

# Self-Reported Ageism Across the Lifespan: Role of Aging Knowledge

The International Journal of Aging  
and Human Development  
2016, Vol. 83(4) 366–380  
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DOI: 10.1177/0091415016657562  
ahd.sagepub.com



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## Abstract

The authors examined the prevalence of self-reported ageist behaviors in a lifespan sample ranging in age from 13 to 91 years. Participants completed the Relating to Older People Evaluation (Cherry & Palmore). Results indicated that adolescents and young adults reported fewer ageist behaviors overall than did middle-aged and older adults. Positive ageist behaviors were more frequent than negative ageist behaviors for people of all ages. Women endorsed positive ageism items more often than men, although men and women did not differ in frequency of negative ageist behaviors. Follow-up analyses on participants' responses to two knowledge of aging measures, the Facts on Aging Quiz and the Knowledge of Memory Aging Questionnaire, showed that knowledge of aging was significantly correlated with negative ageist behaviors, after controlling for age and gender. Implications of these findings for current views of ageism (positive and negative) are discussed.

## Keywords

ageist behaviors, positive ageism, facts on aging, age-associated memory impairment, Alzheimer's disease

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Ageism is a complex, multidimensional phenomenon defined as any form of personal or institutional prejudice or discrimination based on chronological age (Palmore, 1999). Ageism may be rooted in socially and culturally shared beliefs about aging and forgetting (Levy & Langer, 1994) and may encompass attitudes, prejudices, as well as behaviors (Cherry & Palmore, 2008; Nelson, 2002; Palmore, Branch, & Harris, 2005; Rupp, Vodanovich, & Crede, 2005). Ambivalence toward the aging process, where fear and pity may coexist simultaneously with reverence and affection, highlights the complex nature of ageist behaviors observed among students and professionals alike (Allen, Cherry, & Palmore, 2009; for a review see Levy & McDonald, 2016). Ageism is also evident in how physicians and older adults interact with one another (Clarke, Bennett, & Korotchenko, 2014). Given the widespread observance of ageism and its direct and indirect effects on older individuals (Levy, 2003; Levy, Zonderman, Slade, & Ferrucci, 2009), isolating the variables that may promote and perpetuate ageism is an important challenge for researchers in the 21st century. The purpose of the present study was to examine age- and gender-related differences in self-reported ageist behaviors and aging knowledge from a social cognitive perspective and to determine whether ageist behaviors are associated with a lack of aging knowledge.

Recent theoretical formulations reflect a social cognitive perspective on ageism that encompasses both negative as well as positive ageist stereotypes and behaviors (Cuddy & Fiske, 2002; Kite, Stockdale, Whitley, & Johnson, 2005; Levy, Slade, & Kasl, 2002; Palmore, 1999). For example, Hummert (1990) documented negative stereotypes of elderly adults, such as the “invalid”—characterized as *forgetful, slow thinking, fragile, and should be in a nursing home*—as well as positive stereotypes, such as the “perfect grandparent”—characterized as someone who *enjoys life, is generous, happy, and likes to be around young people*. While positive stereotypes of aging may have a certain superficial appeal, Chen (2015) has made the point that such positive sentiments may result in negative attitudes toward older people who do not conform to a positive stereotype. Consequently, positive age stereotypes may lead to social pressure for older persons to cultivate positive attributes (e.g., active lifestyles, fitness, and happiness) while denying the harsh realities of the aging process and hardships that come in later life (e.g., health reversals, widowhood, and grief).

We suspect that both positive and negative ageist behaviors are related to gaps in peoples’ knowledge of the aging process and possibly to erroneous presumptions about cognitive competence in later life. Lacking knowledge, individuals may rely more heavily on heuristics and stereotypes than facts of aging to inform their opinions. For instance, incorrect responses on Palmore’s Facts on Aging Quiz (FAQ; Palmore, 1977, 1998) have been interpreted as evidence of age bias. These biases suggest that people may hold positive and negative misconceptions about older adults (Davis & Friedrich, 2010). Haught, Walls, Laney, Leavell, and Stuzen (1999) compared students in Grades 3, 6, 9, and 12 using a 16-item version of the FAQ adapted for use with young

children. They found that children in the lower grade levels held stronger negative biases than did their older counterparts, while older students' responses reflected more positive biases toward aging, suggesting that adolescents held more positive conceptions of older adults compared with younger children. However, there was a striking lack of knowledge of aging in Haught et al.'s findings, with only 50% to 60% accuracy on FAQ items (see Allen, 1981; Okoye, 2004; Steitz & Verner, 1987, for similar findings). Using the FAQ with a sample of college students, Stahl and Metzger (2013) reported that only 66% of the items were answered correctly. Taken together, these findings show that many people, from children to college students, lack general knowledge of the aging process.

With respect to peoples' knowledge of adult cognition, Cherry, Blanchard, Walker, Smitherman, and Lyon (2014) assessed high school students' knowledge using the Knowledge of Memory Aging Questionnaire (KMAQ; Cherry, Brigman, Hawley, & Reese, 2003). Cherry et al. (2014) found that high school and college students performed more poorly on the KMAQ compared with middle-aged and older adults, implying that memory aging knowledge (especially in the pathological domain) may increase from adolescence through mid-life. They also reported that high school students scored the lowest on the KMAQ stereotype score, suggesting that stereotypical views of memory aging may be contributing to their lack of memory aging knowledge.

Cherry et al.'s findings hint at a potential relationship between aging stereotypes and aging knowledge, however, they did not address ageist behaviors directly nor did they examine potential gender differences in responses. To address these limitations, we focus here on the Relating to Older People Evaluation (ROPE) as a measure self-reported ageist behaviors, and the FAQ as a general measure of aging knowledge that spans multiple domains of function in later life. Incorporating original data from earlier work, we also include the KMAQ to estimate memory aging knowledge, although we expanded the age range in the older adult sample here relative to Cherry et al. (2014) to improve reliability. By including two measures of aging knowledge, the FAQ and the KMAQ, we also improve the breadth of inferences pertaining to the hypothesized relationships among ageist behaviors (both positive and negative), general aging knowledge, and domain-specific memory aging knowledge.

To summarize, the objectives of the present study were to (a) examine age-related differences in self-reported ageist behaviors and aging knowledge (both general and specific to cognitive aging); (b) address gender differences in ageist behaviors and aging knowledge; and (c) determine whether ageist behaviors are associated with aging knowledge. Based on a social cognitive perspective and prior literature, we expected that younger individuals would have less knowledge of aging than their older counterparts and may be more likely to report ageist behaviors in everyday life. Gender differences favoring females were expected

for the young, middle-aged, and older adults for positive ageist behaviors, in line with earlier findings (Cherry & Palmore, 2008; Stahl & Metzger, 2013). Whether this pattern of gender differences in ageist behaviors holds for adolescents is not presently clear. Lastly, we expected that ageist behaviors would be associated with aging knowledge, after taking the variance due to age and gender differences into account. Such a finding would have noteworthy theoretical implications for current views of ageism as a social cognitive phenomenon (positive and negative) and may suggest directions for further work to improve aging knowledge across the lifespan.

## Method

### *Participants*

A total of 202 individuals (127 female and 75 male) aged 13 to 91 years participated in this study. There were 42 adolescents ( $M = 15.93$ ,  $SD = 1.28$ ) attending St. Joseph's Academy and Catholic High School in Baton Rouge, LA; 84 young adults ( $M = 20.94$ ,  $SD = 2.86$ ) enrolled in lifespan developmental psychology courses at Louisiana State University (LSU), Baton Rouge, LA; 43 middle-aged adults ( $M = 49.49$ ,  $SD = 11.22$ ) attending an annual meeting of the Louisiana Gerontological Society and a seminar hosted by Alzheimer Services of the Capital Area in Baton Rouge, LA; and 33 older adults ( $M = 79.03$ ,  $SD = 8.94$ ) attending a program hosted by St. James Place, a local Continuing Care Retirement Community in Baton Rouge, LA. As a whole, the sample could be described as middle to upper-middle class: Adolescents were sampled from two private schools in Baton Rouge, LA, and younger adults sampled from LSU, the flagship institution of the state. Additionally, 84% of middle-aged adults and 64% of older adults reported holding at least a bachelor's degree or higher educational attainment.

### *Materials and Procedure*

*Relating to Older People Evaluation (Cherry & Palmore, 2008).* This questionnaire measures self-reported ageist behaviors in everyday interactions with older adults. Participants rated the frequency with which they engaged in 6 *positive ageist behaviors* (e.g., "holds doors open for old people because of their age" and "vote for an old person because of their age") and 14 *negative ageist behaviors* (e.g., "send birthday cards to old people that joke about their age" and "vote against an old person because of their age") ranging from 0 (*never*) to 2 (*often*). ROPE Positive and ROPE Negative scores were summed for each participant and expressed as a proportion of the highest score possible for that dimension. Higher scores indicated greater frequency of positive and negative ageist behaviors. Prior research on the psychometric qualities of the ROPE has

demonstrated adequate reliability (Cronbach's  $\alpha = 0.70$ ; Cherry & Palmore, 2008).

*Facts on Aging Quiz (Palmore, 1998)*. This questionnaire measured participants' *general aging knowledge*. The quiz consists of 25 true–false items focused on factual knowledge centered around common misconceptions about aging and older adults across multiple domains (e.g., physical: *More older persons have chronic illnesses that limit their activity than do younger persons. [T]*; social: *The majority of old people live alone. [F]*). Prior research has yielded less than adequate estimates of internal consistency and reliability on the FAQ (true or false version) possibly due to measurement error (Harris, Changas, & Palmore, 1996). To address this concern we added a “don't know” response option to the FAQ, which would lesson error due to guessing and also permit for direct comparisons with the KMAQ (described next). Proportion scores were calculated for each participant by dividing the number of correct items minus the number of “don't know” responses. Higher scores indicated greater aging knowledge. Inclusion of both aging knowledge measures (FAQ and KMAQ) increases the breadth of inferences on the relationships between ageist behaviors and aging knowledge.

*Knowledge of Memory Aging Questionnaire (Cherry et al., 2003)*. This 28-item true or false questionnaire measured participants' *memory aging knowledge*. Half of the items on this measure assess knowledge of *normal memory aging*, defined as changes in later life that reflect normative age-related changes in memory processes (e.g., *A picture is worth a thousand words in that it is easier for both younger and older people to remember pictures than to remember words. [T]*). Half of the items assess *pathological memory aging*, defined as nonnormative changes due to physiological or psychopathological conditions, pharmacological agents, and dementia (e.g., *Frequent complaining about memory problems is an early sign of Alzheimer's disease. [F]*). Participants could respond “true,” “false,” or “don't know” in response to each item. KMAQ Normal and KMAQ Pathological scores were calculated for each participant by dividing the number of correct items in each category by the total in each category (14) minus the number of “don't know” responses in each category. Higher scores indicated greater knowledge of normal and pathological memory aging knowledge. Prior validation studies have demonstrated the KMAQ's factor structure (Calamia, Reese-Melancon, Cherry, Hawley, & Jazwinski, 2016), content validity (Jackson, Cherry, Smitherman, & Hawley, 2008), and internal consistency reliability (Cronbach's  $\alpha = 0.76$ ; Cherry, Allen, Boudreaux, Robichaux, & Hawley, 2009).

For all participants, informed consent was obtained at the beginning of the sessions. The procedures used in this study were reviewed and approved by the institutional review board of LSU in Baton Rouge, LA.

## Results

### *Analytical Approach*

To examine age- and gender-related differences in positive and negative ageist behaviors, aging knowledge, and normal and pathological memory aging knowledge, these data were analyzed according to the following plan. For each participant, separate responses were calculated for the ROPE Positive and Negative subscales and submitted to a 4 (Participant Age)  $\times$  2 (Gender)  $\times$  2 (Subscale) mixed analysis of variance (ANOVA). FAQ scores were submitted to a 4 (Participant Age)  $\times$  2 (Gender) ANOVA. KMAQ Normal and Pathological scores were submitted to a 4 (Participant Age)  $\times$  2 (Gender)  $\times$  2 (Subscale) mixed ANOVA. To determine whether positive and negative ageist behaviors were associated with aging knowledge and normal and pathological memory aging knowledge, partial correlations were carried out on participant responses to the ROPE, FAQ, and KMAQ while statistically controlling for the variance associated with age and gender. All analyses were conducted using IBM SPSS Statistics Version 22. For all reported effects, the traditional  $\alpha \leq 0.05$  was used to evaluate significance. Unless otherwise indicated, all follow-up pairwise comparisons were made using Tukey's honest significant difference test.

### *Age and Gender Differences in Self-Reported Positive and Negative Ageism*

To assess age and gender differences in the frequency of self-reported positive and negative ageist behaviors, ROPE Positive and ROPE Negative scores were analyzed. Means are reported in Table 1. A 4  $\times$  2  $\times$  2 mixed ANOVA on the ROPE responses yielded a significant main effect of participant age,  $F(3, 194) = 3.06$ ,  $p = .03$ , and a significant main effect of subscale,  $F(1, 194) = 585.14$ ,  $p < .001$ . Pairwise comparisons revealed that adolescents (.37) and young adults (.40) did not significantly differ in reported interactions with older adults; however, adolescents reported significantly fewer positive and negative interactions than that of the middle-aged adults (.44) and older adults (.45), whose interactions did not differ significantly from each other. Overall, positive ageist behaviors (.58) were more frequently reported than negative ageist behaviors (.24), replicating prior work by Cherry and Palmore (2008). Importantly, the Participant Age  $\times$  Subscale interaction effect was significant,  $F(3, 194) = 9.10$ ,  $p < .001$ . The significance of this interaction is likely due to the mean difference between positive and negative ageist behavior scores, which was larger in size for the middle-aged adults (a difference of .45) compared with the other three age groups (differences of .26, .34, and .26 for adolescents, young, and older adults, respectively).

The main effect of gender was not significant, but the Gender  $\times$  Subscale interaction effect was,  $F(3, 194) = 6.22$ ,  $p = .013$ . Females (.60) reported a significantly greater frequency of positive ageist interactions than males (.53), but

**Table 1.** Mean Proportion and Proportion Correct Scores for ROPE, FAQ, and KMAQ by Age Group and Gender.

Age group or gender	Instrument				
	ROPE		FAQ	KMAQ	
	Positive <i>M (SD)</i>	Negative <i>M (SD)</i>	<i>M (SD)</i>	Normal <i>M (SD)</i>	Pathological <i>M (SD)</i>
<b>Adolescents</b>					
Female	0.52 (0.15)	0.21 (0.13)	0.57 (0.11)	0.70 (0.14)	0.66 (0.14)
Male	0.48 (0.15)	0.27 (0.15)	0.60 (0.12)	0.54 (0.22)	0.52 (0.15)
<b>Young adults</b>					
Female	0.58 (0.14)	0.22 (0.11)	0.68 (0.11)	0.71 (0.13)	0.74 (0.12)
Male	0.55 (0.13)	0.25 (0.12)	0.69 (0.09)	0.69 (0.12)	0.66 (0.16)
<b>Middle-aged adults</b>					
Female	0.67 (0.17)	0.21 (0.12)	0.70 (0.13)	0.66 (0.14)	0.84 (0.11)
Male	0.63 (0.12)	0.22 (0.09)	0.75 (0.14)	0.69 (0.19)	0.83 (0.13)
<b>Older adults</b>					
Female	0.61 (0.15)	0.33 (0.13)	0.65 (0.12)	0.74 (0.11)	0.81 (0.16)
Male	0.49 (0.19)	0.28 (0.14)	0.71 (0.16)	0.71 (0.10)	0.85 (0.14)

Note. ROPE: Relating to Older People Evaluation (Cherry & Palmore, 2008); FAQ: Facts on Aging Quiz (Palmore, 1998); KMAQ: Knowledge of Memory Aging (Cherry et al., 2003).

no gender differences were found with respect to negative ageist interactions (females = .23; males = .25;  $p = .23$ ), suggesting that males and females interact differently with older adults. This aspect of the data replicates previous research where females reported a greater frequency of positive ageist behaviors compared with males (Cherry & Palmore, 2008; Stahl & Metzger, 2013), indicating that the gender difference in self-reported ageism is reliable.

### Age and Gender Differences in General Aging Knowledge

To assess age and gender differences in general aging knowledge, FAQ scores were analyzed (see Table 1). A  $4 \times 2$  mixed ANOVA on the FAQ proportion correct scores yielded a significant main effect of participant age,  $F(3, 194) = 10.25$ ,  $p < .001$ . Pairwise comparisons indicated that adolescents (.59) scored significantly lower than young adults (.68), middle-aged adults (.73), and older adults (.69;  $p$ 's  $\leq .005$ ), who did not differ from each other in terms of factual knowledge about aging and older adults. The main effect of gender was significant,  $F(3, 194) = 3.83$ ,  $p = .05$ , with males (.69) demonstrating greater



aging knowledge than females (.65). The Participant Age  $\times$  Gender interaction was nonsignificant. Taken together, these data suggest that young, middle-aged, and older adults hold fewer misconceptions about aging compared with adolescents and males appear to have fewer misconceptions about aging than females.

### *Age and Gender Differences in Memory Aging Knowledge*

To assess age and gender differences in normal and pathological memory aging knowledge, KMAQ Normal and Pathological scores were analyzed (see Table 1). A  $4 \times 2 \times 2$  mixed ANOVA on the KMAQ proportion correct scores yielded a significant main effect of participant age,  $F(3, 193) = 19.72, p < .001$ , and a significant main effect of subscale,  $F(1, 193) = 15.71, p < .001$ . Pairwise comparisons revealed that adolescents (.61) scored significantly lower than young adults (.71), middle-aged adults (.76), and older adults (.78;  $p$ 's  $< .015$ ), and knowledge of pathological memory aging (.73) was significantly greater than knowledge of normal memory aging (.68;  $p < .001$ ), replicating prior work (Cherry et al., 2014). Additionally, the Participant Age  $\times$  Subscale interaction effect was significant,  $F(3, 193) = 9.40, p < .001$ . Follow-up analyses revealed that middle-aged adults and older adults answered a greater proportion of the pathological memory aging items correctly than normal memory aging items; in contrast, adolescents and young adults showed similar response accuracy for each KMAQ subscale, as the means in Table 1 indicate. Taken together, these data suggest greater knowledge of pathological age-related memory changes by the two older adult age groups.

The main effect of gender was also significant,  $F(1, 193) = 7.29, p = .008$ , with males (.66) demonstrating less accurate memory aging knowledge compared with females (.73), although this effect is qualified by a significant Participant Age  $\times$  Gender interaction,  $F(3, 193) = 4.88, p = .003$ . Pairwise comparisons confirmed that the gender difference that favored females was confined to the two younger age groups ( $p$ 's  $< .036$ ). Means for females and males, in order, were 0.68 and 0.53 for adolescents, and 0.72 and 0.67 for young adults, suggesting that younger females had greater knowledge of normative and nonnormative age-related memory changes than younger males.

### *Relationships Among Self-Reported Ageism, General Aging Knowledge, and Memory Aging Knowledge*

We examined relationships among self-reported positive and negative ageism, general aging knowledge, and knowledge of memory aging to test the hypothesis that ageist behaviors are associated with a lack of aging knowledge. We conducted partial correlations to examine interrelationships among responses on the ROPE subscales, FAQ, and KMAQ subscales (see Table 2) while statistically controlling for age and gender.



**Table 2.** Means, Standard Deviations, and Partial (Controlling for Age and Gender) Correlation Coefficients for the FAQ, KMAQ Subscales, and ROPE Subscales.

	M	SD	1	2	3	4	5
FAQ (1)	0.67	0.13	–				
KMAQ Normal (2)	0.68	0.15	0.28**	–			
KMAQ Pathological (3)	0.73	0.17	0.37**	0.15*	–		
ROPE Positive (4)	0.58	0.16	0.08	– 0.04	– 0.01	–	
ROPE Negative (5)	0.24	0.13	– 0.19**	– 0.12	– 0.18**	0.17*	–

Note. FAQ: Facts on Aging Quiz (Palmore, 1998); KMAQ: Knowledge of Memory Aging Questionnaire (Cherry et al., 2003); ROPE: Relating to Older People Evaluation (Cherry & Palmore, 2008).

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

**General Aging Knowledge and Memory Aging Knowledge.** Inspection of Table 2 indicates that FAQ scores were significantly correlated with both KMAQ Normal ( $r = .28, p < .01$ ) and KMAQ Pathological ( $r = .37, p < .01$ ) scores. Additionally, the KMAQ Normal and KMAQ Pathological subscales were significantly correlated ( $r = .15, p < .05$ ). These data show that factual knowledge of aging and older adults was positively correlated with knowledge of normal and pathological memory aging. This aspect of the data is a new finding, and to our knowledge, not previously demonstrated.

**General Aging Knowledge, Memory Aging Knowledge, and Self-Reported Ageism.** Further inspection of Table 2 shows that the FAQ scores were not significantly correlated with the ROPE Positive responses but were negatively correlated the ROPE Negative responses ( $r = -.19, p < .01$ ), suggesting that greater aging knowledge is associated with lower self-reported negative ageist interactions with older adults. In examining KMAQ subscores, we found the KMAQ Normal scores were not significantly correlated with ROPE Positive or Rope Negative responses, but the pattern of correlation was different for the KMAQ Pathological scores. Although the KMAQ Pathological scores were not correlated with ROPE Positive responses, they were correlated with ROPE Negative responses ( $r = -.18, p < .01$ ), suggesting that greater knowledge of nonnormative memory changes is associated with lower frequency of negative ageist interactions with older adults. The pattern of present findings point to a relationship between knowledge of aging processes and ageist interactions with older adults.

## Discussion

The present study examined age and gender differences in ageist behaviors and aging knowledge in a lifespan sample and addressed whether self-reported ageist behaviors were associated with knowledge of aging. Three main findings

emerged from the analyses. First, we found that younger people were less likely to report ageist behaviors in everyday life compared with their middle-aged and older counterparts. Younger individuals were also less knowledgeable about aging than were older individuals. Second, females reported a greater frequency of positive ageist behaviors compared with males, as expected (Cherry & Palmore, 2008; Stahl & Metzger, 2013). Third, partial correlations confirmed that negative ageist behaviors were inversely correlated with aging knowledge, although positive ageist behaviors were unrelated to aging knowledge. These findings and their implications for current views of ageism based on a social cognitive perspective are discussed next.

### *Age-Related Differences in Ageist Behaviors and Aging Knowledge*

The first finding of interest concerned the patterns of self-reported ageist behaviors, where adolescents and young adults were less likely to report engaging in ageist behaviors in everyday life compared with older individuals. This finding is contrary to Cherry and Palmore (2008), who found no age differences in ageist behaviors when comparing college students to groups of older adults. A plausible explanation for these contrasting outcomes is our assessment of ageist behaviors among distinct younger samples. To our knowledge, this is the first study that has specifically examined self-reported ageist behaviors (positive and negative) from this developmental period together with middle-aged and older reference groups, allowing a richer examination of ageist behaviors across the lifespan. Levy and Macdonald (2016) have made the point that ageism has been studied through a limited age range of participants; the present study with four age groups who ranged in age from 13 to 91 years is a first step in addressing this concern.

With respect to aging knowledge, adolescents scored significantly lower than other age groups on a general measure of aging knowledge (FAQ) and a domain-specific measure of adult cognition (KMAQ). Taken together, these data suggest that younger individuals may have less accurate knowledge of aging processes, but not necessarily a greater frequency of self-reported ageist behaviors, compared with the other age groups. It is important to note, however, that although our data are consistent with previous findings concerning the prevalence of self-reported ageist behaviors (Allen et al., 2009; Cherry & Palmore, 2008; Stahl & Metzger, 2013), the frequency of negative ageist behaviors was relatively low among all individuals in the study. Positive ageist behaviors were far more prevalent than negative ageist behaviors, even among the youngest individuals. Perhaps, participants in this study were less aware of negative ageist behaviors (as suggested by Levy & Banaji, 2002), especially when considered in the context of positive ageist behaviors, which may signify presumed respect for elderly people. Alternatively, the elevation in reported positive ageist behaviors observed here may reflect social desirability in responding (see Cherry, Allen, Denver, & Holland, 2015, for a related discussion).

### *Gender Differences in Ageist Behaviors and Aging Knowledge*

Our second finding speaks to the role that gender differences may play in ageist behaviors and aging knowledge. We found that females reported greater frequency of positive ageist behaviors compared with males, although nonsignificant gender differences occurred for negative ageist behaviors, replicating Cherry and Palmore's (2008) first findings. Regarding aging knowledge assessed with the FAQ, response accuracy was greater for men than women. Interestingly, the opposite pattern of results was obtained for memory aging knowledge as measured by the KMAQ, with women reporting more accurate knowledge than men, although a significant age group interaction, in which women in the two younger age groups demonstrated greater memory aging knowledge than men, qualified this result. Taken together, these data suggest that younger women (adolescents and college students) may have more accurate memory aging knowledge than younger men, implying that educational programs targeting this group may be particularly beneficial.

### *Relationships Among Ageist Behaviors and Aging Knowledge*

Our third finding of interest concerns relationships among ageist behaviors (positive and negative) and aging knowledge (general knowledge and memory aging knowledge). We conducted partial correlations, statistically controlling for variation due to age and gender, to test the hypothesis that those who knew less about aging might be more likely to report engaging in ageist behaviors. Partial correlations confirmed that self-reported negative ageist behaviors were inversely correlated with several forms of aging knowledge indicating that the relationship between negative ageist behaviors and aging knowledge appears to be both reliable and broad in scope. Importantly, positive ageist responses were not significantly correlated with the FAQ, replicating Stahl and Metzger (2013), and confirming the generality of their findings. The present study uniquely extends this earlier work by showing that positive ageist responses were not correlated with memory aging knowledge.

To speculate, the finding that only negative ageist behaviors were correlated with some forms of aging knowledge suggests that these self-reported positive and negative behaviors may actually be tapping two distinct constructs. Palmore (1999) has argued that positive ageist behaviors are a form of ageism because they imply a negative bias against older individuals, which aligns with Butler's (1969) original premise that stereotyping older people, whether positively or negatively, is ageist (see Chen, 2015, for related discussion). Nonetheless, the present findings suggest there is something different about positive ageism. Cherry et al. (2015) have argued that positive ageist behaviors may reflect social desirability on the part of the individual more so than an implicit bias against older adults. That is, rather than the underlying assumption that positive ageist behaviors reflect presumed frailty and incompetence in older adults, positive ageist behaviors

may actually be a reflection of a tendency to respond in a socially desirable way toward older adults. Our results support this argument with new evidence of a disassociation between positive and negative ageist behaviors, although further research would be necessary before firm conclusions would be warranted.

The present findings and their implications should be interpreted in light of at least three methodological limitations. First, individuals may exaggerate socially desirable behaviors and minimize socially undesirable behaviors, which could influence the sensitivity of the ROPE for capturing the frequency of ageism in everyday life. Second, our use of convenience samples seriously limits the generalizability of these findings. Use of a population-based sampling technique would be desirable in future research. Third, we used a cross-sectional design, so causal inferences based on the relationships observed here are not warranted. Future research that includes longitudinal comparisons of ageist behaviors and aging knowledge is needed to track potential changes in responses over time.

In closing, these data have shown that adolescents and young adults were less ageist and less knowledgeable than their older counterparts, underscoring the value of including younger reference groups in future studies on ageism. For people of all ages, positive ageist behaviors were far more prevalent than negative ageist behaviors, consistent with the notion that positive ageism may reflect deferential behaviors directed toward seniors and not ageist presumptions of frailty or incompetence (Cherry et al., 2015). However, our findings show that only negative ageist behaviors were associated with aging knowledge (Stahl & Metzger, 2013), implying that educational programs to increase aging knowledge may reduce negative ageist behaviors, an interesting possibility that awaits future research. These data provide an important starting point for understanding how individuals of various ages relate to older people and how the knowledge they possess may influence their behaviors toward older adults, an important consideration in light of current demographic trends of global population aging in the 21st century.

### **Author Notes**

KEC and SB contributed equally to this manuscript. Order of authorship was determined by a coin toss.

### **Acknowledgements**

We thank Emily O. Boudreaux, Garesia Randle, Haley Blanchard, Karri S. Hawley, and Dina R. Anbinder for assistance with data collection. We also thank Allison Eldridge, Jenny Denver, Kelli Broome, Nicole Lowenhaupt, and Haley Barlow for help with data scoring.

### **Declaration of Conflicting Interests**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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