

# I'm Better Off Than Most Other People: The Role of Social Comparisons for Coping With Regret in Young Adulthood and Old Age

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This longitudinal study was designed to examine the importance of social comparisons for coping with regret among young and older adults. It was expected that making downward social comparisons would be associated with a greater reduction in regret intensity over time among older, compared with young, adults. A total of 104 participants took part in this 4-month longitudinal study. The findings suggest that across different comparison targets, making downward (relative to upward) social comparisons was consistently related to reduced regret intensity over time among older adults. Among young adults, making downward social comparisons with personally known others, as opposed to age peers, was associated with lower regret intensity. In addition, older adults increased their reliance on downward social comparisons over time. This age-differential shift toward downward social comparisons further explained age differences in changes of regret intensity over time. Finally, differences in opportunities to undo regrets explained some of the age differences in the use and adaptive value of downward social comparisons. The implications of the findings for understanding and examining pathways to successful development are discussed.

*Keywords:* regret, social comparisons, aging, self-regulation, life span development

Research suggests intense regret can compromise older adults' quality of life to a greater extent than that of young adults and that older adults may regulate their regret experiences if they engage in self-protective processes (e.g., by not blaming themselves for the regretted event or adjusting regret-specific goals, Wrosch, Bauer, Miller, & Lupien, 2007; Wrosch, Bauer, & Scheier, 2005; Wrosch & Heckhausen, 2002). To further illuminate processes involved in the self-regulation of regret, we examined whether making downward social comparisons may represent another mechanism that could serve adaptive functions in the management of regret experiences, particularly among older adults. More specifically, we investigated, in an age-comparative and longitudinal study, whether the use of downward (relative to upward) social comparisons would predict more reduced levels of regret intensity over time among older, as compared with young, adults. In addition, we expected that older (as compared with young) adults would increasingly rely on downward social comparisons over time and that this age-differential longitudinal process could further contribute to the emergence of age differences in changes of regret intensity over time.

## Self-Regulation of Life Regrets in Young and Late Adulthood

Life regrets are a common psychological phenomenon that people experience across the entire life span (Landman, 1987). As individuals make progress toward achieving important developmental tasks (Havighurst, 1967), they often reflect on objectives they have accomplished, those they have abandoned along the way, and whether the goals they have chosen or foregone are consistent with their current values and aspirations (Staudinger, 2001). This process may prompt individuals to reevaluate their choices and behaviors and to think about "what would have happened if" (Kahneman, 1995; Roese, 1997) they had made alternative decisions in major life domains such as work, education, or family (Roese & Summerville, 2005). Such counterfactual scenarios are usually associated with negative emotions that contribute to the experience of intense regret (Gilovich, Medvec, & Kahneman, 1998).

Given the emotional correlates of life regrets, it is therefore not surprising that regrets can be associated with broad indicators of quality of life, such as depression and life satisfaction across adulthood. In addition, regret may be especially troublesome as individuals advance in age, as preliminary research has indicated that the number of regrets predicted reduced levels of life satisfaction only among older, in contrast to young, adults (Lecci, Okun, & Karoly, 1994). Subsequent research has documented substantial evidence for such age-differential processes by showing the experience of intense regrets to be associated with lower subjective well-being and more health problems particularly among older adults (Wrosch et al., 2005, 2007). In addition, intense regrets were also shown to be associated with cortisol dysregulation among older adults (Wrosch et al., 2007). This stronger association between regret and indicators of quality of life

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among older adults has been attributed to an age-related reduction of opportunities for overcoming the consequences of regrets (Lecci et al., 1994; Wrosch et al., 2005). Thus, psychological experiences related to regrets have far-reaching implications for emotional and physical well-being, particularly in late adulthood.

In response to these findings, researchers have begun to identify pathways to successful adaptation and to conceptualize how people may regulate their regret experiences across the adult life span. In this regard, it has been argued that individuals who experience regret can engage in adaptive self-regulation to cope with this challenge (Wrosch, Dunne, Scheier, & Schulz, 2006; Wrosch et al., 2005, 2007). Further, the adaptive value of different self-regulation processes may depend on a person's age, because age is a strong predictor of declining opportunities for actively overcoming a regretted event (for age, opportunities, and control, see also life-span theory of control; Heckhausen & Schulz, 1995).

This implies that if an individual has found it difficult or impossible to undo a regret in old age, adaptive self-regulation would require that individual to engage in self-protective strategies (e.g., reducing perceptions of responsibility) or to adjust regret-related goals (Wrosch et al., 2005). These processes should contribute to a reduction in the emotional intensity of a regret and thereby protect an older person's quality of life. By contrast, young adults generally possess more favorable opportunities for actively overcoming a regret, and self-protection or disengagement may therefore undermine their control potential (Wrosch et al., 2005). Instead, taking responsibility for a regretted event may be more beneficial for young adults, as doing so may bring into awareness personal skills and resources (Janoff-Bulman, 1979, 1982; Wrosch & Heckhausen, 2002) that can further be applied to effectively deal with challenges. In addition, this knowledge may motivate goal-directed behaviors among young adults that facilitate adaptive life changes, thereby eliminating the source of regret.

In support of these assumptions, previous studies have shown that older adults who did not blame themselves for a regretted event, were disengaged from undoing a regret, or had many future goals available reported lower levels of regret intensity, higher subjective well-being, and fewer physical problems, as compared with their age peers who did not engage in these processes (Wrosch & Heckhausen, 2002; Wrosch et al., 2005, 2007). By contrast, young adults were shown to experience low levels of regret intensity and intrusive thoughts if they took responsibility for their regrets (Wrosch & Heckhausen, 2002). In addition, disengagement from undoing regret was largely unrelated to indicators of young adults' subjective well-being and physical health, and having many alternative future goals predicted even higher levels of regret intensity among young adults (Wrosch et al., 2005).<sup>1</sup> Finally, the latter study also showed that perceptions of opportunities could partially explain the reported age effects of self-regulation on indicators of quality of life.

These findings document that while older adults may successfully regulate their regrets through self-regulation processes related to self-protective attributions and disengagement, these processes are less adaptive in young adulthood, and young adults may profit instead from engaging in control processes aimed at undoing regrets. However, we note that the reported studies relied on cross-sectional data and that the effect sizes have typically been small (Wrosch et al., 2002, 2005). This underscores the importance of conducting longitudinal research to substantiate cross-sectional

findings and to identify additional self-regulation processes that may serve adaptive functions in the self-regulation of regret across the adult life span.

### The Role of Social Comparisons in the Self-Regulation of Regret

Social comparisons may be another psychological process that could play an important role in the management of life regrets across adulthood. In this regard, research suggests the direction and target of social comparisons can influence a person's emotions (Festinger, 1954; Taylor & Lobel, 1989). For example, the self-evaluation maintenance model (Tesser, 1988) suggests that when individuals are "outperformed" in a domain high in self-relevance, they experience a greater threat if the comparison involves a close rather than distant other. Research from this line of work suggests that being outperformed by a close other (friend) results in greater arousal than being outperformed by a distant other (stranger) (Tesser, Millar, & Moore, 1988). Such findings imply that comparison targets may have different emotional implications and should therefore be taken into account in research on the adaptive value of social comparisons.

In addition, research and theory document that downward and lateral social comparisons are likely to serve self-protective functions by alleviating the negative emotional consequences of stressful encounters, threats to self-esteem (Wills, 1981), and failure experiences (Heckhausen & Brim, 1997). By contrast, upward social comparisons can produce more negative mood in everyday life (Wheeler & Miyake, 1992) and may elicit greater feelings of frustration if people are confronted with failure (Aspinwall & Taylor, 1993).

Given the self-protective functions of downward social comparisons, we proposed that this process could also contribute to relieving regret experienced in old age. While this possibility has not yet been empirically examined, research on broader indicators of quality of life supports this assumption: making downward social comparisons has been shown to be associated with higher levels of life satisfaction (Frieswijk, Buunk, Steverink, & Slaets, 2004) and predicted more psychological gains, less depression, less hospitalization, and lower mortality among older adults over time (Bailis, Chipperfield, & Perry, 2005; Kwan, Love, Ryff, & Essex, 2003).

In addition, life-span theories suggest that people shift toward lateral and downward social comparisons more frequently as they advance in age (Heckhausen, 1999; Heckhausen & Brim, 1997; Heckhausen & Krueger, 1993; Heckhausen & Schulz, 1995). This age-differential shift toward the use of downward social comparisons may be explained by older, as compared with young, individuals' greater tendency to prioritize emotion-regulation goals or

<sup>1</sup> The reported effect of future goals may be due to the possibility that young adults who pursue many goals simultaneously do not have the time and resources to address their regrets. In addition, we note that while disengagement did not predict global indicators of well-being and health, it was associated with reduced levels of regret intensity among young adults. This indicates that disengagement may not exert adaptive long-term effects among young adults but could have some short-term emotional benefits (for a more comprehensive discussion, see Wrosch et al., 2005).

secondary control processes in response to psychological threats (Carstensen, Fung, & Charles, 2003; Heckhausen & Schulz, 1995).

These processes are particularly likely to become activated in response to the experience of specific challenges and when change through primary control striving is unlikely. Thus, older adults may not always engage in downward social comparisons, given their stronger biases toward remembering positive information about their lives (Carstensen & Mikels, 2005), which may temporarily reduce the threatening aspects of a past behavior. However, when confronted by thoughts about a specific threat, older adults are likely to attempt to regulate the associated negative emotions through self-protective processes. This implies that older adults should be particularly likely to increase their use of downward social comparisons in response to psychological threats such as regret and that making downward social comparisons, in turn, could be associated with reductions in regret intensity over time among older adults.

By contrast, life-span theories would not predict that downward social comparisons play an adaptive role in the management of young adults' regrets, as they may undermine their motivation and control potential for changing undesired life circumstances that may be resolved successfully (Heckhausen & Schulz, 1995). Instead, upward social comparisons could benefit young adults to a greater extent because they provide relevant information that could be used to facilitate appropriate life changes and undo the consequences of regret (Heckhausen & Brim, 1997; Taylor & Lobel, 1989). However, this effect may be observable only in the long run, given that successful developmental changes require engagement in a series of sequential motivational and volitional processes: deliberation, goal choice, or implementation (Heckhausen, 1991).

Nonetheless, some research suggests that when individuals are threatened in important domains of self-evaluation, they have a tendency to make, and benefit from, downward social comparisons, irrespective of age (Zeelenberg & Pieters, 2007). While this may be true for coping with certain challenges, regret management typically covers a broad range of life domains, in which young adults generally possess favorable opportunities for implementing adaptive life changes (Wrosch et al., 2002, 2005). In this regard, it may be that downward social comparisons could be invalidated and disconfirmed when young adults look for, receive, or are inadvertently confronted with objective social feedback from age peers who perform at high levels across a range of important domains. This process could make it more difficult for young adults to benefit emotionally from making downward social comparisons. By contrast, prevailing negative stereotypes pertaining to the prototypical older adult (Hummert, 1993) could reinforce older adults' favorable self-views and thereby foster a positive emotional function of downward comparisons. As a consequence, we would expect downward social comparisons to be more beneficial for relieving older adults' regret intensity than young adults'.

### The Present Study

We conducted a 4-month longitudinal study to examine the role of social comparisons in the experience of regret in young adulthood and old age. Given that the literature discussed suggests downward social comparisons become increasingly adaptive in old age, we hypothesized that baseline levels of downward (relative to

upward) social comparisons would predict a greater reduction in regret intensity over time among older, as compared with young, adults. By contrast, we did not expect to find an association between the direction of social comparison and changes in regret intensity among young adults. As discussed earlier, we expected that the emotional benefits of downward social comparisons might be compromised in young adulthood, and we reasoned that upward social comparisons would be rather unlikely to result in the successful implementation of life changes among young adults in a short-term longitudinal study.

In addition, we hypothesized that age-adjusted self-regulation processes would become activated over time to cope with the experience of regret, particularly among older adults. In this regard, we expected to find parallel age differences in changes of social comparison direction and regret intensity over time. More specifically, we hypothesized older adults would exhibit a larger shift over time toward a more frequent use of downward social comparisons, as compared with young adults, in response to the threat of thinking about a severe life regret. We also expected that this age-differential shift toward downward social comparisons would contribute to a larger reduction in regret intensity among older, as compared with young, adults. Finally, we explored whether, consistent with the life-span theory of control (Heckhausen & Schulz, 1995), age differences in the opportunities to undo the consequences of regret would account for the age-differential use and adaptive value of downward social comparisons.

## Method

### *Participants and Procedure*

This study included a heterogeneous sample of participants recruited from the metropolitan region of Montreal. Participants were recruited through newspaper advertisements and public postings. Participants were sent a package by mail, including the study questionnaire. Participants were contacted again after approximately 4 months ( $M = 4.11$ ,  $SD = .91$ ) and asked to respond to another questionnaire. This time interval was chosen on the basis of our previous studies, documenting changes in regret intensity among older adults at a short-term longitudinal follow-up period (Wrosch et al., 2007). Participants received \$20 for participating in the study.

The sample included 104 young and older adults. Fifty-six participants were between 18 and 35 years old ( $M = 25.25$ ,  $SD = 4.83$ ), and 48 participants were between 60 and 83 years old ( $M = 67.85$ ,  $SD = 6.39$ ). Sixty-one percent of the sample was female. Fifty percent of the sample received a higher education (undergraduate degree or above), and 39% of participants were in an intimate relationship. Of the total sample, 92 individuals participated in the follow-up.<sup>2</sup> These participants did not significantly differ from excluded participants with respect to baseline levels in the main study variables or sociodemographic characteristics.

<sup>2</sup> Among the participants who were excluded, 7 participants did not report having a life regret at T1. Thus, 93% of our sample reported having a life regret, and this is comparable to the results of previous studies (Lecci et al., 1994; Wrosch et al., 2005).

Table 1  
Zero-Order Correlations Between Main Constructs

Variable	1	2	3	4	5	6	7
1. T1 regret intensity	—						
2. T2 regret intensity	.35**	—					
3. T1 most people of similar age <sup>a</sup>	-.35**	-.17	—				
4. T2 most people of similar age	-.23*	-.42**	.54**	—			
5. T1 personally known people	-.33**	-.38**	.55**	.43**	—		
6. T2 personally known people	-.27**	-.53**	.44**	.79**	.50**	—	
7. Age group	-.14	-.23*	.12	.24*	.03	.24*	—

Note. T1 = baseline assessment; T2 = second assessment.

<sup>a</sup> Higher scores on the social comparison items (Items 3–6) indicated the use of downward (relative to upward) social comparisons.

\*  $p \leq .05$ . \*\*  $p \leq .01$ .

### Materials

The main study variables included age group and multiple assessments of regret intensity and social comparisons. Table 1 presents the zero-order correlations between the main study variables. In addition, sociodemographic variables (sex, education level, and partnership status) and certain regret characteristics were assessed as control variables.

*Life regrets.* At baseline (T1), participants were asked to think about their lives and to consider whether they now wished they had done something differently in the past (Wrosch et al., 2002, 2005, 2007). In light of this, participants were then asked to report their most severe life regret as well as the consequences stemming from their regrets. On average, young adults' regrets had occurred 6.91 years ago ( $SD = 5.13$ ), and the regrets of older adults dated back to 29.60 years ago ( $SD = 14.22$ ). In addition, 50% of participants identified their regret as an omission, 36% reported a commission regret, and 14% did not classify their regret.<sup>3</sup>

We asked participants to identify their most severe life regret again at the second assessment point (T2). While we did not anticipate that participants' most severe regrets would change much over this time period, the obtained data showed that only 76% of participants referred to the same regret at both measurement points, whereas 24% listed at T2 a regret that appeared to be different from the regret reported at T1.<sup>4</sup> In addition, a higher rate of change of regret was observed among young adults (34%) as compared with older adults (13%),  $\chi^2(1, N = 92) = 5.42, p < .05$ . Given that the literature lacks longitudinal data on life regrets, we believe this is an important and interesting finding, and we address this phenomenon in the statistical analyses and in the Discussion.

We measured regret intensity at T1 and T2 by asking participants to rate the extent to which they experienced each of six emotions during the past few months when they thought about their most severe life regret. These ratings were performed on 5-point Likert-type scales (1 = *not at all*, 5 = *extremely*). The six emotions were selected on the basis of work by Gilovich and colleagues (1998) and reflected hot emotions (angry, irritated, and embarrassed:  $M_{T1} = 2.34, SD_{T1} = 1.07, \alpha_{T1} = .75$ ;  $M_{T2} = 2.12, SD_{T2} = 0.99, \alpha_{T2} = .80$ ) and despair-related emotions (desperate, helpless, and sorrow:  $M_{T1} = 2.18, SD_{T1} = 1.00, \alpha_{T1} = .73$ ;  $M_{T2} = 1.92, SD_{T2} = 0.88, \alpha_{T2} = .75$ ). Given that hot and despair-related emotions were significantly correlated with each other at T1 and T2 ( $r_s = .50-.65, ps < .01$ ) and showed comparable effects in

previous research (Wrosch et al., 2002, 2005), we computed a broad indicator of regret intensity at T1 and T2 by averaging the six emotions at each measurement point separately ( $M_{T1} = 2.26, SD_{T1} = 0.90, Range_{T1} = 1.00-5.00, \alpha_{T1} = .80$ ;  $M_{T2} = 2.02, SD_{T2} = 0.85, Range_{T2} = 1.00-5.00, \alpha_{T2} = .85$ ). Overall, participants experienced reduced levels of regret intensity over time,  $t(83) = 2.33, p < .05$ . In order to obtain a measure of change in regret intensity from baseline to the 4-month follow-up, we predicted regret intensity at T2 from the T1 indicator of regret intensity in a regression analysis and saved the residuals for further analysis.

*Social comparison direction.* In light of the distinction made in the social comparison literature between comparisons with close and distant others, as well as research evidence suggesting that these different comparison targets can have different emotional consequences (Tesser, 1988; Tesser, Millar, & Moore, 1988), we designed two items that reflected social comparisons with a close target (personally known others) and a distant target (age peers; Heckhausen & Brim, 1997). Specifically, participants were asked to evaluate how their regret compared with those of other individuals by completing two statements: "Most people my age have regrets that are \_\_\_\_\_ severe than my own," and "My regrets are \_\_\_\_\_ severe than those of most people I know personally."

<sup>3</sup> We controlled our analyses for type of regret by replacing the values of participants who had difficulty categorizing their regrets with the sample mean, and we note that the pattern of findings would be highly similar if we had used dummy codes. By contrast, we did not control our analyses for regret recency, as age differences in this variable may represent a developmental confound, and it would be hardly possible for young adults to regret behaviors that had occurred 30 years ago. This confound ( $r = .75; p < .01$ ) would make it impossible to show age-differential effects; however, we note that recency of regret was statistically unrelated to the main study variables within the groups of young adults and older adults.

<sup>4</sup> Regrets were coded the same from T1 to T2 on the basis of whether the regrets were related to the same domain of regret or whether one regret reflected the consequences of the previous regret (e.g., if the regret at T1 was that the participant failed to attain higher education, and the regret at T2 was that he or she could not pursue the career of his or her choice or did not have a satisfactory income as a result). A dummy variable was computed, where 2 represented regrets that were clearly unrelated, and all other regrets were coded as 1, suggesting that regrets identified at T1 and T2 were related.



Participants selected the appropriate response from a 5-point Likert-type scale (1 = *much less severe*, 5 = *much more severe*). Both items were coded so that a higher score indicated that participants made downward social comparisons, whereas a lower score represented upward social comparisons (“Most people my age” statement:  $M_{T1} = 3.24$ ,  $SD_{T1} = 1.00$ ,  $Range_{T1} = 1.00-5.00$ ;  $M_{T2} = 3.43$ ,  $SD_{T2} = 0.89$ ,  $Range_{T2} = 1.00-5.00$ ; “People I know personally” statement:  $M_{T1} = 3.38$ ,  $SD_{T1} = .99$ ,  $Range_{T1} = 1.00-5.00$ ;  $M_{T2} = 3.49$ ,  $SD_{T2} = 1.00$ ,  $Range_{T2} = 1.00-5.00$ ). For the entire sample, there were no significant mean level changes across time in the direction of participants’ social comparisons.

Although the two social comparison items were correlated at baseline ( $r = .56$ ), we present them in separate analyses because the reported literature has emphasized a distinction between different comparison targets, and the obtained pattern of results revealed that the two comparison targets showed differential evidence concerning our hypotheses. In order to obtain measures of changes in social comparison direction, we predicted the two social comparison items at T2 from the T1 indicators of social comparison items in two separate regression analyses and saved the residuals for further analysis.

*Subjective and objective opportunities.* We assessed subjective opportunities to undo regrets at T1 by asking participants to rate how likely it was that the negative consequences of the event *could* ( $M = 2.63$ ,  $SD = 1.53$ , range = 1.00–5.00) and *would* ( $M = 2.63$ ,  $SD = 1.48$ , range = 1.00–5.00) in fact be undone on a 5-point Likert type scale (1 = *very unlikely*, 5 = *very likely*). Both items were highly correlated with each other ( $r = .76$ ,  $p < .00$ ), and we therefore aggregated these items into a single measure of perceived opportunities to undo the consequences of regret ( $M = 2.64$ ,  $SD = 1.43$ , range = 1.00–5.00,  $\alpha = .87$ ).

Because previous research showed that subjective perceptions of opportunities did not consistently account for age differences in the adaptive value of self-protective processes (Wrosch, Bauer, & Scheier, 2005), we also arrived at a measure of more objective opportunities to undo the negative consequences of regrets. In this regard, we coded participants’ regret descriptions with respect to two criteria. Regrets were coded as unlikely to be undone if participants identified a regret in a domain that was developmentally “off time” (e.g., undoing career regrets after retirement; see Hagestad & Neugarten, 1985; Heckhausen, 1999) and if the description of the regret suggested that the consequences were irreversible (e.g., losing one’s marriage or life savings). The two criteria were significantly correlated with each other ( $r = .65$ ,  $p < .01$ ), and we therefore computed the mean of these two scores. A second independent coding showed satisfactory interrater reliability ( $r = .83$ ,  $p < .01$ ). Perceptions of opportunities were significantly correlated with our measure of objective opportunities ( $r = .47$ ,  $p < .01$ ), and age group was significantly correlated with both subjective opportunities ( $r = -.24$ ,  $p < .05$ ) and objective opportunities ( $r = -.79$ ,  $p < .01$ ) to undo the consequences of the reported regrets.

We assessed sociodemographic variables at T1 by asking participants to report their age, gender, partnership status, and education level. Participants indicated their education level by identifying the highest level of education they had completed (5 levels: 1 = *primary school*, 5 = *master’s or doctorate*). To assess partnership status, we asked participants to identify whether they were married, living with a partner, divorced, widowed, or single.

Individuals were classified as having a partner if they indicated they were married or living with a partner. They were classified as single if they reported that they were divorced, widowed, or single.

## Results

The presentation of results is divided into two sections. The first section examined whether individual differences in baseline levels of downward (relative to upward) social comparisons would predict reduced levels of regret intensity over time more so among older as compared with young adults. In the second section, we investigated whether older (as compared with young) adults would increasingly rely on downward social comparisons over time. In addition, we examined whether this process would further explain age-related changes in regret intensity over time. In both sections, we also examined whether opportunities to undo regrets could account for the predicted age effects.

### *Baseline Levels of Social Comparisons and Changes in Regret Intensity*

To test the hypothesis that individual differences in baseline levels of social comparison direction would predict greater changes in regret intensity over time among older in contrast with young adults, we performed two hierarchical multiple regression analyses. In these analyses, we predicted changes in regret intensity (using residualized scores) by the interactions between age group and baseline levels of social comparison direction (separately for comparisons with “most people of similar age” and “personally known people”). In the first step of the regression analyses, we included basic sociodemographic variables related to gender, education level, and partnership status as well as variables related to change and type (commission/omission) of regret, because these variables may be associated with regret intensity. In the second step, we tested the main effects of age group and social comparison direction for significance. Finally, we entered the interaction terms between age group and social comparison direction in the last step of the analyses. All predictor variables were centered prior to performance of the analyses.<sup>5</sup>

The results of the main effects and interaction effects are reported in Table 2. Sociodemographic and regret characteristics (gender, partnership status, education level, and change and type of regret) failed to account for changes in regret intensity. The analyses further showed that social comparisons with “most people of similar age” did not predict changes in regret intensity over time. However, age group significantly predicted changes in regret intensity over time,  $F(1, 75) = 4.31$ ,  $R^2 = .05$ ,  $p < .05$ . As compared with young adults, older adults experienced a larger reduction of regret intensity over time. It is important to note that consistent with our hypotheses, there was a significant interaction effect between age group and the direction of social comparisons with

<sup>5</sup> We note that 8 participants were excluded from all analyses because they did not provide sufficient ratings to calculate change scores for regret intensity. In addition, missing data were related to social comparisons with “personally known people” at T1 (1 person) and to social comparisons with “people of similar age” at T1 (1 person) and T2 (1 person). These participants were excluded only from the respective analyses. Missing data were not significantly associated with any of the study variables.

“most people of similar age” for predicting changes in regret intensity over time,  $F(1, 74) = 5.67, R^2 = .06, p < .05$ .<sup>6</sup>

To illustrate the obtained interaction effect, we plotted in Figure 1 the association between social comparison direction (one standard deviation above and below the sample mean) and changes in regret intensity separately for young and older adults employing commonly used regression techniques (Aiken & West, 1991). In support of our hypotheses, the obtained pattern of results indicated that the largest reduction of regret intensity over time was found among older adults who engaged in downward social comparisons. A calculation of the simple slopes further supported this interpretation: making downward social comparisons with “most people of similar age” was significantly associated with a reduction in regret intensity among older adults ( $\beta = -.32, p < .05$ ) but not among young adults ( $\beta = .21, p > .05$ ). Conversely, age group predicted changes in regret intensity among participants who made downward social comparisons ( $\beta = -.52, p < .01$ ) but not among individuals who made upward social comparisons ( $\beta = .01, p > .05$ ).

Contrary to the previously reported analysis, social comparisons with “personally known others” did not exert a significant interaction with age group on changes in regret intensity (see Table 2). However, we found a significant main effect of social comparison direction with “personally known others” on changes in regret intensity,  $F(1, 75) = 9.63, R^2 = .10, p < .01$ . This main effect indicated that downward social comparisons with individuals personally known to the participants were associated with reduced levels of regret intensity over time for both young and older adults.

In order to determine whether opportunities could account for the obtained age effects of making downward social comparisons, we repeated the previously described regression analyses, this time controlling for subjective and objective measures of opportunities in the second step of the analysis. In the third step, we additionally included the interaction terms between subjective and objective measures of opportunities, age group, and social comparison direction (see Yzerbyt, Miller, & Judd, 2003). In these analyses, we found that age group no longer predicted changes in regret inten-

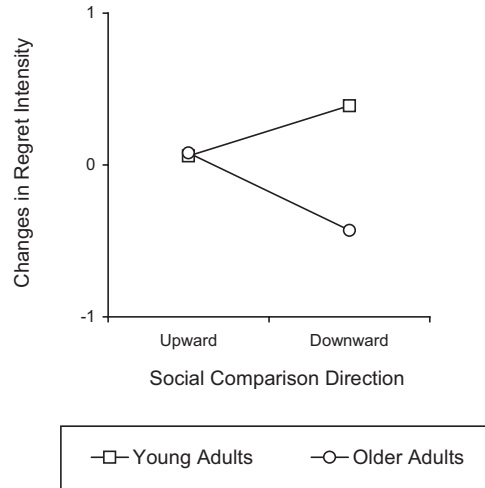


Figure 1. Moderation between the direction of social comparisons (upward or downward) with “most people of similar age” and age group predicting changes in regret intensity over time.

sity over time—age peers:  $F(1, 73) = .45, R^2 = .00, p > .05$ ; personally known others:  $F(1, 73) = 1.06, R^2 = .01, p > .05$ . In addition, the significant two-way interaction between age group and social comparisons with age peers became marginally significant,  $F(1, 68) = 3.35, R^2 = .04, p = .07$ . This suggests that increasing age was associated with a larger reduction in regret intensity as a result of fewer opportunities to successfully undo regrets in late adulthood and that opportunities to undo regrets could partially explain the beneficial effect of downward social comparisons with age peers on regret intensity among older adults.<sup>7</sup>

### Changes in Social Comparisons and Changes in Regret Intensity

We had also predicted that older, as compared with young, adults would increasingly rely on downward social comparisons over time. In addition, we expected that this age-differential process could contribute further to age-related changes of regret intensity over time. In order to start testing these hypotheses, we predicted in two separate regression analyses changes in the direction of social comparisons as the outcome variables (using the residualized scores pertaining to comparisons with “personally known people” and “most people of similar age”). In the first step,

Table 2  
Summary of Hierarchical Regression Analyses Predicting Changes in Regret Intensity by Participants’ Age Group and Social Comparison Direction

Social comparison target	Changes in regret intensity over time <sup>a</sup>					
	AG <sup>b</sup>		SCD <sup>c</sup>		Interaction (AG × SCD)	
	β	R <sup>2</sup>	β	R <sup>2</sup>	β	R <sup>2</sup>
Most people of similar age	-.24*	.05*	-.09	.01	-.27*	.06*
Personally known people	-.27*	.06*	-.33**	.10**	.01	.00

Note. Analyses were conducted separately for two social comparison targets. AG = age group; SCD = social comparison direction.

<sup>a</sup> Effects were controlled for sociodemographic and regret characteristics. <sup>b</sup> A higher score represented older, as compared with young, adults. <sup>c</sup> A higher score indicated the use of downward (relative to upward) social comparisons.

\*  $p \leq .05$ . \*\*  $p \leq .01$ .

<sup>6</sup> It should be noted that in addition to including change in regret as a control variable in our analyses, we conducted a regression to test the three-way interaction among age group, change in regret, and baseline levels of social comparison direction for predicting change in regret intensity. We did not find a significant three-way interaction, thereby suggesting that the interaction between age group and social comparison direction on change in regret intensity is not affected by change in regret.

<sup>7</sup> We note that controlling for subjective opportunities alone did not render the age effects on regret intensity nonsignificant. This implies that subjective and objective measures of opportunities can differ and may explain some of the inconsistent findings of previous research (see Discussion section).

we included sociodemographic variables related to sex, education level, and partnership status, as well as regret characteristics. In the second step, we incorporated age group as the main predictor variable into the regression analyses. We also included the main effect of baseline levels of regret intensity into the regression and subsequently tested the interaction between regret intensity and age group for significance because results concerning these effects were expected to provide relevant information necessary for interpreting the direction of effects.

The results of the analyses are reported in Table 3. In both analyses, we found that variables associated with sociodemographic and regret characteristics were not associated with changes in the direction of social comparisons over time. However, age group was significantly associated with changes in the direction of social comparisons over time, related to both “most people of similar age,”  $F(1, 74) = 6.21, R^2 = .07, p = .01$ , and “personally known people,”  $F(1, 75) = 5.50, R^2 = .06, p < .05$ . In support of our hypotheses, this suggests that compared with young adults, older adults were more likely to make more downward social comparisons over time. In addition, the analyses showed that neither baseline levels of regret intensity nor the interaction between age group and baseline levels of regret intensity significantly predicted changes in social comparison direction over time.

In order to determine whether differences in opportunities to overcome regrets could explain the increased reliance on downward social comparisons among older adults, we repeated the previously described regression analyses, this time controlling for measures of opportunities to undo regrets. Controlling for objective and subjective opportunities to undo regrets eliminated the main effect of age group on changes in social comparison direction with age peers,  $F(1, 72) = 2.40, R^2 = .03, p > .05$ , and personally known others,  $F(1, 73) = 1.80, R^2 = .02, p > .05$ . This suggests that opportunities to undo the consequences of regrets could explain older adults' greater reliance on downward social comparisons in response to thinking about their most severe life regret.

Finally, we had predicted that age effects on changes in social comparisons could contribute to age-related changes in regret intensity over time. The previously reported analyses lend prelim-

inary support to this hypothesis by suggesting that older, as compared with younger, adults reported a larger reduction of regret intensity and a more frequent use of downward social comparisons over time. To test this possibility more comprehensively, we conducted a set of mediation analyses (Baron & Kenny, 1986). These analyses were controlled for sociodemographic and regret characteristics.

The results of the mediation analyses are illustrated in Figure 2, which depicts the pathways for social comparisons with “most people of similar age” (Pathway A) and “personally known others” (Pathway B). Based on our previously reported analyses, Figure 2 shows that age group was associated with larger increases in both downward social comparisons with “most people of similar age” and with “personally known others.” In addition, older adults experienced a larger decline in regret intensity than young adults (see regression coefficients reported in brackets in Figure 2). Next, we tested in separate regression analyses whether changes in social comparison direction would predict changes in regret intensity. The results of these analyses are reported in brackets in Figure 2 and showed that increases in downward social comparisons were associated with declines in regret intensity over time for both comparisons with “most people of similar age” (Pathway A):  $F(1, 75) = 13.21, R^2 = .14, p < .01$ , and “personally known others” (Pathway B):  $F(1, 76) = 12.23, R^2 = .13, p < .01$ .<sup>8</sup>

To finally test whether changes in social comparison direction would mediate the observed age effect on changes in regret intensity, we statistically controlled the age effect on changes in regret intensity in separate regression analyses for changes in the two social comparison items. As illustrated in Figure 2, the results of these analyses showed that the age effect on changes in regret intensity was rendered nonsignificant if we controlled for changes in social comparisons with “most people of similar age” (Pathway A):  $F(1, 73) = 1.46, R^2 = .02, p > .05$ , and with “personally known others” (Pathway B):  $F(1, 74) = 2.61, R^2 = .02, p > .05$ . By contrast, the effects of changes in social comparisons on changes in regret intensity remained significant in these analyses (see Figure 2)—Pathway A:  $F(1, 73) = 9.74, R^2 = .10, p < .01$ ; Pathway B:  $F(1, 74) = 10.46, R^2 = .10, p < .01$ . Additional Sobel tests further confirmed that age group exerted a significant indirect effect on changes in regret intensity by influencing changes in the direction of social comparisons with “most people of similar age,”  $Z = -1.96, p = .05$ , and with “personally known others,”  $Z = -1.95, p = .05$ . Together, these findings show that the larger reduction in regret intensity observed among older adults was mediated by older adults' increased reliance on downward social comparisons over time.

Table 3  
Summary of Hierarchical Regression Analyses Predicting Changes in Social Comparison Direction by Participants' Age Group and Baseline Levels of Regret Intensity

Social comparison target	Changes in social comparison direction <sup>a</sup>					
	AG <sup>b</sup>		RI		Interaction (AG × RI)	
	β	R <sup>2</sup>	β	R <sup>2</sup>	β	R <sup>2</sup>
Most people of similar age	.29**	.07**	-.02	.00	-.03	.00
Personally known people	.27*	.06*	-.09	.01	.12	.01

Note. Analyses were conducted separately for two social comparison targets. AG = age group; RI = regret intensity.

<sup>a</sup> Effects were controlled for sociodemographic and regret characteristics. A higher score on the outcome measures indicated an increased use of downward social comparisons. <sup>b</sup> A higher score represented older, as compared with young, adults.

\*  $p \leq .05$ . \*\*  $p \leq .01$ .

## Discussion

### Overall Findings

The present study examined the role of social comparisons in the management of life regrets among young and older adults. We

<sup>8</sup> An additional analysis also showed that baseline levels of and changes in social comparisons with personally known others were independently associated with changes in regret intensity, suggesting that intraindividual changes in self-regulation processes can predict changes in regret intensity, above and beyond the effect of baseline levels of downward social comparisons.

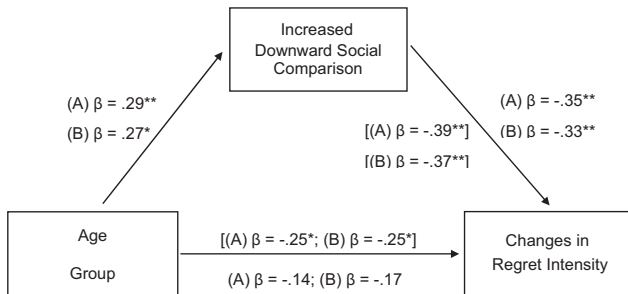


Figure 2. Summary of mediation analyses examining whether changes in social comparison direction with “most people of similar age” (Pathway A) and “personally known people” (Pathway B) would explain the age group effect on changes in regret intensity over time. Results were controlled for sociodemographic and regret characteristics and for baseline levels of social comparisons. Regression coefficients are reported in brackets. \*  $p \leq .05$ . \*\*  $p \leq .01$ .

were interested in showing that making downward social comparisons represents a particularly important self-regulation process among older, as compared with young, adults. We were also interested in documenting that older (as compared with young) adults would exhibit a larger shift toward making more downward social comparisons over time to cope with the experience of regret and that this age-differential longitudinal process would account for age differences in changes of regret intensity over time.

Overall, these hypotheses were largely supported by the data. First, across two different comparison targets with age peers and personally known others, baseline levels of downward (relative to upward) social comparisons were consistently associated with a larger reduction in older adults’ regret intensity over time. By contrast, only downward social comparisons with personally known others, but not with age peers, were associated with reductions in regret intensity among young adults. Second, older, as compared with young, adults exhibited a larger shift over time toward making more downward social comparisons. Moreover, this age-differential shift mediated a larger reduction of regret intensity over time that we observed among older, as compared with young, adults.<sup>9</sup> Third, we note that regret intensity failed to predict changes in social comparison direction over time, thereby strengthening the argument that social comparisons could be causally related to changes in regret intensity among older adults and not vice versa. On the basis of these findings, we conclude that downward social comparisons represent a strategy that is consistently and particularly adaptive for facilitating effective coping with the negative emotional consequences of life regrets among older adults.

The findings further suggest that opportunities for undoing regrets were associated with the age-differential benefits of social comparisons. In particular, the stronger effect of downward social comparisons with age peers on changes in regret intensity that was observed among older, as compared with young, adults was rendered marginally significant if we statistically controlled for participants’ subjective and objective opportunities to undo their regrets. In addition, the measures of opportunities explained the main effects of age group on changes in regret intensity and use of social comparison. These findings lend support to the theoretical rationale put forth by the life-span theory of control, according to

which older adults should engage in, and benefit most from, secondary control processes given their reduced opportunities to undo the consequences of their regrets in contrast to young adults who are more likely to actively address developmental challenges (Heckhausen & Schulz, 1995).

The results found among young adults showed that downward social comparisons with personally known others, but not with most people of similar age, were associated with reduced levels of regret intensity over time. In partial support of our hypotheses, these findings indicate that social comparison direction and changes in regret intensity are not consistently associated in young adulthood. In this respect, we had argued that downward social comparisons made by young adults could be disconfirmed by various examples of other young adults who were performing at higher levels in important domains and that this may limit the emotional benefits young adults could derive from making such comparisons.

However, the finding that comparing oneself favorably with personally known others had beneficial emotional consequences for young adults is contrary to our hypotheses and implies that different social comparison targets can have different emotional effects in young adulthood. In this regard, it may be important to consider that one distinctive feature between the two targets is that people usually have frequent social interactions with personally known others, whereas the comparison with most people of similar age is a more abstract and hypothetical construct. Consequently, through social contact and mutual self-disclosure about personal difficulties, individuals may receive social support and confirmation that their life circumstances are similar or better in comparison to personally known others. Through this process, more information also becomes available about personally known others, and individuals may therefore selectively use, or attend to, information that puts them in a favorable light.

The fact that different comparison targets showed differential associations with measures of regret intensity among young adults also supports the distinction made in the literature between comparisons with close versus distant others. Specifically, the finding that young adults benefited from making favorable comparisons with personally known others can be understood in light of previous research suggesting that closeness to the comparison target may increase the threat of upward social comparisons, particularly if the comparison dimension is important to an individual (Tesser, Millar, & Moore, 1988). Thus, when it comes to personally known others that one can choose to select for, or exclude from, one’s social network, individuals may be motivated to strategically associate with individuals by whom they do not feel threatened and keep at a distance those who represent a greater threat, thereby molding their close social network to reflect positively on them. Finally, personally known others represent an important reference

<sup>9</sup> Further support for this interpretation was provided by additional analyses, showing stronger associations between changes in social comparisons and changes in regret intensity among older (age peers:  $r = -.56$ ,  $p < .01$ ; personally known others:  $r = -.54$ ,  $p < .01$ ), as compared with young (age peers:  $r = -.27$ ,  $p > .05$ ; personally known others:  $r = -.24$ ,  $p > .05$ ) adults. This suggests that a greater increase in the use of downward social comparisons among older adults was associated with a greater reduction in regret intensity over time, in contrast to young adults.



group for young adults, associated with daily processes of self-evaluation and identity formation (for self-evaluation functions of social comparisons, see Festinger, 1954). Thus, perceiving one has less to regret in life than friends or relatives through repeated social interactions may elicit emotional relief even among young adults, thereby increasing the adaptive value of downward social comparisons in the short term. Nonetheless, we would not expect this effect to produce long-term adaptive consequences for young adults because these comparisons may not provide successful role models or information for implementing appropriate life changes (Taylor & Lobel, 1989).

Overall, the study's findings link, for the first time, the previously unrelated literatures on social comparison processes and the management of regret. This is important because previous work has documented only small, but significant, associations between an age-adjusted use of control attributions and goal adjustment processes with levels of regret-specific emotions (Wrosch et al., 2002, 2005). Thus, identifying downward social comparisons as another mechanism involved in the management of older adults' regret experiences illuminates pathways to improving older adults' quality of life, particularly given that intense regret can mediate compromised levels of older adults' subjective well-being and physical health (Wrosch et al., 2002, 2005, 2007).

In addition, our study has shown that individual differences, in both baseline levels and intraindividual changes in self-regulation processes over time, can be independently associated with adaptive outcomes. This is another important issue, given that self-regulation factors can be either stable traits (e.g., dispositional optimism; Scheier & Carver, 1985) or malleable coping tactics (e.g., control processes when passing a developmental deadline; Heckhausen, 1999) and may therefore exert their adaptive values through baseline individual differences, individual differences in intraindividual changes, or both. In this respect, it is noteworthy that older adults' biases toward recalling positive, rather than negative, information about their life (Carstensen & Mikels, 2005) might reduce the focus on regret (Carstensen et al., 2003) on a daily basis, which may explain why we did not find age differences in baseline levels of social comparison processes. In this regard, our findings suggest that age differences in social comparisons may become activated only in response to thinking about regret, and therefore, it may be necessary to examine intraindividual changes to capture the complexity of self-regulation processes in late adulthood. By the same rationale, we would expect participants to reduce their use of downward social comparisons once the regret is successfully deactivated, and the trigger is eliminated.

Finally, the study's results substantiate theory and research on the adaptive value of age-adjusted personality processes for individuals' quality of life. Consistent with our findings, this line of work converges to the conclusion that as people advance in age and face increasing constraints and declining opportunities to regulate their development, a reliance on processes that support emotion regulation, adjustment of unattainable goals, and compensation of loss becomes increasingly important for maintaining high levels of subjective well-being and good health (Baltes & Baltes, 1990; Brandtstädter & Renner, 1990; Carstensen, Isaacowitz, & Charles, 1999; Ebner, Freund, & Baltes, 2006; Heckhausen & Schulz, 1995). However, we are not aware of any research documenting age-adjusted changes in self-regulation processes to mediate age effects on changes in emotional experiences over time. In

addition, there is a lack of research integrating the study of an age-related use of personality processes with examination of whether such age differences predict changes in adaptive outcomes (e.g., Carstensen et al., 1999; Wrosch & Heckhausen, 1999). In this regard, we think that both an age-adjusted use and value are important aspects of adaptive developmental personality processes and that conclusive evidence concerning specific mechanisms that contribute to understanding pathways to successful development across the life span can be obtained only if both aspects are analyzed simultaneously in longitudinal research.

### *Limitations, Remaining Issues, and Future Research*

Although the findings from this research are largely consistent with theoretically based predictions, we would like to elaborate on some limitations and remaining issues and propose how these could be addressed in future research.

*Functions of regret in young adulthood.* First, our findings documented the self-protective effects of some (but not other) social comparisons among young adults, particularly those involving personally known others. In light of these findings, it would be important, in future research, to determine whether young adults actually favor making downward social comparisons with personally known others and whether this strategy is associated with long-term emotional and motivational benefits among young adults. This underscores the need for additional longitudinal research on the self-regulation of regret among young adults to elucidate strategies that are consistently adaptive and that promote long-term adaptation.

While social comparisons with some targets may partly reduce the negative emotional consequences of regret among young adults, it could also be argued that the presence of negative emotional states engendered by regrets may serve an adaptive function among young adults. However, whether young adults benefit from these negative emotions may depend on whether the emotions motivate adaptive actions aimed at overcoming regrets. In fact, studies have shown processes that facilitate goal attainment (e.g., taking responsibility for the regret; Wrosch & Heckhausen, 2002) were associated with reduced regret intensity among young adults. Social comparison theory would also predict that upward social comparisons may benefit young adults' emotional experiences (e.g., Taylor & Lobel, 1989), through motivational functions related to self-improvement. Therefore, we believe future research should examine more thoroughly the role of upward social comparisons in managing challenges in young adulthood in order to elucidate its potential function in motivating adaptive behaviors aimed at overcoming regret.

Finally, the fact that the literature does not show a clear pattern related to the effects of different self-regulation factors in young adulthood may imply there are other important factors that may support or hinder potential effects of regret on adaptive life changes among young adults. These factors may represent internal variables associated with volitional aspects of goal pursuits (negative affectivity, optimism, or implementation intentions, Gollwitzer, 1999; Scheier & Carver, 1985; Suls & Martin, 2005) or external factors (e.g., opportunities to implement life changes). While our study was not designed to address these issues, future

research may shed further light on the functions and adaptive management of life regrets across the adult life span.

*Can downward social comparisons improve quality of life and for whom?* Second, while this study has shown that downward social comparisons have the potential to alleviate regret intensity among older adults, results of previous longitudinal and experimental research would lead us to further predict that both intense regret and downward social comparisons are associated with changes in older adults' broader indicators of quality of life (Bailis et al., 2005; Wrosch et al., 2007). While addressing this aspect comprehensively would be beyond the scope of this study, we note that additional analyses (conducted separately for young and older adults) revealed that an increased reliance on downward social comparisons exerted a significant effect on reduced levels of depressive symptoms over time (Center for Epidemiologic Studies–Depression Scale; Andresen, Malmgren, Carter, & Patrick, 1994) only among older adults,  $F_s > 4.23$ ,  $ps \leq .05$ , but not among young adults,  $F_s > 2.94$ ,  $ps > .05$ , once more reinforcing the argument that downward social comparisons are particularly adaptive for older adults. In light of these findings, future research should examine long-term implications of downward social comparisons for young and older adults' well-being and physical health.

In addition, future research should endeavor to further clarify the mechanisms underlying age differences in the adaptive value of self-protective strategies for quality of life. In this regard, we think that our inclusion of a measure representing more objective opportunities to undo regret sheds light on some inconsistent findings reported in previous research. More specifically, our previous work has shown that age-related perceptions of opportunities did not consistently explain adaptive age effects of self-protective processes. While these inconsistencies may be in part related to the possibility that some regrets are impervious to change even in young adulthood<sup>10</sup> and others amenable to change even in late adulthood, we had explained this finding by suggesting that perceptions of opportunities may not necessarily match a person's objective opportunities and invalid perceptions may not motivate adaptive behaviors (Wrosch et al., 2005).

The reported analyses support this explanation by showing that subjective and objective opportunities were only moderately correlated with each other and that most of the reported age effects on changes in regret intensity and use of social comparison were rendered nonsignificant only if the measure of objective opportunities had been additionally considered in the analyses (see Footnote 7). While we think that these findings point to the importance of incorporating objective measures of individuals' opportunities for overcoming challenges and although our measure of objective opportunities was grounded in developmental theories (Hagestad & Neugarten, 1985; Heckhausen, 1999), more systematic research needs to be conducted in longitudinal studies to show that objective opportunities reliably account for age effects and can potentially contribute to undoing regret-related consequences in the long run. In addition, future research should continue to develop and validate more objective measures of opportunities and potentially expand our approach by further distinguishing between opportunities to undo the consequences of regrets on individuals' life circumstances versus emotional states (see Wrosch et al., 2005).

*Pathways to changing regrets.* Finally, our study design was sensitive to the detection of a previously unobserved yet interest-

ing phenomenon associated with a change of regret over time, particularly among young adults. We do not think the change of regret observed in our sample compromises the interpretation of results, given that the obtained age effects were statistically independent of whether regret intensity was associated with the same or a different regret.<sup>11</sup> Nevertheless, we believe this is an important finding as it suggests that regret is a more malleable psychological construct in young as compared with later adulthood. This interpretation would be consistent with the idea that young adults can effectively address their regrets to a greater extent and that they can therefore shift their focus toward other regrets.

In addition, our study suggests that the most severe regrets of older adults typically occur in their late 30s. This may be the age when consequences of adaptive versus maladaptive management of key developmental tasks (e.g., building a career or having a family; Havighurst, 1967) become apparent and thereby may provide another explanation for why young adults are particularly likely to change their most severe regrets when they are approaching this developmental period. Moreover, it may be that young adults' regrets reflect current concerns or goals that are abundant and shift more quickly, in contrast to the regret of an older adult, which is selected against the backdrop of enduring consequences on the individual's life from among many important regrets that have occurred throughout development.

Given that people may regret multiple different behaviors, contextual factors could also activate other regrets, while the activation of self-protective processes could reduce the intensity of a salient regret. We believe that the latter process may be observable particularly among older adults and may account for the intriguing finding that changes in social comparisons predicted a reduction in older adults' regret intensity over a short 4-month time span, although most of older adults' regrets occurred decades ago and individuals should have established their ways of coping with the regret. It may be that with the passage of time, regrets become dormant and that external cues (e.g., taking part in our study) increased the salience of participants' regrets and thereby triggered adaptive social comparison processes. Our experimental work would be consistent with this interpretation, as it showed that regret intensity can decline over a 3-month period among individuals in the experimental group who wrote about regrets in light of social comparisons, control attributions, and their future goals, as well as among older adults who were part of a control group (Wrosch et al., 2007).

Finally, in light of the finding that individuals' most severe regrets may change over time, future research should explore the dynamic nature of regret across adulthood more comprehensively. In this regard, it would be important to determine whether change

<sup>10</sup> In this case, we would expect that secondary control processes such as downward social comparisons would also be adaptive even among young adults if opportunities to undo regrets are compromised. Consistent with this argument, we have preliminary evidence to suggest that downward social comparisons can be adaptive among both young and older adults provided that they report only low opportunities to overcome their regrets (Bauer & Wrosch, 2008).

<sup>11</sup> It should also be noted that if a regret at T1 is no longer construed as the most severe regret at T2, the substitution of this regret by another supposedly represents a more conservative estimation of changes in regret intensity over time.

of regret reflects change in the severity of regret experiences or rather the partial resolution of a severe regret and its substitution by a less severe regret, and whether this is related to the activation of adaptive self-regulation processes. In addition, it would be interesting to examine whether change of regret in young adulthood potentially reflects the fact that young adults are effectively using available opportunities to address their regrets. In this regard, we hope future research will also exploit the malleable nature of social comparisons with interventions designed to manipulate these processes. This would allow investigation of whether such interventions can produce measurable shifts in social-cognitive processes and whether these changes mediate effects on a person's quality of life over time.

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