



# Childhood Relationship with Mother as a Precursor to Ageism in Young Adults

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## Abstract

Separate lines of research have shown that a) relationships with parents in early life influence attachment and b) there is a relationship between attachment and levels of ageism in adulthood. We tested the hypothesis that parent-child relationships during childhood would be related to ageism in young adults either directly or mediated by attachment. We further hypothesized that the predictors of ageism would be similar for men and women. The results of multiple regression analyses indicated that avoidant attachment and negative mother relationship during childhood were significant predictors of ageism. Further, the relationship between negative mother relationship during childhood and ageism was partially mediated by avoidant attachment. The relationship between anxious attachment and ageism was not significant when controlling for avoidant attachment. These results indicate that social development processes occurring in early childhood predict ageism later in life.

**Keywords** Parent-child relationships · Ageism · Young adults · Adult attachment

Ageism is a form of prejudice toward older adults, which includes negative views of older adults (Butler 1995) as well as attitudes toward aging (Butler 1969). Numerous studies have shown that negative attitudes about older adults and aging are common (Luo et al. 2013; North and Fiske 2015; Palmore 2004; Rippon et al. 2015), despite the fact that these negative attitudes may be influenced, at least in part, to misconceptions about the lives of older adults (Palmore 1977, 1981; Pew 2009). Such negative attitudes may contribute to ageism, which has been defined as the prejudice and/or discrimination aimed toward older adults (Butler 1969; see also Kennison 2013) and may be related to lower interest in forming relationships with older adults. Interestingly, a growing body of research suggests being ageist is a risk-factor in one's own health. Negative attitudes about aging are related to poorer health outcomes in middle-

aged adults (Levy et al. 2004; Levy et al. 2002; Levy et al. 2009) and higher levels of risk-taking in young adults (Kennison and Ponce-Garcia 2012; Popham et al. 2011a; Popham et al. 2011b). In the present research, we aimed to investigate ageism in young adults and the extent to which their current levels of ageism are related to childhood relationships with parents.

Our approach has been informed by the decades of research on ageism, some of which has suggested that negative attitudes toward aging appear to stem from individuals having misconceptions about growing older (Palmore 1977, 1981). For example, young adults tend to believe that the majority of older adults are depressed, lonely, and poor; however, large scale studies contradict these notions as myths (Harris 1975; Pew 2009). In later work, researchers approached ageism in a manner that was similar to other forms of prejudice by examining the role of contact between individuals and out-group members (i.e., older adults) (Peacock and Talley 1984; Pettigrew and Tropp 2008). Studies demonstrated that with increased contact with older adults, the young may experience increases in their positive attitudes about aging and/or reduced ageism (Allan and Johnson 2009; Meshel and McGlynn 2004; Hughes et al. 2016; Kennison and Ponce-Garcia 2012; Lynott and Merola 2007; Palmore et al. 2005; Tam et al. 2006). Schwartz and Simmons (2001) found that it was the amount of quality contact, rather than the total amount of contact, that was related to lower levels of ageism. The implication is that

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the misconceptions that individuals have about getting older, which contribute to negative attitudes about aging, may be reduced or eliminated through increased quality contact with older adults. The existence of negative misconceptions about aging may typically lead to higher levels of anxiety about growing older and dying. Negative attitudes about aging as well as death anxiety may lead to people avoiding older adults. A growing number of studies have shown that interventions designed to increase contact with older adults (i.e., intergroup contact) have led to positive changes in the views about aging (i.e., reductions in ageism, see for review Nelson 2017). The numerous studies have included samples from a wide range of age groups (Bousfield and Hutchison 2010; Chapman and Neal 1990; Femia et al. 2008; Gaggioli et al. 2014; Hannon and Gueldner 2008; Knox and Glass 1982; Meshel and McGlynn 2004; Newman et al. 1997; Penick et al. 2014).

Research growing out of the theoretical framework of Terror Management Theory (TMT, Greenberg et al. 1986; Solomon et al. 1991) suggests that the causes of ageism may be more complex, involving anxiety about mortality as well as inaccurate knowledge about aging and low contact with older adults (Martens et al. 2005; Popham et al. 2011a, 2011b; see also Greenberg et al. 2002). Bodner and Cohen-Fridel (2014) suggests that “fear of death may serve as a mediator variable that is associated with ageism, and that a high level of fear of death may be associated with more ageist attitudes in younger adults” (p. 424). TMT was inspired by the work of Ernest Becker (1973). He suggested that humans, unlike other animals, are aware of their mortality, and this awareness can result in death anxiety. He further proposed that cultural worldviews provide humans with a framework of posing and answering questions about existence. Worldviews provide an important buffer of death anxiety. For example, religious worldviews reassure people that immortality is possible after physical death. TMT researchers have conducted numerous studies over the last 3 decades demonstrating that brief reminders of death can lead to activations of a cultural worldview, which result in measurable differences in attitudes and reaction times.

Within TMT, ageism has been explained as stemming from death anxiety (Greenberg et al. 2002; Martens et al. 2005). Having ageist attitudes serves to distance one both mentally and physically from individuals who are reminders of their own mortality (Packer and Chasteen 2006; Snyder and Miene 1994). Martens et al. (2005) presented evidence that young adults were more likely to complete word fragments containing death-related words after they viewed pictures of older adults than after they viewed pictures of young adults. In recent research with young adults using the same list of word fragments as Martens et al. (2005), Walters and Kennison (2014) found that those producing the most death-related words also had the highest levels of self-reported ageism.

The link between ageism and death anxiety has been used to explain why higher levels of ageism among young adults

are related to higher levels of risk-taking. Kennison and colleagues (Hughes et al. 2016; Kennison and Ponce-Garcia 2012; Popham et al. 2011a, 2011b) reasoned that young adults who experience high levels of death anxiety and hold ageist attitudes may engage in risky activities (e.g., extreme physical acts, drug taking, alcohol use, etc.) in order to feel strong, powerful, and invulnerable. In medical research, Levy and colleagues have shown that higher levels of ageism are related to poorer lifestyle choices and/or related health outcomes (Levy et al. 2004; Levy et al. 2004; Levy et al. 2002; Levy et al. 2009). These separate lines of research suggest that some individuals’ response to ageism may involve individuals’ adopting an identity of a young, virile fearless person who does not need to live cautiously instead of adopting an identity of a fearful, vulnerable person who must vigilantly avoid numerous dangers in life.

The purpose of the present research was to explore further individual differences in ageism and to test the hypothesis that parent-child relationships during childhood would be related to current ageism in young adults. Our reasoning was informed by prior research showing that individual differences in attachment are related to parent-child interactions during childhood (Ainsworth et al. 1978; Bakermans-Kranenburg et al. 2003; Bowlby 1982). In our view, parent-child relationships during childhood may function as internal working models that set long-term expectations for social interactions and guide behavior and cognitive appraisals of social experiences. These appraisals generalize to other types of relationships outside of the parent-child dyad. Belsky and colleagues’ (Belsky et al. 1991) seminal work on how attachment relationships translate into adult attitudes, beliefs, and social behaviors has transformed our understanding of the function of parent-child attachment relationships. This research placed attachment in a life-history framework, and proposed that early attachment relationships serve to adaptively adjust social and reproductive trajectories in adolescence and adulthood. More specifically, children experiencing secure attachments in relatively protected environments adopt a cooperative, mutually beneficial social orientation. Children who experienced insecure attachments and relatively harsh environments are more likely to develop opportunistic, mistrustful social orientations (Belsky 1997).

A series of studies have supported and expanded upon this perspective (See Del Giudice 2009 for review). Adult romantic relationships and mating strategies are associated with attachment relationships in childhood. For some outcomes, like reproductive strategy, the father-child attachment relationship has been shown to be particularly important (Ellis et al. 1999; Ellis and Essex 2007). Other studies show that disrupted parent-child attachment is associated with altered stress hormone patterns and disruptions in peer relationships in both childhood (Flinn et al. 2009) and early adulthood (Byrd-Craven et al. 2012). In addition to the effects on later relationships and rates of physical maturation, parent-child

relationships are associated with expected lifespan, with insecure attachment relationships with parents related to shorter expected lifespans (Chisholm et al. 2005). Thus, early psychosocial conditions, like overall harshness, stress, and parent-child relationships are cues that signal environmental, social, and mortality risks.

Recent research has documented that there are links between attachment and death anxiety (Mikulincer and Florian 2000) and links among attachment, death anxiety and ageism (Bodner and Cohen-Fridel 2010; Bodner and Cohen-Fridel 2014). In a series of studies, Mikulincer and Florian (2000) found that people with different types of attachment (e.g., secure, anxious, avoidant) responded differently to death reminders and that individuals reporting high levels of avoidant attachment reported lower levels of death anxiety than others. Individuals with high levels of avoidant attachment responded to death reminders with greater activation of death-related concepts after a brief delay than individuals with high levels of anxiety attachment. The results suggested that individuals who have high levels of avoidant attachment are effective in repressing or denying emotions and fears, including fear of death.

Bodner and Cohen-Fridel (2010) showed that ageism was related to individual differences in attachment with those with high levels of secure attachment reporting the lowest levels of ageism in a sample of older adults living in Israel. They further showed that individuals with relatively high levels of avoidant attachment also reported relatively high levels of ageism specifically in those items reflecting separation ageism, which they defined as reflecting “negative affect towards elderly people’s expected utility to society” (p. 1356). In a following up study, Bodner and Cohen-Fridel (2014) showed that the relationship between anxiety attachment and ageism was mediated by fear of death and the relationship between avoidant attachment and ageism was mediated by empathy (i.e., lower levels of empathy predicted higher levels of ageism).

In the study reported in this paper, we tested the hypothesis that young adults’ ageism would be related to both parent-child relationships during childhood, and adult attachment. Specifically, we expected to observe that negative parent-child relationships during childhood would be related to higher levels of current ageism and that positive parent-child relationships during childhood would be related to lower levels of ageism. We further expected to find that higher levels of avoidant and anxious attachment would be related to higher levels of ageism. Of particular interest was whether the parent-child relationship variables would have direct effects on ageism or have effects mediated by avoidant or anxious attachment. Lastly, we hypothesized that we would observe higher levels of ageism for men than for women, as has been observed in prior studies (Fraboni et al. 1990; Kalavar 2001); however, we expected the relationships among ageism, attachment, and parent-relationships during childhood would be similar for men and women.

## Method

### Participants

Three hundred three undergraduates (183 women 120 men) who were enrolled in psychology or speech communication courses received course credit in exchange for participation. In terms of ethnicity, 79.5% of the sample was Caucasian/Not Hispanic; 5.6% Latino/Hispanic; 4.3% Native American; 4.3% African-American, 4.0% more than one group 1.4% Asian, and 1% other. The average age of participants was 19.33 ( $SD = 3.14$ ). In the sample, 96% of women and 93% of men indicated that their biological mother was their primary female caregiver during childhood. Approximately 89% of both women and men indicated that they were raised by their biological father as their primary male caregiver during childhood.

### Materials

In the study, we assessed ageism, relationships with parents, adult attachment, and demographic variables. We measured ageist attitudes using the 29-item Fraboni Scale of Ageism (FSA; Fraboni et al. 1990). Participants responded to statements (e.g., “Old people deserve the same rights and freedoms as do other members of our societies”) using a 4-point scale (1 = *strongly disagree* to 4 = *strongly agree*). Six of the 29 items were reversed scored. For each participant, responses to all the 29 items were summed with higher scores reflecting more ageism. In prior research, the reliability of the scale was found to be high with the following Cronbach’s alpha ( $\alpha = .86$ , Fraboni et al. 1990). We observed good reliability in the present study ( $\alpha = .91$ ).

We assessed adult attachment using Collin’s (1996) revised adult attachment scale (RAAS) rather than other possible scales, because the RAAS focused on relationships generally, rather than a specific type of relationship (e.g., romantic, friendships, etc.). The scale requires participants to rate 18 items using a 5-point scale (1 = *not at all characteristic of me* to 7 = *very characteristic of me*). The scale can be analyzed as composing 2 or 3 factors (i.e., avoid and anxiety or close, depend and anxiety). We examined the 2 subscales: a) anxiety, which is composed of six items (e.g., *When I show my feelings for others, I’m afraid they will not feel the same about me.*) and b) avoid, which is composed of 12 items (e.g., *I am somewhat uncomfortable being close to others.*). Collins (1996) observed that there was sufficient internal consistency for the 3 subscales. The Cronbach’s alphas were as follows: the anxiety subscale ( $\alpha = .85$ ), the close subscale ( $\alpha = .77$ ), and the depend subscale ( $\alpha = .78$ ). When considered together, the close and depend subscales can be interpreted as reflecting the amount of avoid attachment. Collins and Feeney (2000) analyzed the RAAS in terms of anxiety and avoid attachment, observing Cronbach  $\alpha = .88$  and Cronbach  $\alpha = .85$ , respectively. In the present study, we observed internal consistency

for the anxiety and avoid subscales with the following Cronbach's alpha: anxiety attachment ( $\alpha = .89$ ) and avoid attachment ( $\alpha = .86$ ). In the remainder of this paper, we will refer to avoid and anxiety attachment as avoidant and anxious attachment, respectively.

To measure participants' relationships with parents during childhood, we used the parenting as social context questionnaire (PASCQ, Skinner et al. 1986; see also Skinner et al. 2005), which assessed 3 positive aspects of parenting (i.e., warmth, autonomy support, and structure) and 3 negative aspects of parenting (i.e., coercion, rejection, and chaos). Participants responded to 2 sets of 24 items, one set for each parent using a 4-point scale ( $1 = \text{not at all true}$ ,  $2 = \text{not very true}$ ,  $3 = \text{sort of true}$ , and  $4 = \text{very true}$ ). Following prior research (Byrd-Craven et al. 2012; Kennison and Byrd-Craven 2015; Kennison et al. 2016), we created 2 composite variables for each parent. Positive mother and positive father variables were created by summing the scores for questions related to autonomy support, warmth, and structure for mother and father relationship, respectively. Negative mother and negative father variables were created by summing scores for questions related to coercion, rejection, and chaos for mother and father relationship, respectively. In prior research, the subscales had good reliability (Cronbach's alphas between  $\alpha = .65$  and  $\alpha = .88$ ). In the present study, we also observed good reliabilities: mother rejection ( $\alpha = .90$ ), mother chaos ( $\alpha = .88$ ), mother coercion ( $\alpha = .89$ ), mother structure ( $\alpha = .80$ ), mother autonomy support ( $\alpha = .92$ ), mother warmth ( $\alpha = .89$ ), father rejection ( $\alpha = .91$ ), father chaos ( $\alpha = .86$ ), father coercion ( $\alpha = .90$ ), father structure ( $\alpha = .84$ ), father autonomy support ( $\alpha = .92$ ), and father warmth ( $\alpha = .91$ ).

## Procedure

The research was approved by the Institutional Review Board at the authors' university. Subsequently, participants were recruited via a SONA system operated by the Department of Psychology, which was populated by students from psychology and speech communication courses. Participants who volunteered for the study completed an online, anonymous survey implemented using a Professional License of [SurveyMonkey.com](https://www.surveymonkey.com). In the survey, participants completed the questionnaires with the FSA first, parenting questions second, and demographic questions last.

## Results

For each participant we calculated the FSA and the four parenting variables (i.e., positive mother, positive father, negative mother and negative father). Descriptive statistics are presented in Table 1. Contrary to our hypothesis, men's level of ageism was not significantly different from women's,  $t$

(301) = 1.83,  $p = .068$ . In order to test the hypotheses that higher levels of negative parent-child relationships during childhood and lower levels of positive parent-child relationships during childhood would be related to higher levels of ageism and higher levels of both avoidant and anxious attachment and that these relationships would be similar for men and women, we carried out a series of Pearson's product-moment correlations for men and women. These results are displayed in Table 2. The results partially confirmed the hypothesis that parent-child relationships during childhood were related to ageism. Specifically, those reporting higher levels of negative mother and negative father relationships during childhood also reported higher levels of current ageism (overall:  $r = .41$ ,  $p < .001$  and  $r = .32$ ,  $p < .001$ , respectively), higher levels of avoidant attachment (overall:  $r = .33$ ,  $p < .001$  and  $r = .25$ ,  $p = .001$ , respectively), and higher levels of anxious attachment (overall:  $r = .24$ ,  $p < .001$  and  $r = .21$ ,  $p < .001$ , respectively). The relationships between positive parent-child relationships and ageism were not significant. Positive mother and father were significantly related to avoidant attachment (overall:  $r = -.25$ ,  $p < .001$  and  $r = -.18$ ,  $p = .001$ , respectively) and anxious attachment (overall:  $r = -.13$ ,  $p = .03$  and  $r = -.14$ ,  $p = .02$ , respectively). Higher levels of avoidant and anxious attachment were also related to higher levels of ageism (overall:  $r = .36$ ,  $p < .001$  and  $r = .31$ ,  $p < .001$ , respectively). Anxious and avoidant attachment were significantly correlated with each other (overall:  $r = .65$ ,  $p < .001$ ).

To examine further the interrelationships among the ageism, avoidant attachment, anxious attachment, negative mother, and negative father relationships and test the hypothesis that parent-child relationships during childhood play a role in adult ageism, we carried out a series of multiple regression analyses to determine the extent to which the 2 types of attachment and the four parent-child relationship variables accounted for variance in ageism. Predictor variables were entered simultaneously. Both avoidant attachment and anxiety attachment significantly predicted ageism when entered separately as the independent variable – avoidant attachment:  $\beta$  (standardized) = .36,  $SE = .03$ , adjusted  $R^2 = .13$ ,  $p < .001$  and anxious attachment:  $\beta$  (standardized) = .31,  $SE = .02$ , adjusted  $R^2 = .09$ ,  $p < .001$ . After controlling for avoidant attachment, anxiety attachment was no longer a significant predictor of ageism,  $\beta = .14$ ,  $SE = .03$ ,  $p = .052$ . Negative mother and negative father relationships also significantly predicted ageism when entered separately as the independent variable – negative mother:  $\beta$  (standardized) = .41,  $SE = .01$ , adjusted  $R^2 = .17$ ,  $p < .001$  and negative father:  $\beta$  (standardized) = .31,  $SE = .02$ , adjusted  $R^2 = .09$ ,  $p < .001$ . After controlling for negative mother, negative father was no longer a significant predictor of ageism,  $\beta = .11$ ,  $SE = .01$ ,  $p = .10$ . When negative mother and avoidant attachment were entered simultaneously with ageism as the dependent variable, the model was significant,  $F(2,305) = 44.55$ ,  $p < .001$  with approximately 22% of



**Table 1** Descriptive Statistics for Parent-Child Relationship Variables, Avoidant Attachment, Anxious Attachment, and Ageism for Women and Men

	Women (N = 183)						Men (N = 120)						t
	Mean	SD	Min	Max	Skewness	Kurtosis	Mean	SD	Min	Max	Skewness	Kurtosis	
Ageism	2.03	.41	1.10	3.31	.06	-.26	2.21	.39	1.28	3.03	-.33	-.49	1.83
Avoid Attach	2.54	.73	1.00	4.58	.002	-.18	2.60	.69	1.00	4.58	.07	-.08	< 1
Anxiety Attach	2.61	1.04	1.00	5.00	.42	-.60	2.50	.84	1.00	4.33	-.05	-.90	< 1
Negative Mother	5.56	2.25	3.00	14.00	1.06	.71	6.22	2.60	3.00	13.00	-.50	.44	< 1
Negative Father	5.77	2.35	3.00	14.00	1.01	.72	6.35	2.58	3.00	12.75	.48	.89	< 1
Positive Mother	10.62	1.63	3.00	13.75	-1.90	.56	10.12	1.71	5.25	13.75	-.74	.32	2.99*
Positive Father	9.53	2.31	3.00	12.75	-1.23	.80	9.52	1.83	3.00	13.00	-.79	.74	< 1

Note. Attach = Attachment; \*p < .01

the variance in ageism explained with the adjusted  $R^2 = .22$ . Table 3 displays the summary of the regression results. Both independent variables were significant predictors: negative mother,  $\beta = .33$   $SE = .01$ ,  $p < .001$  and avoidant attachment,  $\beta = .25$ .  $SE = .03$ ,  $p < .001$ . Because the relationships among the 3 variables (i.e., avoidant attachment, ageism, and negative mother relationship) satisfied the conditions for mediation (Hayes 2013, 2015), we tested the hypothesis that the relationship between avoidant attachment and ageism was mediated (either partially or completely) by negative mother relationships using the Process macro for SPSS (Hayes 2013, 2015). The results indicated that the relationship between negative mother relationship and ageism was partially mediated by avoidant attachment. We used 10,000 bootstrapped samples and found that the indirect effect was significant with a bootstrapped standardized indirect effect of .08 ( $SE = .02$ ) and a bias corrected 95% confidence interval ranging from .04 to .14. Fig. 1 displays the relationship between negative mother relationship and ageism as partially mediated by the avoidant attachment.

### Discussion

The present research investigated the extent to which young adults' current levels of ageism were related to their relationships with parents during childhood and their individual

differences in adult attachment. We expected to find a link between current ageism in adults and childhood relationships because prior research studies have documented relationships between ageism and attachment (Bodner and Cohen-Fridel 2010; Bodner and Cohen-Fridel 2014) and between attachment and parent-child relationships (Ainsworth et al. 1978; Bakermans-Kranenburg et al. 2003; Bowlby 1982). Furthermore, prior research by Belsky et al. (1991), has emphasized the role of parent-child relationships as a fundamental component in shaping a child's lifelong orientation toward social relationships from a life history perspective. The present results showed that the key predictors of ageism were a) negative relationships with mothers in childhood and b) avoidant attachment with the relationship between the negative mother relationship and ageism partially mediated by the avoidant attachment.

With regards to the relationship between avoidant attachment and ageism, the present results are consistent with Bodner and Cohen-Fridel's (2014) results, which also showed that higher levels of avoidant attachment predicted higher levels of ageism with the relationship partially mediated by empathy for which there were lower levels of empathy predicting higher levels of ageism. The present study did not assess individual differences in empathy; however, we speculate that empathy may be found in future research to mediate partially the relationship between negative mother relationship

**Table 2** Summary of Correlation Results

	1	2	3	4	5	6	7
Ageism	–	.36***	.40***	.44***	.32***	-.13	-.15
Avoidant Attach	.36***	–	.51***	.39***	.45***	-.45***	-.32***
Anxiety Attach	.28***	.74***	–	.37***	.48***	-.17	-.17
Negative Mother	.41***	.33***	.24***	–	.69***	-.29**	-.14
Negative Father	.32***	.25***	.21***	.62***	–	-.28**	-.08
Positive Mother	-.11	-.25***	-.13	-.15**	-.05	–	.46***
Positive Father	-.06	-.18**	-.14*	.03	.06	.40***	–

Note. The lower half of the matrix contains results for women; the upper half, results for men. Attach = Attachment

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

**Table 3** Summary of Multiple Regression Results with Negative Mother, Negative Father, Avoidant Attachment, Anxious Attachment, and Participant Sex Predicting Ageism

Predictors	<i>B</i>	<i>SE</i>	$\beta$	<i>p</i> -value
Intercept	1.41	.08		<.001
Negative Mother	.05	.01	.33	<.001
Avoidant Attachment	.14	.03	.16	<.001
Adjusted <i>R</i> <sup>2</sup>			.22	
<i>F</i>			44.55	

and ageism. Our speculation is based on prior research by Kochanska et al. (2005); See also Kochanska (2002), which has shown that the mother-child relationship plays a central role in the child's development of empathy. Unlike Bodner and Cohen-Fridel (2014) who also observed a direct effect of anxious attachment on ageism, which was partially mediated by fear of death, we found no effect of anxious attachment on ageism when controlling for avoidant attachment. We suspect that the difference in results may stem from differences in the populations from which the samples for the 2 studies were drawn (i.e., Israel versus a small city in a relatively rural part of the central United States). Death anxiety is likely to be higher in samples drawn from Israel and other regions in which there is ongoing threats of terrorist attacks and close proximity to hostile countries and/or organizations.

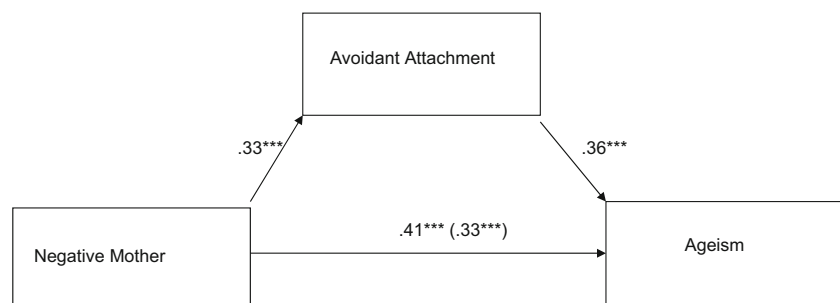
These results add to the growing literature supporting the view that current levels of ageism in adults are related to childhood relationships (Hughes et al. 2016; Kennison and Ponce-Garcia 2012) and the literature showing that there are relationships among attachment, death anxiety, and ageism (Bodner and Cohen-Fridel 2010; Bodner and Cohen-Fridel 2014). Experiencing a negative mother relationship during childhood may contribute not only avoidant attachment in adulthood, but also contribute to individuals obtaining different types of knowledge about aging and engaging in different levels of contact with older adults during development. Also, because parents are the first individuals in life that one includes in the category of *older adults*, relationships with parents may be a primary source of influence over one's view of the extent to which aging should be considered positively or negatively. Furthermore, as suggested by Bowlby (1982),

there are evolutionary advantages to infants who attach to caregivers, such as reduced likelihood of mortality. The present results are consistent with the view that those with negative mother relationships during childhood may experience higher levels of death anxiety which leads to avoidant attachment and ageism. The present research adds to prior research showing that the mother-child relationship may play a unique role in individuals' social development, perhaps because mothers typically provide more of the direct care to children, especially in early childhood (Belsky and Fearon 2002; Belsky et al. 1991; Sung et al. 2016). Based on the present results, we also conclude that there is a relationship between negative mother and ageism that is direct and distinct from avoidant attachment (and possibly empathy). One possibility is the relationship stems from processes involved in the development of the self, rather than the development of processes involved in orienting toward others.

The limitations of the present study include the fact that the sample was drawn from an undergraduate population in the United States that was predominantly Caucasian and reared by both biological parents. Future research is needed to determine whether similar results can be obtained in a wider variety of sample types. It is likely that the prevalence of negative mother-child relationships could vary across different demographic groups (e.g., socioeconomic status, ethnicity, religion, etc.). It is possible that future studies with populations in which there are higher levels of death anxiety may yield results different from those reported in this paper. Although levels of death anxiety were not measured in the present study, we speculate that death anxiety may have been relatively low. The research is also limited by the fact that it employed a cross-sectional design in which participants contributed data only once. There is a need for future research to determine whether the present results can be observed in studies in which the relationships between mother-child relationships, attachment, and ageism are assessed longitudinally.

In future research, researchers may find that the negative health-related behaviors associated with high levels of ageism (e.g., risk-taking, Popham et al. 2011a, 2011b) and outcomes (e.g., cardiovascular disease, Levy et al. 2009) may be high as well and be related to differing levels of negativity in parent-child relationships during childhood. Understanding which

**Fig. 1** Standardized regression coefficients for the relationships between negative mother relationship and ageism as partially mediated by avoidant attachment. The standardized regression coefficients between negative mother relationship and ageism controlling for avoidant attachment are displayed within parentheses. \*\*\**p* < .001



parent-child variables predict ageism will be useful in the development of interventions designed to reduce ageism, as reductions in ageism may also lead to multiple positive outcomes, including young adults being more likely to seek out relationships with older adults in their families and communities. Interventions could aim to reduce ageism through dispelling the myths about aging and/or creating opportunities for quality intergenerational contact (See for reviews Allan and Johnson 2009; Nelson 2017). Studies investigating the effectiveness of the interventions could assess to what extent reductions in ageism are associated with individual differences in empathy, avoidant attachment and mother relationship during childhood as well as current levels of death anxiety. Because populations may differ with regard to how multiple factors (i.e., death anxiety, empathy, and negative mother relationships) contribute to ageism, it may be useful to tailor intervention to the characteristics of the population.

In conclusion, we have shown that young adults' current levels of ageism were predicted by negative mother relationships during childhood and levels of avoidant attachment. The relationship between negative mother relationship and ageism was partially mediated by avoidant attachment. The results suggest that more negative parent-child relationships during childhood may be an important precursor to negative attitudes toward older adults and toward aging in oneself, which has been shown to have negative health consequences (e.g., risk-taking and cardiovascular disease due to lifestyle choices) and possibly lower interest in relationships with older adults. The present results have implications for public health practitioners and policy makers. Programs that may assist families to foster positive relationships may have the added benefit of reducing ageism among children, which can, in the long-term, contribute to a) increased interest on the part of young adults in relationships with older adults and also b) better health across the lifespan.

## Compliance with Ethical Standards

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

**Informed Consent** Informed consent was obtained from all individual participants included in the study.

**Conflict of Interest** The authors have no conflict of interest to report in relation to the research in this report.

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