Regret and regret regulation across the lifespan

By Pär Bjälkebring

Everyone has felt it, some more often than others, and for some people it even becomes part of a pathological pattern. But what is regret and what makes it such a complex emotion? According to Cononlly and Zeelenberg (2002), regret is a decision-related emotion that is experienced when a chosen outcome is, or is believed to be, worse than a non-chosen alternative. Regret, thus relies on mentally simulating various alternative outcomes. Such cognitive activities also require deliberative capacity, and in this sense, regret can be seen as a higher-order cognitive emotion (Russell, 2003). For example, whether or not the outcome was compared with alternative outcomes is a powerful determinant of emotional reactions to the outcome of a decision (Boninger, Gleicher, & Strathman, 1994; Gleicher et al., 1990; Kahneman & Miller, 1986). This counterfactual thinking refers to the mental simulation of comparing the present state with other possible, but unattained states (i.e. comparing what you have now with what you could have had) Roese, 1997). Counterfactual thoughts are common in everyday experience and may exert a substantial influence on both emotion and decision-making (McMullen, 1997). Research on outcome evaluation has shown that participants feel more strongly about an alternative if counterfactual alternatives are salient (Gleicher et al., 1990). Landman (1993) makes an additional distinction between counterfactuals that improve reality (i.e. thinking about how things could have been better), and counterfactuals that worsen reality (i.e. thinking about how things could have been worse). Regret is formed by the counterfactuals that improve reality, as regret is a negative emotion experienced when the present is compared to a better counterfactual reality (Roese, 1997; Dijk & Zeelenberg, 2005). This means that regret is closely connected to cognition because to feel regret, one must, in ones mind's eye, simulate a world in which something else (better) happened. It is this comparison between the current and simulated reality that creates regret.

As we know, regret is an emotion that is painful, which is why people plan their behavior in such ways that they, if possible, avoid future regret (Zeelenberg, 1999a). This incorporates an additional complex layer to an already complex emotion. To avoid future

regret, the future can be mentally simulated in the present (anticipated), without the actual emotional experience (Loewenstein, Weber, Hsee, & Welch, 2001). This means that people do simulate a future where they simulate a better reality. For example, John feels like he need to study because if he doesn't study today he will regret that on the day of the test four weeks in the future. Studies have shown that the experience and anticipation of regret is linked to important real-life decisions (Zeelenberg, 1999b), and the behavioral consequences of regret include both risk aversion and risk taking, decision avoidance, and non-optimal decision making (Anderson, 2003; Zeelenberg & Pieters, 2007). Moreover, enduring negative emotions like regret may have a negative impact on psychological and physical health (Fredrickson, 2001). Thus, understanding how we experience and manage regret is a significant aspect for a better understanding of decision making in general.

Regret, however painful and horrible to experience, has several different functions (Peters, Västfjäll, Gärling, & Slovic, 2006; Zeelenberg, 1999b). All emotions can be helpful in providing crucial information about the state of a person's interactions with the world, as well as speeding response time in life-threatening situations (Frijda, 1986). Regret is theorized to be especially informative because people learn from their mistakes and can change their behavior based on experienced or anticipated emotions (Zeelenberg & Pieters, 2007). In this way, regret is useful to us and can help us correct our mistakes and become better people. In their 2008 study, Saffrey, Summerville, and Roese showed that participants valued regret experiences above other negative emotions because of the functional characteristics of regret. However, intense regret, like any strong emotional experience, needs to be managed if we are to function optimally (Gross, 2008).

Many studies have investigated the determinants of experienced and anticipated regret in laboratory contexts (for an overview see, Zeelenberg, 1999a). Typically, these studies ask participants to play monetary gambles with feedback given about the non-chosen outcome, or ask participants to imagine how they would react to various scenarios (such as just missing an airplane departure vs. missing the airplane with a wide margin). In contrast, less research has addressed the prevention and management of regret (i.e. regret regulation in everyday life, Zeelenberg & Pieters, 2007). Furthermore, previous research is, to a large extent, solely based on results from younger participants (university students). To date, relatively little is known about how and if the experience and anticipation of regret changes over the lifespan (Västfjäll, Peters, & Bjälkebring, 2011). These days, older adults are expected to make numerous everyday decisions with varying degrees of importance. Identifying factors that may differentially influence the regret towards

decisions across the adult lifespan is important and can help us to better understand how decisions are made and influenced at various ages (Peters, Hess, Västfjäll, & Auman, 2007).

Previous research suggests that older and younger adults may differ in their experience, anticipation, and regulation of regret partly because the opportunity to overcome regret declines with age. This is illustrated by the research of Wrosch and Heckhausen (2002), as well as Wrosch, Bauer, and Scheier (2005). In their studies, participants were asked to report activities that they regretted not having pursued during their lives and to indicate the amount of personal control they had over the situation at the time. They found that both the experience and regulation of regret differed between younger and older adults. When younger adults reported that they had personal control (internal control) over the regretted activity, it was associated with active attempts to change the regrettable behavior, and hence reduced regret as well as rumination. In contrast, for older adults, internal attributions were instead associated with more intense regrets. As a consequence, older adults actively attributed control to an external agent in a self-protective manner, thereby attenuating their regrets. This means that people who feel like they have time to change their decisions want to have control over the decision, because then there is a possibility of changing what happened into something better. However, people who feel like they do not have time to change their decisions do not want to have control because if they have control, they feel as though the negative outcome was their fault and now there is no time to change it. These findings suggest that regret experience and regulation may be systematically linked to age-related changes.

So how does age change how we experience regrets? First it is important to divide regrets into two categories. The first category, life regrets, are the things we regret about our life more in general, such as not spending more time with ones children (Wrosch & Heckhausen, 2002). The second category, decision regret, is regret toward a specific decision, such as not going to that party yesterday. However, the line between these types of regrets is not clear cut, and decision regrets can easily turn out to be life regrets, for example not going to ones children's school play may turn into the life regret of not spending more time with one's children.

The feeling of not having the time or possibility to undo life regrets are more prevalent in older age, that increases the feeling of regret and hence older adults feel more life regrets. Not only does chronological age minimize the time to undo the consequences of a certain decision, but as we age, changes occur in both the emotional and cognitive systems that influence the experience, anticipation and regulation of regret (Västfjäll et al., 2011).

This means that we use strategies to minimize the impact of regret. One of these strategies is to undo the decision or decisions that caused regret and thus stop feeling regret. For example, thinking 'next week I will start spending more time with my children', might help mitigate that regret. As you grow older, the chances to undo regret become fewer and hence this strategy stops working. Your children might have moved away or other things that happened might make you feel that it is too late to do anything about it. However, in addition to undoing the regret, there are other ways of mitigating regret. Many of these strategies work for both life regrets and decision regrets. Research on younger adults has shown that the consequences of experienced regret and the possibility of future regrets are managed by a number of systematic strategies that work together to mitigate regret (Morrison & Roese, 2011; Västfjäll et al., 2011 Zeelenberg & Pieters, 2007). Zeelenberg and Pieters (2007) summarized these strategies into three categories: decision-focused, alternative-focused and feeling-focused prevention and management. Strategies used to prevent future regret include, avoiding feedback about non-chosen outcomes (i.e. when buying a new TV one might avoid looking at sale ads because it would cause regret to see the TV one just bought being sold at a cheaper price), deliberately anticipating regret (i.e. thinking 'ok it doesn't matter which TV I buy I know I will feel regret later') and delaying the decision (i.e. 'I will wait to buy the TV because it might go on sale later and I will have time to look around more'). Strategies used to mitigate experienced regret include justification (i.e. 'ok I bought the TV and one week later it was on sale, however I did really need a new TV right then and there to watch the Eurovision Song Contest'), reversal of the decision (i.e. 'I'm going to return the TV and get the cheaper TV'), and suppression (i.e. actively suppressing the regret when it becomes salient). Several controlled laboratory studies have found that these strategies (or experimental manipulations designed to mimic the strategy) reduced regret (Silvers et al., 2012; Zeelenberg, 1999a). While it is believed that regret is a frequently experienced emotion in everyday life (Connolly & Zeelenberg, 2002), few studies have adequately sampled everyday regret experiences outside of the laboratory; for an exception see Morrison and Roese (2011). In their study, regret experiences were collected from a representative American sample, with the specific instruction to "report one salient regret" and to rate the eliciting conditions of this salient regret. They found that regret more often focused on unfixable than on fixable situations. This suggests that as we grow older regret increases, as more situations feel unfixable. Other recent research has examined the determinants of the decay of naturalistic regrets in daily life (Summerville, 2011). These studies identify some of the determinants of the experience of

regret, such as control and reversibility of the decision.

However, as mentioned earlier, there are age-differential effects in how emotion regulation strategies work (John & Lang, 2012). It is unclear if the effectiveness of regret regulation strategies that are known to be effective for younger adults can be generalized to the rest of the population, and especially to older adults. There is evidence that suggests that there are systematic differences in how younger and older adults regulate regret (Wrosch et al., 2005; Västfjäll et al., 2011). However, recent research has shown that emotion regulation in fact increases with age, and that older adults are often very skilled in regulating emotion (Charles & Carstensen, 2007; Gross, 2008; Magai, 2008). Bjälkebring, Vastfjäll, & Johansson (2013) used a dairy method in which participants wrote down decisions made and decisions thought about, as well as the regret felt about the decisions and strategies used to mitigate regret. Their results showed that older participants used more regret regulation strategies than younger adults. Older adults also anticipated and experienced less regret than younger adults did. This suggests that the lower level of regret in older adults is a consequence of a more frequent or more effective use of regret regulation strategies (Shiota & Levenson, 2009). The older participants in this study used reappraisal more often than younger adults, which has been shown to be one of the most efficient strategies in regulating regret (Goldin, McRae, Ramel, & Gross, 2008). Moreover, older participants more often delayed the decision, which lead to less regret. One possible explanation for this is that delaying the decision gives one more time to be sure. Finally, older participants more often expected to feel regret, which in turn lowered the intensity of the regret. This might sound counter-intuitive, but expecting regret makes one more prepared to handle regret if it occurs, and can hence lower regret. These differences in use of regulation strategies cannot fully account for the age differences in decision regret in this study. In addition to using regret regulation strategies, there are several other explanations that could explain why older adults anticipate less regret. One explanation is a simple projection of current feelings into the future. If older adults experience less regret, they would likely forecast experiencing less regret as well. Another possibility is that older adults can draw on their experience (i.e. "wisdom") to a larger extent and therefore make more realistic predictions about future regret. In support of this interpretation, Nielsen, Knutson, and Carstensen (2008) found that older adults were more correct in their affective forecasts than younger adults. It seems like older adults are better at anticipating all emotions, and can therefore prepare and modify their behaviors to minimize the impact of future negative emotions. In contrast, younger participants are less prepared

for the emotional outcome and will therefore be hit harder by eventual negative emotions such as regret.

In sum, age differences in regret are partially dependent on whether or not the regret is a life regret or a decision regret. Older participants have higher levels of life regret but lower levels of decision regrets. The higher levels of life regrets seen in older adults comes from the fact that older adults feels like they do not have time to correct what they regret about their life, while younger adults feel like they have time to correct the things they regret about their life. When it comes to decision related regret, the regrets people feel on a day-to-day basis, older participants feel less of these, while younger participants feel more. This is due to that older adults use more functioning strategies to handle their day-to-day regret. For example, older adults more often reappraise their mistakes than younger adults. Older adults hence look at their failures and say, 'ok that didn't turn out the way I wanted but at least I learned something from it'. As we age, perhaps we learn how to handle the small failures of life, however, at the same time we realize that the time is running out to fix the big ones.

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