

**AGE DIFFERENCES IN SUBJECTIVE WELL-BEING
ACROSS ADULTHOOD: THE ROLES OF SAVORING
AND FUTURE TIME PERSPECTIVE**

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ABSTRACT

Prior research indicates there are age differences in subjective well-being during adulthood, but research on age differences in savoring (up-regulating positive emotion) is lacking. Using an online survey ($N = 218$, adults 18–77), this study investigated age differences in subjective well-being and savoring, and whether future time perspective (perceived amount of time left to live) mediated associations between age and savoring. Results indicated a non-linear effect of age on subjective well-being. Although savoring was associated with subjective well-being, age was not directly associated with savoring. However, an indirect effect of future time perspective linking age and savoring indicated that younger adults reported more perceived time left in life and those perceiving more time left in life reported greater savoring. Overall, the results do not support savoring as a direct explanatory mechanism for age differences in subjective well-being, but future time perspective appears to play an important role in indirect associations between age and savoring.

A substantial body of research suggests that levels of emotional or subjective well-being differ across adulthood due in part to age differences in adults' abilities to regulate negative emotions (see Charles & Carstensen, 2009 for a review).

However, little research has focused on age differences in the regulation of positive emotion, even though it may also contribute to age differences in subjective well-being. As a result, the present study was designed to examine savoring, or using particular methods to maintain and enhance positive emotions (Bryant, 1989, 2003), across a sample ranging from younger to older adulthood.

WELL-BEING IN ADULTHOOD

Past research indicates that subjective well-being differs across adulthood with older adults generally reporting the highest levels of subjective well-being. Subjective well-being refers to high levels of life satisfaction, high levels of positive affect, and low levels of negative affect (Diener, Suh, Lucas, & Smith, 1999). Cross-sectional studies have found mean differences in subjective well-being when comparing younger and older adults, with older adults consistently reporting greater happiness (Gross, Carstensen, Pasupathi, Tsai, Skorpen, & Hsu, 1997), life satisfaction (Hamarat, Thompson, Zabrocky, Steele, Matheny, & Aysan, 2001), meaning in life (Steger, Oishi, & Kashdan, 2009), and less negative affect (Carstensen, Pasupathi, Mayr, & Nesselroade, 2000; Gross et al., 1997; Mroczek & Almeida, 2004). Critically, this pattern has been substantiated with longitudinal research. Specifically, researchers have found increases in daily experiences of positive affect (with a slight decrease in positive affect in the oldest-old; Carstensen, Turan, Scheibe, Ram, Ersner-Hersfield, Samanez-Larkin, et al., 2011) and decreases in experiences of negative affect (Carstensen et al., 2011; Charles, Reynolds, & Gatz, 2001) throughout adulthood. However, there is also some evidence for nonlinear patterns of subjective well-being across adulthood. That is, researchers have found U-shape functions for positive affect (Grühn, Kotter-Grühn, & Röcke, 2010), global well-being, enjoyment (Stone, Schwartz, Broderick, & Deaton, 2010), happiness, and life satisfaction (Blanchflower & Oswald, 2008), and reverse U-shape functions for negative affect (Grühn et al., 2010) and depression (Blanchflower & Oswald, 2008), with middle adults reporting the lowest subjective well-being and older adults reporting the highest. Despite the slight differences across past research, the findings consistently show that older adults report the highest subjective well-being.

Research indicates that age differences in subjective well-being are partially due to age differences in emotion regulation, which involves the processes we use to influence our experiences of emotions. Past literature has focused specifically on the regulation of negative emotion, showing that older adults have greater access to negative emotion regulation strategies (Orgeta, 2009) and are more adept at down-regulating negative emotions compared to younger adults (Phillips, Henry, Hosie, & Milne, 2008; Scheibe & Blanchard-Fields, 2009). However, little is known about how the regulation of positive emotion and responses to positive events may vary with age. Age differences in adaptive responses to positive events, such as using savoring strategies to amplify positive

emotion and capitalize on positive experiences, also could contribute to differences in subjective well-being across adulthood.

Savoring and Well-Being

Savoring encompasses a variety of positive emotion regulation strategies in which specific thoughts or behaviors are used to maintain or enhance positive emotions (Bryant, 1989, 2003; Bryant & Veroff, 2007). Savoring strategies include methods such as savoring the moment, reminiscing on or anticipating a positive event, congratulating oneself, thinking about one's blessings, behavioral expression of positive emotion, and sharing positive events with others (Bryant, 2003; Bryant & Veroff, 2007; Quoidbach, Berry, Hansenne, & Mikolajczak, 2010). Notably, savoring is similar to but broader than other terms such as maximizing, or having expressive or reflective responses to positive events (e.g., thinking about a positive event; Gentzler, Kerns, & Keener, 2010) and capitalizing, or having expressive responses to positive events (e.g., sharing positive events with others; Langston, 1994). Research on savoring, primarily conducted with college students, demonstrates that savoring is associated with subjective well-being. For instance, correlational studies indicate that savoring is associated with more frequent and intense happiness and less frequent neutral and unhappy moods (Bryant, 2003). Moreover, experimental studies have shown that using particular savoring strategies is causally linked to greater happiness and positive affect (Bryant, Smart, & King, 2005; Emmons & McCullough, 2003; Langston, 1994; Gable, Reis, Impett, & Asher, 2004; Quoidbach, Wood, & Hansenne, 2009; Reis, Smith, Carmichael, Caprariello, Tsai, Rodrigues, et al., 2010), increased life satisfaction (Gable et al., 2004), and decreased negative affect (Hurley & Kwon, 2011).

Savoring across Adulthood

Bryant and colleagues have called for more research to be conducted on savoring among people of various ages in order to gain a better understanding of how savoring strategies are used throughout the life-span (Bryant, Chadwick, & Kluwe, 2011) and have suggested that older adults may be better able to savor as they near the end of life as indicated by exploratory analyses (Bryant & Veroff, 2007). The hypothesis that older adults would be more likely to savor is also supported by research suggesting that older adults generally demonstrate a positivity effect where they pay greater attention to and have greater memory for positive stimuli compared to younger adults (e.g., Carstensen & Mikels, 2005; Mather & Carstensen, 2005). Because savoring is consistently linked to subjective well-being, age differences in savoring could partially explain the documented age differences in subjective well-being across adulthood. In addition to contributing to theory on age and subjective well-being, discovering age

differences in savoring would give researchers a fuller picture of how savoring strategies are used across adulthood.

Future Time Perspective as a Potential Mediator of Age Differences in Savoring

Socioemotional selectivity theory provides a theoretical basis for expecting age differences in savoring. This theory posits that older adults view themselves as having limited time left in life (i.e., limited future time perspective), and that this perception motivates older adults to view close social relationships and emotional goals as increasingly important. By contrast, younger adults view themselves as having much time left in life (i.e., expansive future time perspective) and therefore are more concerned with learning new information and networking with new people rather than focusing on socioemotional goals (Carstensen, Fung, & Charles, 2003; Carstensen, Isaacowitz, & Charles, 1999). Thus, in line with this theory, future time perspective, or the length of time people perceive they have left to live, may serve as a partial mediator between age and savoring. Specifically, as suggested by Bryant and colleagues (2011), older adults' limited future time perspective might foster higher levels of savoring by increasing their emphasis on socioemotional goals. This focus on socioemotional goals likely includes the desire to improve emotional experiences and enhance their positive feelings. To fulfill this goal, older adults may therefore be more motivated to savor their positive events for the affective benefits. Evidence from a study that manipulated college students' perceived temporal scarcity supports this hypothesized association between future time perspective and savoring (Kurtz, 2008). College students led to view graduation as being temporally close rather than far away (similar to a limited future time perspective) actually began to appreciate their college experiences more by participating in more savoring-related activities, and also reported increased subjective well-being. This process could mirror older adults' limited future time perspective fostering higher levels of savoring.

Present Study

The overall goals of the present study are to investigate if savoring partially accounts for age-related trends in subjective well-being, and whether future time perspective partially explains the potential link between age and savoring. To achieve these goals, we had four expectations. First, this study sought to replicate findings of past research on age differences in subjective well-being with the expectation that older adults would report the highest subjective well-being. Second, this study sought to replicate past research on savoring and subjective well-being with the expectation that greater savoring would be associated with greater subjective well-being. Savoring was assessed using three different measures not previously used in conjunction with each other, and it was expected

that each measure would tap slightly different types of savoring but would yield similar results. Third, this study sought to expand the current literature by examining savoring throughout adulthood with the expectation that older adults would report higher levels of savoring, and by examining savoring as a partial mediator in the association between age and subjective well-being. Fourth, future time perspective was examined as a potential explanatory mechanism in the hypothesized association between age and savoring, with the expectation that older adults would perceive themselves as having little time left in life, and that this limited future time perspective would be associated with increased savoring.

METHOD

Participants and Procedure

Two hundred eighteen participants (128 female, 90 male) aged 18-77 years ($M = 42.23$, $SD = 15.05$) participated in this study. There were 93 young adults ages 18-39 ($M = 27.34$, $SD = 6.02$), 83 middle adults ages 40-59 ($M = 48.02$, $SD = 5.45$), and 42 older adults ages 60-77 ($M = 63.76$, $SD = 3.57$). The racial-ethnic breakdown was 82% Caucasian, 7% African-American, 3% Asian, 3% Hispanic, 3% biracial, .5% Native American, .5% Pacific Islander, .5% other, and .5% preferred not to answer. The mean and median reported income for participants was between \$40,000 and \$49,999 a year, which is lower than the national average (\$68,259) but similar to the national median (\$50,046; U.S. Census Bureau, 2010). This sample came from a larger sample of 272 participants. Fifty-one participants did not complete all questionnaires and were excluded from analyses, and three additional participants were excluded from analyses for inconsistently reporting their age. Participants were recruited online using Amazon Mechanical Turk (MTurk). Volunteers were informed that the study's purpose was to examine adults' responses to events and received a \$2 honorarium for participating. The West Virginia University Institutional Review Board approved this study.

Materials

Savoring Beliefs Inventory (SBI; Bryant, 2003)

This 24-item questionnaire provided a measure of participants' *savoring capacity* ($\alpha = .96$). Participants responded to questions on a 7-point Likert scale ranging from 1 (strongly agree) to 7 (strongly disagree). The questionnaire measured three specific types of savoring strategies: savoring the moment (e.g., "when something good happens, I can make my enjoyment of it last longer by thinking or doing certain things"), positive anticipation (e.g., "before a good thing happens, I look forward to it in ways that give me pleasure in the present"), and

positive reminiscence (e.g., “I can make myself feel good by remembering pleasant events from the past”). Higher scores indicated greater perceived capacity to savor positive events.

Positive Events and Responses Survey for Adults (PEARS-A)

This questionnaire measured *vignette-based savoring* by assessing participants’ savoring responses for hypothetical positive events applicable to adults of all ages. The PEARS-A is a modified version of the original Positive Events and Responses Survey (PEARS) designed for college students (Gentzler, Palmer, & Ramsey, 2013). For this current measure, participants read six vignettes, which described general positive events including two interpersonal events, two achievement-related events, and two pleasant surprises. Participants indicated how likely it would be for them to have different types of savoring responses (sharing generally, mass sharing, celebrating, marking the event, reflecting on their positive emotions, just being happy, savoring the moment, being grateful, thinking about their good fortune, engaging in a religious practice (i.e., prayer of thanks), rewarding themselves, reflecting on their positive attributes, congratulating themselves, anticipating or reminiscing on the event, expressing themselves, and being physically affectionate) if they were to experience each event on a 5-point Likert scale ranging from 1 (not at all) to 5 (very likely). Higher scores indicated a greater likelihood of savoring for the various vignettes ($\alpha = .93$).

Ways of Savoring Checklist (WOSC; Bryant & Veroff, 2007)

This questionnaire measured *event-specific savoring* by assessing participants’ actual use of various savoring strategies for a recalled positive event. Participants first described a recent enjoyable vacation or day/weekend trip they had experienced and then indicated how much each of 56 statements describing use of various savoring strategies applied to what they thought and did while on the described vacation or trip. In line with past research using the WOSC (Jose, Lim, & Bryant, 2012), only seven of the ten original subscales were used to assess savoring (sharing with others, memory building, self-congratulation, absorption, behavioral expression, counting blessings, and sensory-perceptual sharpening) because the other three subscales (comparing, temporal awareness, and kill-joy thinking) appear to measure a construct more similar to dampening, or the down-regulation of positive emotion (Bryant & Veroff, 2007). Participants rated each statement on a 7-point Likert scale ranging from 1 (definitely doesn’t apply) to 7 (definitely applies), and higher scores indicated greater use of savoring strategies during the experienced event ($\alpha = .96$).

Subjective Happiness Scale (SHS; Lyubomirsky & Lepper, 1999)

This 4-item questionnaire provided a measure of participants' global *subjective happiness* ($\alpha = .92$). Participants rated each item on a 7-point Likert scale ranging from 1 to 7, with higher scores indicating greater happiness.

Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985)

This 5-item questionnaire assessed participants' *life satisfaction* ($\alpha = .94$). Participants responded to questions on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree), with higher scores indicating increased life satisfaction.

Future Time Perspective Scale (FTPS; Cate & John, 2007; Lang & Carstensen, 2002)

This 10-item questionnaire provided a measure of participants' *future time perspective*, or how long participants believed they had left in life and whether or not they were focused on opportunities or limitations ($\alpha = .93$). Participants rated items on a 7-point Likert scale ranging from 1 (very untrue) to 7 (very true). Higher scores indicated a more expansive future time perspective, or the perception that one has substantial time and opportunities left in life.

Center for Epidemiological Studies Depression Scale Revised (CESD-R; Van Dam & Earleywine, 2011)

This 20-item questionnaire is a revision of the original CES-D (Radloff, 1977) and provided a measure of participants' *depressive symptoms* experienced during the past two weeks ($\alpha = .96$). Participants' level of depressive symptoms was included as a possible covariate in case age differences in depression influence age-related trends of savoring or subjective well-being. Participants indicated the prevalence of various symptoms on a 5-point Likert scale ranging from 0 (not at all or less than 1 day) to 4 (nearly every day for 2 weeks), with higher scores indicating increased experience of depression symptoms. The measure of depression was skewed, thus it was transformed using a square root transformation.

Analytical Approach

Because some research indicates non-linear associations between age and subjective well-being, preliminary analyses were conducted to determine if the data indicated linear or nonlinear trends in subjective well-being with age. Because gender (Bryant & Veroff, 2007; Wood, Heimpel, & Michela, 2003), income (Quoidbach, Dunn, Petrides, & Mikolajczak, 2010), and depression (Bryant,

2003) have been linked to savoring and subjective well-being, these variables were examined as potential covariates in main analyses. Because the three savoring measures may be tapping slightly different types of savoring, these were analyzed separately rather than aggregating into a single factor or latent score. As a result, multiple regressions were conducted to test hypotheses. Regarding mediation hypotheses, indirect effects were tested if the predictor was significantly associated with the mediator and the mediator was significantly associated with the outcome, even if the predictor was not significantly associated with the outcome (e.g., Rucker, Preacher, Tormala, & Petty, 2011). The significance of indirect effects were tested using bootstrapping methods with PROCESS in SPSS (Hayes, 2013). If these criteria were not met, mediation analyses were not conducted.

RESULTS

Preliminary Analyses

Correlations indicated that subjective happiness and life satisfaction were highly correlated ($r = .69, p < .001$), thus for parsimony in main analyses, a composite subjective well-being score was created by summing the z-scores of the subjective happiness and life satisfaction measures. As expected, the savoring scales were related ($r = .28$ to $.63$) but not so strongly that they warranted being collapsed into a single scale. Preliminary analyses to examine potential covariates indicated that measures of income and depression were significantly correlated with subjective well-being, and that depression symptoms were also significantly

Table 1. Correlations

Measure	1	2	3	4	5	6	7	<i>M</i>	<i>SD</i>
1. Age	—							42.43	(15.05)
2. Income	.19**	—						—	—
3. Depression	-.14*	-.18*	—					15.88	(17.00)
4. Subjective well-being	.08	.25***	-.52***	—				19.40	(7.34)
5. Savoring capacity	-.03	.08	-.44***	.58***	—			25.90	(26.37)
6. Vignette-based savoring	-.02	-.08	-.09	.37***	.48***	—		3.34	(0.58)
7. Event-specific savoring	.07	.04	-.04	.29***	.28***	.63***	—	4.18	(1.20)
8. Future time perspective	-.30***	.01	-.39***	.55***	.53**	.31***	.19**	46.06	(14.03)

* $p < .05$; ** $p < .01$; *** $p < .001$.

correlated with savoring capacity (see Table 1). Additionally, savoring capacity varied significantly by gender ($t(214) = -1.87, p = .019$) with women ($M = 29.37, SD = 26.36$) reporting greater capacity for savoring than men ($M = 20.85, SD = 25.70$), and subjective happiness marginally differed by gender ($t(216) = -2.36, p = .063$) with women ($M = 19.05, SD = 5.89$) reporting greater happiness than men ($M = 17.49, SD = 6.28$). Thus, gender, income, and depression symptoms served as covariates for all analyses testing hypotheses.

Age Differences in Subjective Well-Being

Examination of scatterplots indicated nonlinear associations between age and subjective well-being (see Figure 1). Therefore, a non-linear regression was conducted to assess age-differences in subjective well-being (see Table 2). There was a significant non-linear effect of age on subjective well-being, with middle adults reporting the lowest subjective well-being and, as expected, older adults reporting the highest subjective well-being.

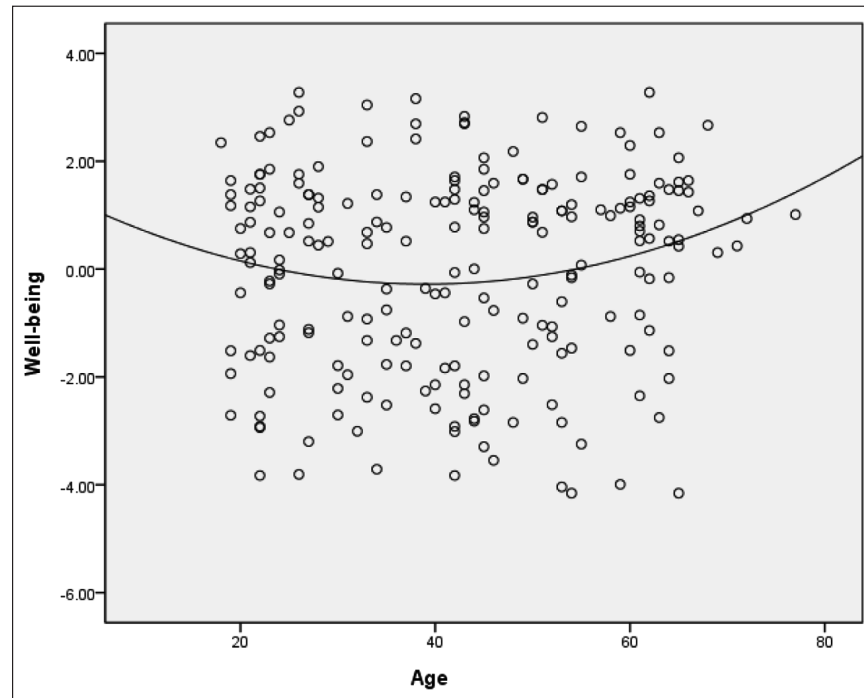


Figure 1. Scatterplot indicating nonlinear associations between age and subjective well-being.

Table 2. Multiple Regressions Testing Curvilinear Effects of Age on Subjective Well-Being

	$R^2 \Delta$	β	β final
Step 1	.307***		
Gender		.07	.07
Depression		.17**	.21**
Income		-.48***	-.49***
Step 2	.001		
Age		-.03	-1.16**
Step 3	.030**		
Age ²			1.13**

Note: β = betas are from the original step of the regression equation; β final represents betas from the final step of the regression equation.

** $p < .01$; *** $p < .001$.

Associations between Savoring and Subjective Well-Being

All measures of savoring were significantly associated with subjective well-being in bivariate correlations (see Table 1). To further assess associations between savoring and subjective well-being, multiple regressions were conducted (see Table 3). As expected, savoring capacity and vignette-based savoring each accounted for unique variance in subjective well-being, with greater savoring predicting greater subjective well-being. However, contrary to hypotheses, event-specific savoring did not account for unique variance in subjective well-being.

Age Differences in Savoring

Although bivariate correlations indicated no significant associations between age and savoring (see Table 1), multiple regressions were conducted with age predicting each savoring measure to account for the covariates (see Table 4). Age marginally predicted savoring capacity, but this was in the opposite direction as hypothesized with younger adults reporting a greater capacity to savor. Unexpectedly, age was not associated with vignette-based or event-specific savoring. Non-linear effects of age on savoring were also tested, but there were no significant associations. Because age was not significantly associated with savoring, savoring was unable to be tested as a partial mediator in the link between age and well-being.

Table 3. Multiple Regressions Testing Savoring Predicting Subjective Well-Being

	$R^2 \Delta$	β	β final
Step 1	.297***		
Gender		.05	.01
Depression		-.48***	-.33***
Income		.16**	.17**
Step 2	.198***		
Savoring capacity			.33***
Vignette-based savoring			.17**
Event-specific savoring			.07

Note: β = betas are from the original step of the regression equation; β final represents betas from the final step of the regression equation.

** $p < .01$; *** $p < .001$.

Table 4. Multiple Regressions Testing Age Predicting Savoring

	Savoring capacity			Vignette-based savoring			Event-specific savoring		
	$R^2 \Delta$	β	β final	$R^2 \Delta$	β	β final	$R^2 \Delta$	β	β final
Step 1	.204***			.019			.005		
Gender		.10	.09		.06	.05		.03	.03
Depression		-.43***	-.44***		-.09	-.10		-.04	-.03
Income		.01	.03		-.09	-.06		.04	.03
Step 2	.013*			.002			.003		
Age			-.12 ⁺			-.04			.05

Note: β = betas are from the original step of the regression equation; β final represents betas from the final step of the regression equation.

⁺ $p = .078$; *** $p < .001$.

Indirect Effects of Future Time Perspective on Associations between Age and Savoring

Although age did not significantly predict savoring directly, indirect effects of future time perspective on the association between age and savoring were assessed using multiple regressions, as it has been suggested that significant direct effects are not required to test indirect paths (e.g., Rucker et al., 2011). As expected, age

significantly predicted future time perspective ($\beta = -.36, p < .001$), with older adults having a more limited future time perspective and younger adults having a more expansive future time perspective. However, future time perspective significantly predicted savoring capacity ($\beta = .46, p < .001$), vignette-based savoring ($\beta = .36, p < .001$), and event-specific savoring ($\beta = .21, p = .006$) in the opposite direction as hypothesized. Specifically, those with a more expansive future time perspective reported greater savoring capacity, increased vignette-based savoring, and more event-specific savoring. To test for indirect effects, three regressions were conducted with each measure of savoring regressed onto age and future time perspective (see Table 5). Using PROCESS with SPSS (Hayes, 2013), the significance of the indirect effects of age on savoring through future time perspective were examined using bootstrapping methods. As evidenced by the 95% confidence intervals associated with the bootstrapped estimates (1,000 samples) that did not contain zero, there was a significant indirect effect of future time perspective on the association between age and all measures of savoring, with younger adults having a more expansive future time perspective as expected, but contrary to hypotheses, those with a more expansive future time perspective reporting greater savoring capacity ($b = -.327, SE = .068, 95\% CI: -.485 \text{ to } -.205$), greater vignette-based savoring ($b = -.006, SE = .002, 95\% CI: -.008 \text{ to } -.003$), and greater event-specific savoring ($b = -.008, SE = .003, 95\% CI: -.016 \text{ to } -.003$).

Table 5. Multiple Regressions Testing Future Time Predictive Mediating Link between Age and Savoring

	Savoring capacity			Vignette-based savoring			Event-specific savoring		
	$R^2 \Delta$	β	β final	$R^2 \Delta$	β	β final	$R^2 \Delta$	β	β final
Step 1	.204***			.019			.005		
Gender		.10	.12*		.06	.08		.03	.04
Depression		-.43***	-.22**		-.09	.08		-.04	.09
Income		.01	.03		-.09	-.08		.04	.04
Step 2	.013*			.002			.003		
Age		-.12 ⁺	.07		-.04	.10		.05	.15 ⁺⁺
Step 3	.168***			.112***			.055**		
FTP			.49***			.40***			.28**

Note: FTP = future time perspective; β = betas from the original step of the regression equation; β final represents betas from the final step of the regression equation.

⁺ $p = .078$; ⁺⁺ $p = .052$; * $p < .05$; ** $p < .01$; *** $p < .001$.

DISCUSSION

This study aimed to replicate past research on age differences in subjective well-being and research linking savoring and subjective well-being. This study also aimed to expand the prior literature by assessing age differences in savoring across adulthood and to explore the mediating role of future time perspective to explain age differences in savoring. Results indicated nonlinear associations between age and subjective well-being, with older adults reporting the highest subjective well-being as expected. Also in line with hypotheses, savoring capacity and vignette-based savoring accounted for unique variance in subjective well-being, but event-specific savoring did not. Contrary to hypotheses, age was not directly associated with savoring significantly (although younger adults reported marginally greater savoring capacity, which is opposite the predicted direction). However, there was an indirect effect of future time perspective on the link between age and savoring, but this was also in the opposite direction. As hypothesized, younger adults reported a more expansive future time perspective, but unexpectedly, those with a more expansive future time perspective reported increased savoring. Although the results do not support savoring as a direct explanatory mechanism for age differences in subjective well-being, these data suggest important questions for future research given the novel and unexpected findings regarding the role future time perspective seems to play in savoring.

Subjective Well-Being throughout Adulthood

The results suggested a curvilinear association between age and subjective well-being, with older adults reporting the highest subjective well-being and middle adults reporting the lowest. Despite the small effect size for this finding, it is consistent with some past research (Blanchflower & Oswald, 2008; Grühn et al., 2010; Stone et al., 2010). Additionally, the curvilinear associations between age and subjective well-being are still in line with theories on subjective well-being in older adulthood (e.g., socioemotional selectivity theory; Carstensen et al., 1999) because older adults reported the highest levels of subjective well-being. The reasons underlying the dip in subjective well-being for middle-aged adults is not clear, but some researchers suggest that middle adulthood marks a time of lowered subjective well-being due to the stress of competing demands from work and family (Grühn et al., 2010).

Savoring and Subjective Well-Being

While this study sought to replicate past research on savoring and subjective well-being, it also expanded current literature by measuring savoring in three different ways. Results indicate that this comprehensive measurement of savoring is valuable as there were different findings for each measure. Consistent with past research (e.g., Bryant, 2003; Gentzler et al., 2013), savoring capacity and

vignette-based savoring accounted for unique variance in subjective well-being, with savoring capacity showing the strongest association with subjective well-being. This is interesting given that the measure of savoring capacity only examined participants' perceived ability to savor positive events generally rather than their recalled amount of savoring of an actual positive event or their predicted savoring responses to hypothetical positive events. Perhaps one's view of their ability to fully enjoy positive experiences is more important for subjective well-being than the frequency with which one attempts to savor. For example, if people attempt to savor frequently but lack or underestimate their savoring abilities, their efforts may be undermined. The measure of savoring capacity also focused on only three types of savoring strategies (savoring the moment, positive anticipation, and positive reminiscence) whereas the measures of vignette-based and event-specific savoring examined a wide array of savoring strategies. Perhaps the strategies of savoring the moment, positive anticipation, and positive reminiscence contribute more to our perceptions of subjective well-being than other types of savoring strategies.

Event-specific savoring was associated with subjective well-being in bivariate correlations, but it did not account for unique variance in subjective well-being when tested with the other measures of savoring. This finding may speak to the influence specific events can have on savoring (Bryant & Veroff, 2007). Also, although all participants reflected on the same type of event (a vacation), it is possible that the recalled events were not equally enjoyable. Future research assessing event-specific savoring should consider using an experimentally-manipulated positive event to control for varying event characteristics. Overall, these findings indicate that each savoring measure is capturing a slightly different construct and that future research should further examine the nuances of each measure.

Savoring throughout Adulthood and the Role of Future Time Perspective

Contrary to hypotheses, age was not directly associated with savoring. Only a marginal association was found in the opposite direction as expected in that younger adults reported a greater capacity to savor. These results contradict preliminary findings in which older adults reported increased capacity for savoring compared to young adults (Bryant & Veroff, 2007), and are surprising in that they oppose the predictions of socioemotional selectivity theory (e.g., Carstensen et al., 1999). However, Bryant and colleagues (2011) have suggested that older adults may lose some ability or motivation to savor as they experience declines that come with age. Therefore, it is possible that some savoring strategies require physical and cognitive abilities that make it difficult for some older adults to engage in savoring regularly or in the same way that younger adults do. A related speculation is that older adults do not benefit as much from savoring

attempts. However, further analyses indicated that age did not significantly moderate the association between savoring and subjective well-being. It is also possible that there is a shift in the types of savoring strategies adults use as they age and that these effects were washed out in our aggregation of the savoring measures. For example, it is possible that younger adults are more likely to behaviorally express their positive emotions or mass share a good event on Facebook whereas older adults may be more likely to savor the moment or be grateful for positive events. However, we examined bivariate correlations between age and each of the individual savoring strategies from each of the three savoring measures. Out of the 27 types of savoring strategies, only the strategy of engaging in a religious activity (e.g., saying a prayer of thanks) was significantly associated with age, with older adults engaging in more religious activities for the vignette-based savoring measure.

Additionally, considering the host of other emotional advantages older adults often experience (see Charles & Carstensen, 2009, for a review), it could be speculated that older adults simply do not need to savor as much. For example, many older adults possess enhanced regulatory strategies for dealing with negative emotions (e.g., Phillips et al., 2008; Scheibe & Blanchard-Fields, 2009). Also, the strength and vulnerability integration model predicts that older adults are more adept at avoiding negative situations altogether due to knowledge gained from past life experiences (Charles, 2010). Because subjective well-being is partially comprised of low levels of negative emotions, these enhanced negative emotion regulation strategies assist in older adults' greater subjective well-being (e.g., Charles & Carstensen, 2009). In addition to these advantages, older adults also demonstrate a positivity effect, whereby they pay greater attention to positive stimuli and have enhanced memory for positive information, further enhancing subjective well-being (e.g., Carstensen & Mikels, 2005; Mather & Carstensen, 2005). Therefore, older adults who are satisfied with their already high levels of subjective well-being due to their other regulatory strategies and biases may not need to savor to further increase their subjective well-being.

Despite the lack of direct associations between age and savoring, age was indirectly associated with all measures of savoring via future time perspective. Again, these findings diverged from the hypothesized mediation effects. As predicted, younger adults perceived themselves as having a more expansive future time perspective, but unexpectedly, those with a more expansive future time perspective reported more savoring. These results are surprising due to experimental findings regarding temporal scarcity and subjective happiness, where college students prompted to see time as more scarce engaged in greater savoring-related activities and subsequently experienced greater subjective well-being (Kurtz, 2008). Perhaps it was the sudden shift in temporal scarcity that accounted for the increase in subjective well-being. Conversely, adults generally experience a much more gradual shift in future time perspective with age. It is possible that a more expansive future time perspective is conducive to savoring in

the absence of a sudden shift in how scarce or limited one views time. Although these findings were not predicted, they may offer some explanation as to why younger adults report greater subjective well-being compared to middle aged adults resulting in the U-shaped trend. Regardless of speculations, these findings suggest that perceiving oneself as having more opportunities and time left in life encourages greater savoring or that unmeasured third variables explain these findings. It is vital that future research attempt to replicate these findings and investigate why a more expansive future time perspective is linked to greater savoring, with a focus on the effects of sudden versus gradual shifts in future time perspective.

Limitations

There were several limitations of this study. First, data were collected online using MTurk. Although several studies that have been conducted using MTurk suggest it is a reliable source of data providing results consistent with traditional survey research (e.g., Buhrmester, Kwang, & Gosling, 2011), these studies did not assess or provide information on age differences. One study did use MTurk for research examining differences between younger and older adults (see Experiment 4 of Mather, Mazar, Gorlick, Lighthall, Burgeno, Schoeke, et al., 2012), but it still is largely unclear the extent to which older adults using MTurk differ from the broader population of older adults. Several other issues should be considered when interpreting these data. Because the study was correlational, it was not possible to identify causal paths between the variables of interest. Future research should attempt to replicate these findings using more refined methodology (e.g., experimentally manipulating future time perspective, examining savoring behaviorally using the time spent savoring a piece of chocolate, or using experience-sampling procedures to gauge real-time savoring). Also, due to the cross-sectional nature of the study, age changes were unable to be identified because of possible confounding cohort effects. For instance, it is possible that the current cohort of younger adults report greater savoring (indirectly) due to generational differences rather than changes due to age-related factors. Additionally, because the study used only self-report methods, it is possible that self-serving biases exist in the data (e.g., overestimation of savoring capabilities or responses).

CONCLUSION

Overall, this study provided new information on various measures of savoring and age differences in this savoring process. The three savoring measures differed in their associations with subjective well-being, and consequently seem to capture slightly different constructs or aspects of savoring. Additionally, although savoring was not found to be a direct explanatory mechanism for age

differences in subjective well-being, future time perspective appears to play an important role in individuals' savoring. These findings could have important implications. Possibly having a limited future time perspective may decrease the effectiveness of using savoring strategies. Conversely, it is plausible that those with a more limited future time perspective may receive heightened benefits from participating in savoring interventions. It is important for future research to further investigate these associations and their implications.

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