear, happiness, anger, and sadness, but regret arises roughly at the age of 7. In a study by Guttentag and Ferrell (2004) it was found that the emotional responses of 7-year-olds took into account the comparison of what is and what might have been, while 5-year-olds did not.

Regret is a rather complex emotional experience that both stems from and produces higher order cognitive processes. Feeling regret requires the ability to imagine other possibilities than the current state of the world. One has to reflect on one's choices and the outcomes generated by these choices, but one also has to reflect on what other outcomes might have been obtained by making a different choice. Put differently, regret is a counterfactual emotion (Kahneman & Miller, 1986; Roese, 1997; Zeelenberg, Van Dijk, Van der Pligt, et al., 1998) that heavily relies on comparison processes (E. Van Dijk & Zeelenberg, 2005; Zeelenberg & Van Dijk, 2005).

Regret is not pleasant. Its experience negatively impacts our well-being (Jokisaari, 2003; Kinner & Metha 1989; Lecci, Okun, & Karoly, 1994) and causes rumination (Savitsky, Medvec, & Gilovich 1997; Wrosch & Heckhausen, 2002). Landman, Vandewater, Stewart, and Malley (1995) reported that counterfactual thinking about missed opportunities (a proxy for regret) is associated with emotional distress in the short run but with motivational benefits in the long run. Although they found that counterfactual thoughts were associated with higher levels of depression and anxiety, they also found that “compared to those who report no such counterfactuals, those who acknowledge thoughts of past missed opportunities are more likely to envision future changes in their lives” (p. 94). These psychological consequences of regret may be dependent on age, given that the opportunities to overcome regrets decline with age. This is nicely illustrated by recent research of Wrosch and Heckhausen (2002; see also, Wrosch, Bauer, & Scheier, 2005). These authors asked participants to report activities that they regretted not having pursued during their lives and to indicate the amount of personal control that they had on the situation at the time. They found that for young adults internal-control attributions were associated with active attempts to change the regrettable behavior, attenuating the regret and lowering rumination. For older adults these attributions were associated with more intense regrets and hence they attribute control more externally in a self-protective manner and thereby attenuate their regrets. These findings concur with Roese and Summerville’s (2005) notion that “opportunity breeds regret.” In a meta-analytic review, these authors revealed that people’s biggest regrets “are a reflection of where in life they see their largest opportunities; that is, where they see tangible prospects for change, growth and renewal” (p. 1273).

Taken together, we conceive of regret as a cognitive emotion (instead of an emotional cognition) because it contains all the elements that are typical of emotional experiences, as we explain next. This leads to the first proposition.

Proposition 1: Regret is an aversive, cognitive emotion that people are motivated to regulate in order to maximize outcomes in the short term and learn maximizing them in the long run.

An important issue in understanding regret and its regulatory processes is the question of how it feels. What is the phenomenology of this emotion? What is its experiential content? This is vital information if one is interested in the behavioral consequences of regret, because the experiential content of an emotion contains and expresses its motivational components (Zeelenberg & Pieters, 2006a). Regret comprises the following experiential qualities (Roseman, Wiest & Swartz, 1994; Zeelenberg, Van Dijk, Manstead, & Van der Pligt, 1998): It is accompanied by feelings that

one should have known better and by a sinking feeling, by thoughts about the mistake one has made and the opportunities lost, by tendencies to kick oneself and to correct one’s mistake, by desires to undo the event and get a second chance, and by actually doing this if given the opportunity. Put differently, regret is experienced as an aversive state that focuses our attention on one’s own role in the occurrence of a regretted outcome. It is thus a cognitively based emotion that motivates one to think about how the negative event could have happened and how one could change it, or how one could prevent its future occurrence. A hitherto untested consequence of this self focus is that regret, maybe even more than other negative affects, induces a more systematic processing style. Together, this implies the following:

Proposition 2: Regret is a comparison-based emotion of self-blame, experienced when people realize or imagine that their present situation would have been better had they decided differently in the past.

Proposition 2 reflects two important preconditions for regret. First, there is an element of personal agency, and second, the realization that another decision would have been better. Regret is not experienced if one was not a causal agent, or if no other decision would have led to a better outcome.

At this point one may wonder why one would study the specific emotion regret, rather than other specific emotions, or just the general valence of the emotional experience? First of all, regret is unique in its relation to decision making and hence responsibility. One only experiences regret over a bad outcome when at some point in time one could have prevented the outcome from happening (for an elaborate exchange of opinions on the role of responsibility in regret, see Connolly, Ordóñez, & Coughlan, 1997; Ordóñez & Connolly, 2000; Zeelenberg, Van Dijk, & Manstead, 1998, 2000). All other negative emotions can be experienced without choice, but regret cannot. Thus, in regret personal agency is central, whereas in other aversive emotions such as anger, fear, disappointment, agency for the negative outcomes is either undetermined, in the environment or in another agent. This is elegantly captured by Landman (1993) in the following quotation: “The child is *disappointed* when the Tooth Fairy forgets his third lost tooth. The child’s parents *regret* the lapse” (p. 47). Sheffrin and Statman (1985) also recognized the connection between regret and responsibility. They argue in their study of behavior on the stock market that people prefer to spend their money on stocks of conventional companies (e.g., IBM) instead of unconventional ones. One reason for this behavior is that if you invest your money in stocks of an unconventional company and prices go down, you blame yourself and feel regret. “However, if IBM stock drops,

you'll look at the misfortune as an act of God. Your choice involves little responsibility and therefore little regret, since IBM is the conventional choice" (Sheffrin & Statman, 1985, p. 57). A few years later Simonson (1992) found that when you ask consumers, before they make a decision, to consider the potential regret that they may feel as a result of their choice, this results in an increased preference for conventional options (brand names instead generics). Similarly, Lemon, White, and Winer (2002) found that anticipated regret promotes the choice of the status quo option in services.

Another reason for focusing on regret specifically is the distinct character of this emotion. The research presented by Roseman et al. (1994) and Zeelenberg, Van Dijk, Manstead, et al. (1998) described previously, and other research demonstrates that regret can be distinguished from other emotions such as disappointment, anger, and sadness on the basis of its appraisals, experiential content, and behavioral consequences (W. W. Van Dijk & Zeelenberg, 2002a, 2002b; Zeelenberg & Pieters, 1999, 2004a). This is important because different specific emotions have been found to affect judgment and behavior in different ways (e.g., Bougie, Pieters, & Zeelenberg, 2003; Lerner & Keltner, 2000; Nelissen, Dijk, & De Vries, in press; Raghunathan & Pham, 1999). For example, in a study in which the behavioral consequences of regret and disappointment were explicitly compared, distinct effects of both emotions were found (Zeelenberg & Pieters, 1999). This study examined consumers' emotional and behavioral responses to dissatisfaction with services. Regret predicted switching to another service provider, whereas disappointment predicted complaining to the service provider, and in talking to others about the bad experience. Moreover, there was a tendency for higher levels of regret to result in less talking to others.

Importantly, the effects of regret also extend those of more general negative affective reactions. In a large-scale survey of consumer responses to failed services, Zeelenberg and Pieters (2004a) found that regret about having chosen a service influenced postconsumption behaviors significantly, over and above the effect of the general negative affect towards the service and the service provider. Together, this leads to the following:

Proposition 3: Regret is distinct from related other specific emotions such as anger, disappointment, envy, guilt, sadness and shame, and from general negative affect on the basis of its appraisals, experiential content and behavioral consequences.

There is recent evidence of systematic individual differences in consumers' tendency to feel regret (Schwartz et al., 2002), which can be reliably measured with a 5-item scale (e.g., "Whenever I make a choice, I'm curious about what would have happened if I had chosen differently." "If I make a choice and it turns out well, I still feel like something of a failure if I find out that another choice would have turned out

better"). We have administered this scale to a group of first-year students ($n = 252$; data collected in autumn 2003), together with scales assessing individual differences in general negative affectivity and the tendency to feel guilt, shame (two other counterfactual emotions), and pride (Tangney & Dearing, 2002). The correlations between these individual difference scales are shown in Table 2. These results reveal that regret proneness is indeed significantly related to general negative affectivity. It is also related to other specific emotions, but it shares only a minor part of its variance with these, which is evidence of its construct validity.

In a separate study with again first-year students as participants (data collected autumn 2004 and autumn 2005; $n = 472$), we again administered the regret proneness scale, and this time we also assessed participants' tendency to maximize versus satisfice (Schwartz et al., 2002), their dispositional envy (Smith, Parrott, Diener, Hoyle, & Kim, 1999), their tendency to engage in comparison processes (the Iowa—Netherlands comparison orientation measure; INCOM, Gibbons & Buunk, 1999), and the tendency to feel guilt and shame (Tangney & Dearing, 2002), as well as their state-self esteem (Heatherton & Polivy, 1991).

We regressed regret proneness and dispositional envy on the other factors in a multivariate multiple regression analysis. This allowed us to test trait determinants of regret proneness and if and how these differed from trait determinants of dispositional envy, a related but different comparison oriented emotion. Envy and regret have been argued to be similar. For example, Larrick (1993) stated that "if two people face the same decision but make different choices, then learning of the other person's superior outcome could lead to regret and envy" (p. 447). Some studies showed that envy and regret have similar effects on decision making (Hoelzl & Loewenstein, 2005), whereas others showed regret effects that could not be attributed to envy (Zeelenberg & Pieters, 2004b). Disentangling envy and regret is thus desirable.

We expected both regret proneness and dispositional envy to be related to comparison orientation, but in addition, we expected that regret proneness but not dispositional envy would be fueled by the tendency to maximize one's outcomes.

TABLE 2
Correlations Between Tendencies to Feel Regret, Guilt, Shame, Pride and Negative Affect

	α	M	Scale Range	Regret	Guilt	Shame	Pride
Regret	.78	3.60	1–6	—			
Guilt	.67	3.86	1–5	.27	—		
Shame	.71	2.93	1–5	.41	.60	—	
Pride	.64	3.64	1–5	-.07	-.07	-.12	—
Negative affect	.84	1.66	0–4	.43	.22	.41	-.11

Note. $N = 252$. Regret is the regret proneness scale by Schwartz et al. (2002). Guilt, Shame, and Pride are the individual differences measures of Tangney and Dearing (2002). Correlations larger than .21 are significant at $p > .05$. None of the correlations with Pride is significant.

In addition, we expected that compared to regret proneness, dispositional envy would be more strongly related to one's general level of self-esteem, as well as to self-conscious emotions such as guilt, and in particular shame, because of the strongly self-conscious nature of this latter emotion. This is exactly what came out, as shown in Table 3. The multivariate multiple regression analysis allowed us to directly test the difference in the impact of each of the determinants on, respectively, regret proneness and dispositional envy, and these findings are summarized in the last column of Table 3. Regret proneness is most strongly associated with higher levels of comparison orientation and maximization tendency, whereas dispositional envy is most strongly associated with higher levels of dispositional shame and lower levels of overall self-esteem. These trait correlates of regret proneness and dispositional envy are clearly important, because the raw correlation between these two emotion tendencies drops significantly after accounting for them from a sizable .43 ($p < .001$) to .11 only ($p < .05$), as shown in Table 3. Jointly, these findings provide systematic support for the construct validity of individual differences in the tendency to experience regret, and they reveal the comparative and maximizing nature of the trait. Summarized is the following:

Proposition 4: Individual differences in the tendency to experience regret are reliably related to the tendency to maximize and compare one's outcomes.

REGRET BRIDGES THE PAST AND THE FUTURE IN THE PRESENT

He who spends time regretting the past, loses the present and risks the future.

Quevedo

The scientific interest in regret originated in the literature on economic decision making. The notion of decision regret has been put forward as a possible explanation of why decision makers may sometimes deviate from the predictions made by the theory of rational choice. Researchers in this field have initially argued that consumers may base their decisions on a "minimax regret" principle (Lee, 1971; Luce & Raiffa, 1957; Savage, 1951). According to this principle one first computes the maximum of possible regret for each option (regret is defined as the difference between the actual outcome of the chosen option and the highest possible outcome of the rejected options). Then one chooses the option with the lowest maximum regret. This minimax regret has been criticized as being overly pessimistic, because it ignores the probabilities of the possible outcomes, and may hence be only relevant in case of complete uncertainty (Aker, 1997).

The later developed regret theories in economics (Bell, 1982; Loomes & Sugden, 1982; Sage & White, 1983; see also, Larrick, 1993) took the probability of regret into account to provide a more plausible account for the influence of regret. Direct tests of predictions derived from regret theory did not provide unequivocal support (Harless, 1992; Leland, 1998; Starmer & Sugden, 1993), but the main psychological assumptions have been supported (see for a review, Zeelenberg, 1999a). The first assumption is that we may experience emotions as a consequence of our decisions. Decision makers experience regret when the outcome of the rejected option would have been better, and rejoicing when the outcome of the rejected option would have been worse. A subsequent assumption is that these emotions have an impact on how we evaluate decision outcomes.

Research demonstrated that the extent to which consumers are (dis)satisfied with a purchase depends indeed also on

TABLE 3
Determinants of Regret Proneness and Dispositional Envy: Multivariate Regression Analysis

Predictors	Regret Proneness		Dispositional Envy		Impact Comparison
	Weight	P	Weight	P	
Constant	-.55	—	-.17	—	—
Comparison Orientation	.38	<.001	.14	<.01	Regret > Envy
Maximization	.38	<.001	.05	ns	Regret > Envy
Guilt	.03	ns	-.13	ns	Regret = Envy
Shame	.16	ns	.29	<.001	Regret = Envy
State self esteem	.26	<.001	.42	<.001	Regret < Envy
R ²	34.6%	<.001	49.2%	<.001	
Raw correlation with envy	.43	<.001			
Residual correlation with envy	.11	<.05			

Note. $N = 472$. Weight = regression weight; ns = not significant at $p = .05$. The Impact comparison column indicates whether the contribution of a particular predictor to respectively regret proneness and dispositional envy differs significantly, as indicated by a West test. Comparison Orientation is the INCOM scale by Gibbons and Buunk (1999). Regret proneness and Maximization are measures from Schwartz et al. (2002). Dispositional envy is from Smith et al. (1999). Guilt and shame are from Tangney and Dearing (2002). State Self-Esteem is from Heatherton and Polivy (1991). Residual correlation is after controlling for all predictors in the analysis.

regret. Taylor (1997) found, in two studies on satisfaction with movies, that in addition to expectancy-disconfirmation about the chosen movie, the expected quality of rejected movies (i.e., a proxy for regret) influenced satisfaction with the chosen movie. Specifically, the higher the expected quality of the rejected movies, the lower the satisfaction with the chosen movie. Inman, Dyer, and Jia (1997) asked participants to make choices between lottery pairs. Participants received outcome feedback for each choice, and their evaluation of each decision was assessed. The analysis shows that both the outcomes gained from the lotteries and the outcomes forgone in the lotteries (because rejected options won) had significant effects on participants' evaluations of their decisions. If the effects of the forgone alternatives were not taken into account, the percentages of variance accounted for in participants' evaluations of their decisions dropped significantly (for similar results, see Mellers, Schwartz, & Ritov, 1999).

The most important assumption in these economic regret theories is that this impact of regret is taken into account before we decide, and thus may play an important role in determining what we choose. This has also been supported empirically. Among the pioneers here are the earlier cited Simonson (1992) and Inman and McAlister (1994). Inman and McAlister studied the fact that the usage of coupons shows a small but noticeable increase, just before the expiration date. They modeled scanner data and showed that a model including a regret term accounted for significantly more variance than a traditional utility-based model. Other examples of research showing that consumers take future regret into account when making decisions can be found in McConnell et al. (2000), Hetts, Boninger, Armor, Gleicher, and Nathanson (2000), Cooke, Meyvis and Schwartz (2001), and in Greenleaf (2004).

Interestingly, parallel to the developments in the study of the effects of anticipated future regret, researchers also focused on how currently experienced retrospective regrets may influence behavior. This forward and backward looking aspect of regret is what we refer to when we say that regret bridges the past and the future in the present. In addition to our own studies that we described earlier (Zeelenberg & Pieters, 1999, 2004a), there are studies showing the impact of regret on postconsumption behaviors using experimental studies. Tsiros and Mittal (2000), for example, found that regret has a direct negative effect on repurchase intentions. Creyer and Ross (1999) developed an 8-item scale to measure postdecisional regret (see for a similar scale in the medical domain, Brehaut et al., 2003). Creyer and Ross had participants play the role of salesperson and had them bid to obtain a large order for their company. They learned that they lost the order and regret was assessed. Next they responded to four risky decision problems and they again had to bid in order to obtain an order. The authors found that the regret that the participants experienced over their first decision had a significant

impact on the subsequent bidding, without influencing the risky choices.

Nowadays, researchers from different fields study regret, and examine both retrospective and prospective regret. We express the existence of these different regrets in the following proposition:

Proposition 5: Regret can be experienced about past ("retrospective regret") and future ("anticipated or prospective regret") decisions.

There is some discussion whether anticipated regret is an emotion or a mere (cognitive) prediction about an emotion. Frijda (2004), as a case in point, believed that anticipated emotions, including anticipated regret, are predictions, referring to them as "virtual emotions." We believe that to the extent that the prospect of future regrets feeds into the present experience, and thus acquires the experiential qualities of any other emotion, it is an emotion, albeit strongly cognitively based.

Three decades ago, Janis and Mann (1977, p. 223) already proposed four conditions that determined when we experience anticipated regret. First, regret is anticipated when the most preferred alternative is not necessarily superior to another alternative. The idea is that when there is one dominant alternative the decision maker does not spend much time thinking about the possible drawbacks of this alternative, because there is less self-recrimination when the obvious superior alternative results in a suboptimal outcome. This suggests that the more difficult a decision is the more likely it is that people take regret into account when deciding (cf. Sugden, 1985, see also, Keren & Bruine de Bruin, 2003). Second, regret is anticipated when the negative consequences that might ensue from the decision could start to materialize almost immediately after the decision is made. When the outcomes of the decision are not realized quickly, or when they are not known within a short time span, decision makers might discount the possible regret that this decision can cause. Richard et al. (1996), in the context of condom use, showed that when long term consequences are made salient before the decision, regret is anticipated and influences the decision. Third, regret is anticipated when significant others in the decision maker's social network view the decision as important and will expect him or her to adhere to it. The more important an outcome is, the more likely it is that the decision maker engages in the anticipation of regret, because more important decisions will result in more intense regret when things go awry. This would be the case when the outcomes are important socially. Other people might also force the decision maker to stick to the decision initially made. Fourth, Janis and Mann proposed that regret is anticipated when new information concerning potential gains and losses can be obtained. More specifically, expected feedback about the outcome of the *rejected* options is the prime determinant of

anticipated regret, as will be apparent when we discuss the differences between risk aversion and regret aversion under proposition 9.

Proposition 6: Anticipated regret is experienced when decisions are difficult and important and when the decision maker expects to learn the outcomes of both the chosen and rejected options quickly.

THE THINGS THAT WE REGRET

Fools live to regret their words, wise men to regret their silence.

William Henry

As proposition 2 expressed, regret is experienced when decisions go awry. Yet, which aspect of decisions is regretted? We will address two distinctions that are relevant. First of all, consumers may regret both decisions to act and decisions not to act. In addition, their regret may independently stem from the decision outcomes and the decision process.

In a seminal article on regret, Gilovich and Medvec (1995) referred to the finding that actions produce more regret than inactions as “the clearest and most frequently replicated finding in the entire literature on counterfactual thinking” (p. 380). This so-called action effect originated in research by Kahneman and Tversky (1982), who asked students to indicate whom of two investors felt most regret. Both investors lost \$1,200, one as a result of buying a particular stock, the other as a result of holding onto the same stock. A large majority of their participants responded that the active investor would feel more regret than the passive holder. This conclusion, that action produces more regret than inaction, has not gone unchallenged. First of all, Gilovich and Medvec found instances in which inactions were regretted more than actions. They studied the *temporal pattern* of regret and revealed the existence of an inaction effect for long-term regrets: When looking back, people experience most regret over the paths not taken. Gilovich and Medvec argued that, over time, a number of psychological processes decrease the regret of actions taken and bolster the regret of actions forgone. Kahneman (1995) argued that short-term and long-term regrets are actually two different types of regret: *hot regret*, which is the direct emotional reaction to the outcome, and *wistful regret* being the less intense emotion “associated with pleasantly sad fantasies of what might have been” (p. 391; see also, Gilovich, Medvec, & Kahneman, 1998).

Recently, however, it has become apparent that also in the short run inactions may result in more regret than actions. Zeelenberg, Van den Bos, Van Dijk, and Pieters (2002) provided evidence that this depends on what the “normal” behavior in the situation is. They show that inaction is regretted more than action, in cases where action is

the norm. Specifically, they asked participants how much regret a soccer coach would feel if his team lost after he either changed or did not change the team. The study’s design thus mimicked the traditional action-inaction studies. In addition, however, prior experiences were manipulated: The coach’s team had either a winning or losing record. The findings revealed that more regret was reported for the active coach than for the inactive coach (replicating the traditional action-inaction difference), but only if the team had a winning record. If the team had been losing, then the inactive coach was seen as experiencing more regret. These results support our theorizing that prior outcomes and events may call for action and hence make inaction the less normal decision.

Similarly, Inman and Zeelenberg (2002) found that consumer’s decisions to switch generally produce more regret than decisions to make a repeat purchase (in the case that the outcome is negative). However, when consumers have a clear reason for their decision to switch (e.g., a negative prior consumption experience) this inoculates them against regret. Thus, depending on whether or not the decision was justified, repeat purchasing can cause more regret than active switching. This is expressed by the following:

Proposition 7: Regret can stem from decisions to act and from decisions not to act: The more justifiable the decision, the less regret.

The previous discussion suggests that it is not only the outcome that plays a role in regret, but also how the outcome came about. Thus a decision process that is bad in comparison to an alternative decision process can be regretted even if the decision outcomes are good. An example of this is borrowed from Sugden (1985). Imagine leaving a party slightly intoxicated. You decide to drive home and do so safely. The morning after, however, you might regret your decision when reflecting on what might have occurred. In line with this example, Connolly and Zeelenberg (2002) postulated two components of regret, one associated with outcome evaluation, the other with the feeling of having made a choice poorly. Regret, taken as a whole, is supposed to be a combination of these two decision components: One regrets that the outcome contrasts poorly with the counterfactual outcome, and/or that the decision was made in an unjustified way.

We recently tested the idea of two sources of regret in the context of intention-behavior consistency (Pieters & Zeelenberg, 2005). More precisely, we examined the regret that people experience when they behave in ways not originally intended. These studies show that intention-behavior inconsistency, which is often hard to justify, amplifies regret independent of the outcomes of the behavior. This inconsistency effect was obtained in different research contexts: using a scenario approach, asking people about autobiographical memories of regrettable events,

and via a longitudinal study of a significant real life decision, namely, voting in national elections. The results of these studies clearly indicated that a bad decision process impacted on regret, independent of the quality of the decision outcomes. In fact, the crucial mediating factor was whether the decision process was judged to be sensible and wise, that is, justifiable. Proposition 8 concerns the objects of regret.

Proposition 8: Regret can be experienced about decision processes ("process regret") and decision outcomes ("outcome regret").

IS IT BETTER TO BE SAFE THAN SORRY?

Regret aversion has sometimes been equated to risk aversion, as illustrated by the saying in the title of this section. Contrary to this commonly held belief, a series of studies demonstrated that anticipated regret may promote both risk-avoiding and risk-seeking tendencies (Zeelenberg & Beattie, 1997; Zeelenberg, Beattie, Van der Pligt, & De Vries, 1996; Zeelenberg & Pieters, 2004b). Which tendency prevails, risk-seeking or risk-avoidance, depends on which option shields the decision maker from feedback on forgone outcomes. Zeelenberg et al. found that when participants were given a choice between a risky and a safe gamble, those who expected to receive feedback on the safe option, regardless of their choice, were likely to choose this safe option. They thereby protected themselves from potentially threatening feedback on the forgone outcome. Likewise, those who expected to receive feedback on the risky option tended to choose the risky option.

Inman and Zeelenberg (1998, Experiment 3) tested whether such a manipulation of expected postdecisional feedback could influence consumer decision making. They studied the decision about a long distance telephone service, the purchase of a personal computer, and the choice of an apartment to live in during the last year in college. Participants were confronted with the scenarios that described a choice between two options (again one being more risky than the other). The expectation of feedback was manipulated so that there could be feedback on the riskier option, on the safer option, or no feedback at all. For example, in the long distance telephone service scenario there was a choice between two companies, the dominant ABC (safer option), or the newer and smaller DDE (riskier option). Participants read that the service of DDE (vs. ABC) would be reviewed in the next issue of a local magazine. In the No Feedback condition such information would not be present. Participants in the Feedback Riskier Option condition showed increased risk seeking, while participants in the Feedback Safer Option condition showed increased risk aversion. Similar findings were obtained by Larrick and Boles (1995),

Ritov (1996), Ritov and Baron (1995), Guthrie (1999), and E. Van Dijk and Zeelenberg (in press). Humphrey (2004) provided a formalization of these feedback conditional regret effects.

The previous is summarized in the following:

Proposition 9: Regret aversion is distinct from risk aversion, and they jointly and independently influence behavioral decisions.

Thus, decision makers are motivated to avoid regret, but are unlikely to always succeed in this. One reason is the sheer amount of decisions that we have to make, that we alluded to earlier. No one will make the right choice in all of those. As we argued previously, some decisions will always produce regret. How do we cope with these regrets? That is the question central in the second, more tentative, part of regret regulation theory 1.0.

STRATEGIES FOR REGRET REGULATION

Which specific strategies do decision makers use to manage their regrets over time? This question is central in the development of our theory of regret regulation. According to this theory, the experiential qualities of regret (Proposition 3) contain the seeds of the strategies that people use to regulate regret. People kick themselves and want to undo the decision when they experience regret, and its aversiveness stimulates specific behaviors to prevent regret (Proposition 9). Because there is, as yet, little systematic research on regret regulation strategies, the proposed theory should be considered conjectural. We offer the following:

Proposition 10: Regret regulation strategies are decision-, alternative-, or feeling-focused, and implemented based on their accessibility and their instrumentality to the current overarching goal.

The main strategic options for regret regulation are the same for anticipated and experienced regret, although the specific mechanics differ, as shown in Table 4. People can employ decision-focused, alternative-focused and feeling-focused regulation strategies. Decision-focused strategies aim at the specific decision process and outcomes at hand. Alternative-focus strategies deal with the nonchosen alternative, and feeling-focused strategies address the experience of regret directly, rather than indirectly as the previous two do. We would like to stress that we expect that not all regulation strategies will be equally successful, and that some actually increase long-term regret. Importantly, to date not all possible strategies have been equally extensively researched, which opens up many avenues for research.

TABLE 4
Regret Regulation Strategies

I. Prevent future regret
1. <i>Decision-focused</i>
a. Increase decision quality
b. Increase decision justifiability
c. Transfer decision responsibility
d. Delay or avoid decision
2. <i>Alternative-focused</i>
a. Ensure decision reversibility
b. Avoid feedback about forgone alternatives
3. <i>Feeling-focused</i>
a. Anticipate regret
II. Manage current regret
1. <i>Decision-focused</i>
a. Undo decision
b. Justify decision
c. Deny responsibility for the decision
2. <i>Alternative-focused</i>
a. Reverse decision (switch to alternative)
b. Re-appraise quality of alternative
3. <i>Feeling-focused</i>
a. Psychological repair work
b. Suppress or deny regret

Anticipated Regret Regulation Strategies

Improve decision quality. To prevent future regret, people may try to improve the quality of the decision process and outcomes, for instance, by increased internal (memory) or external information search (Ordóñez, Benson, & Beach, 1999). They may also attempt to do so by applying decision rules that use as much of the available information as possible, such as a linear-compensatory one. In this way, regret stimulates increased decision effort and learning and should be conducive to reducing long-term regret, except when all the decision effort in hindsight turns out to have been in vain. For example, it has recently been suggested that counseling will allow both men and women to make better decisions about sterilization and that this will reduce the occurrence of regret and reversal requests (Brehin & Bigrigg, 2006).

Delay or avoid decision. Also, people may simply delay decisions, or avoid making them (Janis & Mann, 1977). That is they can become decision averse (Beattie, Baron, Hershey, & Spranca, 1994). Making no decision prevents regret, because one simply cannot make the “wrong” decisions. However, such a strategy is not likely to be useful, because many situations require a decision. Moreover, there may be long-term disadvantages to decision-avoidance, because eventually we may well regret our inactive decision attitude (Gilovich & Medvec, 1995). Postpone-

ment or other kinds of decision delay have the same disadvantages as avoiding them. In addition, to the extent that the anticipated regret of making the wrong decision enhances rumination during the period-of-postponement, the decision conflict may only mount, and the resulting experienced regret may be enhanced as well, if indeed the decision goes awry.

Increase decision justifiability. A fruitful way of avoiding regrets is to opt for “normal” choices that are easily justified. This idea is central in Decision Justification Theory (Connolly & Zeelenberg, 2002). This also explains why default options generally produce less regret than switch decisions, and the reversal of this effect when prior experience clearly calls for action (Inman & Zeelenberg, 2002). It accounts for the finding that intention-behavior consistency, being a “norm”, lowers regret, independent of the decision outcomes (Pieters & Zeelenberg, 2005).

Transfer decision responsibility. As indicated earlier, regret arises when one is personally responsible for bad decisions. Thus, one strategy to reduce future regret is transferring the responsibility of a potentially regretful decision to others. Most frequently, this occurs when assigning responsibility to experts, such as investment advisors, marriage counselors, or partners (“I did exactly what you told me to”). There are more specific strategies to deal with responsibility of anticipated future regret as well. Farnsworth (1998) in his book on regret in the context of contract law wrote, “If you sometimes had ‘past Regrets’ because of unexpected difficulties in performing, you could allay your ‘future Fears’ by including in your agreement a force majeure clause, excusing you from performing should such difficulties arise” (p. 19).

Ensure decision reversibility. If one cannot improve the decision quality, for example because of an inherently uncertain future, nor increase the decision justifiability, transfer responsibility to another agent, or postpone the decision, then decision makers may aim to increase the reversibility of a decision—once it is taken. That is, they may anticipate future regret of being stuck with a suboptimal choice and aim for reversible choices to prevent this. Thus, consumers’ anticipations of regret are attenuated and their impact on choice is diminished when they receive lowest price guarantees (McConnell et al., 2000). What’s more, insurances have been shown to have similar effects (Hetts et al., 2000). Thus, when decisions or their consequences can be reversed, less regret is anticipated. Interestingly, it is not yet clear that retrospective regret is influenced in a similar way. Gilbert and Ebert (2002) recently found that people indeed prefer reversible decisions to irreversible ones, but that the irreversible decisions resulted in more satisfaction, perhaps because reversibility raises counterfactual thinking, which then feeds regret.

Avoid feedback about forgone alternatives. Because regret stems from outcome comparisons, decision makers can avoid regret by avoiding feedback about non-chosen options. This tendency has been described, when discussing our Proposition 8.

Anticipate regret. Sometimes, the anticipation of possible regret is deemed to make the experience less aversive, as when people prepare to feel pain at the dentist. Put differently, bracing for the worst, can make bad outcomes look good. We must note that this only works when it does not impact our choices. It can be counter-productive when this anticipation of regret, for example, leads people to avoid decisions or choose different options. Thus, this is typically a strategy that consumers may want to use after the decision is made, but before the outcomes are known.

The regulatory aspects of anticipated regret are thus aimed at preventing regret from happening, or ameliorating its potential occurrence. What happens when we do experience this emotion is described next, with a focus on strategies that differ from those for anticipated regret. Again there are three basic strategies to deal with this: decision-, alternative-, and regret-focused. Specific strategies that differ from those for anticipated regret are emphasized.

Experienced Regret Regulation Strategies

We stated and showed earlier that regret most clearly induces decision reversals or undoing behaviors. In Table 4 we distinguish between two specific expressions of this: undoing a decision about an opportunity (a yes–no decision, e.g., not buying the house), and reversing a decision between alternatives (multiple choice, e.g., studying law instead of literature; Jones, Frisch, Yurak, & Kim, 1998). Although both undo the original decision, one is focused mostly on the current act, and the other mostly on the alternatives. Thus, they appear in two different places in Table 4, but are discussed here jointly because of their resemblance. Because of their centrality to regret regulation, they are discussed first and more extensively.

Undo or reverse decision. A central element in the experience of regret is the undo or reverse the decision that led to the regretted consequences. According to Festinger (1964) when a decision maker who experiences regret “were given the opportunity to reconsider, he should show some inclination to reverse his decision” (p. 100). An example of real life is the regret following sterilization and the subsequent attempts to restore fertility (Curtis, Mohllajee, & Peterson, 2006). Festinger and Walster (1964) induced postdecisional regret in participants and provided them with the opportunity to switch to another option. They did so by having participants in one condition rank several haircuts on attractiveness. The one ranked as most

attractive could be obtained for free. Because this task implied a decision it was expected to produce some dissonance, and hence regret. Participants in the other condition also ranked the attractiveness of the haircuts, but were unaware of the fact that they subsequently could choose one for free. Because in this condition the ranking did not imply a decision, dissonance and the accompanying regret were expected not to appear. When the participants were subsequently asked to choose a coupon for a free haircut, it was expected that participants who knew this in advance would feel more regret and would show more decision reversals than participants who did not know in advance that they would get a haircut for free. This was indeed what Festinger and Walster found. Interestingly, the prediction that regret promotes switching is also consistent with Thibaut and Kelley’s (1959) reasoning about regret in relationships. They argued that a comparison with a forgone alternative (a proxy for regret) “provides a standard in terms of which decisions about remaining in or leaving the relationship are made” (pp. 80–81). Recent research shows that the more we elaborate on our decisions, the stronger these effects are (Carmon et al., 2003).

Undoing previous decisions occurs frequently. For example after buying a product which proves to be suboptimal, regret can motivate us to ask for our money back, or to switch to another supplier of services or product the next time around (Ratner & Herbst, 2005; Zeelenberg & Pieters, 1999, 2004b; Zeelenberg, Van der Pligt, & Manstead, 1998). In these instances, regret can help us to satisfy our needs. It protects us from wasting money and ameliorates our well-being. Interestingly, regret may also be functional via its influence on cognitions. Instead of going back to the shop, we can imagine various ways in which the outcome could have been more favorable to us. So regret not only helps us to remember our mistakes and missed opportunities and motivates us to engage in reparative action; by means of mental undoing it also prepares us to behave more appropriately when we are confronted with similar choices in the future.

Justify decision. Before the decision is made, consumers may increase justifiability to prevent regret, but also postdecisionally this may help. Justifying may be done by providing ex post reasons for the decisions and by “at least I tried” reasoning that focuses on the decision process (e.g., “I did my best,” “If I knew then what I know now, I would have chosen differently, but I did not know this.”).

Deny responsibility for the decision. It follows directly from the strong link between regret and responsibility that consumers may deny responsibility in order to attenuate the regret they feel over a decision. Blaming the service provider or sales person (“they should have known better, they are the experts”) is a simple way out of regret. At the same time, however, it will increase anger.

Re-appraise quality of alternative. Because regret stems from comparing what is to what might have been, consumers may focus on the alternative to manage their regrets. They can generate “even if” counterfactuals that focus on worse decision outcomes (even if I had chosen differently, the outcome would have been equally bad; McCloy & Byrne, 2002). Additionally, when there is not so much flexibility in generating counterfactuals, they may derogate the outcome of the unchosen alternative or simply refrain from using it as a comparison standard. For example, as in one of the studies of E. Van Dijk and Zeelenberg (2005), when one wins a book token of \$15 dollar and misses out on a liquor store token of \$50, one may come to the conclusion that booze is not really a nice prize, whereas when one wins a liquor store token of \$15 dollar and misses out on a book token of \$50, one may conclude that one already owns enough books. Indeed, as E. Van Dijk and Zeelenberg found, regret was significantly lower in these situations (in which there was a cross category comparison) than in situations in which the missed prize and the obtained prize came from the same category (i.e., they won a \$15 token and missed a \$50 token, both good for either books or for liquor).

Psychological repair work. Gilovich and Medvec (1995, p. 387) described two forms of psychological repair work that decision makers may engage in, in order to attenuate their regrets. The first is to identify silver linings. People may convince themselves, for example, that they have learned so much from their regretted mistake, and this, by itself, will already take of the edges of their regret. Teigen (2005) described a number of cases in which this even goes beyond silver linings. People report to feel good after something bad happened (e.g., a car crash) because they can so easily imagine that things could have turned out for the worse (e.g., death).

Additionally, decision makers may bolster their decisions and downplay the rejected alternatives similar to how this was proposed in cognitive dissonance and self-perception theory (see also, Gilovich, Medvec, & Chen, 1995), in order to live with their decisions and the accompanying outcomes. In Gilovich et al.’s research, outcomes were rigged such that participants, apparently as the result of their decision, ended up with a small prize and missed out on a big prize. The more regret these participants felt, the more likely they were to engage in dissonance-reduction strategies (i.e., they comforted themselves by increasing the valuation of the small prize). Also, one critical way to avoid or reduce regret once the outcomes of decisions become known is to reevaluate the chosen decision in a positive way. Then they re-appraise the decision process and outcomes, and how this matches to their preferences and come to the conclusion that the chosen option is actually the best. For example, people may dislike thinking about how they would feel if they miss out on a better outcome. This inter-

pretation is related to recent studies by Tykocinski and colleagues (Tykocinski, 2001; Tykocinski, Pick, & Kedmi, 2002; Tykocinski, & Steinberg, 2005). They have shown that when faced with an unfavorable outcome, people tend to exhibit “retroactive pessimism;” namely, they attempt to attenuate the outcome’s emotional impact by telling themselves that it was more or less inevitable. These lines of research show that decision makers may be motivated to “distort” their thinking about what happened and what might have been in order to mitigate their negative emotional experiences and thus to regulate what they feel.

Regret denial or suppression. Sometimes decision makers show reluctance to acknowledge regret’s existence. They may actively deny or suppress it. To disclose feeling regret, so it seems, is to admit failure, and that is the sign of a weak person, even outside the realms of presidential election campaigns. Classic examples of such an attitude ring through in Frank Sinatra’s “My Way” and Edith Piaf’s “Non je ne regrette rien.” Some contemporary writings even seem to promote some sort of regret denial. In Helen Fielding’s (2003) novel *Olivia Joules and the Overactive Imagination* the main character wrote down a number of rules for living. Rule 15 stated “Don’t regret anything. Remember there wasn’t anything else that could have happened, given who you were and the state of the world at that moment. The only thing you can change is the present, so learn from the past” (p. 94). Interestingly, her Rule 16 applied when Rule 15 appeared to be violated “If you start regretting something and thinking, ‘I should have done ...’ always add, ‘but then I might have been run over by a lorry or blown up by a Japanese-manned torpedo’” (p. 94). We are not aware of any research testing addressing this strategy.

Remaining Issues

There are many opportunities to build on regret regulation theory 1.0. First, not all regret regulation strategies have been empirically examined in detail. We also know very little about the conditions upon which such strategies are preferred over others, and more research is dearly needed.

Another issue that should be addressed relates to the focus of the regulatory processes. Do consumers regulate their regret, or the outcomes that produce regret? If one takes a functional or pragmatic stance with respect to emotions (Zeelenberg et al., in press; Zeelenberg & Pieters, 2006a), regret is an aversive experience that decision makers try to avoid, but the emotion itself is not of crucial relevance. What is important is that the emotion provides the decision maker with information about how he or she is doing and with information about what to do to make the best of this situation. Emotions, because they are vivid and fast, and because they are the main input for our motivational system, have control precedence (Frijda, 1986, 2006). Inherent in this system, where emotions provide information,

the emotion becomes the “to be regulated entity.” This ensures that also the outcomes that produce regret are regulated. Research examining when consumers regulate outcome maximization and when regret minimization, and when they attempt to do both is important.

A third issue of potential interest is the (un-)avoidability of regret. “Regret is what you get” for any current decision, because every choice leads to forgoing the non-chosen options and their benefits (Carmon et al., 2003). In addition to this, consumers engage in various coping strategies, described earlier, in order to prevent their anticipated regret from materializing. Interestingly however, we know next to nothing about the actual success of such regret-prevention strategies. In fact, it may well be that coping strategies to minimize regret actually have the inadvertent effect of increasing the likelihood and the depth of the emotion that consumers tried to avoid in the first place. Take for example the situation where consumers opt for reversible decisions in order to minimize the likelihood of experiencing post-decisional regret. Research suggests that such decisions increase experiencing current regrets. Whether consumers “can run but cannot hide” from regret, and which consumers can, seems a fruitful area for future research.

SUMMARY AND CONCLUSIONS

In this article we have advanced a set of propositions that capture an important element of the psychology of regret. We argued that regret is an aversive, cognitively based emotion that people are motivated to regulate. It is a functional emotion that influences decision-making in ways that are relevant to our goals and concerns, and it does so in order to maximize our short term and long term outcomes. Regret is experienced when people realize or imagine that their present situation would have been better had they decided differently in the past. It is distinct from other specific emotions such as anger, disappointment, guilt, shame and general negative affect on the basis of its phenomenology and behavioral consequences. There are clear individual differences in regret proneness: Not everybody will be equally preoccupied with regulating this emotion. Regret can be experienced about decision processes (“process regret”) and decision outcomes (“outcome regret”). It can stem from decisions to act and from decisions not to act. Regret can be experienced about past (“retrospective regret”) and future (“anticipated or prospective regret”) decisions. Experienced regret has a retrospective element that informs us about the level of goal achievement and a prospective element in that it shapes our future behavior. Anticipated regret has a prospective element that signals us when decisions would be regrettable, and a retrospective element that looks backwards from the future to guide our present decisions. We have provided evidence that regret regulation strategies aim to minimize the responsibility for the decision, and to maxi-

mize the quality, justifiability, reversibility of the decision, and that they aim at suppression of regret. We speculated that the strategies chosen are the ones most accessible and instrumental for the current overarching goal. The ten broad propositions that we offered form the basis for our new theory of regret regulation 1.0. This theory should be able to explain the current findings and produce new, testable predictions concerning the regulatory processes that are associated with the anticipation and experience of regret, and several of which we offered here. It goes without saying that on the basis of the research testing these predictions, the theory will undergo necessary updates.

Regret is the prototypical decision related emotion. Other emotions can be felt in many different contexts, but regret is uniquely tied to the making of decisions: no decisions, no regret. It is perhaps for that reason that regret is so strongly linked to maximizing (Schwartz et al., 2002). Although the direct experience of regret is aversive, it may induce decision makers to undo decisions, and thereby to maximize utility (see for functional accounts of regret, Landman, 1993; Roesse, 2005; Zeelenberg 1999b). The painful experience and anticipation of regret may also lead to learning and to behavioral adaptations and thereby to avoiding future regrets. As Shefrin and Statman stated (1985), “both the unpleasant pain of regret and the pleasurable glow of pride can lead to learning. They help us to remember clearly both bad and good choices” (p. 57). Yet, over and above these long-term benefits of regret for decision-making over time, experiencing and expressing regret may also carry direct gains. In fact, although decision-makers are often reluctant to acknowledge regret at other times they may be quite willing to express regret, because of the expected immediate social gains (e.g., criminals who do not show regret can expect higher sentences, which makes expressing regrets in court both suspicious and necessary at the same time).

We have argued that a pragmatic approach to regret is needed, to understand the experience and regulation of regret. Regret bridges the past and the future in the present and the theory of regret regulation builds on this. Clearly, regret is the prototypical decision-making emotion, because it entails systematic attempts to maximize utility over time, by comparing decision processes and outcomes to what might have been, and informing the self and others about this. Regret is also an inevitable part of life’s experience, because almost any decision could have been better in hindsight, and even after having picked the right alternative, one may regret having lost the opportunity to learn about the wrong one. In fact, because it distinguishes us from other species, regret is intrinsically human. We hope that a fuller understanding of the psychology of regret and its idiosyncratic regulatory processes will lead to better insight into the psychology of decision making and the behavior of consumers. Even though these insights do not necessarily reduce the number of regrets that we have to live through, let us hope that it may help us to effectively cope with these experiences.

ACKNOWLEDGMENTS

We thank Ziv Carmon, Barry Schwartz, Norbert Schwarz, and Niels van de Ven for comments on an earlier version of this article.

REFERENCES

- Acker, M. A. (1997). Tempered regrets under total ignorance. *Theory and Decision*, 42, 207–213.
- Beattie, J., Baron, J., Hershey, J. C., & Spranca, M. D. (1994). Psychological determinants of decision attitude. *Journal of Behavioral Decision Making*, 7, 129–144.
- Bell, D. E. (1982). Regret in decision making under uncertainty. *Operations Research*, 30, 961–981.
- Bougie, R., Pieters, R., & Zeelenberg, M. (2003). Angry customers don't come back, they get back: The experience and behavioral implications of anger and dissatisfaction in services. *Journal of the Academy of Marketing Sciences*, 31, 377–391.
- Brechin, S., & Bigrigg, A. (2006). Male and female sterilisation. *Current Obstetrics & Gynaecology*, 16, 39–46.
- Brehaut, J. C., O'Connor, A. M., Wood, T. J., Hack, T. F., Siminoff, L., Gordon, E., et al. (2003). Validation of a decision regret scale. *Medical Decision Making*, 23, 281–292.
- Brehm, J. W. (1966). *A theory of psychological reactance*. New York: Academic Press.
- Cadish, B. (2001). *Damn!: Reflections on life's biggest regrets*. Kansas City: Andrew McMeel Publishing.
- Camille, N., Coricelli, G., Sallet, J., Pradat-Diehl, P., Duhamel, J. R., Sirigu, A. (2004). The involvement of the orbitofrontal cortex in the experience of regret. *Science*, 304, 1167–1170.
- Carmon, Z., & Ariely, D. (2000). Focusing on the forgone: Why value can appear so different to buyers and sellers. *Journal of Consumer Research*, 2, 360–370.
- Carmon, Z., Wertenbroch, K., & Zeelenberg, M. (2003). Option attachment: When deliberating makes choosing feel like losing. *Journal of Consumer Research*, 30, 15–29.
- Chapman, G. B., & Coups, E. J. (2006). Emotions and preventive health behavior: Worry, regret, and influenza vaccination. *Health Psychology*, 25, 82–90.
- Connolly, T., Ordóñez, L. D., & Coughlan, R. (1997). Regret and responsibility in the evaluation of decision outcomes. *Organizational Behavior and Human Decision Processes*, 70, 73–85.
- Connolly, T., & Reb, J. (2005). Regret in cancer-related decisions. *Health Psychology*, 24, S29–S34.
- Connolly, T., & Zeelenberg, M. (2002). Regret and decision making. *Current Directions in Psychological Science*, 11, 212–216.
- Cooke, A. D. J., Meyvis, T., & Schwartz, A. (2001). Avoiding future regret in purchase-timing decisions. *Journal of Consumer Research*, 27, 447–459.
- Coricelli, G., Critchley, H. D., Joffily, M., O'Doherty, J. P., Sirigu, A., & Dolan, R. J. (2005). Regret and its avoidance: A neuroimaging study of choice behavior. *Nature Neuroscience*, 8, 1255–1262.
- Creyer, E. H., & Ross Jr., W. T. (1999). The development and use of the regret experience measure. *Marketing Letters*, 10, 379–392.
- Curtis, K. M., Mohllajee, A. P., & Peterson, H. B. (2006). Regret following female sterilization at a young age: a systematic review. *Contraception*, 73, 205–210.
- Djulfbegovic, B., Hozo, I., Schwartz, A., & McMaster, K. M. (1999). Acceptable regret in medical decision making. *Medical Hypotheses*, 53, 253–259.
- Farnsworth, E. A. (1998). *Changing your mind: The law of regretted decisions*. New Haven: Yale University Press.
- Festinger, L. (1964). *Conflict, decision, and dissonance*. Stanford, CA: Stanford University Press.
- Festinger, L., & Walster, E. (1964). Post-decision regret and decision reversal. In L. Festinger (Ed.), *Conflict, decision, and dissonance* (pp. 100–112). Stanford, CA: Stanford University Press.
- Fielding, H. (2003). *Olivia Joules and the overactive imagination*. London: Picador.
- Frijda, N. H. (1986). *The emotions*. New York: Cambridge University Press.
- Frijda, N. H. (2004). Emotion and action. In A. S. R. Manstead, N. Frijda, & A. Fischer (Eds.), *Feelings and emotions: The Amsterdam symposium* (pp. 158–173). Cambridge, England: Cambridge University Press.
- Frijda, N. H. (2006). *The laws of emotion*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Gibbons, F. X., & Buunk, B. P. (1999). Individual differences in social comparison: Development and validation of a measure of social comparison orientation. *Journal of Personality and Social Psychology*, 76, 129–142.
- Gilbert, D. T., & Ebert, J. E. J. (2002). Decisions and revisions: The affective forecasting of changeable outcomes. *Journal of Personality and Social Psychology*, 82, 503–514.
- Gilovich, T., & Medvec, V. H. (1995). The experience of regret: What, when, and why. *Psychological Review*, 102, 379–395.
- Gilovich, T., Medvec, V. H., & Chen, S. (1995). Commission, omission and dissonance reduction: Coping with regret in the Monty Hall problem. *Personality and Social Psychology Bulletin*, 21, 182–190.
- Gilovich, T., Medvec, V. H., & Kahneman, D. (1998). Varieties of regret: A debate and partial resolution. *Psychological Review*, 105, 602–605.
- Gilovich, T., Wang, R. X. F., Regan, D., & Nishina, S. (2003). Regrets of action and inaction across cultures. *Journal of Cross-Cultural Psychology*, 34, 61–71.
- Goerke, M., Moller, J., & Schulz-Hardt, S. (2004). It's not my fault—But only I can change it: Counterfactual and prefactual thoughts of managers. *Journal of Applied Psychology*, 89, 279–292.
- Greenleaf, E. A. (2004). Reserves, regret, and rejoicing in open English auctions. *Journal of Consumer Research*, 31, 264–273.
- Guthrie, C. (1999). Better settle than sorry: The regret aversion theory of litigation behavior. *University of Illinois Law Review*, 1999, 43–90.
- Guttentag, R., & Ferrell, J. (2004). Reality compared with its alternatives: Age differences in judgments of regret and relief. *Developmental Psychology*, 5, 764–775.
- Harless, D. W. (1992). Actions versus prospects: The effect of problem presentation on regret. *American Economic Review*, 82, 634–649.
- Heatherton, T. F., & Polivy, J. (1991). Development and validation of a scale for measuring state self-esteem. *Journal of Personality and Social Psychology*, 60, 895–910.
- Hetts, J. J., Boninger, D. S., Armor, D. A., Gleicher, F., & Nathanson, A. (2000). The influence of anticipated counterfactual regret on behavior. *Psychology and Marketing*, 17, 345–368.
- Hoelzl, E., & Loewenstein, G. (2005). Wearing out your shoes to prevent someone else from stepping into them: Social takeover and anticipated regret in sequential decisions. *Organizational Behavior and Human Decision Processes*, 98, 15–27.
- Humberstone, I. L. (1980). You'll regret it. *Analysis*, 40, 175–176.
- Humphrey, S. J. (2004). Feedback-conditional regret theory and testing regret-aversion in risky choice. *Journal of Economic Psychology*, 25, 839–857.
- Inman, J. J., Dyer, J. S., & Jia, J. (1997). A generalized utility model of disappointment and regret effects on post-choice valuation. *Marketing Science*, 16, 97–111.
- Inman, J. J., & McAlister, L. (1994). Do coupon expiration dates affect consumer behavior? *Journal of Marketing Research*, 16, 423–428.
- Inman, J. J., & Zeelenberg, M. (1998, February). What might be: The role of potential regret in consumer choice. In L. J. Abendroth (Chair), *Regret me not: An examination of regret in pre- and post-purchase evaluations*. Symposium conducted at the SCP-Winter Conference, Austin, Texas.

- Inman, J. J., & Zeelenberg, M. (2002). Regret in repeat versus switch decisions: The attenuation role of decision justifiability. *Journal of Consumer Research*, 29, 116–128.
- Janis, I. L., & Mann, L. (1977). *Decision making*. New York: The Free Press.
- Jones, S. K., Frisch, D., Yurak, T. J., & Kim, E. (1998). Choices and opportunities: Another effect of framing on decisions. *Journal of Behavioral Decision Making*, 11, 211–226.
- Jokisaari, M. (2003). Regret appraisals, age, and subjective well-being. *Journal of Research in Personality*, 37, 487–503.
- Kahneman, D. (1995). Varieties of counterfactual thinking. In N. J. Roesch & J. M. Olson (Eds.), *What might have been: The social psychology of counterfactual thinking* (pp. 375–396). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Kahneman, D., & Miller, D. T. (1986). Norm theory: Comparing reality to its alternatives. *Psychological Review*, 93, 136–153.
- Kahneman, D., & Tversky, A. (1982). The psychology of preferences. *Scientific American*, 246, 160–173.
- Keren, G., & Bruine de Bruin, W. (2003). On the assessment of decision quality: Considerations regarding utility, conflict and accountability. In D. Hardman & L. Macchi (Eds.), *Thinking: Psychological perspectives on reasoning, judgment and decision making* (pp. 347–363). New York: Wiley.
- Kinner, R. T., & Metha, A. T. (1989). Regrets and priorities at three stages of life. *Counseling and Values*, 33, 182–93.
- Landman, J. (1993). *Regret: The persistence of the possible*. New York: Oxford University Press.
- Landman, J., Vandewater, A. A., Stewart, A. J. & Malley, J. E. (1995). Missed opportunities: Psychological ramifications of counterfactual thought in midlife women. *Journal of Adult Development*, 2, 87–97.
- Larrick, R. P. (1993). Motivational factors in decision theories: The role of self-protection. *Psychological Bulletin*, 113, 440–450.
- Larrick, R. P., & Boles, T. L. (1995). Avoiding regret in decisions with feedback: A negotiation example. *Organizational Behavior and Human Decision Processes*, 63, 87–97.
- Lecci, L., Okun, M. A., & Karoly, P. (1994). Life regrets and current goals as predictors of psychological adjustment. *Journal of Personality and Social Psychology*, 66, 731–41.
- Lee, W. (1971). The effects of expected value difference and expected regret ratio on preference strength. *American Journal of Psychology*, 84, 194–204.
- Leland, J. W. (1998). Similarity judgments in choice under uncertainty: A reinterpretation of the predictions of regret theory. *Management Science*, 44, 659–672.
- Lemon, K. N., White, T. B., & Winer, R. S. (2002). Dynamic customer relationships: Incorporating future considerations into the service retention decision. *Journal of Marketing*, 66, 1–14.
- Lerner, J. S., & Keltner, D. (2000). Beyond valence: Toward a model of emotion-specific influences on judgment and choice. *Cognition and Emotion*, 14, 473–493.
- Lin, C. H., Huang, W. H., & Zeelenberg, M. (2006). Multiple reference points in investor regret. *Journal of Economic Psychology*, 27, 781–792.
- Loomes, G., & Sugden, R. (1982). Regret theory: An alternative theory of rational choice under uncertainty. *Economic Journal*, 92, 805–824.
- Luce, R. D., & Raiffa, H. (1957) *Games and decisions*. New York: Wiley.
- Maitlis, S., & Ozcelik H., (2004). Toxic decision processes: A study of emotion and organizational decision making. *Organization Science*, 15, 375–393.
- Mellers, B. A., Schwartz, A., & Ritov, I. (1999). Emotion-based choice. *Journal of Experimental Psychology: General*, 128, 1–14.
- McCloy, R., & Byrne, R. M. J. (2002). Semifactual “even if” thinking. *Thinking & Reasoning*, 8, 41–67.
- McConnell, A. R., Niedermeier, K. E., Leibold, J. M., El-Alayli, A. G., Chin, P. P., & Kuiper, N. M. (2000). What if I find it cheaper someplace else?: Role of prefactual thinking and anticipated regret in consumer behavior. *Psychology and Marketing*, 17, 281–298.
- Nelissen, R. M. A., Dijk, A. J., & De Vries, N. H. (in press). How to turn a hawk into a dove and vice versa: Interactions between emotions and goals in a give-some dilemma game. *Journal of Experimental Social Psychology*.
- Ordóñez, L. D., Benson III, L., & Beach, L. R. (1999). Testing the compatibility test: How instructions, accountability and anticipated regret affect prechoice screening of options. *Organizational Behavior and Human Decision Processes*, 78, 63–80.
- Ordóñez, L. D., & Connolly, T. (2000). Regret and responsibility: A reply to Zeelenberg et al. (1998). *Organizational Behavior and Human Decision Processes*, 81, 132–142.
- Pieters, R., & Zeelenberg, M. (2005). On bad decisions and deciding badly: When intention-behavior inconsistency is regrettable. *Organizational Behavior and Human Decision Processes*, 97, 18–30.
- Prentice, R. A., & Koehler, J. J. (2003). A normality bias in legal decision making. *Cornell Law Review*, 88, 583–650.
- Raghunathan, R., & Pham, M. T. (1999). All negative moods are not equal: Motivational influences of anxiety and sadness on decision making. *Organizational Behavior and Human Decision Processes*, 79, 56–77.
- Ratner, R. K., & Herbst, K. C. (2005). When good decisions have bad outcomes: The impact of affect on switching behavior. *Organizational Behavior and Human Decision Processes*, 96, 23–37.
- Richard, R., Van der Pligt, J., & De Vries, N. K. (1996). Anticipated regret and time perspective: Changing sexual risk-taking behavior. *Journal of Behavioral Decision Making*, 9, 185–199.
- Ritov, I. (1996). Probability of regret: Anticipation of uncertainty resolution in choice. *Organizational Behavior and Human Decision Processes*, 66, 228–236.
- Ritov, I., & Baron, J. (1995). Outcome knowledge, regret and omission bias. *Organizational Behavior and Human Decision Processes*, 64, 119–127.
- Roesch, N. J. (1997). Counterfactual thinking. *Psychological Bulletin*, 121, 133–148.
- Roesch, N. J. (2005). *If only*. New York: Broadway Books.
- Roesch, N. J., & Summerville, A. (2005). What we regret most ... and why. *Personality and Social Psychology Bulletin*, 31, 1273–1285.
- Roseman, I. J., Wiest, C., & Swartz, T. S. (1994). Phenomenology, behaviors, and goals differentiate discrete emotions. *Journal of Personality and Social Psychology*, 67, 206–211.
- Saffrey, C., & Roesch, N. J. (2006). *Praise for regret: Positive evaluative metaperceptions of negative affective experience*. Unpublished Manuscript.
- Sage, A. P., & White, E. B. (1983). Decision and information structures in regret models of judgment and choice. *IEEE, SMC*, 13, 136–145.
- Savage, L. J. (1951). The theory of statistical decision. *Journal of the American Statistical Association*, 46, 55–67.
- Savitsky, K., Medvec, V. H., & Gilovich, T. (1997). Remembering and regretting: The Zeigarnik effect and the cognitive availability of regrettable actions and inactions. *Personality and Social Psychology Bulletin*, 23, 248–57.
- Schwartz, B., Ward, A., Monterosso, J., Lyubomirsky, S., White, K., & Lehman, D. R. (2002). Maximizing versus satisficing: Happiness is a matter of choice. *Journal of Personality and Social Psychology*, 83, 1178–1197.
- Shefrin, H., & Statman, M. (1985). The disposition to sell winners too early and ride losers too long: Theory and evidence. *Journal of Finance*, 40, 777–790.
- Shimanoff, S. B. (1984). Commonly named emotions in everyday conversations. *Perceptual and Motor Skills*, 58, 514.
- Simonson, I. (1992). The influence of anticipating regret and responsibility on purchase decisions. *Journal of Consumer Research*, 19, 105–118.
- Smith, R. H., Parrott, W. G., Diener, E., Hoyle, R. H., & Kim, S. H. (1999). Dispositional envy. *Personality and Social Psychology Bulletin*, 25, 1007–1020.
- Starmer, C., & Sugden, R. (1993). Testing for juxtaposition effects and event splitting. *Journal of Risk and Uncertainty*, 6, 235–54.

- Sugden, R. (1985). Regret, recrimination and rationality. *Theory and Decision*, 19, 77–99.
- Tangney, J. P., & Dearing, R. (2002). *Shame and guilt*. New York: Guilford.
- Taylor, K. A. (1997). A regret theory approach to assessing consumer satisfaction. *Marketing Letters*, 8, 229–238.
- Teigen, K. H. (2005). When a small difference makes a big difference: Counterfactual thinking and luck. In D. Mandel, D. Hilton, & P. Catelani (Eds.), *The psychology of counterfactual thinking* (pp. 129–146). London: Routledge.
- Thibaut, J. W., & Kelley, H. H. (1959). *The social psychology of groups*. New York: Wiley.
- Tsiros, M., & Mittal, V. (2000). Regret: A model of its antecedents and consequences in consumer decision making. *Journal of Consumer Research*, 26, 401–417.
- Tykcinski, O. E. (2001). I never had a chance: Using hindsight tactics to mitigate disappointments. *Personality and Social Psychology Bulletin*, 27, 376–382.
- Tykcinski, O. E., Pick, D., & Kedmi, D. (2002). Retroactive pessimism: A different kind of hindsight bias. *European Journal of Social Psychology*, 32, 577–588.
- Tykcinski, O. E., & Steinberg, N. (2005). Coping with disappointing outcomes: Retroactive pessimism and motivated inhibition of counterfactuals. *Journal of Experimental Social Psychology*, 41, 551–558.
- Van Dijk, E., & Zeelenberg, M. (2005). On the psychology of “if only”: Regret and the comparison between factual and counterfactual outcomes. *Organizational Behavior and Human Decision Processes*, 97, 152–160.
- Van Dijk, E., & Zeelenberg, M. (in press). When curiosity killed regret: Avoiding or seeking the unknown in decision-making under uncertainty. *Journal of Experimental Social Psychology*.
- Van Dijk, W. W., & Zeelenberg, M. (2002a). Investigating the appraisal patterns of regret and disappointment. *Motivation and Emotion*, 26, 321–331.
- Van Dijk, W. W., & Zeelenberg, M. (2002b). What do we talk about when we talk about disappointment?: Distinguishing outcome-related disappointment from person-related disappointment. *Cognition and Emotion*, 16, 787–807.
- Wrosch, C., Bauer, I., & Scheier, M. F. (2005). Regret and quality of life across the adult life span: The influence of disengagement and available future goals. *Psychology and Aging*, 20, 657–670.
- Wrosch, C., & Heckhausen, J. (2002). Perceived control of life regrets: Good for young and bad for old adults. *Psychology and Aging*, 17, 340–50.
- Zeelenberg, M. (1999a). Anticipated regret, expected feedback and behavioral decision-making. *Journal of Behavioral Decision Making*, 12, 93–106.
- Zeelenberg, M. (1999b). The use of crying over spilled milk: A note on the rationality and functionality of regret. *Philosophical Psychology*, 13, 326–340.
- Zeelenberg, M., & Beattie, J., (1997). Consequences of regret aversion: 2. Additional evidence for effects of feedback on decision making. *Organizational Behavior and Human Decision Processes*, 72, 63–78.
- Zeelenberg, M., Beattie, J., Van der Pligt, J., & De Vries, N. K. (1996). Consequences of regret aversion: Effects of expected feedback on risky decision making. *Organizational Behavior and Human Decision Processes*, 65, 148–158.
- Zeelenberg, M., Nelissen, R., & Pieters, R. (in press). Emotion, motivation and decision making: A feeling is for doing approach. In H. Plessner, C. Betsch, & T. Betsch (Eds.), *A new look on intuition in judgment and decision making*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Zeelenberg, M., & Pieters, R. (1999). Comparing service delivery to what might have been: Behavioral responses to disappointment and regret. *Journal of Service Research*, 2, 86–97.
- Zeelenberg, M., & Pieters, R. (2004a). Beyond valence in customer dissatisfaction: A review and new findings on behavioral responses to regret and disappointment in failed services. *Journal of Business Research*, 57, 445–455.
- Zeelenberg, M., & Pieters, R. (2004b). Consequences of regret aversion in real life: The case of the Dutch postcode lottery. *Organizational Behavior and Human Decision Processes*, 93, 155–168.
- Zeelenberg, M., & Pieters, R. (2006a). Feeling is for doing: A pragmatic approach to the study of emotions in economic behavior. In D. De Cremer, M. Zeelenberg, & K. Murnighan (Eds.), *Social psychology and economics* (pp. 117–137). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Zeelenberg, M., & Pieters, R. (2006b). Looking backward with an eye on the future: Propositions toward a theory of regret regulation. In L. J. Sanna & E. C. Chang (Eds.), *Judgments over time: The interplay of thoughts, feelings, and behaviors* (pp. 210–229). New York: Oxford University Press.
- Zeelenberg, M., Van den Bos, K., Van Dijk, E., & Pieters, R. (2002). The inaction effect in the psychology of regret. *Journal of Personality and Social Psychology*, 82, 314–327.
- Zeelenberg, M., Van der Pligt, J., & Manstead, A. S. R. (1998). Undoing regret on Dutch television: Apologizing for interpersonal regrets involving actions and inactions. *Personality and Social Psychology Bulletin*, 24, 1113–1119.
- Zeelenberg, M., & Van Dijk, E. (2005). On the comparative nature of regret. In D. Mandel, D. Hilton, & P. Catelani (Eds.), *The psychology of counterfactual thinking* (pp. 147–161). London: Routledge.
- Zeelenberg, M., Van Dijk, W. W., & Manstead, A. S. R. (1998). Reconsidering the relation between regret and responsibility. *Organizational Behavior and Human Decision Processes*, 74, 254–272.
- Zeelenberg, M., Van Dijk, W. W., & Manstead, A. S. R. (2000). Regret and responsibility Resolved? Evaluating Ordóñez and Connolly's (2000) conclusions. *Organizational Behavior and Human Decision Processes*, 81, 143–154.
- Zeelenberg, M., Van Dijk, W. W., Manstead, A. S. R., & Van der Pligt, J. (1998). The experience of regret and disappointment. *Cognition and Emotion*, 12, 221–230.
- Zeelenberg, M., Van Dijk, W. W., Van der Pligt, J., Manstead, A. S. R., Van Empelen, P., & Reinderman, D. (1998). Emotional reactions to the outcomes of decisions: The role of counterfactual thought in the experience of regret and disappointment. *Organizational Behavior and Human Decision Processes*, 75, 117–141.

Copyright of Journal of Consumer Psychology is the property of Lawrence Erlbaum Associates and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.