

A Theory of Regret Regulation 1.0

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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

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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

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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.
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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

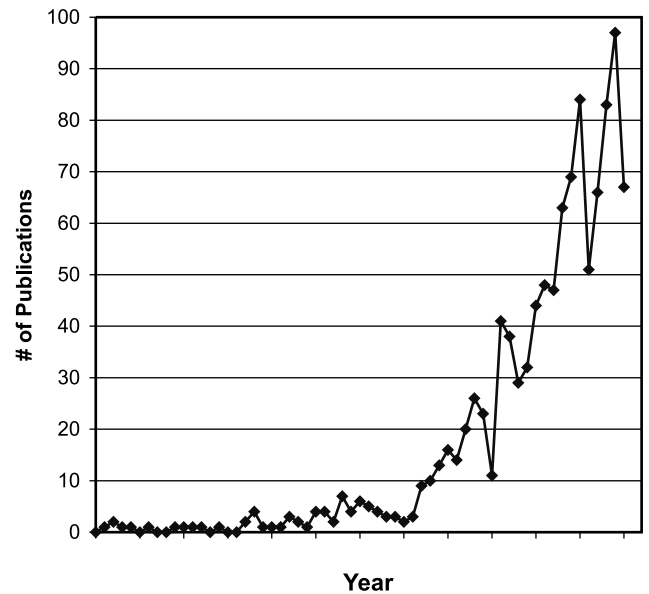


FIGURE 1 The Development of interest in Regret over Time: Number of Regret Publications per Year (from 1945–2005 based on a survey of publication databases).

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 Man 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 (Brechin & 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.

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Regret Regulation: Disentangling Self-Reproach From Learning

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This article begins with several testable propositions inspired by Zeelenberg and Pieters (this issue). I argue that a critical skill for decision makers is to decouple the aspect of regret that leads to self-reproach from that aspect that can be used to learn from the outcome and improve future decision making. Results of an illustrative study are presented and discussed. Two other useful strategies are to match the decision effort to the decision's importance and to break big decisions into smaller ones. I close with a call for research examining regret as a self-control mechanism.

When one door closes another door opens; but we so often look so long and so regretfully upon the closed door, that we do not see the ones which open for us.

Alexander Graham Bell

Make the most of your regrets; never smother your sorrow, but tend and cherish it till it comes to have a separate and integral interest. To regret deeply is to live afresh.

Henry David Thoreau

Given regret's primacy among negative emotions (e.g., Saffrey & Roesse, 2006), the lion's share of regret research is oddly relatively recent, as shown in Zeelenberg and Pieters's Figure 1 (2007). A Google search on the word *regret* yields 49.8 million hits, and Amazon lists 372 books with regret in the title, many of which are of the self-help variety (e.g., Beazley, 2004; Roesse, 2005). Thus, there appears to be substantial interest in dealing with regret. As illustrated by the opening quotation, regret can serve an adaptive role if it helps us to learn from our mistakes, but also a maladaptive role if it causes us to focus on the past. The article by Zeelenberg and Pieters in this issue is a welcome step toward consolidating the insights gleaned from the body of regret research by offering some propositions regarding steps that a decision maker might take to regulate his or her regret. In this comment, I focus on what struck me as the most promising of the propositions articulated in Zeelenberg and Pieters (2007), then discuss a few additional prospective research directions.

The authors do a commendable job of synthesizing the main findings in the regret literature. They then pose nine propositions. While Proposition 2 is somewhat tautological and Propositions 3 and 4 are largely noncontroversial, the others offer interesting directions for research. Probably the greatest benefit to me from reading the article is that it stimulated my thinking about regret and directions that might be pursued to increase our understanding of this important construct. For example, re-reading Janis and Mann's (1977) four conditions for regret brought some prospective regret regulation strategies to mind. First, since the regret is correlated with the trade-off difficulty, the decision maker should be able to mitigate regret by rationalizing why the chosen option was superior. For example, options that are chosen on the basis of a gestalt process should result in less postoutcome regret, because an attribute-level process probably makes trade-offs more salient and thereby makes the decision maker more susceptible to self-reproach. By the same logic, regulatory fit (e.g., Avnet & Higgins, 2006) should be a situational moderator of regret. When there is a fit, the decision feels right. Presumably this would attenuate postoutcome regret.

Research proposition: Engaging in a gestalt-driven decision process rather than an attribute-level comparison process decreases regret.

Research proposition: Regulatory fit moderates regret—people experiencing regulatory fit report less regret than people experiencing regulatory nonfit.

Second, Janis and Mann (1977) postulated that immediacy of feedback increases anticipatory regret. Since this suggests a "present value" of regret on decision making,

precommitment might mitigate regret by increasing the lag between the decision and the outcome and lessening the self-responsibility for the decision. Of course, this might be offset by the ensuing process regret, which creates a tension between forces that is almost always a good prescription for a fruitful research project.

Research proposition: Precommitment lessens regret when the time lag between decision and outcome or the lower self-culpability is salient, but increases it when the flaws of this process are salient.

Third, Janis and Mann (1977) argued that if the decision maker's social network views the decision as important and expects him or her to adhere to it, anticipatory regret is increased. Actually, there are two phenomena at work in this condition: the importance of the decision and the decision maker's accountability for it. Recent work on process vs. outcome accountability offers relevant prospects for regret research (e.g., Zhang & Mittal, 2005). It seems straightforward to predict that anticipatory process regret will be greater under process accountability and that anticipatory outcome regret will be greater under outcome accountability. However, it may be the case that the type of accountability causes the decision maker to focus too much on that aspect of the decision (process or outcome) and opens the door to getting blindsided by the unconsidered decision aspect. That is, by focusing on process, the decision maker may end up experiencing greater outcome regret and vice versa:

Research proposition: Process (outcome) accountability induces the decision maker to anticipate process (outcome) regret and take appropriate preemptive action. *Ceteris paribus*, greater outcome (process) regret ensues.

Finally, Janis and Mann (1977) projected that feedback uncertainty is negatively correlated with anticipatory regret. That is, if the decision maker expects to learn the outcomes, anticipatory regret occurs. It is hard to argue with this, but if the anticipatory regret does not impact the decision process or the choice, its presence may be tricky to detect. Further, in light of limitations on cognitive resources and bounded rationality (Simon, 1959), the probability of subsequently learning the outcome of the forgone alternative may not even be considered at the time of the decision.¹

Preference Uncertainty and Regret

Fischer, Jia, and Luce (2000) and Fischer Luce, and Jia (2000) discussed the notion of preference uncertainty,

wherein the decision maker is ambivalent and uncertain as to the weight to assign to each attribute of an alternative. They show that preference uncertainty influences decision time and error as a function of the discrepancy among the attributes of an alternative (their "attribute conflict hypothesis") and the extremity of the attribute values (their "attribute extremity hypothesis"). What is the role of preference uncertainty and regret? Since Fischer et al. (2000) focused on within-alternative preference uncertainty, there is ample room for others to extend their work into multiple alternatives and subsequent regret. If I am ambivalent about my preference for a large cap versus a small cap mutual fund and my colleague is not, which of us feels more postoutcome regret? I would expect that my greater preference uncertainty leads to lower regret because it allows me to chalk the outcome up to experience (i.e., learning) instead of self-reproach. Recall Alice's encounter with the Cheshire Cat:

'Would you tell me, please, which way I ought to walk from here?'

'That depends a good deal on where you want to get to,' said the Cat.

'I don't much care where—' said Alice.

'Then it doesn't matter which way you walk,' said the Cat.

'—so long as I get somewhere,' Alice added as an explanation.

'Oh, you're sure to do that,' said the Cat, 'if you only walk long enough.'

Research proposition: Preference uncertainty is negatively related to regret because the decision maker can benefit from the outcome by learning his or her preferences.

This possible link begs the question as to how preferences develop. That is, regret may assist the decision maker to learn her or his preferences. This indicates the need for longitudinal studies of regret. As far as I know, there is only one longitudinal study of regret (Pieters & Zeelenberg, 2005), who examined intention-behavior inconsistency and regret. One can easily imagine an experiment that adapts the Fischer et al. (2000) procedure to multiple alternatives and a sequence of choices with outcome feedback manipulated across trials. This vein of research offers enormous potential. For example, the extent to which preference development is impacted by regret plays a pivotal role in CRM. I offer the following speculative proposition:

Research proposition: Regret guides the development of preferences.

As the title of this article suggests, I advocate research that seeks to separate the beneficial aspects of regret from the more deleterious aspects. To the extent that it makes us a better decision maker or helps us learn, then regret can be

¹For example, we often experience an outcome and can only ask ourselves, "What was I thinking?"

beneficial. To the extent that it leads to self-reproach and its ugly stepchildren, self-doubt and self-loathing, regret is something to be avoided. Thus, before discussing some additional regret regulation strategies, I briefly discuss a study that illustrates a process for separating learning from the other aspects of regret.

Decoupling Self-Reproach and Learning: An Illustration

The core ingredient of regret is the real or imagined performance of the forgone alternative. To avoid throwing the baby out with the bathwater in regulating our regret, we need to be careful to retain the forgone outcome effects that help us make a better decision next time. Boulding, Kalra, Staelin, and Zeithaml (1993) developed a model that offers potential in decoupling self-reproach and learning effects stemming from forgone outcomes. In their dynamic model of service quality and satisfaction, they implicitly considered the impact of forgone alternatives on satisfaction by introducing the concept of *should* expectations, defined as the service level that the consumer feels she or he deserves. They argued that information about competitive service delivery reaching the consumer between service contacts is incorporated into *should* expectations, affecting the consumer's expectations regarding what should happen on the next service encounter. Boulding et al. used the notion of *will* expectations to describe expected performance of a given alternative.

I would anticipate that learning from a forgone outcome would lead to a change in *should* expectations, while self-reproach from a forgone alternative should affect satisfaction without affecting updated *should* expectations. Self-reproach from the forgone outcome could either impact satisfaction directly or be mediated by updated *will* expectations. Thus, a potentially important use of their model is to examine cases where outcome feedback affects *will* expectations, satisfaction, or behavioral intentions without influencing *should* expectations—self-reproach with no learning. It is easy to think of cases where this might occur. For example, if a person chooses to go to an auto race over going to a movie and the auto race is rained out, the person will probably not adjust her *should* expectations for auto races, but she may well even worse about her choice if she thinks about the forgone movie experience and kicks herself. Hopefully, the findings discussed here will motivate others to examine ways to decompose self-reproach and learning from forgone outcomes.

Method. Ninety-three undergraduate business students at a large midwestern university were told that the study was part of a research project on vacation preference. To illustrate a context in which self-reproach might occur without learning (i.e., no updating of *should* expectations), participants were given a scenario describing choice of a spring

break destination. The chosen destination was counterbalanced across cells such that half of the participants in each cell received a destination of Colorado and half received a destination of Florida. This was done to block on differences in prior preference for Florida versus Colorado. Actual performance for both the chosen and forgone destination was manipulated to be either favorable or unfavorable.

Immediately after reading the scenario, but before being exposed to the actual performance, participants' *will* and *should* expectations were measured, using a 100-point scale anchored by "poor enjoyment" and "excellent enjoyment." The question wording was adapted directly from that used by Boulding et al. (1993). Specifically, the *will* expectations measure was worded as follows: "What is your opinion on the level of enjoyment that Colorado (Florida) will actually provide you?" *Should* expectations were assessed via participants' response to the following question: "What is your opinion on the level of enjoyment you would consider to be reasonable, or Colorado should provide?" Following performance feedback, measures were taken of respondents' overall quality perception of their choice ranging from *very unfavorable* to *very favorable*), repeat purchase intention (ranging from *very unlikely* to *very likely*), word-of-mouth intention (ranging from *very unlikely* to *very likely*), and updated *will* and *should* expectations on 100-point scales.

Results. First, the manipulation of *will* and *should* expectations appears to have been successful. The mean *will* expectation in the positive *will* expectation condition (79.0) is higher than the mean *will* expectation in the negative *will* expectation condition (66.6) and the difference is statistically significant ($t_{91}=3.08, p << .01$). Similarly, the mean *should* expectation in the positive *should* expectation condition (80.1) is higher than the mean *should* expectation in the negative *should* expectation condition (74.8) and the difference is statistically significant ($t_{91}=2.27, p << .05$). Neither the *will* nor the *should* expectations are different across the *should* and *will* manipulation conditions, respectively.

Postchoice satisfaction was significantly higher ($t_{91}=4.78, p << .01$) when actual performance of the chosen alternative was favorable (80.9) than when it was unfavorable (63.3). Most importantly, consistent with a self-reproach effect, postchoice satisfaction was lower ($t_{91}=4.20, p << .01$) when actual performance of the forgone alternative was favorable (64.5) than when it was unfavorable (80.3). Thus, as regret theory predicts (e.g., Inman, Dyer, & Jia, 1997), postchoice satisfaction increases with expectations and positive actual performance of the chosen alternative and decreases with positive actual performance of the forgone alternative.

As already mentioned, learning effects should not occur in this context and that is the case—the effect of forgone alternative performance was not impactful on *should* expectations. The difference between updated *should* expectations

when the forgone outcome was favorable (76.2) and when it was unfavorable (78.3) was not significant ($t_{91}=0.83$, *ns*). This suggests that the outcome of the vacation not chosen had no influence on participants' updated *should* expectations for the chosen vacation destination, leaving category expectations unaffected by forgone performance (i.e., little category learning occurred). Participants did "learn" about the category via the expectations manipulation: Updated *should* expectations were greater ($t_{91}=2.42$, $p < .02$) when prior *should* expectations were higher (80.1 versus 74.3 for high and medium prior *should* expectations, respectively).

However, consistent with a self-reproach effect, updated *will* expectations were influenced by the forgone outcome, being lower ($t_{91}=2.22$, $p < .05$) when the forgone outcome was positive (68.2) than when it was negative (76.6). On the surface, this seems illogical, as the outcome of the forgone vacation destination should have little bearing on a person's expectations of future performance for the chosen destination. While participants held the line on their expectations for the category, they seem to have allowed their self-reproach to taint their future expectations for the chosen alternative.

What about the effect of forgone outcome performance on behavioral intentions? Examining the average of the repeat purchase and word-of-mouth likelihood measures ($\alpha=0.74$), neither prior *will* expectations (63.8 vs. 61.9 for medium and low prior *will* expectations, respectively, $t_{91}=0.44$, *ns*) nor prior *should* expectations (63.7 vs. 62.0 for high and medium prior *should* expectations, respectively, $t_{91}=0.39$, *ns*) had much effect on behavioral intentions. In contrast, the chosen alternative's performance did affect behavioral intentions. Specifically, behavioral intentions were much greater when the chosen alternative performed favorably (69.1 vs. 56.1 for favorable and unfavorable chosen outcome, respectively, $t_{91}=3.05$, $p < .01$). Most importantly, forgone performance also demonstrated a significant effect on behavioral intentions in the way predicted by regret theory. Behavioral intentions were lower when the forgone alternative performed favorably (57.6 vs. 68.2 for favorable and unfavorable forgone outcome, respectively, $t_{91}=2.46$, $p < .02$).

Boulding et al. (1993) offered a system of equations describing the impact of actual performance, prior *will* and prior *should* expectations on updated *should* expectations, satisfaction, and behavioral intentions. Extending this system to include forgone alternative outcome effects yields some interesting insights.² As expected, the parameter for forgone performance is not significant in the updated *should* expectations equation and there is minimal improvement in fit over a model that does not con-

sider forgone alternatives (R^2 increases from 0.61 to 0.62). Thus, as predicted by regret theory, the self-reproach from choosing one vacation destination over another, only to find out that the other choice was better, does not influence people's expectations of how a vacation destination *should* perform. Most importantly, the parameter for forgone alternative performance in the postchoice satisfaction equation is negative and significant (-9.89 , $p < .01$), and the model fit improves quite a lot (from an R^2 of 0.41 to 0.56).

Together, these findings demonstrate that forgone performance can influence postchoice valuation directly without mediation by *should* expectations. Even in instances where consumers do not update their *should* expectations (e.g., when the choice is between "noncomparable" alternatives; Corfman, 1991; Johnson, 1984) forgone performance can still influence valuation of the chosen alternative, as well as behavioral intentions. The overarching take-away from these results is that there is substantial potential for future research that decouples self-reproach effects from learning effects.

Additional Regulation Strategies

Zeelenberg and Pieters offered several suggestions of ways in which a decision maker might regulate his or her regret, broken down by whether the focus is on the decision, the alternative, or the feelings themselves. While these are all consistent with findings from the regret literature, some of them are not conducive to better decision making and some can be downright dysfunctional. These are the ones on which I focused my attention in the hope of offering some additional propositions.

Regret Regulation Strategy 1: Match decision effort to importance. Carmon, Wertenbroch, and Zeelenberg (2003) found that deliberation leads to option attachment and can generate greater postoutcome regret. Matching the decision effort to its importance is very justifiable and enables the decision maker to rationalize the choice and avoid option attachment. This advice is particularly relevant to maximizers (Schwartz et al., 2002).

Regret Regulation Strategy 2: Break big decisions into smaller ones. By breaking a decision into pieces, one can lessen trade-off difficulty and lower the perceived importance of the decision. Delaying a decision altogether may work in the short run, but will probably ultimately lead to greater regret. A great example is saving for retirement. Many people are delaying this decision, but will probably end up regretting not having begun sooner. Alternatively, breaking the decision into pieces by, say, initially contributing to a target fund and optimizing the portfolio at a later date should result in lower overall regret and lower overall decision difficulty.

²Details of the estimation and extensions of the Boulding et al. (1993) system of equations are available on request.

Regret Regulation Strategy 3: Decompose self-reproach from learning and focus on the latter. Avoiding accountability or avoiding feedback may help one regulate regret, but are probably dysfunctional strategies for improved decision making in the long term. Regret is unavoidable, but one needs to avoid being consumed by it. A small dose of self-reproach may serve to make us more attuned to doing a better job of choosing next time (the Thoreau quote), but being consumed by thoughts of things undone or done wrong can blind us to the learning opportunities of postoutcome circumspection (the Bell quote). The regret arising from postoutcome circumspection is composed of both the insights from comparing the forgone outcome to the chosen as well as the negative emotions from the perceived shortfall. The key is to take away something from the postchoice contemplation that will lead to a better decision the next time. Determining when an outcome offers a learning opportunity versus when it only offers an opportunity for self-flagellation is a skill that can and should be learned.

A Final Thought: Regret as a Self-Control Mechanism

If you have read any of the books on regret, you might have noticed that our greatest regrets do not tend to be in the consumer domain. For example, in their meta-analysis of life regrets, Roese and Summerville (2005) reported that our greatest regrets tend to stem from personal improvement decisions involving education (32%) and career (22%) and from personal relationships like romance (15%) and parenting (10%). When we think of our greatest regrets, buying the Chevy instead of the Toyota does not tend to readily come to mind. Yet most consumer oriented regret studies use contexts of this nature.

This is not to say that there is no place for regret in the study of consumer behavior. In fact, there are several very compelling domains in which consumer researchers can and should examine the role of regret. Many consumer behaviors lead to society-level impacts and regrets. For example,

- Poor financial decisions (e.g., failure to save for retirement, ballooning credit card debt)
- Deleterious consumption behavior (e.g., compulsive gambling, smoking)
- Obesity (e.g., overconsumption)
- Excessive consumption (e.g., materialism)

Interestingly, all of these are domains in which consumers' situations could be improved by increasing the consideration of regret. This is probably due to the long-term nature of the deleterious consequences manifesting themselves. Zeelenberg and Pieters's recommendations for regret regulation offer some effective ways to decrease regret, but the role of *increasing* anticipatory regret as a self-control mechanism is definitely worthy of study. In

particular, the use of anticipatory regret as a prevention tool beyond the cognition-driven generation and evaluation of potential outcomes has great potential. For example, would someone decide differently if they were asked to only think of potential positive and negative outcomes versus if they were asked to also think of how they would then feel if these occurred? I could envision extending the "How do I feel about it?" heuristic developed by (Schwarz & Clore, 1988) to a "How *will* I feel about it?" heuristic, which focuses on the postdecision feelings. Such a heuristic should aid people in avoiding the affect heuristic's tendency to ignore information about probabilities and risks. Regret research offers considerable potential for improved decision making—and a happier life.

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Regret and Behavior: Comment on Zeelenberg and Pieters

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Zeelenberg and Pieter's (2007) regret regulation theory 1.0 offers a synthesis that brings together concepts spanning numerous literatures. We have no substantive disagreement with their theory, but instead offer 3 observations to further aid regret researchers studying consumer decision making. First, the overall arch of any regret theory must be situated within an understanding of behavior regulation. Second, the distinction between regrets of action versus inaction is best understood in terms of motivational implications, particularly with regard to Higgins's (1998) distinction between promotion and prevention focus. Third, the opportunity principle offers a particularly clear means of summarizing the regulatory consequences of the regret experience. Regret is an emotion pivotal for decision making, and its cognitive underpinning has and continues to be elucidated in research focusing on counterfactual thinking.

In their regret regulation theory 1.0, Zeelenberg and Pieters (2007) offer a theoretical synthesis that brings together a range of concepts and findings spanning numerous literatures, all centering in one way or another on the construct of regret. Intriguingly, they label their theory version 1.0, thus acknowledging exciting prospects for future revision in light of the fervent research attention that the concept of regret continues to garner. Computer software is routinely labeled with such numbers, with whole versus decimal numbers signifying larger versus smaller revisions. The earliest hacker spirit of the 1960s emphasized a communal spirit, in which software code written (on paper!) on one particular day would be left in a file drawer for another programmer to improve upon the next day, a vivid embodiment of the core values of science itself (Levy, 2001). We hope that the ideas and suggestions contained in the present commentary are accepted in a similar collaborative spirit.

Zeelenberg and Pieters (2007) explicitly frame their theory as an integration of previously understood principles. They have done an admirable job of bringing together many diverse observations, and we applaud rather than dispute their main conclusions. Nevertheless, their synthesis involves substantial subjective interpretation, necessitated by the embryonic state of the literature. In the remainder of this commentary, we emphasize three theoretical points that

our own subjective interpretation deems essential to an understanding of regret in its consumer decision-making context.

BEHAVIOR REGULATION VERSUS REGRET REGULATION

People regulate their regrets, as they regulate all of their emotions. True though this may be, to focus on regret regulation is to miss the larger theoretical picture. Regret regulation is secondary to behavior regulation, which refers to the ongoing management of effective daily behavior. Emotion is merely a signal, one of many inputs into the regulatory loop governing single and sequential actions that together ensure survival and success (Roese, Sanna, & Galinsky, 2005; Roese & Sherman, *in press*). Consumers are certainly motivated to avoid regret, but this is simply a byproduct of their more basic desire to avoid bad products and poor service. Consumers reverse their prior decisions not to eliminate regret so much as to attain better outcomes. People regulate regret *in order* to regulate behavior.

Does this render the title of Zeelenberg and Pieter's (2007) theory a misnomer? Not entirely. Like any negative emotional state, individuals are motivated to reduce regret, and this observation explains a wide range of findings. Yet placing this observation within the larger perspective of behavior regulation clarifies broader patterns which may be especially useful to researchers in consumer decision making. Our next two comments exemplify this prospect.

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MOTIVATIONAL IMPLICATIONS OF THE ACTION-INACTION DISTINCTION: REGULATORY FOCUS

To do or not to do, that is the question of Zeelenberg and Pieter's (2007) Proposition 7. Much research has examined the distinction between regrets of action versus inaction. In a nutshell, people may kick themselves for doing something (buying stock in Enron just before it tanked) or not doing something (missing out on buying stock in Google before it took off). The earliest research asked the question of which kind of regret predominates (answer: it depends); later research specified moderator variables (e.g., temporal perspective, decision justifiability). Such research assumes that the functional consequences (i.e., processes of subsequent regulatory activity) are equivalent for regrets of action versus action, hence the question is simply which combination of situational variables serve to intensify regret per se.

Importantly, however, these two kinds of regret do appear to differ qualitatively in terms of their motivational implications. Regrets of action tend to center on avoidance, whereas regrets of inaction tend to center on approach. This connection may be phrased in terms of Higgin's (1998) theory of regulatory focus, which has recently been applied fruitfully to diverse topics in consumer psychology (e.g., Dholakia, Gopinath, Bagozzi, & Natarajan, in press; Jain, Agrawal, & Maheswaran, in press; Keller, in press). In these terms, we may differentiate between promotion failure (e.g., not being able to attain a desired product or situation) versus prevention failure (e.g., not being able to bypass an undesirable product or situation). Lee and Aaker (2004) showed that advertising is more persuasive if it is framed so as to match the situationally varying regulatory focus of the perceiver. Advertising keyed to "acquiring great looks and exceptional engineering" is more effective when the audience is in a promotion focus, whereas advertising that emphasizes "getting stranded by not having the emergency road and safety kit" (p. 205) is more effective when the audience is in a prevention focus.

Regrets of inaction are more likely to be activated when the individual has suffered a promotion failure, but regrets of action are more likely when the individual has suffered a prevention failure (Pennington & Roese, 2003a; Roese, Hur, & Pennington, 1999; Roese et al., 2006). In large part this pattern stems from a simple matching of normative expectancies. People tend to see positive outcomes as a result of their deliberate acts, hence failing to reach a desired positive state creates a regret focusing on specific acts or decisions that should have been taken to have achieved that positive state. By contrast, people tend to look at an accident (or other prevention failures) in terms of avoiding them by deleting an inappropriate decision or action. Promotion and prevention focus may themselves elicit regrets of inaction and action, respectively. Moreover, a focus on the distant (as opposed to recent) past or future

tends to involve both an emphasis not only on regrets of inaction (as opposed to action), but also on promotion failures or promotion goals in general (as opposed to prevention goals; Pennington & Roese, 2003b; see also Burrus & Roese, in press).

That the action-inaction regret distinction holds distinct motivational implications opens many doors to new research in consumer psychology. Two possibilities seem evident. First, knowing that consumers are sometimes dissatisfied, advertising might be framed in terms of promotion or prevention concerns so as to match, and assuage, the predominant form of regret involved with the particular product in question. Second, advertising might actually emphasize regret of either action or inaction, then recommend specific actions geared to either eagerness (i.e., promotion) or vigilance (i.e., prevention).

FROM REGRET TO BEHAVIOR: THE OPPORTUNITY PRINCIPLE

What comes of regret? Under Proposition 10, Zeelenberg and Pieters (2007) argue that the consequences of regret fall into three main categories, centering on decision, alternatives, or feelings. These categories are certainly sensible in that they capture the variation in content of past research efforts. But they do little to suggest any higher order principle that systematizes distinct functional principles. We suggest that another distinction, itself borrowed from prior theory, does a better job of illuminating the consequences not only of regret but of any negative emotional experience. It will be obvious that this recommendation is a further instantiation of the idea that behavior regulation, and not regret or emotion regulation per se, is the primary regulatory enterprise of human brains.

When people experience threat, either physical or psychological, they can respond in two different ways (Roese & Olson, in press). One is *behavioral*: The individual directly acts on the threat to reduce or avoid it (e.g., runs away from a predator; reverses a questionable decision; searches for a new romantic partner). The other is *cognitive*: The individual mentally reconstrues the circumstances so as to put it in a better light (e.g., deflects blame from the self; derogates a rejected option; thinks optimistically about the future). These two categories have been distinguished in a variety of literatures; for example, stress researchers labeled them *problem-focused coping* versus *emotion-focused coping* (e.g., Lazarus & Folkman, 1984); in the literature on attitudinal responses to threatening persuasive appeals, they have been labeled *danger-control* and *fear-control* (e.g., Leventhal, 1970). Gilbert and Ebert (2002) suggested a temporal ordering, such that behavioral remediation is the default: "When suboptimal outcomes threaten a person's satisfaction, the first line of defense is to change the outcome, and it is only when such efforts

prove futile that ... the person's subjective experience [is actively modified]" (p. 504).

Within Zeelenberg and Pieter's (2007) list of regret consequences, only one is behavioral: undo or reverse decision. We argue that this is the primary, pivotal, and default response. Buy a different product next time. Educate yourself about product lines and feature options. Expose your mind to more (or less!) information relevant to the decision. Don't go to that restaurant anymore. The behavioral response is about acting to improve the current circumstance in an ongoing manner. We argue that regret serves primarily as a motivational kick toward further action and future betterment, one that is largely implicit, or hidden from conscious recognition (Roese, 2005). All the remaining regret consequences outlined by Zeelenberg and Pieters—justify decision, deny responsibility, reappraise alternatives, psychological repair work, and regret suppression—are simply instances of cognitive reconstrual. In a different era, all would have been bundled under the heading of cognitive dissonance reduction.

When is the behavioral versus cognitive response more likely? The *opportunity principle* (Roese & Summerville, 2005) describes the surprising notion that regrets are more intense when opportunities exist for further action, or more specifically, for further rectification of current problems. Where opportunity is denied, or where problematic circumstances are inevitable, cognitive reconstrual (dissonance reduction) is activated to minimize the regret experience (i.e., to make the individual feel better). Accordingly, regret persists in precisely those situations in which opportunity for positive action remains high. Consistent with our main point that regret regulation subserves behavior regulation, regret itself spurs further corrective action. Regret motivates people toward revised decision making and corrective action that often bring improvement in life circumstances (Nasco & March, 1999; Roese, 1997, 1999; Zeelenberg & Pieters, 1999).

Roese and Summerville (2005) were the first to stitch together the diverse strands of previous work that had supported the opportunity principle, yet which had never before been glimpsed as part of the same underlying concept (see pp. 1274–1275). Some of that prior research centered on regret specifically, some on counterfactual thinking, and some on disappointment or negative affect more generally. This principle helps to settle a huge question: When does regret occur? Regret theorists want to believe that regret is an inevitable consequence of the act of deciding, yet the cognitive dissonance tradition suggested that regret is often absent, because it has been actively quashed. More recent research shows that the positive aspects of the chosen option are better remembered than the negative aspects, with the reverse characterizing unchosen options (Mather, Shafir, & Johnson, 2000, 2003). Roese and Summerville argued that the opportunity principle helps finally to reconcile regret theory with

dissonance theory, by pointing out the circumstances under which each prevails.

CODA: REGRET OR COUNTERFACTUAL?

Zeelenberg and Pieters (2007) echoed previous theorists in defining regret as a *counterfactual emotion*. We conclude by noting the false division between regret and counterfactual, as constructs but also as literatures. Some theorists believe that these terms reference affect and cognition, respectively, but in an important essay, Sabini and Silver (2005) pointed out the inherent ambiguity in theorizing on the basis of self-reports rooted to lay emotion. If regret is defined for research subjects during an experiment, this definition cannot but look very much like the definition of upward, self-focused counterfactual thinking (e.g., "to what extent do you wish that your decision had been different so that you could have obtained a better outcome?"). If both regret and counterfactual are measured via the lens of verbal self-report, their operational distinction is necessarily and unavoidably blurred.

We raise this point only because several of our own theoretical observations derived from a balanced appraisal of research reports with titles mentioning both regret as well as counterfactual thinking. The primacy of behavior regulation, for example, was recognized in earlier theory on the functional basis of counterfactual thinking (Roese, 1994, 1999, 2000, 2005; Roese & Olson, 1997; Roese et al., 2005). Regulatory focus theory was initially connected to counterfactuals (Roese et al., 1999), but subsequent research used self-reports in which "regret" was explicitly named to subjects, with precisely the same result (Roese et al., 2006, Study 2). Finally, the initial glimmer of the opportunity principle appeared in a study of counterfactual thoughts evoked by gambling outcomes (Markman, Gavanski, Sherman, & McMullen, 1993), yet the same principle was evident in studies of action-inaction regrets (Gilovich & Medvec, 1994), and in a new experiment that focused on participants' biggest regrets in life (Roese & Summerville, 2005, Study 2b). As such, we urge researchers studying regret in consumer contexts to consult the published literature with searches using both regret and counterfactual as separate keywords (Roese, 2000).

To conclude, Zeelenberg and Pieters (2007) have done the study of consumer decision making an enormous service by pulling together diverse conceptual strands into their regret regulation theory version 1.0. They have done a remarkable job and we have no substantive quibbles with their interpretation of the meaning of past findings. We do believe, however, that the overall arc of any regret theory must be situated within an understanding of behavior regulation. Regret, like all emotion, is a regulatory signal feeding into the management of effective ongoing behavior.

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A Theory of Regret Regulation 1.1

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We use this opportunity to respond to the issues raised by Inman (2007), and Roese, Summerville, and Fessel (2007) by addressing four broad topics that embrace the most important comments on our regret regulation theory. These topics are the feeling-is-for-doing approach on which regret regulation theory rests, the importance of emotion specificity, factors that modulate the intensity of regret, and the focus on action, inaction and choice in the elicitation of regret. Together this results in a first update, version 1.1.

I don't have nothing to regret at all in the past, except that I might've unintentionally hurt somebody else or something.

Jimi Hendrix

Regret regulation theory is in its nascent stage and all help to make it blossom is welcomed. We are grateful for the assistance by Inman (2007), and Roese, Summerville, and Fessel (2007) to the further development of regret regulation theory, and for the opportunity provided by the guest editor of the *Journal of Consumer Psychology* to specify and extend some aspects of the theory in this response. Inman and Roese et al. offer various specific suggestions for further theorizing and for more empirical work, each with their own merits that need little additional elaboration. They also share more general themes, which connect and disconnect with our own thinking at several points and these we would like to address here. Specifically, we emphasize the feeling-is-for-doing approach on which the theory rests, the importance of emotion specificity, factors that modulate the intensity of regret, and the focus on action, inaction and choice in the elicitation of regret.

FEELING-IS-FOR-DOING

Proposition 1 of regret regulation theory states: “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.” Thus, the focus is on regu-

lating regret during goal pursuit. Inman (2007, p. 19) advocates “... research that seeks to separate the beneficial aspects of regret from the more deleterious aspects. To the extent that it makes us a better decision maker or helps us learn, then regret can be beneficial.” We fully concur with this idea, point out that it is a central tenet of the proposed regret regulation theory, and are glad that Inman agrees. Recall that proposition 1 emphasized the *aversive* character of the experience of regret, and the regret-specific tendencies to *correct* past mistakes and *learn* to prevent future mistakes. Therefore, we distinguished (see Table 2) between regret regulation strategies in order to manage current regret, such as “psychological repair work” (II. 1a), and regulation strategies to prevent future regret, such as “increasing decision quality” (I. 1a, a result of learning). Beyond these two broad classes of strategies, we suggested more specific ones to emphasize the adaptive nature of regret in goal pursuit. Related to this issue, Roese et al. (2007, p. 35) mention: “Regret regulation is secondary to behavior regulation, which refers to the ongoing management of effective daily behavior.” Let us examine these suggestions in more detail, because they both refer to the role of emotion in goal pursuit, and the entity that is regulated.

First, of course we agree that next to its well-being implications, the relevance of regret, as of the other emotions, resides in its behavioral implications, and have advocated a feeling-is-for-doing approach to emotion theory to emphasize this (Zeelenberg, Nelissen, & Pieters, in press; Zeelenberg & Pieters, 2006a). Based on accounts of the functionality of emotions and the philosophy of pragmatism, the feeling-is-for-doing approach contends that (a) the emotional system is the primary motivational system for goal-directed behavior, (b) each specific emotion serves distinct motivational functions in goal pursuit, which are (c) rooted in their experiential qualities. Thus, the specific emotion felt in a situation indicates a particular significant challenge and

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prioritizes behavior that deals with this challenge. Because different challenges require different solutions, different specific emotions produce different specific behaviors.

Second, the issue then becomes what is regulated during goal pursuit, and at this point our viewpoint differs from Roesse et al.'s (2007). We rely on control theory accounts of human functioning, such as Carver and Scheier's (1998) work, and the well-known heating system metaphor (Pieters, 1993), to address this.

Imagine a heating system with a furnace, a thermostat, and some mechanism that allows the thermostat to affect the state of the furnace ("on" or "off"). It's snowing outside, and the thermostat is set at 60 degrees F. The furnace is on for long periods of time. Then, it shuts off briefly, and switches on again, in some pattern over time. (p. 18)

Here, the thermostat setting is the goal (reference value), the signal that the thermostat gives when the discrepancy between its setting and the room temperature is too high is the emotion, and the on-off pattern of the furnace is the observable behavior. What is this system trying to regulate? Is it "regulating" the behavior of the furnace or the temperature in the room? To answer this, let us examine the implications of environmental disturbances.

Someone opens a window in the room where the thermostat is. The system responds by keeping the furnace on for longer periods of time, and keeping it off for shorter periods of time, in order to maintain the room temperature.

Within the system's working range of allowable environmental disturbances, one can predict the room temperature if one knows the thermostat setting, but one cannot predict the on-off "behavior" pattern of the furnace, and in fact if the system would "mind" it would not mind about the latter. In a similar vein, we believe that consumers do not regulate their behaviors, but rely on their emotions-as-information about goal outcomes and progress, and these latter are regulated. Because the goal setting process (who sets the thermostat and at what level) is neither part of the original heating system nor of regret regulation theory 1.0 (but see our amendments below) we had little to say about this. Consumers regulate their emotions in the service of their goals, and emit behaviors to increase, decrease, or maintain these emotions as information about goal outcomes and progress. To the extent that consumer's goals are sufficiently aligned with specific emotions, consumers can rely on regulating them in goal pursuit. This is consistent with developments in theories of affect-as-information (Schwarz, 2001), appraisals as response tendencies of emotion (Lerner & Keltner, 2000), and mood and emotion regulation (Gross, 1998; Larsen, 2000).

Third, with emotion being the regulated entity and behavior a central component in the system, the next issue is

which specific activities consumers engage in to manage their current and future regrets, because their degrees of freedom are usually higher than those of the furnace, and what the effects of engaging in these activities is. To aide future empirical work and to emphasize the role of the behavioral implications of regret, we offered an initial classification of two main regret regulation strategies each with three subclasses, and further specific strategies in each, for a total of fourteen, based on previous empirical and theoretical work. An obvious and often used classification would be one in terms of problem-focused and emotion-focused coping (Folkman & Lazarus, 1980). However, we agree with Lazarus (1996) that: "although it is tempting to classify any coping thought or act as either problem-focused or emotion-focused, in reality any coping thought or act can serve both or perhaps many other functions" (p. 293). We believe that our classification allows more sophistication in hypothesis testing and future theory development on regret regulation (see also Skinner, Edge, Altman, & Sherwood, 2003). We devoted part of the article to describing these fourteen strategies in some detail. Certainly, our classification is incomplete. Inman (2007) proposed three additional regret regulation strategies beyond these 14, namely (a) match decision effort to importance, (b) break big decisions into smaller ones, and (c) decompose self-reproach from learning and focus on the latter. These suggestions are useful, and fit the original proposal, because the first and second are specific examples of increasing decision quality (managing future regret 1a), and the third is an example of psychological repair work (managing current regret 3a), to identify silver linings, such as that one has learned from the regretted decision. We chose for a parsimonious and broad classification rather than for a more detailed listing that might eventually approach the 200-plus general mood regulatory strategies that Parkinson, Totterdell, Briner, and Reynolds (1996) identified using interview and survey methods, but the desire for parsimony may have come at a price.

Goal-Focused Regulation

When clarifying the origins of regret regulation theory 1.0 in control theories of human functioning, we realized to have omitted a general emotion-regulation strategy, which is relevant to regret regulation as well, and that we could have known this. Originally, we distinguished decision-focused, alternative-focused, and feeling-focused strategies to prevent future regret and manage current regret. However, in a goal-action-emotion system, an obvious-albeit not necessarily easy-mood regulation strategy is to adapt the goal level. Thus, one way to manage current regret about the decision to invest in option A that gained 6% in financial value, whereas the non-chosen option B gained 10% in financial value, is to be satisfied with 6%, and future regrets can be managed similarly. We have now included this goal-focused strategy "decrease the goal level" in the new table

of regret regulation strategies, in Table 2, and we return to it below. The empirical results that Inman (2007) reports indicate that upon experiencing regret about a holiday decision, consumers did not update their should-expectations, as reflections of the desired goal levels. Future empirical work may test the conditions upon which such goal updating will occur, for instance when the discrepancy between actual and forgone outcomes is large, important, salient, and when the goal level was uncertain.

The goal-focused regulation strategy is related to that of bracing for loss, in which people expect the worst in order to preclude potential negative emotions (Shepperd, Findley-Klein, Kwavnick, Walker, & Perez, 2000; Van Dijk, Zeelenberg, & Van der Pligt, 2003). The difference between the two is that bracing for loss deals with the expectation or probability that a negative outcome occurs, while the strategy that we describe here deals with the evaluated negativity of the outcome.

Alternative-Focused Regulation

Beyond the goal-focused strategy that we propose here, there will most likely be other strategies to be discovered in regret regulation research, and adding these to our proposed regret regulation classification is important. For instance, recently BülBül and Meyvis (2006) proposed that under certain conditions, consumers may either restrict their choice set to reduce the opportunity for counterfactuals, and thus to minimize future regrets, or may enlarge them or keep their options open. Here, we speculate that invoking such a coping strategy to reduce or enlarge the choice set, now added in our classification (Table 2), will depend among others on the distance to the decision in time, with distal decisions most likely inducing choice set enlargement and proximal decisions most likely leading to choice set restriction, and future research may test this prediction.

An essential avenue for future regret regulation research at this point is to identify the conditions upon which consumers—and which consumers prefer and enact certain regret regulation strategies over others, and what the implications of these strategies are for short-term and long-term well-being and outcome maximization. Roese et al. (2007) quote research suggesting that decision-focused strategies generally take precedence over feeling-focused strategies, in dealing with dissatisfaction about past behavior. Future research may examine if this also holds when undoing the decision is more difficult than focusing on the silver lining of having learned one's preferences better, or when consumers' self-esteem is low or the goal level was uncertain.

Previously, we presented data showing that dispositional tendencies to maximize one's outcomes, and to compare with others systematically contribute to regret (Zeelenberg & Pieters, 2006b). It seems reasonable to expect that upon experiencing regret about a past decision consumers who maximize are also most likely to try preventing future regret

by increasing decision quality (I. 1a) or ensuring decision reversibility (I. 3a), rather than by psychological repair work (II. 4a). However, to the extent that attempts to increase decision quality lead to examining more alternatives, the likelihood that at least one of the alternatives outperforms the chosen one and the room for counterfactual thinking increase as well, and this will intensify regret. And decision reversibility is known to enhance rather than reduce regret. If this “maximize-regret-maximize cycle” would indeed be generally operative, attempts to maximize one's outcomes would almost inescapably lead to future regret, notwithstanding better objective outcomes (see also, Schwartz et al., 2002). This makes it even more pertinent to establish which factors determine consumers' choice for specific regret regulation strategies, and to what extent these strategies actually maximize outcomes and/or minimize regret in the short and long run.

REGRET SPECIFICITY

Proposition 3 states: “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.” In other words, it is regret that we talk about when we talk about regret, not general negative affect, other specific emotions, or appraisal dimensions, experiential qualities or behavioral consequences that regret shares with other emotions. Thus, we beg to disagree with Inman (2007) and Roese et al. (2007) on what the nature of regret is, and what has been measured in previous research.

Inman (2007) offers empirical evidence that the value of forgone alternatives influences behavioral intentions over and above a general measure of affect towards the chosen alternative, termed postchoice valuation. Whereas the discrepancy between actual and forgone outcomes may feed into regret, and act as an appraisal dimension of regret, the value of the forgone alternatives or their discrepancy with actual outcomes itself is not a measure of regret, although it is interpreted as such. Even if consumers would *not* regret their past decision (and we do not know whether they did from the data), for instance because they could *not* have known that the nonchosen would turn out to be better, and even if they did not hold themselves responsible (which we also do not know), they would still most likely chose the higher valued option if given a second chance. Although the discrepancy between actual and forgone alternatives predicted switching intentions, regret was not measured nor does it seem to be a necessary construct to predict the results.

Roese et al. (2007, p. 35) note “... the false distinction between regret and counterfactual, as constructs but also as literatures,” and argue that “If regret is defined for research subjects during an experiment, this definition cannot but

look very much like the definition of upward, self-focused counterfactual thinking (e.g., “to what extent do you wish that your decision had been different so that you could have obtained a better outcome?”).” This reasoning (also equates regret with one of its cognitive antecedents, fails to appreciate that this antecedent is not a sufficient condition and thus that it may lead to different specific emotions, that the correlation between an appraisal and a specific emotion is usually less than unity, that emotions are the proximal cause of behavior not the appraisals that gave rise to them. That is, the counterfactual “to what extent do you wish that your decision had been different so that you could have obtained a better outcome?” may lead to the emotions regret, guilt and shame, all being counterfactual emotions (Mandel, 2003; Niedenthal, Tangney, & Gavanski, 1994), but each with different behavioral consequences. Different than regret, guilt and shame originate in social relationships and their behavioral correlates are also best understood in these contexts. One wants to make up for the wrongdoing and to undertake actions to minimize the damage caused in the case of guilt, and to hide or withdraw from the situation in the case of shame (Tangney, Miller, Flicker, & Barlow, 1996). Likewise, disappointment and regret, two closely related emotions that both are associated with upward counterfactuals (Zeelenberg et al., 1998), have different behavioral effects, with negative word-of-mouth being more prominent in the former, and switching in the latter, and these effects come over and above the influence of general satisfaction/dissatisfaction (Zeelenberg & Pieters, 2004a).

In view of the importance of emotion specificity, it is ill advice to equate them all, as in “Opportunity breeds regret. Feelings of dissatisfaction and disappointment are stronger where the chances for corrective reaction are clearest” (Roese & Summerville 2005, p. 1274). Moreover, once

specific emotions that consumers experience are taken into account, the appraisals that led to them usually have little additional explanatory power for behavior, whereas the reverse is usually not the case. Not only can appraisals not be taken as the natural indicators of the emotions that they may lead to because emotions may share appraisals, closely related specific emotions can also not be interchanged because of their distinct behavioral implications.

REGRET INTENSITY

The original version of the theory specified the antecedents of regret *elicitation*, for instance in proposition 2 and 3, but was silent on factors that influence regret *intensity*, once it is elicited, and this lapse is undone here (see Table 1). We propose:

Proposition 9: The intensity of regret is contingent on the ease of comparing actual with counterfactual decision processes and outcomes, and the importance, salience and reversibility of the discrepancy.

It goes without saying that once regret has been elicited—when consumers realize or imagine that their present situation would have been better had they decided differently—the experience is likely to be more intense the larger the discrepancy between actual and forgone outcomes is, although the correlation need not be unity. This is in accordance with the intensity of disappointment being a function of the negative discrepancy between expected and actual outcomes (Van Dijk, Zeelenberg, & Van der Pligt, 1999).

Likewise, the more important the discrepancy between actual and forgone outcomes is, is the deeper the regret will be felt: compare a forgone 100 dollars in an investment

TABLE 1
Propositions in Regret Regulation Theory 1.1

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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 processes (“process regret”) and decision outcomes (“outcome regret”).
 9. The intensity of regret is contingent on the ease of comparing actual with counterfactual decision processes and outcomes, and the importance, salience and reversibility of the discrepancy.
 10. Regret aversion is distinct from risk aversion, and they jointly and independently influence behavioral decisions.
 11. Regret regulation strategies are goal-, decision-, alternative-, or feeling-focused and implemented based on their accessibility and their instrumentality to the current overarching goal.
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TABLE 2
Regret Regulation Strategies

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

decision for an undergraduate student or for Calvin Cordozar Broadus (the multimillionaire known as Snoop Dogg). Likewise, the more salient the forgone outcomes are, the more intense regret will be, like when the shining cars and house-extensions of the neighbors keep the memory fresh that they all won the Postcode Lottery and that you decided not to play but know that you would have won as well, if only you would have played (Zeelenberg & Pieters, 2004b). In addition, the easier it is to generate counterfactuals, the more intense regret is likely to be, once it is elicited, although Roesse and Summerville (2005, study set 3) did not find empirical support for this.

The extent to which decisions that have gone awry are reversible is another factor that may enhance the intensity of regret, once it is elicited, and we thank Roesse et al. (2007) for pointing this out. This regret-intensity effect of decision reversibility most likely stems from reversibility's feeding counterfactual thinking. In support of this, Gilbert and Ebert (2002) recently found that people prefer reversible decisions to irreversible ones to prevent future regret, but that the irreversible decisions resulted in more satisfaction, and, although they did not directly measure this, most likely reduced regret as well. However, decision reversibility or "opportunity" to change the original decision does *not* help

"to settle a huge question: When does regret occur?" because it is not a necessary condition for regret elicitation. Imagine three friends who decide to start the Microsoft Company, and one dropping out to return to his job as a marketing professor. Although the decision to leave the company cannot be reversed, does the professor experience no regret? Consider also the experience of the following person, whose decision is terminally irreversible.

But Dad? I should have told him how much I love and respect him before he was on his death bed. I should have told him that he was a great Dad. I wish I would have told him that I loved the bike he gave me for Christmas when I was 7 and the puppy he gave me. I wish I had told him that he was my example of a MAN.

The opportunity to reverse a decision may deepen or prolong regret once it is elicited, but irreversible decisions that lead to large and easily made discrepancies between what is and could have been that are important and salient may be as important and perhaps much more so.

FOCUS ON ACTIONS, INACTIONS, AND CHOICES

Proposition 7 says that regret can stem from decisions to act and from decisions not to act: The more justifiable the decision, the less regret. The proposition expresses that when gone awry, there is nothing intrinsic in the decision to act or not to act that determines which one is regretted most, but that the crucial determinant is the justifiability of the decision. Roesse et al. (2007), in contrast, argue that regrets of action and inaction are fundamentally different because the former are intrinsically related to promotion failures and the latter to prevention failures. Inman (2007), in a related fashion, proposes that regulatory fit should be a key situational moderator of regret. Thus, the issue is what is special about the distinction between actions and inactions, and whether they are qualitatively different and intrinsically related to promotion versus prevention failure, as directions of regulatory focus, which we address in three related parts.

First, in view of the interest in consumer and decision research on brand and other multiple-alternative choice, the emphasis in the regret literature on action versus inaction regrets, almost at the expense of other decisions, is somewhat surprising. In reality, consumers often choose between Progresso and Heinz tomato soup, between a MIT and Cornell education, between a Sprint and Verizon cell-phone service, where choosing the strawberry jam (action) implies forgoing the lemon marmalade (inaction). In such choices between alternatives both action and inaction are implicated, and choosing one means not choosing the other.

Interestingly, Jones, Frisch, Yurak, and Kim (1998) in the field of behavioral decision research, studied the prevalence

of multiple-alternative choice decisions and what they referred to as “opportunities” (p. 213).

A choice is defined as a decision in which an individual explicitly considers two or more alternative courses of action and must choose between them (e.g. Should I move to New York or stay in Chicago?). In contrast, an opportunity is defined as a situation in which an individual decides whether or not to pursue a single option that is presented to him or her (e.g. Should I move to New York City?).

Opportunity decisions are the ones that are mostly studied under the action inaction heading. Jones et al. (1998) found that opportunity decisions make up 63% of the decisions reported by their participants, while 37% were viewed as multiple-alternative choice decisions.

To examine whether “choice” is an important regret category, we re-analyzed the data published by Hattiangadi, Medvec and Gilovich (1995) on the life regrets of people, for the present article. These authors content analysed the responses to the question “Now, looking back over your whole life, what choices would you make differently if you had the opportunity to live it again,” provided by 720 people (with over-average intelligence, and average age of 74 years) into 341 specific mentions of regret in 55 regret categories. We had the descriptions of the 55 regret categories, as they appeared in the original article, typed on separate cards. Twenty trained judges (9 males, 11 females) categorized the 54 regrets into one of three specific categories and into an “other” category. Description of the first category was: “This is regretted because the person has *not* done something that s/he had rather done” Description of the second category was: “This is regretted because the person has done something that s/he had rather *not* done.” The third description read: “This is regretted because the person feels to have made the wrong choice between the available alternatives.” Interrater reliability for the twenty judges across the 54 categories was good ($\alpha = .86$), and specific regrets were assigned to their modal category. Of the 341 mentions of regret, 48% concerned inaction (in 28 specific regrets), 18% concerned action (in 11 specific regrets), 27% of the regrets covered “wrong choices,” (in 8 specific regrets) and 8% concerned “other” (in 7 specific regrets).

Examples of choice regrets were as follows: I should have studied different subjects in college, different major, chosen a different mate, a different college, reared children differently, different kind of education. The crucial condition for regret to occur is feeling responsible for a bad decision that cannot be justified, as Proposition 7 specifies.

Second, many action and inaction decisions can be framed to be either one of both. Was Bill Gates’s dropping out of Harvard a decision to devote all the time to Microsoft (action) or a decision to not finish school (inaction)? And does he regret, if anything, his decision to not finish or to

not dropout sooner? Because action and inaction are to some extent interchangeable, the more interesting question is when consumers frame decisions gone awry as either actions and inactions, and how this framing influences their ensuing regret regulation strategies.

Third and building on the previous points, the intrinsic association between inaction and promotion, and between action and prevention, promoted by Roese et al. (2007), is difficult to hold in view of the fact that it is easy to come up with counterexamples. For instance, at the time of writing this article, the car of one of the authors broke down and it needed costly repairing. He suffered big inaction regret, for not preventing this breakdown by having the official Renault dealer servicing the car. “If only I had the Renault dealer service the car, this would not have happened,” was the thought. Some time before this, the other author decided to place most of his life savings into a Robeco investment fund at Rabobank, in order to promote maximizing the return on it, despite newspaper information that the market was about to change. One month after the action, the stock market dropped about 20% and it has not fully recovered yet, nor has the author.

Surely, in practice action regrets and prevention failures and inaction regrets and promotion failures may be naturally correlated in the sense that they often co-occur in daily life. But in view of the fact that many regrets may be better categorized as “choice” regrets, that action and inaction regrets can be re-framed in each other, and that promotion-action and prevention-inaction regrets can be fluently generated, the qualitative difference between prevention-action regrets and promotion-inaction regrets, as defended by Roese et al. (2007), seems questionable. Of course, the moderating effect of regulatory focus on the relationship between anticipated and experienced regret and specific regret regulation strategies of consumers is a fruitful area for future research. Such research may test, for example, when consumers who are confronted with two brands are eager to choose the best, or not to choose the worst, and when they are vigilant to prevent not choosing the best, or choosing the worst, and it may explore the influence of these four anticipated regrets on the regret regulation strategies that we proposed.

CONCLUSION

Regret regulation theory is grounded in the notion that feeling-is-for-doing, and that regret is a decision-based aversive emotion that people are motivated to regulate in order to maximize outcomes in the short term and learn maximizing them in the long run. The theory is specific to the antecedents, experience and consequences of regret, and not to those of negative affect in general, other distinct, aversive emotions, or counterfactual thinking. Thus, regret is different from post-choice valuation, and its behavioral implications cannot simply be inferred from the value of forgone alternatives. In

fact, emotions with the same valence can have qualitatively different behavioral consequences, and it would be unwise in view of this knowledge to resort to general evaluative constructs. Similarly, regret like the other specific emotions differs from its appraisal dimensions, and there are various other distinct emotions beyond regret that stem from upward counterfactual thinking, such as disappointment, envy, anger, guilt and shame. Moreover, there are many counterfactual thoughts that are unrelated to regret. It would thus, we believe, be a move backward to equate counterfactual thoughts with the emotion of regret. This, again, accentuates the need to be specific about the emotion of regret, its antecedents, experiential content and consequences.

Regret regulation theory 1.1 owes much to Inman (2007) and Roese, Summerville, Fessel (2007), for which we are grateful. The discussion allowed us to clarify the distinction between conditions that influence the elicitation of regret, the crucial one being decision justifiability, and conditions that influence the intensity of regret once it has been elicited, such as the size, salience and importance of the discrepancy between actual and counterfactual outcomes, and decision reversibility, and we added a new proposition 9 to the original theory to acknowledge. In addition, through the whole process of formulating our ideas and updating them on the basis of the comments and suggestions, our thinking about regret regulation has been deepened and sharpened, and many ideas for future research sprouted. Clearly something we also do not regret.

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