

The Relationship of Anxiety and Beliefs Toward Aging in Ageism

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Abstract

The widespread prevalence of ageism is a pressing issue in today's society, as it is expected that elderly individuals will make up 20 % of the population of the United States by 2030. The present study sought to empirically examine the origins of ageism from two theoretical perspectives: terror management theory and social development theory. College students (N = 206) were surveyed regarding their experience with older adults, and their anxiety, attitudes, and knowledge about aging and older adults. Results were consistent with terror management theory, as anxiety about aging was significantly correlated with greater levels of ageism in younger adults. Additionally, analyses supported the social development theory of ageism, revealing a significant relationship between subjective history of exposure to older adults and ageist beliefs. Interestingly, subjects' current exposure to older adults was not correlated with levels of ageism, suggesting that ageist beliefs may be developed and maintained from an earlier age.

Keywords: aging, ageism, terror management theory, social development theory, discrimination

There are approximately 40 million people over the age of 65 living in the United States, accounting for 13 % of the total population (U.S. Census Bureau, 2010). This number is expected to grow exponentially as the Baby Boomers (those born between 1946 and 1964) are likely to experience unprecedented longevity (CDC, 2012). At the current growth rate, it is projected that the number of elderly individuals living in the United States will double by the year 2030, representing 20 % of the total population (Federal Interagency Forum on Aging-Related Statistics, 2008). This dramatic change in the demographic landscape presents a number of novel challenges for today's society. Unfortunately, these changes also highlight what research suggests is the most common form of prejudice: ageism (e.g., Levy & Banaji, 2002; Palmore, 2004).

The term "ageism" was originally coined in 1969 to describe stereotyping and discrimination against older individuals (Butler, 1969). Ageism is prevalent in American society, where older persons are generally regarded as non-contributing burdens on society (Branco & Williamson, 1982). These negative attitudes have proven to be an increasing problem at individual, institutional, and societal levels (Butler, 1995; International Longevity Center Anti-Ageism Taskforce, 2006; Palmore, 1999). Research has consistently documented ageism in communication with older adults (e.g., Lagacé, Tanguay, Lavallée, Laplante, & Robichaud, 2012; Montepare, Steinberg, & Rosenberg, 1992; Nussbaum, Pitts, Huber, Raup Krieger, & Ohs, 2005; Rodin & Langer, 1980), in the media (e.g., Arluke & Levin, 1984; Donlon, Ashman, & Levy, 2005; Signorielli, 2004; Snyder, 2002), in health care settings (e.g., International Longevity Center Anti-Ageism Taskforce, 2006; Du, Key, Osborne, Mahnken, & Goodwin, 2003; Hajar, Miller, & Hirth, 2002; Keeler, Solomon, Beck, Mendenhall, & Kane, 1982), in the workplace (e.g., Avolio & Barrett, 1987; Bendick, Brown, & Wall, 1999; Davis, Smith, & Marsden, 2003; McCann & Giles, 2002; Powell, 2010) and in society's response to elder abuse (e.g., International Longevity Center Anti-Ageism Taskforce, 2006; Phelan, 2008; Pillemer & Finkelhor, 1988; Wolf, 1999). Given the widespread prevalence of age discrimination, it is, perhaps, that most people perceive ageism as less serious than other forms of discrimination.

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However, these negative attitudes hinder people from seeing the potential of aging and can result in discrimination in housing, employment, mandatory retirement, public policy, and inappropriate care in institutional settings (ILC, 2006). In fact, it appears the effects of racism are diminishing faster than those of ageism (Palmore, 2005).

Theories of Ageism

Terror Management Theory

In social psychology, terror management theory proposes that humans experience existential anxiety related to their desire to live and the realization that death is inevitable. This theory suggests the elderly represent a threat of diminished beauty and declining health that reminds the young of their mortality and the certainty of their eventual death (Greenberg, Pyszczynski, & Solomon, 1986; Solomon, Greenberg, & Pyszczynski, 1991). Unlike other forms of ethnic prejudice, ageism is unique in that it is the only out-group that is permeable to other groups. In other words, individuals that belong to the in-group (the young) will eventually become members of the out-group (the old) if they are fortunate to live long enough. The concept of striving to survive while knowing that death is the only certainty in life presents an existential paradox that has the potential to paralyze the young with terror (Becker, 1973).

The anxiety that arises from the threat of death acts as a motivating force in which the young attempt to return to a state of emotional homeostasis. Aside from physical distancing from the elderly, researchers have found that younger individuals will sometimes reduce their anxiety by exaggerating the differences between themselves and older populations (Martens, Greenberg, Schimel, & Landau, 2004; Popham, Kennison, & Bradley, 2011). More specifically, the threat of death results in younger individuals believing that the elderly have an entirely different set of attitudes, interests, and personality characteristics (Martens, Greenberg, Schimel, & Landau, 2004). The young also deindividualize older adults by applying disparaging terms while also categorizing them into differing factions so that the differences between the age groups are magnified and the threat of death loses its association as part of the human condition (Kite & Johnson, 1988). This gerontophobia superficially isolates younger people from the problems associated with growing older while they continue to enjoy a seemingly never-ending prosperity of good health, strength, energy, and beauty (Nelson, 2002).

Social Development Theory

In addition to terror management theory, some researchers have suggested ageism may result from entrenched cultural values and beliefs that are prevalent during children's social development. Vygotsky's (1978) social development theory proposes that these early social interactions play a fundamental role in the development of cognition. It is important to note that age is one of the very first factors noticed by other people, and children are particularly cognizant of the different attributes associated with varying age groups (Kite, Deaux, & Miele, 1991; Lewis & Brooks-Gunn, 1979). Essentially, children begin to classify and categorize people into different groups based on their age-related physical characteristics such as an individual's height, face, and voice (For a review, see Montepare & Zebrowitz, 2002). Research indicates that humans are predisposed to categorizing people into groups because it provides a mental heuristic when cognitive resources may be taxed; however, the categorization of groups is one of the premier agents for stereotype acquisition and often hinders the integration of new information concerning the stereotyped targets (Taylor, Peplau, & Sears, 2000).

Concerning their beliefs, it appears children begin to associate the aging process with a continual decline in physical attractiveness. More specifically, children believe that elderly adults are physically less attractive and consider them to be bald, wrinkly, hard-of-hearing, visually impaired, and generally unhealthy (Hickey, Hickey, & Kalish, 1968; Marcoen, 1979; Seefeldt, Jantz, Galper, & Serock, 1977). Some research suggests that children's association of age with decreased attractiveness contributes to a negative halo effect in which those who are perceived to be unattractive are also expected to possess negative traits and abilities (Langlois et al., 2000). For example, children are significantly less likely to sit close to, make eye contact with, ask for assistance from, or verbally engage an older adult (Isaacs & Bearison, 1986). Even children as young as three years of age actively discriminate against the elderly and behave more negatively towards elders (Page, Olivas, Driver, & Driver, 1981).

The current study sought to study ageism empirically from both a terror management and a social development perspective. Consistent with terror management theory, analyses were expected to indicate that participant scores on measures of anxiety about the aging process would positively correlate with scores on measures of ageism. In other words, individuals who are anxious about aging were expected to stereotype older

adults more than those not anxious about aging. With respect to social development theory, individuals who have realistic expectations and are knowledgeable about the process of aging were hypothesized to be less likely to engage in ageism. More specifically, it was expected that a negative correlation would be found between measures of ageism and a measure of factual knowledge about aging. Similarly, it was also hypothesized that participants with experience or exposure to older adults, such as through daily exposure, having cared for an older adult, or having a history of more exposure to older individuals, might experience less anxiety about aging and therefore be less likely to hold ageist attitudes.

By necessity, this study made inquiries of participants about attitudes and beliefs that they may have considered socially undesirable (i.e., ageism). Research participants report less engagement in social desirability when provided with the ability to answer anonymously using the internet (Joinson, 1999). In addition, several studies have empirically validated the “candor hypothesis,” which states that computerized web interfaces facilitate self-disclosure among participants by ensuring confidentiality (Davis, 1999). In light of these studies, and the possibility that participants would consider ageism to be socially undesirable, the current investigation tested hypotheses using two conditions: a traditional lab setting and internet completion. It was hypothesized that participants in the lab group would report less ageism than those in the internet completion group.

Method

Participants

Although ageist attitudes do not solely exist among young adults, we chose them for the focus of recruitment for ease of comparison to existing literature regarding ageism. Specifically, terror management theory posits that younger individuals stereotype to decrease self-identification with an aging population. Participant ages ranged from 18 to 28 years ($M = 19.7$ years). Participants ($N = 206$) were undergraduate students at a large public university in the southern United States, who were recruited via a Psychology Department participant pool in exchange for extra credit in their courses. The students were randomly assigned to complete the measures online anonymously ($n = 103$), or in the lab setting ($n = 103$). Participants were primarily middle class (42.9%) or above middle class (40.5%; 16.6% below middle class), Caucasian (76.2%; 8.7% African American; 7.8% Native American; 7.3% other), and female (57%). All participants and their data were treated in accordance with the American Psychological Association Ethical Code (APA, 2002) and with Institutional Review Board approval.

Measures

In addition to questions about their subjective level of experience with older adults (i.e., previous exposure, current level of exposure, and if they have ever provided care for an older adult; see Appendix), participants were administered the following measures in random order:

Anxiety about Aging Scale (AAS). The Anxiety about Aging Scale (AAS; Lasher & Faulkender, 1993) consists of 20 items that assessed participants’ overall anxiety about aging. Participants responded to the items using a Likert-type scale ranging from -4 (*strongly disagree*) to +4 (*strongly agree*) with higher scores representing greater levels of anxiety. Scoring the AAS involves summing individual item responses, with a total maximum possible range of -80 to +80. The AAS assesses anxiety about aging on four dimensions: Fear of Old People (e.g., “I enjoy talking with old people”), Psychological Concerns (e.g., “I fear it will be hard for me to find contentment in old age”), Physical Appearance (e.g., “I have never dreaded looking old”), and Fear of Losses (e.g., “I fear when I am old all my friends will be gone”). In prior research, the AAS has negatively correlated with attitudinal measures of ageism as well as overall knowledge about the aging process (Lasher & Faulkender, 1993). In the present study, the measure achieved a high internal consistency with a Cronbach’s alpha coefficient of .83.

Fraboni Scale of Ageism (FSA). The Fraboni Scale of Ageism (FSA; Fraboni, Saltstone, & Hughes, 1990) originally consisted of 29 items designed to assess both cognitive and affective components of ageism; however, a recent analysis has found stronger factor loadings and the measure has since been revised to 23 items (Rupp, Vodanovich, & Crede, 2005). The revised FSA is one of the most widely used measures of ageism and is comprised of three factors: stereotypes (e.g., “Many old people just live in the past”), separation (e.g., “I sometimes avoid eye contact with old people when I see them”), and affective attitude (e.g., “Old people should be encouraged to speak out politically”; Rupp et al., 2005). Participants responded to the items using a Likert-type scale ranging from -4 (*strongly disagree*) to +4 (*strongly agree*) with higher scores indicating greater ageism endorsement (some

items were reverse scored). The individual item responses were summed and had a possible range from -92 to +92. The FSA had high internal-consistency reliability with a Cronbach's alpha coefficient of .89 in the current study.

Attitudes Toward Old Persons scale (OP). The Attitudes Toward Old Persons scale (OP; Kogan, 1961) measures individuals' attitudes toward elderly adults. Convergent validity has been established showing that the OP correlates significantly with other measures of discrimination and stereotyping of groups (Kogan, 1961). The scale originally consisted of 34 items: 17 positive (e.g., "Most old people are capable of new adjustments when the situation demands it") and 17 negative (e.g., "Most old people get set in their ways and are unable to change") statements about old people in which participants would record their level of agreement using a Likert-type scale ranging from -4 (*strongly disagree*) to +4 (*strongly agree*). The individual item responses on the OP were summed and had a possible range from -68 to +68. Kogan found the OP- scale (negative statements) to have much greater reliability than the OP+ scale (positive statements). In addition, the current study is only interested in looking at negative stereotypes of older adults. Thus, only the 17 item OP- scale was used, with a Cronbach's alpha coefficient of .92 in the current study.

Facts on Aging Quiz (FAQ1). A multiple-choice version of Palmore's (1977) Facts on Aging Quiz (FAQ1) was used to measure participants' overall knowledge of aging (Harris, Changas, & Palmore, 1996). Previous research has demonstrated that the FAQ1 is a good predictor of knowledge about the aging process (Matthews, Tindale, & Norris, 1984). In the current study, participants had some exposure to the aging process in their introductory psychology coursework. Thus, the multiple-choice version was selected over the original True/False version of the FAQ1 because it has been found to yield less measurement error for participants with an above-average knowledge of aging (Harris et al., 1996). Each of the 25 multiple-choice questions asks about general aging processes and has four possible options with one correct answer (e.g., "The proportion of old people who are socially isolated is: a) almost all, b) about half, c) less than a fourth, d) almost none"). The total number of correct answers was summed with a possible range from 0 to 25. The multiple-choice FAQ1 forfeited some overall internal consistency with a Cronbach's alpha reliability estimate of .20 (versus the Cronbach's alpha of .28 observed in the original measure); however, this is not a significant concern since there is only one correct answer and participants who do not know the answer likely make different guesses each time they take the measure (with resultant lower internal consistency). Although the reliability estimate is lower, the multiple-choice version of the FAQ1 provides a more sensitive indirect measure of age bias than the True/False version as it provides a greater number of options for each question (Harris et al., 1996).

Marlowe-Crowne Social Desirability Scale (M-C SDS). The Marlowe-Crowne Social Desirability Scale (M-C SDS; Crowne & Marlowe, 1960) is a measure of social desirability widely used to determine the influence of non-test-relevant participant response bias. The measure has been shown to have a strong correlation with the Minnesota Multiphasic Personality Inventory (MMPI) indices for test taking bias (MMPI scale *K*), response bias (MMPI scale *L*), and validity (MMPI scale *F*; Crowne & Marlowe, 1960). The M-C SDS was included in this study to determine whether participants were forthright with their answers or trying to answer in a manner that is considered more socially desirable (i.e., less endorsement of stereotypes and prejudice). The M-C SDS consists of 33 items in which the participants indicated whether a statement about them is True or False with higher scores being associated with a more socially desirable presentation. The individual item responses were summed and had a possible range from 0 to +33. The results from this study reveal an internal consistency coefficient (Cronbach's alpha) for this measure of .77.

Procedure

Participants randomly assigned to the internet condition completed study measures using a secure internet experiment management system (i.e., Sona). Sona required all users to have a university-affiliated email address in addition to a current student ID number. In addition, Sona only allowed participants to complete and submit study measures one time. Participants assigned to the laboratory condition were provided with a packet containing the study measures. Study measures were presented in random order regardless of their assigned study condition (internet vs. laboratory).

Results

First, the lab and internet groups were examined separately and compared (using an ANOVA) for any significant differences among each of the measures. As shown in Table 1, significant differences were found between the internet ($M = -16.6$; $SD = 19.2$) and lab conditions ($M = -28.6$; $SD = 20.8$) on the Anxiety about Aging

Scale, $F(1, 204) = 18.4, p < .001$. Likewise, significant differences were found between the internet ($M = 9.9; SD = 2.7$) and lab conditions ($M = 11.2; SD = 2.4$) for the Facts on Aging Quiz, $F(1, 204) = 13.2, p < .001$. No significant differences were found for the remaining measures.

Table 1

Means, Standard Deviations, and Ranges Among Groups

Measure	Internet	Lab	<i>F</i>	<i>d</i>	95% C.I.
AAS			18.41**	.60	.32 to .88
<i>M ± SD</i>	-16.6 ± 19.2	-28.6 ± 20.8			
Range	(-65-25)	(-80-12)			
FSA			2.83	.23	-.04 to .51
<i>M ± SD</i>	-29 ± 25.5	-34.7 ± 23.3			
Range	(-77-20)	(-80-26)			
OP			2.85	.24	-.04 to .51
<i>M ± SD</i>	-19.7 ± 24.3	-25 ± 19.7			
Range	(-68-68)	(-63-25)			
FAQ1			13.22**	-.51	-.78 to -.23
<i>M ± SD</i>	9.9 ± 2.7	11.2 ± 2.4			
Range	(3-16)	(6-19)			
M-C SDS			.72	-.04	-.31 to .24
<i>M ± SD</i>	15 ± 5.4	15.2 ± 5.2			
Range	(3-26)	(5-27)			

** indicates $p < .001$.

Note. AAS = Anxiety about Aging Scale; FSA = Fraboni Scale of Ageism; OP = Attitudes Towards Old Persons scale; FAQ1 = Facts on Aging Quiz; M-C SDS = Marlowe-Crowne Social Desirability Scale.

Data from the lab and internet conditions were then combined to complete the rest of the analyses. First, Pearson correlations were run to test the hypothesis that individuals experiencing greater anxiety about aging would engage in more ageism. Consistent with this prediction based in terror management theory, the Anxiety about Aging Scale (AAS) was significantly correlated with other measures of ageism (see Table 2). More specifically, greater levels of anxiety on the AAS were correlated with higher scores on the FSA ($r = .57, p < .001, r^2 = .32$) and higher scores on the OP ($r = .48, p < .001, r^2 = .23$).

Next, correlations were also run to test the hypothesis related to social development theory: that knowledge about the aging process and realistic expectations about aging would be associated with less ageism. Results supported this hypothesis, indicating that a lack of knowledge about the aging process, as measured by the FAQ1, was also significantly correlated with greater levels of ageism (see Table 2). More specifically, lower scores on the

FAQ1 were correlated with higher scores on the FSA ($r = -.32, p < .001, r^2 = .10$) and higher scores on the OP ($r = -.30, p < .001, r^2 = .09$).

Table 2

Correlations Between Ageism Measures

Measure	AAS	FSA	OP	FAQ1
AAS				
Coefficient	1.00	.57**	.48**	-.32**
Effect size		.32	.23	.10
95% C.I.		.48 to .67	.38 to .58	-.44 to -.19
FSA				
Coefficient		1.00	.81**	-.32**
Effect size			.66	.11
95% C.I.			.77 to .86	-.44 to -.19
OP				
Coefficient			1.00	-.30**
Effect size				.09
95% C.I.				-.43 to -.17
FAQ1				
Coefficient				1.00
Effect size				
95% C.I.				

** indicates $p < .001$.

Note. AAS = Anxiety about Aging Scale; FSA = Fraboni Scale of Ageism; OP = Attitudes Towards Old Persons scale; FAQ1 = Facts on Aging Quiz.

We ran a third set of correlational analyses to determine the relationship between exposure to older adults (both daily exposure and experiences having cared for older adults) and levels of ageism. It was hypothesized, again consistent with social development theory, that exposure to older adults would be associated with decreased levels of ageism. Interestingly, current daily exposure was not associated with either increased or decreased levels of ageism. However, consistent with social development theory, a relationship was noted between participants' reported history of exposure to older adults (see Table 3).

Table 3

Correlations Between Experiential Questions and Ageism Measures

Measure	Present	Past	Provided Care
AAS			
Coefficient	-.06	-.34***	-.23***
Effect size	.00	.12	.05
95% C.I.	-.20 to .08	-.46 to -.22	-.36 to -.10
FSA			
Coefficient	-.04	-.38***	-.19**
Effect size	.00	.14	.04
95% C.I.	-.18 to .10	-.50 to -.26	-.32 to -.05
OP			
Coefficient	.05	-.34***	-.14*
Effect size	.00	.12	.02
95% C.I.	-.09 to .19	-.46 to -.22	-.28 to 0
FAQ1			
Coefficient	-.04	.19**	.02
Effect size	.00	.04	.00
95% C.I.	-.18 to .10	.05 to .32	-.12 to .16

* indicates $p < .05$.

** indicates $p < .01$.

*** indicates $p < .001$.

Note. AAS = Anxiety about Aging Scale; FSA = Fraboni Scale of Ageism; OP = Attitudes Towards Old Persons scale; FAQ1 = Facts on Aging Quiz.

To further understand our findings related to history of exposure to older adults, additional correlational analyses were conducted regarding the relationship between exposure, and level of anxiety and knowledge about aging. Results revealed that a past history of exposure to many older adults was correlated with lower scores on the AAS ($r = -.34, p < .001, r^2 = .12$), in addition to lower scores on measures of ageism, including the FSA ($r = -.38, p < .001, r^2 = .14$) and the OP ($r = -.34, p < .001, r^2 = .12$). Past exposure to older adults was also significantly correlated with higher scores on the FAQ1 ($r = .19, p = .003, r^2 = .04$).

Finally, a significant relationship was noted between lower scores on measures of ageism and whether or not the participants had provided care for an older adult(s). Analyses revealed that a history of providing care for older adults was correlated with lower scores on the AAS ($r = -.23, p < .001, r^2 = .05$), FSA ($r = -.19, p = .003, r^2 = .04$), and the OP ($r = -.14, p = .022, r^2 = .02$).

Discussion

As noted in the introduction, the terror management theory postulates that older individuals are a constant reminder to younger people of their inevitable loss of utility, burdensomeness to society, and eventual death (Greenberg et al., 1986; Martens et al., 2004; Solomon et al., 1991). Consistent with much of the literature on stereotypes, the terror management theory suggests that people will begin to assign negative traits to older individuals in an effort to distance themselves psychologically. As a result, younger individuals who are anxious about aging will begin to believe that all older adults share negative, intergroup similarities while discounting the presence of substantial within-group differences. Likewise, younger people will also believe there are much larger intragroup differences between themselves and older adults despite the many apparent shared similarities.

The results from the current study suggest support for the terror management theory. A measure of anxiety about aging (AAS) revealed a moderate but significant positive correlation with the other administered measures of ageism (FSA, OP). In other words, participants who expressed anxious thoughts and feelings about aging were significantly more likely to endorse beliefs consistent with ageism.

Analyses also revealed a small, but significant, negative correlation between a measure of aging knowledge (FAQ1) and measures of ageism (FSA, OP). These findings are consistent with many studies in the literature suggesting that altering negative attitudes associated with ageism may be possible by giving people accurate information about older people (Cottle & Glover, 2007; Jackson, Cherry, Smitherman, & Hawley, 2008; Ragan & Bowen, 2001).

Additional analyses revealed a significant relationship between the participants' subjective level of past exposure to older adults and ageist beliefs. The findings from the current study are consistent with many of the studies in the literature that suggest more exposure to older adults decreases the endorsement of items related to ageism. Interestingly, the ageism scores were not affected by current, daily exposure to older adults suggesting many of these beliefs are ingrained from a very early age. This finding is consistent with the social-developmental perspective on stereotyping and discrimination (Taylor et al., 2000).

Although not a focus of this investigation, interesting findings emerged with respect to whether participants completed the study measures via the internet or in the lab. Previous research has reported that anonymous, internet responding may allow participants to be more candid and engage in less socially desirable responding (Davis, 1999; Joinson, 1999). Although groups did not respond in a significantly different way on the measure of social desirability, participants in the internet group reported more anxiety about aging (on the AAS) than did those in the lab condition. Because the participants were randomly assigned, it may be that environmental differences in the groups may account for a difference in responding. Perhaps individuals in the internet condition were less focused on the task or more subject to environmental stressors than those in the more controlled environment of the lab. Despite internet participants reporting significantly more anxiety (using the AAS) and less knowledge about aging (on the FAQ1) than the traditional lab participants, groups did not differ with respect to their scores on the ageism measures (i.e., FSA or OP). Taken together, these findings may be interpreted as supportive of Palmore's (2005) contention that ageism is more socially acceptable than other forms of discrimination. However, another possibility is that this study simply did not support the "candor hypothesis" (Davis, 1999), such that participants were equally candid across conditions. Support for this possibility may be drawn from the finding that there was no difference between lab and internet participants on a measure of social desirability (M-C SDS). Future research is encouraged to more carefully examine the relationship between social desirability and ageism.

Limitations

Several limitations of the study should be considered in the interpretation of these results and in determining directions for future research. First, our sample consisted primarily of Caucasian, young adult college students from mostly middle class and above middle class backgrounds. While this age group was relevant to the theories studied, different results may be found in other age groups. Longitudinal research may reveal, for instance, whether attitudes about aging change as one becomes part of the out-group. Future research may also benefit from studying ageism in a more ethnically diverse sample. For instance, Zandi, Mirle, and Jarvis (1990) found that children of different cultural backgrounds (Indian and American) reacted differently to elderly adults. Cultural and family values likely influence how older persons are treated and perceived. Additionally, unstudied relationships may exist between socioeconomic status and ageism which were not able to be explored in this homogenous sample. As physical decline is readily associated with aging, perhaps wealthier individuals experience less anxiety about

aging, or caring for an aging family member, due to greater resources and access to healthcare. Similarly, individuals experiencing financial stress potentially experience more anxiety about possible increase in expenses.

While findings revealed relationships among the variables that support terror management theory and social development theory, it should be noted that they do not offer any causal explanations for ageism, and they yielded small effect sizes. For example, although individuals who experience more anxiety about aging were found to be more likely to hold ageist attitudes, this does not directly answer the question about whether anxiety about aging causes ageism. It may be that holding stronger ageist attitudes may lead individuals to experience more anxiety about becoming part of a group against whom they discriminate. Again, research examining ageist attitudes longitudinally may be useful in elucidating some of these relationships.

In summary, the results from this study support the terror management theory that younger adults who are anxious around older adults are more likely to stereotype to exaggerate possible differences. Consistent with much of the literature on other stereotypes, these superficial differences help people avoid the threatening thoughts that they are, in fact, quite similar to the attitude object. Although the foundation for ageism may be established early in life (social development theory), education may be an effective means for combating ageism by reducing anxiety about aging (Allan & Johnson, 2009; Knapp & Stubblefield, 1999; O'Hanlon & Brookover, 2002). If ageism is going to be properly addressed, it will require the education of younger adults about the realistic process of aging in addition to increasing the recognition that older adults share many commonalities with younger adults.

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Appendix

Experience

Instructions: Please place answer the following questions about yourself by placing an **X** on the line above the choice that best represents your experience.

On a typical day, how many individuals over the age of 65 do you communicate with?

0 1 2-3 4-7 8+

How much time did you spend communicating with individuals over the age of 65 when growing up (e.g. grandparents)?

None Very little Some Quite a bit A lot

How many individuals over the age of 65 have you provided regular assistance to help them with their daily activities?

None Very few Some Quite a few A lot