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Perceptions of emotion and age among younger, midlife, and older adults

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ABSTRACT

Objectives: Older adults report greater emotional well-being than younger persons, yet negative stereotypes about aging are pervasive. Little is known about age group perceptions of emotion in adulthood, particularly for familiar persons. Thus, this project determined perceptions of general affect in familiar younger and older adults.

Method: In two studies, participants (Study 1, younger adult $n = 123$, older adult $n = 43$; Study 2, younger adult $n = 34$, midlife adult $n = 41$, older adult $n = 16$) provided self-report data about their affect in general, as well as reported on the affect of a familiar younger person (aged 18–34) and a familiar older person (aged 65 or older). Emotion scales assessed high- and low-arousal positive and negative affect.

Results: Results suggest a less favorable perception of emotion experiences of older adults compared to younger adults. Specifically, participants of all age groups rated older adults as having lower positive emotions and higher negative emotions than is found in self-report data.

Conclusion: Perceptions of emotion in older adulthood reflect stereotypes of negative functioning. Older adult participants were not immune to holding negative views about older adults. Negative perceptions about emotion experiences in later life may be detrimental to the physical and mental health of older adults.

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Adult development; emotion; stereotype; self-report; informant-report

Introduction

Emotional well-being increases with adult age, well into older adulthood. Healthy older adults report fewer negative emotions, greater stability of positive emotions, and greater emotional control compared to younger adults (Mikels, Reed, Hardy, & Löckenhoff, 2014; Ready et al., 2011). Carstensen and colleagues (2011) investigated the developmental course of emotional experience in a sample of adults aged 18–94 across a 10-year period, with sampling at five-year intervals; the researchers found increases in emotional well-being, emotional stability, and emotional 'poignancy' (i.e. increase in the co-occurrence of positive and negative emotions) across adulthood. Self-report data on general emotional experience consistently indicate decreases in negative affect across the adult lifespan, with declines slowing into older age (Carstensen, Pasupathi, Mayr, & Nesselroade, 2000; Charles, Reynolds, & Gatz, 2001). The results for positive affect, however, are mixed; declines (Griffin, Mroczek, & Spiro, 2006), increases (Mroczek & Kolarz, 1998), and stability (Carstensen et al., 2000; Lawton, Kleban, & Dean, 1993) in positive affect across adulthood have all been reported.

Contemporary research in aging and emotional well-being has expanded from the study of age group differences in the valence of self-reported emotion to include *arousal* – or the perception of 'energy' associated with positive and negative emotions (e.g. Kessler & Staudinger, 2009; Ready et al., 2011). Kessler and Staudinger (2009) argue that considering affective arousal is necessary to capture age-related differences in emotional experience and may clarify the equivocal findings regarding changes in positive affect across adulthood. Indeed, the researchers found that older adults reported significantly higher levels of low-arousal positive affect (LA-PA; e.g. serene, relaxed, resting, at ease) and significantly lower levels of both high-arousal negative affect (HA-NA; e.g. annoyed, nervous, worried, anxious) and low-arousal negative affect (LA-NA; e.g. down, lethargic, droopy, sluggish) compared to young and midlife adults. No age differences were found for high-arousal positive affect (HA-PA; e.g. elated, delighted, excited, euphoric). Such findings have since been replicated (Ready et al., 2011).

Developmental life-span theories address age-related improvements in subjective emotional well-being. For example, socioemotional selectivity theory (SST) posits that greater emotional satisfaction in late-life may result from the prioritization of emotional goals (e.g. maintaining satisfying and meaningful relationships) over goals related to knowledge acquisition due to a shrinking time horizon (Carstensen, 2006; Carstensen, Isaacowitz, & Charles, 1999). Additionally, the strength and vulnerability integration (SAVI) model attributes age-related improvements in emotional well-being to the gradual acquisition of experience and expertise in regulating one's emotions across adulthood (Charles & Luong, 2013). Based on these theories, older adults are not only more motivated to maintain their emotional well-being, but may be better able to navigate emotional situations than younger adults.

Despite evidence of increased subjective emotional well-being in later life, attitudes towards older adulthood are more negative than attitudes towards young adulthood (e.g. Kite, Stockdale, Whitley, & Johnson, 2005). Indeed, negative stereotypes about aging outnumber positive stereotypes about aging (Kite et al., 2005). Negative stereotypical traits often associated with older adulthood are vulnerability (e.g. afraid, worried), curmudgeonliness (e.g. ill-tempered, bitter), and despondence (e.g. depressed, sad, lonely; Hummert, Garstka,

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Shaner, & Strahm, 1994). Younger, midlife, and older adults have all been found to hold negative stereotypes about older adulthood. While stereotypes held by midlife and older adults about older adulthood are more complex than those of younger adults, they are not more positive (Hummert, 2015; Hummert et al., 1994). Furthermore, research suggests that many older adults 'distance' themselves from their age group; that is, they perceive themselves to be more similar to middle-aged individuals and possess beliefs that they are 'better off' than others in their age group (Heckhausen & Krueger, 1993; Kotter-Grühn & Hess, 2012; Weiss & Freund, 2012). This may be a means of self-protection because older adults are more likely to distance their self-perception from their perception of other older adults when negative age group stereotypes are primed (Weiss & Lang, 2012). Thus, data about aging stereotypes are well established and have implications about emotional well-being due to associations between negative stereotypes and depressive symptoms and loneliness.

Data that directly compare perceptions of emotion in different age groups are scant. In one study about younger and older adults' perceptions of the experience and expression of emotion in different age groups, older adults were believed to experience more positive low-arousal emotions (e.g. pride, concern, sympathy, and admiration), as well as more negative low-arousal emotions (e.g. sadness, loneliness, sorrow, and regret), than their younger counterparts (Montepare & Dobish, 2013).

In this work, participants assigned traits or emotions to a particular age group; age was the only information provided on which to base the assignments (Montepare & Dobish, 2013). This approach may pull strongly for age stereotypes due to the ambiguity of the rating task (Kite et al., 2005). In the current studies, we were interested in determining emotion perceptions of a *familiar* younger adult and older adults to determine whether aging stereotypes are evident in familiar older adults. It is well established in the broader literature on stereotypes that individuating information significantly reduces stereotyping; however, it may not eliminate it (Fiske & Neuberg, 1989). Indeed, in a study of younger adult perceptions of their grandparents, lower levels of negative stereotypes were attributed to grandparents who were well known to participants; that is, close grandparents were viewed more positively than grandparents ranked least close (Pecchioni & Croghan, 2002). The current work contributes to the literature by investigating whether or not stereotypes about emotional well-being in older adulthood are still prevalent in the context of individuating information (i.e. rating someone you know well).

Beliefs about aging, including the emotional functioning of older persons, influence self-perceptions and are associated with a number of behavioral and physical health outcomes (Gross et al., 1997; Levy, 2009). For example, in a longitudinal study, persons with positive self-perceptions of aging lived 7.5 years longer than those with less positive self-perceptions of aging (Levy, Slade, Kunkel, & Kasl, 2002). Moreover, compared to those who reported more positive age stereotypes, individuals who reported more negative age stereotypes earlier in life were more likely to possess biomarkers of Alzheimer's disease (AD) in later life, including steeper decline of hippocampal volume and greater accumulation of amyloid plaques and neurofibrillary tangles (Levy et al., 2016). Negative misperceptions about emotions, specifically, may interfere with the quality of emotional support provided to older persons from loved ones; a lack of emotional support in older adulthood is linked to a number of negative outcomes, including poorer cardiovascular health, depressive and anxiety symptoms, and sleep problems (Sorkin, Rook, & Lu, 2002; Strine, Chapman, Balluz, & Mokdad, 2008). Although positive and negative stereotypes about aging both affect behavior (e.g. performance on cognitive tasks, gross and fine motor skills), negative stereotypes about older adulthood have a nearly three times greater effect on behavior than positive stereotypes (Meisner, 2012).

The current studies

This project determined perceptions of general affect in familiar younger and familiar older persons (i.e. targets). Two studies build on previous research by determining if negative aging stereotypes, prevalent for many types of ratings, will generalize to ratings of affect. One previous study addressed this question in unfamiliar/generic targets (Montepare & Dobish, 2013) and we extend this work by determining perceptions of affect in familiar targets. This is a stringent test of aging stereotypes because stereotypes should be attenuated for familiar persons. We also provide the first within-person comparison of younger target and older target affect ratings, which allow for strong illumination of aging stereotypes, should they exist. In Study 1, we determined if participants' ratings of emotion for familiar younger targets and familiar older targets significantly differed in a sample of younger and older adults. We hypothesized that participants would rate older adults as having more negative emotions than younger persons. That is, we suspected that younger and older participants would *perceive* familiar older persons as having more negative emotions than familiar younger persons, despite the fact that older adults self-report fewer negative emotions than young persons. Furthermore, we predicted that participants would rate lower positive emotions in older than younger targets, in contrast to results typically found in self-report data. In Study 2, we sought to replicate these findings in an independent sample that included midlife adults as well. In both studies, we determined differences in self- versus target-report affect of younger and older participants.

Study 1 method

Participants

Participants were younger ($n = 123$; aged 18–31; 46% female) and older adults ($n = 43$; aged 60–92; 73% female) who were primarily from Western Massachusetts. Older adults were recruited through newspaper advertisements, an aging database, and local community senior centers; younger adults were college students recruited through the SONA system, an online research participation system at their university. Persons with cognitive impairment (evidenced by a score of 29 or less on the Telephone Interview for Cognitive Status – Modified [TICS-m]) were excluded.

Procedure

Data for this study were collected as part of a larger study investigating age group differences in the cognitive organization of emotion information. Following informed consent, a brief cognitive screening (i.e. TICS-m) was administered. Next, participants completed questionnaires about their general affect, as well as the general affect of familiar younger adult and a familiar older adult, in that order. Demographic information was collected. All participants were provided a written

debriefing form at the end of the testing session. Older adult participants were compensated $12 per hour, rounding up to the nearest half-hour; younger adults participating through SONA received one experimental extra credit for each half-hour of participation. This study was approved by the university's Institutional Review Board (IRB).

Measures

Kessler and Staudinger (2009) [KS] affect scales

The KS affect scales measure four quadrants of the emotion circumplex: LA-NA (*down*, *lethargic*, *droopy*, and *sluggish*), LA-PA (*serene*, *relaxed*, *resting*, and *at ease*), HA-NA (*annoyed*, *nervous*, *worried*, and *anxious*), and HA-PA (*elated*, *delighted*, *excited*, and *euphoric*). Participants rate the 16 affect terms on a five-point scale from 1 (*not at all*) to 5 (*extremely*) based on the extent to which they experience that emotion in general. The KS scales exhibit age invariance in structure and adequate internal consistencies in younger, midlife, and older participants (range .67 to .92; Kessler & Staudinger, 2009).

Three emotion rating forms composed of the 16 KS items were created for this study. The self-report form asks participants to rate the extent to which they experience each emotion in general. The 'Other-Older' form asks participants to rate the extent to which a familiar older adult (i.e. someone aged 65 or older) experiences each emotion in general. The 'Other-Younger' form asks participants to rate the extent to which a familiar younger adult (i.e. someone aged 18–34) experiences each emotion in general. For the 'Other-Older' and 'Other-Younger' forms, participants are asked to indicate how well they know the person they are rating (i.e. the 'target') on a familiarity rating scale of 1 (*extremely familiar*) to 5 (*hardly at all*), the age and gender of the target, and their relationship to the target.

Data analytic plan

Descriptive statistics for all affect variables (HA-PA, HA-NA, LA-PA, and LA-NA) were evaluated for normality and outliers. To characterize the sample, independent samples *t*-tests determined differences between age groups on self-report affect for these variables.

Descriptive analyses characterized the younger and older adult *targets* on age, gender, familiarity rating, and relationship to the participant. Independent samples *t*-tests and chi-square tests determined if younger adult targets for the younger adult sample and the older adult sample significantly differed on the aforementioned variables; similar analyses were conducted to determine differences in older adult targets for each age group. Correlations determined if familiarity ratings were associated with any target affect ratings.

Two-way mixed measures ANOVAs determined differences between ratings of younger adult targets and older adult targets on HA-PA, HA-NA, LA-PA, and LA-NA, yielding an overall between-subjects effect of participant age group, an overall within-subjects effect of target age group, as well as an interaction. Our primary outcome of interest was the within-subjects effect of target age (i.e. whether participants rate the emotions of young targets and older targets differently). We then conducted follow-up paired-samples *t*-tests to determine whether participants in each age group rated younger targets and older targets differently on the four affect scales. We also compared self- versus target-report data in our participants; paired-samples *t*-tests determined differences between participants' self-reported affect and target-rated affect.

Study 1 results

Self-reported affect

Older adults reported significantly greater LA-PA ($M = 13.49$, $SD = 2.22$) than younger adults ($M = 11.99$, $SD = 2.88$), $t(163) = -3.10$, $p < .01$, $d = 0.55$. Older adults reported significantly lower HA-NA ($M = 7.02$, $SD = 2.67$) and LA-NA ($M = 6.33$, $SD = 3.32$) compared to younger adults (HA-NA: $M = 9.10$, $SD = 3.19$, $t(87.20) = 4.16$, $p < .001$, $d = .68$; LA-NA: $M = 8.10$, $SD = 2.91$, $t(162) = 3.31$, $p < .01$, $d = 0.59$). Thus, older adults were reporting greater positive and lesser negative affect than younger persons. There were no significant sex differences in self-reported affect ($ps > .05$).

Characteristics of young adult and older adult targets

Older participants rated significantly more female young adult targets than younger participants (Table 1). The average age

Table 1. Study 1: characteristics and comparisons of young adult targets and older adult targets by participant age group.

	Younger adult $n = 123$ *M* (*SD*) or %	Older adult $n = 43$ *M* (*SD*) or %	Test statistic
Young adult targets			
Age	20.96 (2.39)	26.63 (5.43)	$t(47.78) = 6.62^{**}$
Familiarity rating[a]	1.30 (0.60)	2.07 (1.01)	$t(53.27) = -4.69^{**}$
Percent female	47.2	76.7	$\chi^2(1) = 11.26^{*}$
Relationship type			
Friend	53.7	14.0	
Sibling	26.0	–	
Grandchild	–	30.2	
Significant other	17.9	–	
Child	–	16.3	
Other	2.4	39.5	
Older adult targets			
Age	75.92 (7.29)	78.86 (9.02)	$t(61.41) = -1.90$
Familiarity rating[a]	1.74 (0.90)	1.51 (0.68)	$t(101.84) = 1.70$
Percent female	66.7	60.5	$\chi^2(1) = 0.54$
Relationship type			
Grandparent	75.6	–	
Friend	1.6	39.5	
Sibling	–	23.3	
Spouse	–	16.3	
Other	22.8	20.9	

[a]Familiarity ratings based on a scale of 1 = *extremely familiar* to 5 = *hardly at all familiar*.
$^{*}p < .01$; $^{**}p < .001$.

Table 2. Study 1: comparison of affect ratings for young adult targets and older adult targets by participant age group.

	Younger adult sample			Older adult sample		
Affect scales	YA targets *M* (*SD*)	OA targets *M* (*SD*)	*t*	YA targets *M* (*SD*)	OA targets *M* (*SD*)	*t*
HA-PA	12.51 (3.32)	11.33 (3.50)	3.63**	13.12 (3.07)	11.49 (3.92)	2.45*
LA-PA	11.26 (3.13)	11.50 (3.84)	−0.61	11.51 (2.62)	11.58 (2.73)	−0.14
HA-NA	8.60 (3.08)	8.15 (3.47)	1.39	6.56 (2.84)	7.59 (3.11)	−1.57
LA-NA	7.64 (3.10)	7.90 (3.85)	−0.65	5.45 (2.42)	6.59 (2.78)	−2.33*

YA, younger adult; OA, older adult; HA-PA, high-arousal positive affect; LA-PA, low-arousal positive affect; HA-NA, high-arousal negative affect; LA-NA, low-arousal negative affect.
*$p < .05$; **$p < .001$.

of the young adult targets rated by older adult participants was significantly greater than that of the young adult targets rated by younger participants. Younger adults rated younger adult targets as more familiar than older adult targets, $t(111) = -3.97$, $p < .001$, whereas older adults rated older adult targets as more familiar than younger adult targets, $t(42) = 2.95$, $p = .005$.

Target-reported affect

Preliminary analyses

Higher familiarity with an older adult target was associated with lower ratings of HA-NA, but only for younger adult participants, $r = .23$, $p = .015$. No other familiarity ratings were significantly correlated with any target affect ratings ($ps > .05$).

Primary analyses

A two-way mixed measures ANOVA indicated there was a significant effect of target age group on ratings of HA-PA, $F(1,161) = 17.01$, $p < .001$. Consistent with our hypotheses, younger adult participants, $d = 0.33$, and older adult participants, $d = 0.38$, rated higher HA-PA for younger than older adult targets (Table 2). Thus, younger targets were perceived as experiencing more energized, positive emotions than older persons. There was a trend ($p < .10$) for an effect of target age group on ratings of LA-NA. Follow-up *t*-tests indicated that, older adult participants rated older adult targets significantly higher on LA-NA than younger adult targets, $d = 0.36$.

Self- versus target-reported affect

Older adult self-report HA-PA was significantly greater than older adult ratings of HA-PA for older targets, $t(41) = 2.55$, $d = 0.41$ (Figure 1). Moreover, older adult self-report LA-PA was significantly greater than younger, $t(40) = 4.76$, $d = 0.75$, and older, $t(42) = 4.02$, $d = 0.62$, participants' reports of older targets' LA-PA.

Younger adult self-report LA-PA was significantly greater than for younger targets, $t(120) = 2.33$, $d = .21$ (Figure 1). Furthermore, younger adult self-reported HA-PA and HA-NA were significantly higher than their ratings of older targets; $t(121) = 2.78$, $d = 0.25$ for HA-PA; $t(121) = 2.98$, $d = .27$ for HA-NA (Figures 1 and 2).

Study 1 discussion

Consistent with previous studies (Kessler & Staudinger, 2009; Ready et al., 2011), older adults reported more LA-PA and less HA-NA and LA-NA compared to younger adults. In contrast, when participants reported about the affect of familiar persons, negative age stereotypes were evident. Older adult targets had lower HA-PA than younger targets, as well as greater LA-NA. Furthermore, participants tended to report better emotion experiences for themselves than they did for targets regardless of age; an exception is noted for younger persons self-reporting more HA-NA than for older targets. A limitation is that younger and older emotion reports were not randomly counterbalanced. Study 2 was conducted to replicate these

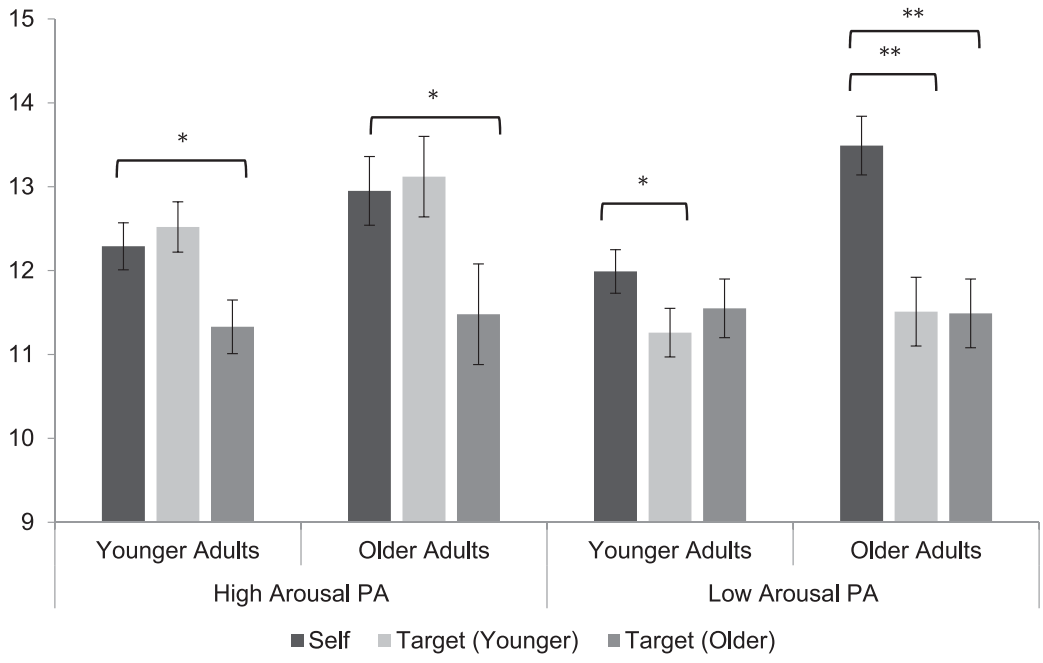

Figure 1. Study 1 comparisons between self and target ratings of positive affect. PA = positive affect. Error bars represent standard errors of the mean. *$p < .05$. **$p < .001$.

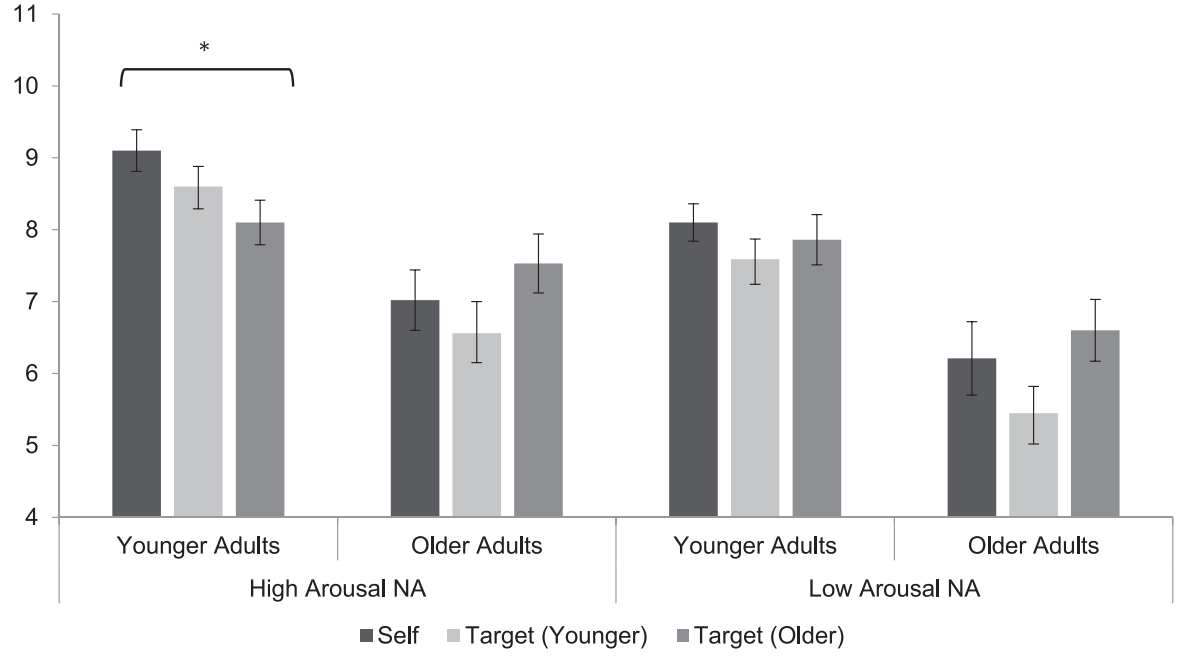

Figure 2. Study 1 comparisons between self and target ratings of negative affect. NA = negative affect. Error bars represent standard errors of the mean. $^{*}p < .05$.

findings with counterbalanced administration of self- and target-emotion rating forms. In addition, participants in Study 2 included midlife adults, as well as younger and older adults. Thus, there were two methodological differences between Studies 1 and 2.

Study 2 method

Participants

Participants were 34 younger adults (aged 21–34; 38% female), 41 midlife adults (aged 35–59; 49% female), and 16 older adults (aged 60–78; 44% female) who completed the study via Amazon Mechanical Turk (MTurk). MTurk is a crowdsourcing internet marketplace that allows for inexpensive and rapid collection of survey data. Data collected through MTurk are considered as reliable as those collected through traditional sources (Buhrmester, Kwang, & Gosling, 2011). All participants were residents of the United States.

Procedure

After providing web-based informed consent, participants answered demographic questions. Next, participants completed emotion rating questionnaires about their own emotional experiences, as well as a familiar younger adult's emotions and a familiar older adult's emotions; the order of these three measures was randomly counterbalanced across participants. Consent materials and survey questions were presented in Qualtrics, an online survey program (Qualtrics, Provo, UT). The questionnaires took 10–15 minutes to complete. An online debriefing form was presented upon completion of the survey. Participants were compensated $0.50 for participation. This study was approved by the university's IRB.

Measures

The emotion rating forms were the same as those used in Study 1.

Data analytic plan

A one-way ANOVA determined differences between younger, midlife, and older adults on self-reported affect. Descriptive analyses characterized the younger and older adult targets on age, gender, familiarity rating, and relationship to the participant. One-way ANOVAs and chi-square tests determined if younger adult targets for the younger adult, midlife adult, and older adult samples significantly differed on the aforementioned variables; similar analyses determined differences in older adult targets for each age group. We ran correlations between familiarity ratings of targets and each affect scale to better understand whether familiarity was systematically associated with target ratings.

Two-way mixed measures ANOVAs determined differences between ratings of younger adult targets and older adult targets on HA-PA, HA-NA, LA-PA, and LA-NA for the three age groups. As in Study 1, our primary outcome of interest was the overall effect of target age group – whether participants rated younger targets and older targets differently. Subsequent paired-samples *t*-tests determined whether affect ratings of younger and older targets differed within participant age groups. Finally, paired-samples *t*-tests determined differences in participants' self-reported affect and target-reported affect. Midlife adult participants were not included in the self- versus target-report comparisons because we did not have affect reports about midlife targets.

Study 2 results

Preliminary analyses

One-way ANOVAs indicated no significant age group differences in self-reported affect on HA-PA, HA-NA, LA-PA, and LA-NA ($ps > .05$). Furthermore, there were no significant sex differences in self-reported affect across age groups ($ps > .05$). Gender distribution, familiarity ratings, and target ages did not significantly differ across participant groups ($ps > .05$; Table 3).

Table 3. Study 2: characteristics and comparisons of young adult targets and older adult targets by participant age group.

	Younger adult $n = 34$ *M* (*SD*) or %	Midlife adult $n = 41$ *M* (*SD*) or %	Older adult $n = 16$ *M* (*SD*) or %	Test statistic
Young adult targets				
Age	28.26 (8.20)	25.63 (5.48)	31.00 (11.37)	$F(2,88) = 2.94$
Familiarity rating[a]	1.59 (0.70)	1.76 (0.86)	2.00 (0.97)	$F(2,88) = 1.38$
Percent female	35.3	51.2	56.3	$\chi^2(2) = 2.69$
Relationship type				
Friend	61.8	36.6	18.8	
Sibling	11.8	–	–	
Child	–	24.1	43.8	
Grandchild	–	12.2	24.3	
Significant other	11.8	–	–	
Spouse	11.8	2.4	–	
Coworker	2.9	14.6	12.5	
Older adult targets				
Age	73.38 (7.77)	72.63 (5.68)	76.00 (10.69)	$F(2,35) = .74$
Familiarity rating[a]	1.62 (0.78)	1.56 (0.71)	1.67 (0.82)	$F(2,87) = 0.12$
Percent female	55.9	48.8	56.3	$\chi^2(2) = 0.47$
Relationship type				
Grandparent	11.8	12.2	12.6	
Parent	23.5	46.3	25.0	
Friend	2.9	19.5	43.8	
Coworker	17.6	17.1	18.8	
Other	44.1	4.9	–	

[a]Familiarity ratings based on a scale of 1 = *extremely familiar* to 5 = *hardly at all familiar*.

Target-reported affect

Preliminary analyses

There were no significant differences in target-rated affect based on the order in which participants completed the younger and older target reports. In the midlife adult sample, greater familiarity with older adult targets was associated with lower ratings of HA-PA of older adult targets, $r = .45$, $p = .003$. In the older adult sample, greater familiarity with younger adult targets was associated with lower ratings of LA-PA, $r = -.54$, $p = .048$.

Primary analyses

A two-way mixed measures ANOVA indicated that there was a significant effect of target age group on ratings of HA-PA, $F(1,88) = 27.91$, $p < .001$. Similar to Study 1 and in support of negative aging stereotypes, older adult, $d = 0.89$, midlife adult, $d = 0.61$, and younger adult participants, $d = 0.42$, rated HA-PA significantly lower in older targets than younger targets (Table 4). In addition, there was an overall effect of target age group on ratings of LA-NA, $F(1,87) = 7.25$, $p = .009$. Follow-up *t*-tests revealed that older adult participants rated higher LA-NA in older compared to younger targets at $p = .05$, $d = 0.55$.

Self-reported versus target-reported affect in younger and older participants

Compared to their ratings of younger adult targets, older adult participants rated themselves higher on LA-NA, $t(20) = 2.56$, $p < .05$, $d = 0.66$ and lower on HA-PA, $t(20) = -3.98$, $p < .01$, $d = 0.88$. Older adult self-report LA-PA was significantly greater than their ratings of older targets, $t(20) = 2.78$, $p < .05$, $d = 0.68$.

Younger adult self-report LA-PA was significantly greater than their ratings of younger adult targets' LA-PA, $t(34) = 2.85$, $p < .01$, $d = 0.51$ and their self-report HA-PA was significantly greater than their ratings of older target HA-PA, $t(34) = 2.11$, $p < .05$, $d = 0.36$.

Study 2 discussion

Contrary to previous findings (Kessler & Staudinger, 2009; Ready et al., 2011) and to Study 1, younger and older adults did not differ in self-reported affect. This may be due to the small sample of older adults in this study. In contrast to the lack of age group differences in self-report affect, there were several differences in target-report affect for younger versus older adults and these differences reflected negative age stereotypes. Older targets were reported to have lower positive affect and/or higher negative affect than younger targets. Younger and older participants tended to report better emotion outcomes than what they reported for older and younger targets, with the exception of older adults reporting higher low-arousal negative affect and lower high-arousal positive affect than younger adult targets.

General discussion

Despite greater emotional well-being in older relative to younger adults (e.g. Carstensen et al., 2011), the current studies found that young, midlife, and older adults do not

Table 4. Study 2: comparison of affect ratings for young adult targets and older adult targets by participant age group.

	Younger adult sample			Midlife adult sample			Older adult sample		
Affect scales	YA targets *M* (*SD*)	OA targets*M* (*SD*)	*t*	YA targets *M* (*SD*)	OA targets *M* (*SD*)	*t*	YA targets *M* (*SD*)	OA targets *M* (*SD*)	*t*
HA-PA	11.29 (2.49)	9.68 (3.30)	2.49*	10.98 (3.32)	8.46 (3.28)	3.94**	11.88 (3.24)	9.13 (3.36)	3.59*
LA-PA	10.79 (3.34)	11.74 (2.70)	−1.85	10.76 (2.67)	10.15 (3.21)	1.22	11.57 (3.34)	11.29 (3.12)	0.58
HA-NA	7.24 (3.01)	6.62 (3.18)	1.53	7.54 (2.75)	7.15 (2.75)	0.79	5.81 (2.20)	7.13 (3.50)	−2.00
LA-NA	6.47 (2.93)	7.06 (3.11)	−1.18	7.05 (2.83)	7.90 (3.40)	−1.36	4.67 (1.18)	6.53 (3.20)	−2.14+

YA, younger adult; OA, older adult; HA-PA, high-arousal positive affect; LA-PA, low-arousal positive affect; HA-NA, high-arousal negative affect; LA-NA, low-arousal negative affect.

*$p < .05$; **$p < .001$; +$p = .05$.

perceive better emotional well-being in familiar older persons. Indeed, all of these age groups reported that older adults experience some positive emotions (e.g. elated, delighted, excited, euphoric) *less frequently* than familiar younger counterparts. Moreover, older adults believed that other older adults experience some negative emotions (e.g. down, lethargic, droopy, sluggish) *more frequently* than young adults.

Our findings suggest a less favorable view of the emotional experiences of older adults compared to how older adults report their own emotions. These data suggest negative beliefs about aging and add to similar work (Kite et al., 2005; North & Fiske, 2012) by demonstrating that aging stereotypes may apply even to older adults who are known well. For example, in the current work, older adults were perceived by all age groups to experience high-activating positive emotions to a lesser extent than younger persons, while no differences were found for perceptions of low-activating positive emotions. This pattern of findings is in contrast to self-report data from older adults. That is, older adults report *greater* low-arousal positive affect than younger persons and comparable high-arousal positive affect (Kessler & Staudinger, 2009; Ready et al., 2011), a pattern that was replicated in Study 1. Thus, on average, older adults – as judged by familiar persons – are perceived as experiencing fewer positive emotional experiences than they tend to report themselves.

Findings are also in line with previous work indicating that older adults are not immune to negative stereotypes about aging (Hummert, 2015; Hummert et al., 1994). Older participants, but not younger or midlife participants, rated older adult targets as experiencing low-arousal negative emotions (e.g. down, lethargic) to a greater extent than younger adults. Older participants self-reported more low-arousal negative affect than for younger targets, which implies that older adults may *perceive* younger persons as having fewer negative emotions than themselves. In contrast, younger persons reliably report more negative emotions than older persons (Carstensen et al., 2011; Kessler & Staudinger, 2009; Ready et al., 2011).

In addition to holding potentially negative views about emotion and aging, older adults may engage in self-enhancement social comparisons (e.g. 'I am doing better than most of my same-aged peers') (Heckhausen & Krueger, 1993; Weiss & Freund, 2012). That is, older adults' negative views on aging may not be held as self-perceptions. For example, older adults' self-reported positive affect was significantly greater than their ratings of older target's positive affect. Indeed, when differences emerged, self-reported affect reflected a more favorable balance of positive-to-negative affect than for target-report data, regardless of age. Despite this, even older adults may have unduly negative perceptions of their emotions in comparison to younger age groups as evidenced by their higher self-report ratings of low-arousal negative affect and lower high-arousal positive affect compared to their ratings of younger adults.

There was no evidence in either of the current studies that degree of familiarity influenced emotion ratings in a systematic way. It is unlikely that familiarity with targets significantly contributed to age group differences in emotion ratings of older and younger targets.

It is important to note that not all of our findings reflect aging stereotypes. For example, younger participants self-reported more high-arousal negative emotions (e.g. annoyed, nervous, worried, anxious) than their ratings of familiar older persons. It is a robust finding that younger individuals report more negative emotions than older adults (Carstensen et al., 2011; Kessler & Staudinger, 2009; Ready et al., 2011). Furthermore, older participants self-reported more low-arousal positive emotions (e.g. serene, relaxed, resting, and at ease) than for familiar younger adults. These findings are consistent with greater self-reported low-arousal positive affect in older versus younger persons (Kessler & Staudinger, 2009; Ready et al., 2011).

Implications

Negative perceptions about emotion in older adulthood may be detrimental to the physical and emotional well-being of older adults. Negative stereotypes about aging influence self-perceptions and are associated with poor physical health outcomes in older adulthood (Levy et al., 2002, 2016). Moreover, misperceptions of the actual emotional experiences of older adults can potentially lead to insufficient care of this population. For example, Montepare and Dobish (2013) argue that if certain negative emotions (e.g. sadness) are believed to be common in older adulthood, 'practitioners may fail to consider or overlook serious external contributing factors in older adults who display such emotions' (p. 895).

Limitations

Results of the current work should be interpreted in light of several limitations. The majority of older participants in Study 1 were female, while the sex distribution of older participants in Study 2 was nearly equal. Moreover, a methodological weakness in Study 1 – failure to counterbalance the order of administration of the emotion rating measures – was remediated in Study 2; nonetheless, it is a limitation. Furthermore, older adult participants were aged 60 or greater, whereas older adult targets were aged 65 and greater. In our analyses, we compared self-reported affect to target-reported affect within and across age groups. Though these comparisons revealed some interesting results, they are limited by the fact that the groups were not equated on age and gender distribution. Finally, some target groups differed in gender distributions, familiarity ratings, and mean age. In the current studies, we were focused on examining average perceived differences between familiar adults in different age categories, rather than on understanding how the specific characteristics of familiar persons might affect aging stereotypes. An important next step in this research will be to more closely control for such characteristics as gender, age, and type of relationship to better understand whether these characteristics affect the strength of age-related stereotypes.

Future directions and conclusions

The current work asked participants to rate the affect of individuals who they know well rather than a 'generic' target. Rating a familiar target may be less likely to pull for aging stereotypes (Fiske & Neuberg, 1989; Kite et al., 2005). Aging stereotypes can be further probed by having participants complete emotion ratings about both familiar and generic target persons. It also would be useful to determine if perceptions about emotion and age are similar to or different from other types of age-based stereotypes, which in turn can indicate if different theoretical models should be applied to this work. Additionally, we did not collect other-report data for midlife adult targets, as we did not

have clear empirical or theoretical predictions for this age group regarding perceptions of emotional experience. More data from midlife adults and about perceptions of emotional well-being in middle adulthood are needed to understand if aging stereotypes change during adult development and to determine the age at which age stereotypes begin to apply. Finally, determining the effect of target age, gender, and other demographics characteristics on aging stereotypes would help delineate the boundaries and identify important moderators of stereotype-driven beliefs.

Although older adults report greater emotional well-being compared to young and midlife adults, perceptions about the emotional experiences of older adults are much less favorable. Familiar older adults were perceived as having lower positive affect and greater negative affect compared to younger persons; such negative beliefs were held by younger, midlife, and older adults. Negative perceptions about the emotional well-being of older adults likely reflect the pervasiveness of negative stereotypes about aging, which can be detrimental to the physical and emotional health of older persons. Better understanding of perceptions of emotion and aging holds promise to improve care provided to older adults by practitioners. For example, misperceptions of changes in emotional well-being in late life may interfere with goal-setting and therapist–client communication in a psychotherapeutic context (Kessler & Bowen, 2015). Greater awareness of these misperceptions may help therapists to prevent biases from interfering with treatment. Moreover, more accurate knowledge about aging and affect may improve emotional connectedness between older adults and their loved ones, including adult children. Indeed, many older adults consider family as an important source of emotional support, and educating loved ones about the emotional experiences of older persons may improve the quality of this emotional support (Rook & Ituarte, 1999).

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