

BRIEF REPORTS

You Never Lose the Ages You've Been: Affective Perspective Taking in Older Adults

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The great thing about getting older is that you don't lose all the other ages you've been.
—Madeline L'Engle at age 65 when speaking with a fourth grader who asked, "How old are you?"

Aging appears to be associated with a growing preference for positive over negative information (Carstensen, Mikels, & Mather, 2006). In this study, we investigated potential awareness of the phenomenon by asking older people to recollect material from the perspective of a young person. Young and older participants listened to stories about 25- and 75-year-old main characters and then were asked to retell the stories from the perspective of the main characters. Older adults used relatively more positive than negative words when retelling from the perspective of a 75- versus 25-year-old. Young adults, however, used comparable numbers of positive and negative words regardless of perspective. These findings contribute to a growing literature that points to developmental gains in the emotion domain.

Keywords: aging, positivity effect, perspective taking

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Empirical research suggests that a preference for positive emotional information may emerge with age (Charles, Mather, & Carstensen, 2003; Isaacowitz, Wadlinger, Goren, & Wilson, 2006; Kennedy, Mather, & Carstensen, 2003; Mather & Carstensen, 2003; Mikels, Larkin, Reuter-Lorenz, & Cartensen, 2005; Schlagman, Schulz, & Kvavilashvili, 2006). This preference stands in contrast to findings from research that suggests that negative

stimuli hold special attention-grabbing properties in young adults (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Cacioppo, Gardner, & Berntson, 1997; see also Wood & Kisley, 2006). This developmental shift has recently been coined the *positivity effect* and has been observed in autobiographical memory, long-term memory, working memory, and attention (for a review, see Carstensen, Mikels, & Mather, 2006). Although the phenomenon is evident in multiple domains, little is known about the causes of the shift. Does the shift reflect developmental changes rooted in motivation? Or could it be the serendipitous result of neural or cognitive decline? In this article, we explore whether older adults display an implicit awareness of an age-related preference for positive over negative information.

To address this question, in the present study we asked young and older adults to recollect a day in the life of a person told from the perspective of a young or older main character. We reasoned that if people have some degree of awareness of a developmental trajectory of change, they may display positivity in their retellings from the perspective of an older main character while displaying less positivity in their retellings from the perspective of a young main character. Working from the axiom that all older adults were once young but young adults have never been old, we hypothesized that older adults would modify their retellings according to the main character's age and young adults would not.

There has been little prior research on perspective taking in older adults, and extant research has focused largely on tasks that

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require significant cognitive resources (Chasseigne, Lafon, & Mullet, 2002; Ligneau-Hervé & Mullet, 2005; Pratt, Diessner, Pratt, Hunsberger, & Pancer, 1996). The findings of many of these studies suggest that certain perspective-taking abilities decline with age. Yet, results from other studies suggest that older adults may have an advantage relative to young adults when perspective taking relies less on cognitive capacity and more on life experience, as older adult self-reports indicate (Martini, Grusec, & Bernardini, 2001). On tests of dialectical reasoning, for example, or the predilection to acknowledge and reconcile opposing perspectives, older adults' performance is commensurate with or superior to young adults' performance (Blanchard-Fields, 1989; Pratt et al., 1996). Thus, perspective-taking abilities do not necessarily decline uniformly across the life span.

The task in the current study was designed to measure perspective taking in a manner consistent with the motivational frame of older adults. Each additional year of life that individuals live offers opportunity for them to gain experience, whether in the form of education, parenthood, provision of mentorship, or understanding of other people. Baltes and Staudinger (2000) maintained that these experiences in everyday life may facilitate the development of wisdom. While research to date suggests that wisdom is maintained across the adult life span (e.g., Staudinger, 1999), affective perspective taking might be one wisdom-related domain in which there are increases over the course of development as it is a phenomenon that is theoretically wedded to a developmental process (viz., a shift in motivation associated with an increasing perception of constraints on time left in life). As Madeline L'Engle (Anderson & Dunlap, 1985) aptly observed, older adults have known what it means to be a young adult. Indeed, according to Baltes and Staudinger (2000), wisdom comprises "knowledge about the condition, variability, ontogenetic changes, and historicity of life development as well as knowledge of life's obligations and life goals" (p.124). Because increasing age may be related to the acquisition of wisdom-related concepts about life development (Baltes, Staudinger, & Maercker, 1995; Gluck & Baltes, 2006), it is conceivable that older adults have some degree of awareness of ontogenetic changes, which may include the positivity effect. If so, older adults may be better able to take the affective perspectives of young people than young people may be at adopting the perspectives of older adults.

In the current study, we employed a perspective-taking paradigm in which participants were asked to retell recorded stories containing events described in emotional language from the perspective of a young main character and from the perspective of an older main character. We predicted that across all conditions, older adults would use more positive relative to negative words than young adults. Furthermore, we hypothesized that older adults would use more positive relative to negative words when retelling a story about an older adult than when retelling the story about a young adult, whereas young adults would show no valence effect as a function of main character age.

Method

Participants

Twenty older adults and 20 young adults were paid \$25 each to participate in the study. All participants resided in the San Fran-

cisco Bay area, were community dwelling, and had no major neurological or psychiatric illnesses. Participants were recruited through postings on the online message board Craigslist and from a name bank in the Life-Span Development Laboratory at Stanford University. The name bank contains contact information from people who have indicated an interest in participating in studies in our laboratory. The sample of older participants (64–88 years old, $M = 75.44$, $SD = 6.88$) was 50% female and included four African Americans and 12 European Americans. The sample of young participants (18–29 years of age, $M = 22.72$, $SD = 3.27$) was 44% female and included five African Americans and 13 European Americans. No significant differences between the two groups were found in years of education (young: $M = 14.56$, $SD = 1.79$; older: $M = 15.56$, $SD = 2.68$; $t[32] = 1.22$, $p > .2$), scaled income (young: $M = \$47,200$, $SD = \$32,900$; older: $M = \$66,000$, $SD = \$42,100$; $t[31] = 1.44$, $p > .1$), or self-rated health (young: $M = 2.00$, $SD = 0.91$; older: $M = 2.31$, $SD = 0.95$; $t[32] = 0.98$, $p > .3$).¹ Consistent with the literature, the older adult group performed more poorly on the measures of speed of processing, Digit Symbol Coding (young: $M = 80.33$, $SD = 22.23$; older: $M = 55.87$, $SD = 15.64$; $t[31] = 3.58$, $p < .001$), and short-term memory, Digit Span (young: $M = 19.67$, $SD = 5.42$; older: $M = 14.13$, $SD = 3.83$; $t[32] = 3.40$, $p < .005$), but comparably well to the young adults on a test of knowledge, Vocabulary (young: $M = 45.89$, $SD = 10.53$; older: $M = 41.56$, $SD = 11.32$; $t[32] = 1.16$, $p > .2$).²

Materials

A computer equipped with iTunes software was used to present audiotaped recordings of stories. Participant responses were recorded on a standard tape recorder placed next to the computer. In addition to completing the main study task, participants also completed a consent form, a demographic information form, and measures to assess physical health and cognitive functioning.

Perspective-Taking Stories

Two stories were written in the third person and audiorecorded for this task. For purposes of experimental control, the same narrator (a young woman) was used in all recordings. It is important to note that the stories were created in consultation with both young and older men and women, such that the main character in each story could believably be a 25-year-old or 75-year-old man or woman. To that end, the stories were about events that took place over the course of a weekend and that would be likely occurrences in the life of an older or young adult. Versions of each story, in which only the gender of the main character varied, were constructed, and the gender of the main character was matched to the gender of the participant. Stories contained six negative and six positive events. (See online supplement Appendix A for full text of the two stories.)

¹ Scaled income: On a scale of 1–16 at intervals of \$10,000 total household income for the last year; self-rated health (Han, B., et al., 2005): an overall rating of physical health on a scale of 1–5, superior health = 1.

² Vocabulary from the WAIS-III (Wechsler, 1997): maximum score = 66; Digit-Symbol Coding from the WAIS-III: maximum score = 133; Digit Span from the WAIS-III: maximum score = 30.

Experimental Design and Procedures

Following completion of the consent form and demographic information form, participants were told that they would listen to two stories, one about a character who was 25 years old and one about a character who was 75 years of age, and that after each story, they would be asked to reflect aloud on the weekend from the perspective of the main character. Following these instructions, the experimenter left the room. Each participant listened to both Story A and Story B, and the order in which Story A and Story B were presented was counterbalanced across participants. To control for specific item effects, we counterbalanced whether Story A or Story B featured a young or older protagonist such that across participants each story was presented featuring a young and older main character an equal number of times. Before listening to each story, participants heard the following:

The [first/second] story is about [name of main character—gender matched to participant] who is [25/75] years old. After listening to the story, you will be asked to reflect aloud on the weekend from [name of main character]'s perspective, recalling those events that you think would be most important to [name of main character].

After each story, the participant was given 3 min in which to reflect aloud on the day. Upon conclusion of the second reflection period, the experimenter returned to the room and administered the Wechsler Digit Span, Wechsler Digit Symbol, Wechsler Vocabulary, and a self-rated health form.

Results

Data Reduction

Audiotaped responses were transcribed and then coded using the Linguistic Inquiry and Word Count (LIWC) system developed by Pennebaker and Francis (1994). The LIWC system is a computer program that can be used to score written text on several dimensions, including valence. The LIWC dictionary includes 261 positive and 345 negative emotion words, which are recognized and used by the program to compute percentage scores of positive and negative emotion words used. One participant was excluded from all analyses due to a tape recorder malfunction. Data from five outliers (two young and three older participants) were excluded because the frequency of positive or negative words used in reflections fell more than two standard deviations outside the of the respective group mean for that frequency.

Because stories contained six positive events and six negative events, differences in memory for these events could confound the perspective-taking measure. Therefore, we were prompted post hoc to rule out the possibility that any differences in the valence of older and young adult reflections could be explained by event salience. Two independent raters blind to participant age scored responses for the number of positive and negative events mentioned in older and young reflections. Agreement between raters was 74% ($\kappa = .70$). The following recall results hold regardless of which rater's scores are used in the analysis, so the scores of only one rater are reported.

Perspective-Taking Analyses

In order to operationalize perspective taking in the current experimental context, we used the following rationale: Given that

older adults are typically more positive and less negative in comparison to young adults, when an individual takes the perspective of an older adult, they should use more positive and less negative language than when taking the perspective of a young adult. Thus, to assess perspective-taking performance in this context, we used the percentage scores for positive and negative emotion words output by LIWC (see online supplement Appendix B for example reflections). In separate analyses, we considered the percentage of positive and negative *words* used (the primary dependent variable) and the number of positive and negative *events* mentioned (to rule out the possibility that the valence of participant reflections represented a bias in memory for either positive or negative events as opposed to a bias in the appraisal of events).

Data were submitted to a repeated-measures analysis of variance (ANOVA) with the between-subjects factor of age group (young, older) as well as with the two within-subject factors of main character age (25 years, 75 years) and valence (positive, negative). A significant main effect of valence was found, $F(1, 32) = 20.88$, $p < .001$, $\eta_p^2 = .40$. Across conditions, participants used more positive words ($M = 1.98\%$, $SD = 0.62$) than negative words ($M = 1.34\%$, $SD = 0.61$). A valence by group interaction was also significant, $F(1, 32) = 5.39$, $p < .05$, $\eta_p^2 = .14$. Overall, older adults used more positive words ($M = 2.16\%$, $SD = 0.71$) and fewer negative words ($M = 1.17\%$, $SD = 0.61$) relative to young adults (positive: $M = 1.82\%$, $SD = 0.50$; negative: $M = 1.50\%$, $SD = 0.58$). Most important, a three-way interaction of valence by group by main character age emerged, $F(1, 32) = 6.52$, $p < .05$, $\eta_p^2 = .17$ (see Table 1). When retelling a story from the perspective of a 75-year-old, older participants used more positive and less negative language than when retelling a story from the perspective of a 25-year-old. Young adults did not show this pattern. These results are shown in Figure 1 (for purposes of graphical clarity, the figure presents the ratio of positive to negative words used).³ No other significant effects were found.

Post Hoc Analyses

To test for possible memory effects, we calculated the total number of the six positive and six negative events mentioned in reflections by each participant for both the 25-year-old and 75-year-old perspectives. The data were submitted to a repeated-measures ANOVA with the between-subjects factor of age group (young, old) and the two within-subjects factors of main character age (25 years old, 75 years old) and valence (positive, negative). There was a significant effect of valence, $F(1, 32) = 52.25$, $p < .001$, $\eta_p^2 = .62$. All participants recalled more negative events ($M = 6.62$, $SD = 2.15$) than positive events ($M = 4.03$, $SD = 2.19$). The analysis also revealed a main effect of age group, $F(1, 32) = 11.57$, $p < .005$, $\eta_p^2 = .27$. Young adults recalled significantly more events than older adults ($M = 12.44$, $SD = 2.97$; $M = 8.63$, $SD = 3.58$, respectively).

To rule out the possibility that more negative events were recalled because the specific negative events included in the stories

³ One older adult used zero negative words in the 75-year-old perspective condition; therefore in order to calculate the ratio of positive to negative words, we substituted the next lowest reported negative word score for the zero value.

were more arousing than the specific positive events, we analyzed the specific negative and positive events for perceived differences in valence and arousal. We asked a group of 29 young adults to provide arousal ratings for the specific events contained in the stories and found no differences in mean arousal—Story 1: $t(5) = 0.24, p > .05$; Story 2: $t(5) = 0.90, p > .05$ —for positive in comparison to negative events, nor any differences in mean positive event arousal, $t(10) = 0.52, p > .05$ or negative event arousal, $t(10) = -0.57, p > .05$, between the two stories.⁴

Discussion

In the current study, we investigated whether there exists an age-related positivity effect in the retelling of stories containing daily life events and whether older or young adult retellings reflect this differential positivity. We assessed positivity in an affective perspective-taking task, which was in turn evaluated as the relative proportion of positive and negative words used by participants when taking the perspective of a 75- versus a 25-year-old. We hypothesized (a) that across conditions older adults would use more positive relative to negative words in comparison to young adults and (b) that older adults would use more positive relative to negative words when taking the perspective of a 75-year-old as opposed to a 25-year-old but that young adults would not. The pattern of results supports this hypothesis. In contrast to documented declines in perspective-taking ability involving nonemotional information, affective perspective taking may represent a domain in which older adults show superior performance relative to young adults. Moreover, the differential retelling of the day according to the age of the person whose perspective was being taken suggests that older adults are at some level aware of the age-related positivity effect. We recognize that the term *aware* is imperfect, as our data provide no insights into the reasons for this pattern of findings. However, the fact that older people show a recollection pattern that reflects the positivity effect, whereas young adults do not—even when the stories were matched in all other ways—suggests some appreciation that there are age differences in positivity.

Furthermore, if older adults are indeed capable of assuming the less positively biased perspective of a young person, it is unlikely

Table 1
Frequency of Positive and Negative Words Used Broken Down by Group and Main Character Age

Groups/main character's age	Words			
	Positive (%)		Negative (%)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Young				
25 years*	2.00	0.66	1.51	0.69
75 years	1.65 [†]	0.64	1.49 [‡]	0.77
Older				
25 years*	2.00	0.97	1.32	0.78
75 years**	2.31 [†]	1.04	1.02 [‡]	0.73

Note. Between-subject effect: [†] indicates a significant difference at $p < .05$. [‡] indicates a difference at $p < .08$. * $p < .05$. ** $p < .001$.

Ratio of Positive Words to Negative Words Used as a Function of Age Group and Perspective Condition

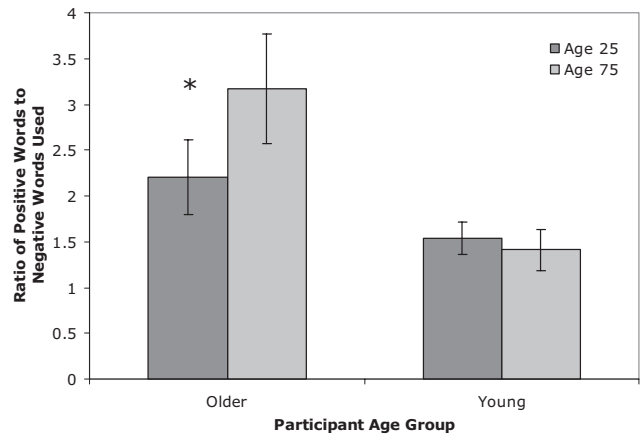


Figure 1. Ratio of positive words to negative words used. Results are shown separately by perspective condition (main character age: 25 and 75 years) for older adults and young adults. Error bars display the standard error of the mean.

that the positivity effect is the serendipitous consequence of cognitive decline and the inability to process negative emotional information as well as positive. Wurm, Labouvie-Vief, Aycock, Rebucal, and Koch (2004) have suggested that older adults “reduce the complexity of affective information, distorting it in a positive direction” (p. 523). However, results of the current study support the viewpoint that older adults are able to process and encode negative information. The present results further suggest that older adults are aware that their young counterparts do not display this selectivity. Rather than distorting affective information, older adults in this context appear to represent it with a sensitivity to age perspectives that young adults do not possess. Furthermore, in the current study, older adults, like young adults, remembered significantly more negative events than positive events regardless of the perspective they were taking. The specific event data indicate that for older adults, the perspective taking manipulation did not influence the type of information that was retrieved but rather how that information was appraised. Both young and older adults recalled more negative events but used more positive relative to negative words in their reflections on the story as a whole.

Older adults observed in this study were not blind to negative events; rather they put the best “face” on them. This finding contributes to the nuanced pattern of empirical findings about the positivity effect that is emerging in the literature—findings that are highly consistent with a motivational account. As theoretically defined, the positivity effect reflects the age-related motivation to maintain emotional well-being. Attention to positive stimuli is the chronically activated default. However, when experimental instructions require older participants to process negative stimuli, the positivity effect is not observed (Rösler et al., 2005; Samanez-Larkin, Robertson, Mikels, Carstensen, & Gotlib, 2009). When

⁴ Previous research suggests that for emotional material in general, few age differences emerge in reported emotional intensity of experimental stimuli (for review, see Carstensen et al., 2006).

older adults are explicitly asked to be as accurate as possible the effect is eliminated (Löckenhoff & Carstensen, 2007). When cognitive load increases or when the task requires the processing of both positive and negative stimuli, the effect disappears (for reviews, see Kryla-Lighthall & Mather, 2008; Mather & Carstensen, 2005). Such findings speak against rival explanations for the positivity effect, such as cognitive decline or neural degradation, and contribute to an emerging picture of an adaptive, motivated shift in attention.

In the current study, we were interested in investigating the overall tone of young and older adult reflections. Consistent with positivity in appraisal of daily activities, older adults used more positive words across both the 25-year-old and 75-year-old perspectives than did young adults, especially when recalling from the perspective of an older person. This pattern of findings provides support for the argument that older adults have some awareness that the perspective of an older adult is likely to be more positive than that of a young adult. Alternatively, it is also possible that these findings reflect that positivity is partially moderated by perceived similarity to the protagonist (i.e., older adults do not know that young adults are less positive but rather are compelled to apply positivity more strongly to individuals whom they perceive to be more similar to themselves).⁵ Future perspective-taking research in which additional characteristics of story protagonists, such as ethnicity or gender, are manipulated will be required to rule out this interpretation of the data.

Most important, only older adults differed by experimental condition in accordance with the age-related positivity effect observed in this study as well as others. This interaction suggests that while the verbal responses of older adults may reflect some degree of knowledge of the positivity effect those of young adults do not. These findings contribute to models of wisdom by suggesting that older adults are aware of ontogenetic changes, such as shifts in motivation, that have taken place over the course of their lives (Baltes & Staudinger, 2000). Although consistent age differences in wisdom have yet to emerge, the current study indicates that further analysis of discrete, theoretically wisdom-related skills, such as affective perspective taking, offers a potentially promising direction for investigation. We expect that Madeline L'Engle would be pleased to know that insight into developmental trends in affective preferences may be a component of wisdom that emerges with age.

⁵ We are grateful to an anonymous reviewer for suggesting this alternative interpretation.

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