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Coping with Life Regrets across the Adult Lifespan

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Summary. – This chapter describes the nature of regret experiences and considers the potential functional and dysfunctional aspects of regret. This chapter further addresses the well-documented relationship between life regrets and quality of life outcomes (e.g. emotional well-being and physical health) across the adult lifespan, highlighting the stronger effect of regret on older as opposed to young adults' quality of life. To address how people can cope with regret experiences in a way that can buffer against its negative well-being and health effects, research is presented on the link between regret-related self-regulation processes and quality of life outcomes. The adaptive value of using primary control strategies (aimed at undoing regrets) versus secondary control strategies (aimed at changing internal appraisals of regrets) for regulating regret is discussed from a lifespan developmental perspective. The chapter also discusses the role of opportunities to undo regrets in explaining age-differential associations between regrets, self-regulation processes, and quality of life outcomes. Finally, limitations of the presented research are discussed, future directions are suggested, and clinical implications are addressed.

What would have happened if... I had not married my partner, I had made a different career choice, I had not asked him out, I had not reconciled with my mother before she passed away, I had applied for the job I didn't think I could get, I had studied harder for the exam? The capacity for counterfactual thinking forms the basis for the experience of regret and involves a comparison process between "what is" and "what could have been" (Kahneman & Miller, 1986; Roese, 1997; Van Dijk, & Zeelenberg, 2005). To experience regret, people must be able to imagine alternative realities that do not currently exist, to make a comparison

between these alternative possibilities and their present life scenario, and to evaluate the outcome of their actual choices and decisions against other outcomes that could have been. In this process, people may begin to wish they could have made different choices or decisions, or pursued different courses of action that could have produced different circumstances when they still had the chance. In brief, regret arises when people begin to contemplate how things could have been different and better, if only...

While cognitive processes related to counterfactual thinking underlie the experience of regret, regret is simultaneously characterized by a negative emotional response that can vary in intensity. The work of Gilovich, Medvec & Kahneman (1998) has shown that regret is associated with a variety of emotions such as anger, irritability, embarrassment, helplessness, desperation, and sorrow that can be classified into two broad categories of hot and despair-related emotions. Thus, the experience of regret may best be conceptualized as a counterfactual emotion, capturing both its cognitive and emotional dimensions (Kahneman & Miller, 1986; Roese, 1997; Zeelenberg *et al.*, 1998).

From the example that started the chapter, it is apparent that regret is a heterogeneous construct that can take on different shapes and forms. People can have regrets about things they have done (commission) or left undone (omission) in the recent past or distant future. Regrets can also be induced by small decisions or daily behaviors as well as by major decisions related to significant developmental tasks, milestones, and life transitions. By extension, regrets can have varied effects on a person's quality of life, producing consequences that are mild and temporary to those that can affect the course of one's life.

Research has found that approximately 90% of people report having a life regret (Landman, 1987; Wrosch, Bauer, & Scheier, 2005), thus suggesting that this is a commonplace phenomenon that people can confront or grapple with on a daily basis. In addition to documenting its' commonplace nature, research on regret has further attempted to elucidate the specific content of people's major life regrets as well as how regrets change over the course of the lifespan and depending of the specific characteristics of the individuals who experience them.

Research finds that people's most severe life regrets are often associated with major developmental domains such as work, education, and family (e.g., Gilovich & Medvec, 1995; Jokisaari, 2004; Roese & Summerville, 2005; Wrosch & Heckhausen, 2002). A meta-analytic review of the regret literature further documented that people's top regrets cluster in domains related to education, career, romance, parenting, self-improvement, and leisure (Roese & Summerville, 2005). These domains are central to the lives of most people and the decisions that people make in these areas may therefore have widespread and lasting consequences. While regrets tend to center around the above-mentioned life domains, research shows

that the content of regrets may vary depending on a person's gender and age. Specifically, it was found that regrets in the domains of family and relationships were more frequent among women than among men. In addition, young adults (19-29 years) were more likely than older age groups to identify regrets in the domains of leisure and relationships, while middle-aged (30-54 years) and older adults (55-82 years) were more likely than young adults to list regrets related to work and family (Jokisaari, 2004). This suggests that the domains of people's regrets can shift to reflect the content of age-graded developmental tasks and gender-specific concerns.

Early research also suggested that people are more likely to experience regrets over things they have done (regrets of commission) than those they failed to do (regrets of omission) (Gilovich & Medvec, 1995), although this finding has been debated in the literature. Later research qualified the finding that actions produce more regret than inactions by showing that there is a temporal pattern to the experience of regret. Specifically, it was suggested that regrets of commission were associated with more distress in the short-term, while regrets over paths not taken and actions foregone (regrets of omission) intensified and became more painful as time elapsed (Gilovich & Medvec, 1994).

To account for this differential pattern to the experience of regret, it was proposed that cognitive and motivational processes become activated over time and allow people to rationalize that regretted actions were associated with positive outcomes such as learning or growing from the experience, thereby alleviating regrets of action. Alternatively, different psychological processes become activated to bolster the sting of regrets of omission. For example, people often outgrow or overcome inhibitions that once prevented them from achieving goals or taking on challenges, and they become aware of the possibilities and opportunities they could have fulfilled had they not limited themselves in the past. In addition, given that the consequences of missed opportunities remain forever elusive, it is easier to envision idealized scenarios of how things could have turned out better (Gilovich & Medvec, 1995).

A recent debate in the regret literature has addressed the role of opportunities in the experience of regrets. On the one hand, the "future opportunity" principle argues that regrets are more likely to arise in domains that are associated with many opportunities for goal attainment (Roese & Summerville, 2005). The fact that many regrets are related to the domain of education was cited as support for this proposition, given that education is accessible to most individuals in modern industrialized societies. The presumed greater frequency of regrets in a high-opportunity domain such as education was also used to bolster the argument for the motivational function of regret. In this respect, it was suggested that the function of regret in domains of high-opportunity could be to motivate people to

take advantage of these opportunities and effect adaptive changes aimed at goal attainment. From a different perspective, the “lost opportunity” principle purports that the loss of opportunities that were once plentiful but that have since waned gives rise to the experience of regret (Beike, Markman, & Karadogan, 2009). In this case, it may be the awareness that one narrowly missed out on the things that could have been so easily within reach and that could have transformed the course of one’s life for the better that bolsters the sting of regret. Thus, it may be the loss of opportunities that were once taken for granted that breeds regret over time.

Taken together, these findings suggest that regret is a heterogeneous construct and that the experience of regret can be shaped by many factors. Against this backdrop, the remainder of this chapter will examine some positive and negative aspects of regret experiences mostly as they occur in real-world settings in response to past decisions or as a result of personal actions or inactions, often at critical developmental transitions or in important life domains. Specifically, this chapter will discuss the link between real world life regrets that are reported and experienced by people across the adult lifespan and quality of life outcomes related to emotional well-being and physical health. In addition, this chapter will address how people cope with severe life regrets, how and why coping strategies may change across the adult lifespan, and how different regret-management strategies can predict quality of life outcomes over time.

THE UPSIDE OF REGRET: THE POSITIVE FUNCTIONS OF REGRET

While the concept of regret most often conjures negative connotations and sentiments, the assumption that regret is experienced as aversive and that it is associated with consequences that are exclusively negative has not gone unchallenged (e.g., Saffrey, Summerville, & Roesse, 2008). In fact, regret may serve as a powerful catalyst for change (e.g., Roesse & Summerville, 2005; Zeelenberg, 1999), and the benefits that stem from its motivational function may thus offset or counterbalance its negative consequences.

A recent investigation showed that lay conceptions of regret were mostly positive as opposed to negative and that people appraised regret as the most beneficial of 12 negative emotions across several dimensions (Saffrey *et al.*, 2008). For example, in contrast to other negative emotions, participants were more likely to report that regret helped them to make sense of past experiences, to implement corrective actions aimed at redressing regretted circumstances, to avoid creating situations that might exacerbate or contribute to additional regret, and to preserve social harmony. This suggests that regret holds a privileged place in people’s emo-

tional repertoire and that people can find value in its experience. Importantly, beyond the potential personal benefits associated with regret, this emotion may serve an important social function by motivating adaptive social behaviors to prevent regret or eliminate it once a social transgression has been committed.

While people's subjective experience of regret may be more favorable than previously expected, is regret associated with any concrete benefits that would justify its' privileged status among other negative emotions? Presumably, like other negative emotions, regret is likely a part of our emotional repertoire for good reasons. For example, the functional basis of regret could be rooted in its motivational function. In this respect, regret might arise if people realize they did not make sufficient progress with respect to important goals, experience significant losses or failures they could have prevented, hurt others or are rejected or abandoned by them as a result of their transgressions, or if they experience negative consequences as a result of their behaviors, misbehaviors, or lack of appropriate actions. By the same token, regret may serve as a catalyst for subsequent actions aimed at correcting or changing these situations for the better. In this respect, regret could push people to rectify their mistakes, amend bad behaviors, and spring into action when they are falling short of important goals (e.g., Landman, 1993; Roese, 1997; Roese & Summerville, 2005; Stewart & Vandewater, 1999; Zeelenberg & Pieters, 2007; Zeelenberg, 1999). Put simply, feeling bad, or regretful, may serve as an important impetus for adaptive actions that might not occur otherwise.

THE DOWNSIDE OF REGRET: CONSEQUENCES FOR QUALITY OF LIFE ACROSS THE ADULT LIFESPAN

While the previous discussion emphasized the functional aspects of regret experiences, regret is most commonly associated with dysfunctional aspects. Given the commonplace nature of regret among people across the lifespan, people may be misled into underestimating the true extent of its negative consequences on quality of life and dismiss it as a trivial or benign psychological phenomenon. To the contrary, research suggests that life regrets can have a powerful negative influence on individuals' emotional well-being and physical health if they are not regulated effectively.

Early evidence in support of the deleterious effects of life regrets found that regrets compromised psychological adjustment by way of reducing life satisfaction and increasing susceptibility to depressive symptoms (Lecci, Okun, & Karoly, 1994), as well as by promoting rumination (Savitsky, Medvec, & Gilovich, 1997; Wrosch & Heckhausen, 2002). A recent study conducted among a large nationally

representative sample of adults (18 and older) confirmed that the general tendency to experience regret was associated with general distress, anhedonic depression, and anxious arousal. In addition, regret was associated with higher levels of general distress, particularly among people with a tendency toward repetitive thought. This suggests that the tendency to dwell repetitively on negative experiences such as regret can exacerbate the adverse effects of regret on well-being (Roese *et al.*, 2009). In fact, it was suggested that beneficial versus problematic regrets may be distinguished on the basis of whether they are associated with repetitive thinking. The findings linking regrets with poor quality of life outcomes thus suggest that people may be better off accepting their current life circumstances than contemplating imagined scenarios of how life could have turned out differently.

While anyone who experiences intense regret may suffer from the negative emotional consequences it may engender, there is considerable evidence suggesting that regrets can be more pernicious for the quality of life of older adults (e.g., Wrosch *et al.*, 2005). This effect has been attributed to a steep reduction in opportunities to undo undesirable life circumstances as people advance in age, including those associated with regrets (Heckhausen, 1999; Wrosch *et al.*, 2005). For example, age-graded constraints associated with a reduced lifespan, a smaller social network, limited finances, declining physical health, and limited mobility could compromise opportunities to undo regrets in late adulthood. The resulting permanence of regretted undesirable life circumstances may thus take a greater psychological toll among older adults and negatively affect their well-being and physical health.

In support of the stronger negative effect of regret on older adults' quality of life, early research found that the sheer number of regrets contributed to lower levels of life satisfaction only among older (but not young) adults (Lecci *et al.*, 1994). Later research built on these findings by showing that higher levels of regret intensity were associated with more depressive symptoms and health problems, particularly among older as opposed to young adults (Wrosch *et al.*, 2005). While this research established the link between regrets and quality of life outcomes, the limitations associated with the cross-sectional nature of this research and the inclusion of self-reported measures of physical health spurred additional longitudinal research that could address the causal direction of these associations and establish a link with more objective indicators of physical health.

The effect of regrets on older adults' health was further confirmed in a study examining the link between intense regret experiences and a health-relevant biological process involving diurnal cortisol secretion (Wrosch, Bauer, Miller, & Lupien, 2007). Cortisol is a hormone that is secreted in response to stress and it has been conceptualized as a gateway by which psychological stress translates into physical health problems (Kiecolt-Glaser, Mcguire, Robles, & Glaser, 2002; Miller & Wro-

sch, 2007; Segerstrom & Miller, 2004; Wrosch *et al.*, 2007). Dysregulated cortisol levels could therefore compromise the immune system, and further contribute to a downward spiral leading to negative health outcomes. Research examining the health effects of regrets among a sample of older adults found that intense life regrets were associated with cortisol dysregulation, as well as with higher levels of acute physical symptoms. Together, these findings suggest that the construct of life regrets represents a psychological phenomenon that is powerful enough to compromise not only the psychological well-being but also the physical health of older adults.

Collectively, the presented findings suggest that despite its potential personal and social benefits, regret can have profound consequences on a person's life, setting in motion a downward cycle linking regret, psychological distress, and physical illness. Older adults appear to be particularly susceptible to these adverse effects given that opportunities to address regretted actions and inactions become increasingly scarce due to age-related constraints. Thus, to forestall this downward spiral and avoid regret-related consequences, young and older adults alike may benefit from coping strategies aimed at effectively managing the experience of regret.

SELF-REGULATION OF REGRET VIA PRIMARY AND SECONDARY CONTROL PROCESSES

Given the potential deleterious consequences of regret on quality of life, research has focused on uncovering strategies that people rely on to mitigate its' adverse consequences for quality of life across the adult lifespan. While most people may not be able to interrupt or shut off automatic cognitive processes that give rise to the experience of regret, how people deal with, or think about, their regrets once these are activated may be key to preventing downstream consequences for quality of life.

Indeed, people have a remarkable capacity to adapt to changing and adverse life circumstances and are equipped with a wide repertoire of psychological defense mechanisms that can be activated in response to negative life events in order to alleviate the intensity of the associated emotions. In the case of regret, people may try to actively undo or reverse the decision or action that contributed to the regret in the first place, attempt to justify their choice or course of action, deny personal responsibility for the behavior or decision, think about the negative aspects and consequences of other counterfactual scenarios, deny or suppress regret experiences, or engage in psychological repair work that could diminish the sting of the regret even if it could no longer be undone (Zeelenberg & Pieters, 2007).

These various examples of strategies that people can rely on to manage the experience of regret can be classified into two broad and overarching categories: primary and secondary control strategies (Heckhausen & Schulz, 1995). Primary control processes are generally aimed at undoing the regret via active attempts at reversing the decision or by enacting corrective actions to remove the source of the regret. For example, a person who regrets marrying their partner may decide to terminate the relationship and find a more satisfying and fulfilling partnership. Similarly, a person who is dissatisfied with their work may decide to change their career path and return to school to learn new skills.

While adaptive life changes may represent the most effective method of eliminating regret, removing the source of one's regret may not always be feasible as a result of limiting personal and external factors. For example, a precarious financial situation may not allow a person to abandon their current work in order to find a better employment opportunity. In a similar vein, a person who regrets a strained relationship with a family member may not be able to make amends if this relative has since passed. In such circumstances, people may nevertheless regulate regret via secondary control processes for example by reappraising its' meaning and significance, downplaying its' impact on their lives, blaming the regretted situation on external factors that were beyond their control rather than taking personal responsibility, focusing on the things they can still attain as a way to compensate for the regret, and thinking about how other people are worse off than they are, even in spite of their regret. In brief, people can change how they think about their regret in a way that may render it more trivial, manageable, and bearable.

Based on the lifespan theory of control (Heckhausen & Schulz, 1995; Schulz & Heckhausen, 1996), the adaptive value of primary and secondary control processes should depend on the availability of opportunities to overcome difficult life events or psychological stressors such as regret. If opportunities are plentiful, primary control processes aimed at goal attainment and persistence with regret-related goal pursuits should be adaptive, and help people to take advantage of the available opportunities to undo the regret. If opportunities are dismal however, investing effort into undoing regretted circumstances could be misguided and bring about additional failure and disappointment. In this case, a person would likely benefit from secondary control processes such as goal adjustment and self-protection that could reduce the threat to a person's emotional well-being and sense of self-esteem and further facilitate the pursuit of other purposeful activities (Wrosch, Scheier, Carver, & Schulz, 2003).

In light of the fact that the adaptive utility of primary and secondary control processes is contingent on the level of available opportunities to overcome difficult or regretted events, it is important to consider that opportunities undergo a sharp decline from young to late adulthood (e.g., Heckhausen & Schulz, 1995; Wrosch

et al., 2005). This suggests that primary control strategies may be particularly well-suited to help young adults take action to eliminate the source of their regrets while secondary control processes could buffer older adults against the adverse effects of regrets on their emotional well-being and physical health. Indeed, there is evidence in support of the greater reliance on, and benefits of, primary control processes in young adulthood and secondary control processes in late adulthood when people confront challenging physical and psychological stressors, including regret (e.g., Heckhausen, Wrosch, & Fleeson, 2001; Heckhausen & Schulz, 1995; Wrosch *et al.*, 2005; Wrosch & Heckhausen, 1999).

SELF-REGULATION OF REGRET ACROSS THE ADULT LIFESPAN: EMPIRICAL EVIDENCE

In this section, empirical evidence is presented in support of the adaptive utility of control processes that are tailored to age-graded opportunities for addressing life regrets across the adult lifespan.

Midlife is a developmental period that can mark an important transition from high to low opportunities for the attainment of certain goals such as those related to one's career. How people negotiate this transition and manage career-related regrets at this developmental stage may thus determine the extent of regret-related consequences on their lives. Indeed, research found that early midlife career-related regrets motivated some women to set goals to remedy those regrets. Importantly, women who had regrets and did not make the desired regret-related career changes reported more depression and anxiety, enhanced levels of rumination, and lower levels of physical health in midlife in comparison to the women who implemented these changes. These findings speak to the benefits of exercising primary control by transforming regrets into adaptive life changes before reaching the critical transition at which opportunities undergo a sharp and often irreversible decline (Stewart & Vandewater, 1999).

Another study examined the effect of self-protective processes related to internal control attributions on regret intensity and intrusive thoughts in young and late adulthood (Wrosch & Heckhausen, 2002). It was found that high levels of internal control attributions were associated with low levels of regret intensity and intrusive thoughts among young adults, and with higher levels of regret intensity and intrusive thoughts among older adults. This suggests that taking responsibility for regrets may benefit young adults, as this can motivate adaptive goal-directed behaviors aimed at taking advantage of available opportunities to overcome regrets. On the other hand, self-blame in the absence of opportunities to undo regrets may

be harmful to older adults who may no longer be able to transform their regrets despite their best efforts. In this case, assigning blame for the regret to external factors or circumstances may help displace responsibility and avoid self-blame, thereby reducing the sting of regret and the associated consequences.

Building on this line of work, Wrosch *et al.* (2005) further examined the protective role of goal adjustment processes related to goal disengagement and the availability of future goals on the quality of life of young and older adults who reported a severe life regret. In line with the previously reported findings, the capacity to withdraw effort and psychological commitment from undoing regrets and the availability of future goals buffered against declines in well-being and physical health only among older, but not younger, adults (Wrosch *et al.*, 2005). This confirms that older adults are more likely than young adults to derive benefits from goal adjustment processes in the face of regrets they can hardly undo.

Beyond the protective roles of control attributions and goal adjustment processes, research has shown that the types of social comparisons people make when they size up their regrets against those of others can intensify or alleviate regret and its' associated consequences. In this respect, comparing one's regret with those of others who have regrets that are less severe (upward social comparisons) may exacerbate regret intensity while comparing one's regret with those of others who have more severe regrets (downward social comparisons) may dampen it (Wills, 1981).

A study examining self-reported life regrets across the adult lifespan tested the hypothesis that older adults would be more inclined to rely on, and to benefit from, downward social comparisons due to reduced opportunities to undo their regrets. It was found that downward social comparisons with different comparison targets were consistently associated with a longitudinal reduction in regret intensity among older (but not young) adults. In addition, older adults experienced a greater reduction in regret intensity over time in comparison to young adults and this was due to older adults' greater tendency to activate regret-related downward social comparison processes over time (Bauer, Wrosch, & Jobin, 2008). This suggests that older adults adapt to their limited opportunities to address regrets via primary control by increasing their reliance on secondary control processes, and they reap the benefits of this adaptation process.

It should be noted that the research on the age-differential benefits involving primary and secondary control processes reviewed thus far has used age as a proxy for opportunities, thereby making it difficult to determine whether the obtained effects were due to age, opportunities, or both. In addition, in these studies, only partial support was found for the role of opportunities in these age-differential effects on quality of life outcomes. This leaves open the possibility that opportunities may become compromised at any point in the lifespan as a result of unexpected

or adverse life events, changing life circumstances, or limited personal resources (Heckhausen, 1999) and that self-protective processes could become adaptive for individuals who face low opportunities to undo regrets or other challenges, irrespective of their age.

To address this issue, additional studies were conducted to examine more comprehensively whether the adaptive value of secondary control processes related to downward social comparisons could be determined by individual differences in opportunity, irrespective of a person's developmental life stage. Supporting this prediction, a study found that downward (relative to upward) social comparisons with age peers were associated with more positive affect over time among young and older adults, but only if they perceived low (as opposed to high) opportunities to undo their regrets (Bauer & Wrosch, 2010). Another study conducted exclusively with a sample of older adults confirmed that downward social comparisons were associated with more positive affect and fewer cold symptoms over time among older adults who reported low (but not high) opportunities to undo their regrets (Bauer & Wrosch, 2010). This pattern of findings suggests that downward social comparisons can protect against the adverse emotional consequences of severe life regrets at any developmental period, provided that people perceive limited opportunities to undo their regrets.

The knowledge gained from the literature on regret management has been used to design and implement an experimental writing intervention targeting change at the level of self-protective and goal adjustment processes in an effort to assist older adults with effectively managing their life regrets (Wrosch *et al.*, 2007). In this research, participants in the experimental group were instructed to write for 20 minutes about their most severe life regret in light of adaptive social comparison processes on the first day, external control attributions on the second day, and future meaningful goals on the third day. In contrast, participants in the control group wrote about their daily activities on the first day, their plans for the remainder of the day on the second day, and a recent social event on the third day. The results of this study revealed that higher levels of regret intensity were associated with more sleep problems over a three-month period among participants in the control (but not the experimental) group. Thus, the writing intervention appeared to buffer against the adverse effects of intense regrets on sleep problem over time. Finally, the results revealed that the intervention's beneficial health effect could be attributed to its' effect on reduced levels of regret intensity.

Taken together, the results suggest that while young adults may generally benefit from primary control processes aimed at undoing regrets (e.g., Wrosch & Heckhausen, 2002), secondary control processes related to goal adjustment and self-protection may be better suited to buffer against the adverse well-being and health effects associated with life regrets among older adults (e.g., Bauer *et al.*,

2008; Wrosch *et al.*, 2005). While this is due in part to limited opportunities to undo regrets among older adults, there is also evidence to suggest that individual differences in perceived opportunities, rather than chronological age, could be a key determinant of the adaptive value of self-protective processes among young and older adults alike (Bauer & Wrosch, 2010).

RESEARCH LIMITATIONS AND FUTURE DIRECTIONS

The reviewed research suggests there exist important relationships between regrets, self-regulation processes, and quality of life outcomes across the adult lifespan, and that opportunities to address regrets may play an important role in these associations. Some limitations of this research make it difficult to identify the precise variables underlying the differential adaptive value of self-regulation processes among young and older adults, to elucidate the short and long-term benefits of regret-related self-regulation processes, as well as to clarify the mechanism responsible for the quality of life benefits of specific coping strategies. This section briefly addresses some of these limitations and makes suggestions for overcoming these issues in future research.

First, given the role that perceived opportunities can play in the association between self-regulation processes and quality of life outcomes across young and late adulthood, it may be important to supplement self-reports of subjective opportunities with more objective measures of opportunities in future research. Given the potential mismatch between subjective and objective opportunities, this approach could help to substantiate assumptions made by the lifespan theory of control that opportunities underlie the differential adaptive utility of primary and secondary control processes across the adult lifespan. In addition, while the previously described research found that downward social comparisons benefited the emotional well-being of both young and older adults who perceived limited opportunities to address their regrets, it remains unknown whether this would also be associated with long-term benefits or drawbacks, and whether these long-term consequences may be different depending on a person's age.

In this respect, given that opportunities are generally more favorable in young adulthood, it is plausible that at least some young adults reported limited perceived opportunities despite the fact that objective opportunities may have been plentiful. In this case, downward social comparisons could ultimately prove detrimental to the long-term well-being of these young adults. As time elapses and opportunities that were once present become increasingly elusive, young adults may recognize too late that they did not act on available opportunities. As a result, any short-term

advantage of making downward social comparisons among young adults could be offset by negative consequences that may develop over time. Given these considerations, assessing objective opportunities to undo regrets may clarify the short and long-term benefits of downward social comparisons across the adult lifespan.

Second, in light of the potential functional basis of regret experiences and the idea that individuals may derive the greatest benefits from regret-related negative emotions if they have favorable opportunities to reverse regretted actions or inactions, future studies could be designed to explicitly examine the motivational role of regret in bringing about adaptive behavioral changes among young adults who experience significant life regrets. It is plausible that the negative emotional states engendered by regrets could serve an adaptive function among young adults if they provide the impetus for initiating changes to correct or reverse regretted circumstances before these become irreversible. In this respect, the short-term distress caused by regrets may be outweighed by their long-term benefits.

Third, it could be valuable to determine whether self-protective processes other than downward social comparisons (e.g., control attributions and goal adjustment processes) interact with opportunities in the prediction of well-being and health outcomes among both young and older adults. In addition, future research could explore the mechanisms by which specific self-protective processes translate into well-being and health benefits among young and older adults, and individuals with low versus high opportunities to address their regrets. For example, it could be that downward social comparisons among people who report low opportunities to undo regrets could facilitate goal adjustment processes such as reengagement with new goals and that this in turn could mediate positive changes in quality of life outcomes (Bauer & Wrosch, 2010).

Finally, in light of the findings linking regret-related self-regulation processes with positive affect and cold symptoms as well as the documented relationship between positive affect and physical health (e.g., Cohen & Pressman, 2006; Pressman & Cohen, 2005), future longitudinal research could examine whether the effect of self-regulation processes on health symptoms is mediated by changes in positive affect. In this respect, including longer follow-up periods could reveal health benefits not only among older, but also young adults, for whom more time may need to pass before health effects become apparent should these in fact be present.

Obtaining answers to these questions in future research could contribute important insights into why, for whom, under what circumstances, and to what extent self-regulation can be beneficial to the quality of life of people who cannot help but think “what would have happened if...”.

CLINICAL IMPLICATIONS OF LIVING WITH, AND REGULATING, REGRET

This chapter reviewed evidence suggesting that experiencing intense regret in the absence of adequate emotion regulation skills that can mitigate its emotional sting can compromise quality of life and potentially engender a downward spiral leading to mental health difficulties such as depressed or anxious mood. Thus, learning to apply coping strategies to manage the experience of regret may help alleviate the intensity of people's regrets and promote an upward spiral leading to improved psychological well-being. While the research presented in this chapter did not examine the self-regulation of regret among clinical samples specifically, the insights derived from this research could inform treatment interventions aimed at alleviating the emotional consequences associated with severe life regrets. However, future research is needed to establish the effectiveness of these self-regulation strategies among clinical samples.

The reviewed research findings specifically suggest that interventions could be designed to assist people with undoing their regrets when opportunities are favorable, and to focus on building skills related to goal adjustment and self-protection when it becomes apparent that the circumstances associated with people's regrets have become irreversible or when the costs of addressing regrets would outweigh any of the benefits. In the latter situation, it could be valuable to assist people in reappraising their regrets for example by helping them think about other people's regrets that may be more severe than their own. This strategy could be particularly well-suited as a psychological intervention given that people can strategically manipulate the direction of social comparisons by selectively bringing to mind people who are better or worse off, and creating fictional or hypothetical comparison targets when specific real life examples are neither available nor easily brought to mind (e.g., Wood, Taylor, & Lichtman, 1985).

Alternatively, interventions can target control attributions by helping people bring to mind factors that were beyond their control and that contributed to the regretted event (Wrosch & Heckhausen, 2002). Similar to social comparison processes, control attributions can be manipulated depending on one's personal intentions and motivations. Generally, multiple internal and external factors likely combine to create any set of circumstances. Therefore, people can selectively choose to focus on external factors while minimizing internal factors. As such, they may find solace in focusing on the external factors that brought on the regretted set of circumstances, thereby avoiding the responsibility and self-blame that may otherwise result when internal factors are salient.

In addition to reappraising the regretted event via social comparison processes and external control attributions, goal adjustment processes may also be beneficial, alone or in combination with other self-protective processes. Interventions could thus be de-

signed with the goal of helping people abandon regret-related pursuits. In this respect, it is possible that focusing on shifting social comparisons processes and control attributions could promote disengagement from regret-related goals. For example, people who do not blame themselves for the regretted event may not be particularly driven to undo their regret as a way to protect themselves and to escape the feeling of guilt. Similarly, when people recognize that their regrets pale in comparison to the severe regrets of other people, they may be better able to accept their own regrets without having to undo them at all costs. Thus, targeting change at the level of self-protective processes could engender a shift in other variables related to goal adjustment.

While goal disengagement may represent a necessary first step in overcoming regret, abandoning important regret-related goals without replacing these with alternative pursuits may leave the person without a feeling of purpose in life and a meaningful sense of direction. This could further exacerbate the emotional consequences of regrets, unless people can redirect their psychological resources into the pursuit of new or alternative goals that can compensate for these unfulfilled life intentions. To facilitate reengagement with new goals, interventions could be designed to help people identify new goals that are linked to important personal values, to generate concrete, small, and manageable steps that can be taken to make progress with these goals, as well as to integrate these goals into one's daily routine so that they may be readily implemented. In brief, self-protective processes could work hand in hand with goal adjustment strategies to jointly contribute to the positive emotional well-being of people dealing with intense life regrets.

While the previously reported findings suggested that older adults could be particularly likely to benefit from secondary-control processes related to self-protection and goal adjustment, it is also true that there are important individual differences in perceptions of opportunities to undo undesirable life circumstances related to regrets, irrespective of age, that can determine the adaptive utility of primary and secondary control processes among young and older adults. This suggests that interventions should be tailored on a case-by-case basis when working with young and older adults, following a thorough assessment of opportunities to address regrets. In brief, mental health professionals should attend to a person's actual life circumstances, rather than their chronological age, when determining their approach to treating the emotional consequences of living with severe life regrets.

CONCLUSIONS

This chapter described the heterogeneous nature of regret experiences that people can have at different points in the developmental lifespan. While it was suggested that the benefits of regret may be rooted in its' motivational function, its

dysfunctional aspects cannot be overlooked and understated. In fact, there is ample evidence to suggest that regret can be detrimental to the psychological well-being and physical health of adults, particularly in late adulthood when opportunities to undo regrets undergo a sharp decline.

In light of this, evidence was presented to suggest that secondary control processes such as goal adjustment, external control attributions, and downward social comparisons become particularly adaptive in late adulthood, and can buffer against the adverse effects of life regrets on older adults' quality of life. While research suggests that opportunities partly underlie the adaptive utility of these self-protective processes among older adults, the picture appears to be more complex and nuanced. This is because perceptions of opportunities to undo regrets can vary at any point in the adult lifespan, and these perceived opportunities, rather than chronological age, appear to be the key determinant of the adaptive nature of secondary control processes for managing psychological stressors such as regret across the adult lifespan. Given these considerations, young and older adults alike could potentially benefit from self-protective processes such as downward social comparisons, as long as they perceive their opportunities to actively change undesirable circumstances associated with their regrets to be limited.

In summary, while few people may be immune to the experience of contemplating how alternative life scenarios could have improved their life in the present, how people manage these counterfactual thoughts can be an important determinant of whether these imagined realities affect their present life for better or for worse. Empirical evidence converges on the conclusion that counterfactual thoughts about idealized life scenarios need not be disruptive to the quality of a person's life, if tempered by self-protective processes highlighting the real or imagined appeal of actual life circumstances.

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