EXAMINING DIFFERENTIAL PREDICTORS OF BENEVOLENT AND HOSTILE AGEISM IN YOUNG ADULTS

by

Celie L. McKinley

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Thesis Advisor: Dr. Jenessa Steele

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_____	5/11/2020
Dr. Jenessa C. Steele Thesis Advisor	Date
_____	5/11/2020
Dr. Jeffery E. Aspelmeier Committee Member	Date
_____	5/11/2020
Dr. Thomas W. Pierce Committee Member	Date

Abstract

Ageism is defined as the act of stereotyping and discriminating against older adults solely based on age (Butler, 1980, 1989). Rates of ageism are likely to increase as the percent of older adults over age 65 is expected to reach 30% by 2030 (North & Fiske, 2013). Individuals often hold positive and negative stereotypes of older adults, such as warm and incompetent. For example, ambivalent ageism distinguishes between these two interrelated forms of ageism: benevolent and hostile ageism (Cary, Chasteen, & Remedios, 2017; Durante et al., 2013; Fiske, Cuddy, Glick, & Xu, 2002;). Benevolent ageism consists of attitudes or behaviors that appear overtly positive but are actually patronizing (Dionigi, 2015). In contrast, hostile ageism is typically the more blatant form of ageism and includes overtly negative ageist attitudes or behaviors (Cary et al., 2017). The current study investigated how predictors such as gender, aging anxiety, aging knowledge, and quality of experience may have differentially impacted benevolent and hostile ageism in young adult college students. A convenience sample of college students from a southwestern Virginia university was assessed because young adults hold the strongest and most negative views of older adults compared to other age groups (Royal Society for Public Health, 2018). Self-report measures were utilized to assess ageism (Ambivalent Ageism Scale; Cary et al., 2017), aging knowledge (Facts on Aging Quiz; Breytspraak & Badura, 2015; Palmore, 2001), aging anxiety (Anxiety about Aging Scale; Lasher & Faulkender, 1993), and quality of experience with older adults. An independent samples t-test confirmed that there was no gender difference between benevolent and hostile ageism. A series of regression analyses was used to assess whether aging knowledge, aging anxiety, and quality of experience differentially accounted for variance in benevolent and hostile ageism among young adults. Findings indicated that aging anxiety and aging knowledge were predictors of hostile ageism. Future directions for

research include additional examination of the relationship between ageism and experience with older adults due to the experience items being created by the researchers.

Celie L. McKinley, M.A.
Department of Psychology, 2020
Radford University

DEDICATION

In honor of my mom, my guidepost for everything:
Susanna C. McKinley, M.S., CCC-SLP

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Statement of the Problem

The percent of older adults over age 65 is expected to reach 30% by 2030 (North & Fiske, 2013; U.S. Census Bureau, 2012). With the increase in the aging population, several countries, such as the United Kingdom, have made a call to address the potential negative implications of aging stereotypes on the older adult population (Royal Society for Public Health, 2018). Ambivalent or conflicting/mixed views regarding aging, such as older adults are warm and incompetent, have consistently emerged (Cary et al., 2017; Durante et al., 2013; Fiske et al., 2002; McConatha, Schnell, & McKenna, 1999; North & Fiske, 2012).

Additionally, negative stereotypes held about older adults have been associated with decreased memory performance (Chasteen, Bhattacharyya, Horhota, Tam, & Hasher, 2005; Stein, Blanchard-Fields, & Hertzog, 2002), cognition, physical health and activity, and body image (Levy & Leifheit-Limson, 2009; Royal Society for Public Health, 2018). These negative stereotypes may perpetuate feelings of self-stereotyping and/or self-internalization (Dionigi, 2015). Moreover, nearly two out of three millennials in the public (64%) do not have a single friendship that has an age gap of 30 years or more (Royal Society for Public Health, 2018). Furthermore, millennials (aged 18-34) have been found to hold the most negative attitudes toward aging and older people compared to other generations (Royal Society for Public Health, 2018). In conclusion, research across multiple studies has been consistent in finding that older adults are judged negatively by younger adults, and that this might lead to self-stereotyping and negative consequences on older adults' well-being (Drury, Hutchison, & Abrams, 2016; Garstka, Schmitt, Branscombe, & Hummert, 2004; North & Fiske, 2012).

Thus, the current study investigated how predictors such as gender, aging anxiety, aging knowledge, and quality of experience may differentially have impacted benevolent and hostile ageism in young adult college students.

Chapter 1: Introduction

Overview of Ageism

Ageism is defined as stereotyping and discriminating against other individuals because of their age, usually because they are old (Butler, 1989). Ageism, racism, and sexism relate to stereotypes or to unchallenged, general beliefs about a specific group of people (Cardwell, 1996; Dionigi, 2015). In comparison to a Google search 4 years prior (Cary et al., 2017), the search results for the term "ageism" have since grown from 708,000 (in 2015) to 4.3 million (in 2019). However, these numbers still fall well below the over 87 million results received from the term "sexism" and well over 391 million results received from the term "racism." The current study focused specifically on stereotypes associated with ageism. One way that ageism can manifest is through positive and negative stereotypes toward older adults (Cary et al., 2017; Durante et al., 2013; Fiske, Cuddy, & Glick, 2007; Fiske et al., 2002). Though sparse, "positive" (benevolent) stereotypes associated with older adults are attitudes or behaviors that appear overtly positive but are actually patronizing (Dionigi, 2015). An example of benevolent ageism includes speaking loudly and slowly to older adults because they may not understand the first time (Forlenza, Bourassa, Lyman, & Coughlin, 2019). Typical negative (hostile) stereotypes of older adults are attitudes or behaviors that are blatantly negative, such as that older adults are prone to display the characteristics of sickness, dependency, loneliness, and poor physical and mental functioning (Cary et al., 2017; Horton, Baker, & Deakin, 2007).

Young adults tend to exhibit negative opinions of aging because of the substantial number of negative stereotypes associated with old age. Older adults appear to be judged more negatively on competence and attractiveness than younger adults (Royal Society for Public Health, 2018). The negative stereotypes can affect older adults because there is a sense of

damage to their social identity (Stets & Burke, 2000). Older adults may begin to self-stereotype and believe and behave according to the negative stereotypes (Levy, Hausdorff, Hencke, & Wei, 2000). The current study utilized the Ambivalent Ageism Scale (Cary et al., 2017) to assess benevolent (positive stereotypes that might be harmful) and hostile stereotypes. Various theories support these mixed findings on aging stereotypes.

Theories Supporting the Explanation of Mixed Findings on Aging Stereotypes

Social identity theory (SIT) emphasizes the relationship between personal identity and group identity (i.e., ingroups vs. outgroups) along with the need to feel positive about one's group (North & Fiske, 2012; Stets & Burke, 2000; Tajfel, 1979). SIT pertains primarily to the establishment of an ingroup (Lapwoch & Amone-P'Olak, 2016). Groups give individuals a sense of belonging in the social world and are thus an important source of pride and self-esteem (McLeod, 2008). Moreover, the ingroup indicates the perceiver's own group, where all participants share a similar interest or identity (Stets & Burke, 2000). However, the outgroup is the group that does not fit the interests of the ingroup and are thus "out" of the group (Stets & Burke, 2000). In the current study, the ingroup would be young adults and their connections solely with individuals who are also young adults.

Moreover, further research extended SIT by relating it to a development in contact theory called the Extended Contact Hypothesis (Wright, Aron, McLaughlin-Volpe, & Ropp, 1997). This theory proposes that if the ingroup has a relationship with the outgroup, then those views can encourage more positive outgroup opinions/attitudes (Wright et al., 1997). Thus, young adults who are the ingroup would see other same-aged peers interacting and having positive relationships with older adults and this would promote or improve younger adults' attitudes towards older individuals rather than lead them to exhibit hostile ageism (Wright et al., 1997).

Furthermore, there is a generational gap, in that individuals who are 65 and older (older adults) live very differently from millennials (young adults), and the adjustments are difficult and often lead to older adults being viewed in the outgroup (North & Fiske, 2012). Differences between older and younger adults seem to be due to modernization; for example, improvements in education have increased the number of literate younger adults, which has reduced the traditional role of older adults as primary sources of knowledge (North & Fiske, 2012). The stereotype content model (SCM) expands on SIT by further explaining stereotypes associated with the concept of ingroup and outgroup (Fiske et al., 2007).

The SCM states that when groups are formed, intent and autonomy are measured (Fiske, 2018). Immediately, people are searching for the intentions (warmth) of the individual or group that is attempting to become a member of the ingroup (Hornsey, 2008). Warmth represents the idea that the individual in the outgroup is going to be a friend or foe to the ingroup he or she is seeking to become a part of (Fiske et al., 2007). The ingroup will then determine whether the individual in the outgroup can follow through on his or her intent, an attribute that Fiske (2018) refers to as competence. Positive stereotypes tend to be a result of individuals within a group (i.e., ingroup), where negative stereotypes tend to be a result of an individual not being included in a group (i.e., outgroup). For example, one positive stereotype held by young adults regarding older adults is that older people are kind and nurturing; thus, they are evaluated highly on the dimension of warmth (Cuddy, Fiske, & Glick, 2008). Examples of negative stereotypes held by younger adults regarding older adults include illness, physical and mental deterioration, and dependency (Horton, Baker, & Deakin, 2007); thus, they perceive older individuals as low on competence. Therefore, if the evaluation of the outgroup, older adults, is based on criteria of

warmth and competence, it is less likely that they will be accepted as ingroup members by the younger adults.

The mixed findings regarding stereotypes for older adults are summarized through SIT and the SCM. SIT encompasses the aspect of ingroups and how individuals are motivated to be a part of an ingroup because of the need to experience a sense of belonging and group acceptance (Lapwoch & Amone-P'Olak, 2016). From a developmental standpoint, young adults largely tend to interact with like-aged peers due to the structure of their chosen daily environment (e.g., school, college). They not only constantly refer to same-aged peers for models of how to think and behave, they tend to seek intimate relationships with same-aged peers. For example, Erikson stated the primary task for early adulthood is to seek intimate relationships (Muuss, 1996). In addition, Sherman, Lansford, and Volling (2006) found young adults often choose friends (even online) similar to themselves in terms of education, social class, interests, family background, and life stage. Given the environmental, cultural, and developmental emphases and barriers in young adulthood, one would expect that older adults would typically be deemed as an outgroup member. This explains why younger adults tend to commune with other younger adults (i.e., the ingroup) rather than finding older adults (i.e., the outgroup). Moreover, the SCM explains how ingroups use an analysis of both warmth and competence to interact with outgroups (Cuddy et al., 2008; Fiske, 2018). The incorporation of the theory and model bring forth the idea that older adults are often perceived as incompetent, and thus older adults' perceived motives are then misaligned with ingroup (i.e., younger adults) admission. This theory and model have been used to predict hostile ageism; however, there seem to be implications that it can possibly predict benevolent ageism. The overall mixed findings regarding ageism are a catalyst for the current study. The study investigated how similar predictors such as gender, aging knowledge, aging

anxiety, and quality of experience may differentially impact the benevolent and hostile forms of ageism in college students.

Gender and Ageism

Previous literature has suggested gender differences in aging stereotypes (Fiske, 2018; Fiske et al., 2002; Fiske et al., 2007). Specifically, research has indicated that males' responses reflect higher measures of hostile ageism, whereas females' scores reflect higher measures of benevolent ageism (Fiske, 2018; Fiske, et al., 2002; Fiske et al., 2007; Rupp, Vondanovich, & Credé, 2015). In a pilot study, Fiske and colleagues (2002) discovered 23 different groups of people that varied in characteristics that include race, ethnicity, gender, occupation, and ability. Traditional college-age students and non-student adults (averaged age of 30 years) were then instructed to rate these individuals based on scales reflecting warmth, competence, perceived status, and perceived competition. Ratings were on a 5-point scale and questions included "As viewed by society, how (e.g., competent, confident, independent, competitive, intelligent) are members of this group?" and "As viewed by society, how (e.g., tolerant, warm, good natured, sincere) are members of this group?" Furthermore, in another study by Allan and Johnson (2008), males were more likely to respond negatively to aging-related questions than females. Using a similar population to that of Fiske and colleagues, Allan and Johnson (2008) included traditional-aged female university students and middle-aged female university students. The females had lower scores on the Fraboni Scale of Ageism (Fraboni, Saltstone, & Hughes, 1990) than men did, thus exhibiting less hostile ageism (Allan & Johnson, 2008). In fact, more recently, findings on females and benevolent ageism have been supported by the stereotype content model, which features two universal dimensions of social cognition: warmth and competence (Fiske, 2018; Fiske et al., 2007). Thus, a prediction might be that female responses will reflect

more benevolent attitudes towards older adults than males, while males will reflect more hostile attitudes than females. Additionally, previous research has been mixed regarding gender and aging anxiety. An earlier study found that men tended to have higher levels of anxiety related to aging than women (Lasher & Faulkender, 1993); however, another study reported the opposite that women had higher levels of aging anxiety (Harris & Dollinger, 2001). The current study used gender as a predictor to determine if college students who identify as female responded with more benevolent rather than hostile attitudes toward older adults. Additionally, the study used gender as a predictor to determine if college students who identify as male responded with more hostile rather than benevolent attitudes toward older adults.

Aging Knowledge and Ageism

Aging knowledge became testable after Palmore (1977) created the Facts on Aging Quiz (FAQ), which evaluated factual knowledge regarding the key elements of aging, including physical, mental, and social domains (Unwin, Unwin, Olsen, & Wilson, 2008). Allan and Johnson (2008) similarly defined aging knowledge as the amount of factual knowledge about aging in older adults. In the study, 113 undergraduate students from a Canadian university were assessed using similar measures as the ones used in the current study. Measures included the FAQ in the multiple-choice format to measure aging knowledge (Harris et al. 1996) and the Aging Anxiety Scale (Lasher & Faulkender, 1993) to measure aging-related anxiety. A significant finding included a significant moderate, negative correlation between aging knowledge and aging anxiety; however, aging knowledge had no direct impact on hostile ageism (Allan & Johnson, 2008).

Several experimental studies have indicated that participation in an aging course led individuals to have more positive attitudes towards older adults (Harris & Dollinger, 2001; Katz,

1990; Stahl & Metzger, 2013). For example, Stahl and Metzger (2013) utilized a variant of FAQ to assess aging knowledge in undergraduates enrolled in a large, multi-section human development course at a large mid-Atlantic university. Their findings indicated that aging knowledge was negatively associated with hostile ageism, and that, in addition, gender moderated the effect. Men who knew less about the aging process were more likely to self-report more negative ageist behaviors (i.e., hostile ageism). Although students in an aging course experienced more positive attitudes toward older adults, other studies indicated there were no changes in attitudes towards their personal aging (Harris & Dollinger, 2001; Katz, 1990). Furthermore, Allan and Johnson (2008) found that the more factual information given about aging, the more that the levels of hostile ageism in college students were reduced. However, while there appears to be research indicating that levels of knowledge about aging reduce negative aging attitudes, the research is mixed. Previous research utilizes different variations of Palmore's (1988) FAQ and only focuses on reducing hostile ageism, and thus more is known about hostile ageism. Therefore, the current study will address whether higher levels of aging knowledge are related to benevolent ageism.

Aging Anxiety and Ageism

Aside from gender and aging knowledge, the concept of aging anxiety has been prevalent in the aging literature. Aging anxiety is formed due to the sense of concern and anticipation for losses associated with the aging process (Lasher & Faulkender, 1993). The Anxiety about Aging Scale (AAS; Lasher & Faulkender, 1993) was developed to assess anxiety related to aging. In one study, Lasher and Faulkender (1993) utilized the AAS to assess aging anxiety in groups of individuals from across the life span. The study utilized various self-report measures, including the AAS, and results indicated that aging anxiety did impact ageism, in that aging anxiety and

ageism were positively correlated. Moreover, another study found that aging anxiety and ageism were positively correlated, thus concluding higher levels of aging anxiety meant higher levels of ageism, which contributed to more hostile ageism (Allan & Johnson, 2008). Aging anxiety was also found to be negatively correlated with aging knowledge; thus, the more aging knowledge the participant had, the lower the level of anxiety and hostile ageism were (Allan & Johnson, 2008). The literature has not addressed the connection between aging anxiety and benevolent ageism. Thus, the current study will assess whether aging anxiety contributes to benevolent ageism.

Experience and Ageism

Previous research has found a relationship between experience with older adults and ageism (Caspi, 1984; Drury et al., 2016). The more positive contact/interactions people have with older persons, the fewer negative stereotypes they associate with them (Drury et al., 2016). In Drury and colleagues' (2016) study using college-aged students, it was found that extended contact (i.e., knowing that other ingroup members have positive relationships with outgroup members) was related to the presence of more positive attitudes towards older adults, even when controlling for levels of direct intergenerational contact (e.g., contact frequency and contact quality). A supporting study found that preschool children who experienced daily contact with older adults expressed more positive attitudes towards older adults, in general (Caspi, 1984). While previous research on the experience of working with older adults has been informative, it has been mixed, and questions remain about defining the concept of experience. Previously, measurements of experience have been poorly measured, depending only on the idea of intercultural contact or contact based on racial or ethnic group membership (Drury et al., 2016). Additionally, ageism has been found to be significantly lower when there is daily contact at work

and significantly higher when there is daily contact at home (Allan & Johnson, 2008). Daily contact with older adults at work is usually associated with older adults being competent (i.e., independent), while daily contact at home is likely to be associated with older adults who rely on others to provide care (i.e., dependent) (Drury et al., 2016). Moreover, there has been little to no research regarding quality of experience with older adults because research has focused solely on whether or not an individual has had experiences working or living with an older adult.

Furthermore, several studies conducted in clinical settings found that delivery of health care was detrimentally affected when nurses held negative perceptions of the aging process and of older adults (Malta & Doyle, 2016). While defining the concept of experience has been poor, past research has begun to address the quality aspect of experience and has described “high quality” as the older adult being accepting, caring, trustworthy, and dependable towards another (Sarason, Sarason, Shearin, & Pierce, 1987). The current study has defined experience in two ways: (1) Quality is divided into various contexts including a relationship with an older adult who is a family member, coworker, or a non-family member or coworker, but still someone the participant knows. The detail questions were covering aspects of the interaction with the older adult being meaningful, positive, supportive, and respectful. (2) These quality of experience interactions were then combined in an overall quality of experience item. This overall item captures the basis of a “high quality” interaction, in which the term “high quality” indicates that the relationship with the older adult is supportive, respectful, meaningful, and positive. By asking participants about a variety of possible interactions with older adults, researchers are “prompting” them to think about relationships first and then to respond.

Primary Hypotheses

The current study investigated how corresponding predictors such as gender, aging anxiety, aging knowledge, and quality of experience may differentially predict benevolent and hostile ageism in young adult college students. Multiple self-report measures were used to analyze each of those constructs. Based on past literature regarding behaviors of various forms of ageism, the following hypotheses were developed.

H1: It was hypothesized (H1) that there would be gender differences in benevolent and hostile ageism, such that females would endorse significantly higher levels of benevolent ageism than males, and that males would endorse significantly higher levels of hostile ageism than females.

Rationale: Past research has shown that females tend to view older adults as warm rather than competent (Fiske, 2018; Fiske et al., 2007), thus leading to a display of benevolent ageism. Additionally, previous studies have also found that males tend to exhibit more hostile ageism than females (Fiske, 2018; Fiske et al., 2002; Fiske et al., 2007).

H2: Based on prior research, it was hypothesized (H2) that aging anxiety would be significantly, positively related to hostile ageism and aging knowledge would be significantly, negatively related to hostile ageism.

Rationale: Past experimental research has indicated that higher levels of aging anxiety tend to lead to higher levels of hostile ageism (Drury et al., 2016; Harris & Dollinger, 2001). An experimental study by Harris and Dollinger (2001) found that individuals with higher levels of anxiety tended to respond with more hostile ageism towards adults. Additionally, past research has indicated that the more factual information learned about aging (i.e., aging knowledge) reduced the levels of hostile ageism exhibited by college students (Allan & Johnson, 2008).

Furthermore, another experimental study indicated that individuals who participated in an aging course experienced more positive attitudes (Harris & Dollinger, 2001; Katz, 1990), which could elicit more positive rather than negative stereotypes about aging.

H3: It was hypothesized that gender, aging anxiety, aging knowledge, and quality of experience would contribute significant and unique variance in predicting hostile ageism. Furthermore, the researchers explored whether gender, aging anxiety, aging knowledge, and quality of experience would contribute significant and unique variance in predicting benevolent ageism.

Rationale: Past research has supported the presence of negative relationships between anxiety (Drury et al., 2016; Harris & Dollinger, 2001) and aging knowledge (Allan & Johnson, 2008, Harris & Dollinger, 2001; Katz, 1990), along with negative relationships between anxiety and quality of experience with older adults, contributing to hostile ageism. However, research has not been conducted examining a likewise effect for benevolent ageism; the current study addresses this.

Design

The current study used a non-experimental correlational design to predict benevolent and hostile ageism from gender, aging anxiety, aging knowledge, and quality of experience.

Chapter 2: Method

Participants

The sample for the current study was comprised of a young adult population from a moderately-sized university in Southwest Virginia. All participants were recruited through the university's online recruitment tool, SONA. The recruitment tool provides an opportunity for students to earn research credits through participation in research studies. Instructors may provide students extra credit upon completion of the various research studies. There were 99 total participants (22 males, 73 females, 2 other, and 2 unspecified). The sample included a majority of participants who identify as White (60.6%). Additionally, participants identified as the following: Black or African American (24.2%), American Indian or Alaska Native (2%), Native Hawaiian or Pacific Islander (1%), and Hispanic or Latino (5.1%). Some individuals preferred to self-label their ethnicity (Other; 6.1%). Class standing was also attained from participants; years included Freshman (29.3%), Sophomores (22.2%), Juniors (28.3%), Seniors (19.2%), and unspecified (1%). These demographic statistics can be seen in Table 1.

For compensation, all participants received one SONA research participation credit for completing the study. The sample of students was a convenience sample through a participant pool where they volunteered to sign up and were required to be at least 18 years of age. Participation in the study was completely voluntary. Additionally, the researchers abided by the set guidelines according to the Radford University Institutional Review Board. Before beginning the study, participants provided their informed consent to participate in the study (see Appendix A).

Measures

Ambivalent Ageism Scale. Ageism was measured using Cary and colleagues' (2017) 13-item Ambivalent Ageism Scale, which assesses both hostile ageism (negative attitudes/behaviors) and benevolent ageism (attitudes/behaviors that appear overtly positive but are actually patronizing). Nine items assess benevolent ageism, such as "It is good to speak slowly to old people because it may take them a while to understand things that are said to them," and four items assess hostile ageism, such as "Old people are a drain on the health care system and the economy." Item are rated using a 7-point numerical rating scales of agreement. Scores were averaged together. The internal consistencies reliabilities (Cronbach's alpha; α) were good with an α = .82 for hostile items and α = .83 for benevolent items.

Anxiety about Aging Scale. Lasher and Faulkender's (1993) Anxiety about Aging Scale was used to assess aging anxiety. This scale includes 20 items such as "I enjoy being around old people" and "I fear that when I am old all my friends will be gone." Items are rated using a 5-point numerical rating scales of agreement. Higher scores indicated lower anxiety. The internal consistency reliabilities were acceptable for the overall scale, α = .77.

Aging Knowledge. A shortened version of Palmore's (2001) Facts on Aging Quiz (FAQ; Breytspraak and Badura, 2015) was used, which includes 25 true-false items such as "As adults grow older, reaction time increases" and "Physical strength declines in old age." Correct items were averaged so that higher scores indicated greater knowledge about the aging process. Stahl and Metzger (2013) reported that their sample of students (n = 649) had an average score of 66% for correct scores. Another previous study reported that their sample of young adults (n = 428) answered approximately 60% of the 25 FAQ questions correctly (Unwin et al., 2008).

Quality of Experiences with Older Adults. Experience was measured by asking participants questions pertaining to older adults they know in their life. Before any questions were asked, participants were prompted to answer an initial question asking them if they could think of an individual who was 65 and above. For this question, there were three relationship scenarios, the first of which was a family member, the second was a coworker, and the third was not a family member or coworker, but someone with whom they have a relationship (e.g., a client, a neighbor, landlord, etc.). If participants answered "no" to any of the initial condition questions, they would bypass the nine detail questions pertaining to each older adult relationship. Detail questions included entering the approximate age of the older adult, the relationship of the older adult to the participant, and the extent of interaction (4-point scale: rarely [less than monthly] to always [daily]). The extent of independence and extent of interactions with the older adult being meaningful, positive, supportive, and respectful were also asked using a 5-point scale ranging from never to always. These detail questions were created by the researchers based on the overall quality of experience question, "To what extent do you agree that you have overall high quality (i.e., supportive, respectful, meaningful, and positive) relationships with older adults?" The overall quality of experience question was created by the researchers based on influence from the brief measure of social support by Sarason and colleagues (1987). The detail questions separated the idea of "high quality" into different components such as supportive, respectful, meaningful, and positive. These detail questions were asked in each of the relationship scenarios, but were only able to be answered if the participant selected "yes" to the initial condition question (e.g., Can you think of an older adult (approximately over age 65) whom is a family member?). In total, 98% of the participants could think of an older adult (individual approximate 65+) who is a family member, around 22% could think of an older adult

who is a coworker, and around 41% could think of an older adult who is not a family member or coworker, but someone they still had a relationship with (e.g., a client, a neighbor, landlord, etc.). For the current study, the researchers used only the overall quality of experience question because it encompassed all of the various contexts (i.e., family member, coworker, and non-family member/coworker) the researchers had "prompted" participants to think and self-report on previously. The overall quality of experience question was "To what extent do you agree that you have overall high quality (i.e., supportive, respectful, meaningful, and positive) relationships with older adults?" This item was rated using a 5-point numerical rating scales of agreement (see Appendix B).

Demographics. Demographic information such as gender, ethnicity, and class standing were collected. This information was all based on how the participant self-identified (see Appendix B).

Procedure

This sample was a convenience sample collected through the university's participation pool. All participation in the study was voluntary. The study was approved by the Radford University Institutional Review Board. The researchers created the study using Qualtrics (Qualtrics Inc., Provo, UT). The study required participants to be at least 18 years of age. The participants logged into SONA and were taken to an external survey system, Qualtrics, which contained the study. After participants provided their informed consent, they were instructed to follow the directions and complete each of the self-assessments. Participants responded to the Ambivalent Ageism Scale (Cary et al., 2017), Anxiety about Aging Scale (Lasher & Faulkender, 1993), Facts on Aging Quiz (Breytspraak & Badura, 2015; Palmore, 2001), the Quality of Experience Questionnaire, and demographic questions (e.g., gender, ethnicity, and class

standing). At the end of the surveys, participants were debriefed (see Appendix C) and thanked for their participation. Finally, participants exited the browser. Participants received compensation in the form of one SONA research participation credit for completing the study, which took approximately 20 minutes. Credit was received within 48 hours of completion of the survey.

Chapter 3: Results

The researchers performed data cleaning. Researchers removed participant data that were under 50% complete from the dataset. In total, three participants were removed from the dataset. After data cleaning, there were 99 participants remaining.

Analysis Strategy Overview

For the proposed analysis, descriptive statistics including means, standard deviations, ranges, and Cronbach's alphas were run for each of the scales. Independent samples *t*-tests determined whether there were any gender differences in benevolent ageism and hostile ageism. Bivariate correlations were then run between aging anxiety, aging knowledge, and quality of experiences with older adults to address hypothesis 2; these correlations were also used for exploratory analyses assessing relationships with benevolent ageism. Additionally, a series of multiple regression analyses were conducted to assess whether aging anxiety, aging knowledge, and quality of experience are predictors of hostile ageism and benevolent ageism (hypothesis 3, exploratory). Significant relationships between the predictors were identified in these preliminary analyses and would later be used in an exploratory mediation path analysis. A mediation analysis, as recommended by Baron and Kenny (1986), was performed in order to investigate the exploratory hypotheses and proposed model of hostile ageism while examining both the direct and indirect effects of the independent variables. Mediation hypotheses were tested using the traditional four-step procedure (Figure 1), followed by the Sobel test of the significance of the indirect path. According to Kenny, Kashy, and Bolger (1998), the first step (1) involves demonstrating that the independent variable (X) is correlated with the outcome variable (Y) indicated by path c and establishes that there is an effect that may be mediated. The second step proposes that the independent variable is correlated significantly with the mediator

variable (M), establishing the presence of path a. The third step establishes a significant relationship between the mediation (M) and the dependent variable (path b) by determining that the regression coefficient assigned to the mediator variable is statistically significant and meaningful in size when included in a multiple regression equation with the independent variable as a second predictor. In the fourth and final step, complete mediation is determined by establishing that the mediator completely mediates the X and Y relationship (path c'). For complete mediation, the effect of X on Y controlling for M should be zero. If the relationship does not equal zero, but is reduced, partial mediation is indicated. Ultimately, a Sobel test can be used to test the significance of the mediation.

Descriptive Analyses

Descriptive statistics were obtained for scores from scales used in the study (see Table 2a). The researchers ran descriptive statistics on the means for each of the scales. The scales statistics are as follows: the Aging Anxiety Scale ranged from 2.15 – 4.55 (N = 99, M = 3.32, SD = 0.43); the Facts on Aging Quiz ranged from 0.28 – 0.76 (N = 99, M = 0.48, SD = 0.10); the Benevolent Ageism scale ranged from 1.00 – 6.22 (N = 99, M = 3.38, SD = 0.92); and the Hostile Ageism scale ranged from 1.00 – 6.75 (N = 99, M = 3.06, SD = 1.20. It was found that all of the measures were normally distributed. This descriptive information can be found in Table 2a. Descriptive statistics were also run on the mean of the overall quality of experience item along with the specific relationship items (e.g., family member, coworker, and non-family/coworker). The overall quality of experience item ranged from 1.00 – 5.00 (N = 98, M = 4.26, SD = 0.89). The quality of experience items in relation to a family member ranged from 2.00 – 5.00 (N = 97, M = 4.35, SD = 0.76). The quality of experience items in relation to a coworker ranged from 1.25 – 5.00 (N = 21, M = 4.20, SD = 0.99). Lastly, the quality of experience items in relation to a non-

family member or coworker ranged from 1.50 – 5.00 (N = 41, M = 4.29, SD = 0.72). The results indicate that the items in each of the experience measures are reliable measurements for experience each time. See Table 2b.

Two independent samples *t*-tests were conducted to assess the presence of gender effects. No significant gender differences in benevolent and hostile ageism were found. Participants identifying as male (M = 3.42, SD = 0.81) were not significantly different than participants identifying as female (M = 3.40, SD = 0.93) on benevolent ageism, $t(93) = .11$, $p = .92$. Moreover, participants identifying as male (M = 3.26, SD = 1.21) were not significantly different than participants identifying as female (M = 3.50, SD = 1.19) on hostile ageism, $t(93) = .73$, $p = .47$. No gender differences were found; thus, the variable was not used in subsequent analyses.

Bivariate correlations indicated that aging anxiety was positively correlated with hostile ageism, $r(99) = .32$, $p < .01$. Additionally, results found that aging knowledge was significantly and negatively correlated with benevolent ageism, $r(99) = -.24$, $p < .05$. Moreover, aging knowledge was marginally, negatively correlated with hostile ageism, $r(99) = -.18$, $p = .075$. Results also indicated aging anxiety was significantly, positively correlated with both the overall quality of experience, $r(98) = .34$, $p < .001$, and quality of experience was marginally, negatively correlated with hostile ageism, $r(98) = -.195$, $p = .054$. For correlations among the variables, see Table 3.

A multiple regression was carried out to investigate whether aging anxiety, aging knowledge, and quality of experience could predict hostile ageism. The results indicated that aging anxiety, aging knowledge, and quality of experience were significant predictors of hostile ageism, $R^2 = .15$, $F(3, 94) = 5.34$, $p < .01$. Cohen's f^2 indicated a medium effect size, $f^2 = .18$. While aging knowledge contributed significant variance to the model ($\beta = -.20$, $p < .05$) along

with aging anxiety (β = -.28, p < .01), quality of experience did not (β = -.12, p = .24). See Table 4.

Exploratory Analyses

In addition to the multiple regression used to assess aging anxiety, aging knowledge, and overall quality of experience as significant predictors of hostile ageism, an exploratory analysis was also run using a multiple regression to assess whether those same predictors would also predict benevolent ageism. Results indicated that aging anxiety, aging knowledge, and overall quality of experience together did not contribute to benevolent ageism, R^2 = .07, F(3, 94) = 2.51, p = .06. However, Cohen's f^2 indicated a small effect size, f^2 = .09, and aging knowledge did significantly contribute to benevolent ageism (β = -.24, p < .05). See Table 5.

Secondary Analyses

To determine the most influential predictors or benevolent and hostile ageism, the researchers conducted a series of secondary analyses based on findings from primary analyses. The secondary analyses were run using the predictors that were found to be significant in previous analyses (i.e., H3 and exploratory); thus, aging anxiety and aging knowledge were used as predictors of hostile ageism, while just aging knowledge was used as the predictor of benevolent ageism.

Two multiple regressions were carried out to investigate (1) to what extent aging anxiety and aging knowledge could predict hostile ageism and (2) to what extent aging knowledge could predict benevolent ageism. The results of the first regression indicated that aging knowledge and aging anxiety were significant predictors of hostile ageism, R^2 = .13, F(2, 96) = 7.43, p < .01. Cohen's f^2 indicated a medium effect size, f^2 = .15. Aging anxiety did contribute significant

variance to the model (β = -.32, p < .01); however, aging knowledge was only marginally significant, β = -.19, p = .054. See Table 6.

The results of the second regression indicated that aging knowledge was a significant predictor of benevolent ageism, R^2 = .06, $F(1, 97) = 5.89$, p < .05. Cohen's f^2 indicated a small effect size, f^2 = .06. Aging knowledge did contribute significant variance to the model (β = -.24, p < .05). See Table 7.

Aging Anxiety as a Mediator

In the current study, quality of experience was not a significant predictor of hostile ageism. However, aging anxiety was a significant predictor of hostile ageism. Bivariate correlations also showed that aging anxiety was moderately correlated with quality of experience. Finally, quality of experience and hostile ageism were only marginally correlated. Therefore, researchers decided to test whether aging anxiety might mediate the relationship between quality of experience and hostile ageism.

To investigate the unique and combined contribution of aging anxiety and quality of experience as predictors of hostile ageism, a mediation analysis was performed using the four-step procedure by Baron and Kenny (1986). The model of aging anxiety as a mediator of the relationship between overall quality of experience and hostile ageism was tested, following Kenny, Kashy, and Bolger's (1998) four requirements for mediation. Please refer to Figure 1 for a diagram of the model. As illustrated in Figure 1, paths a and b were significant, *ps* < .05. While path a and b were found to be significant, the effect of overall quality of experience when controlling for aging anxiety did not equal zero, but was reduced, implying partial mediation. The Sobel test confirmed the significance of aging anxiety's role in the partial mediation of

overall quality of experience and hostile ageism (Sobel $Z = -2.08$, $p < 0.02$). Further, aging anxiety accounted for 47.9% reduction in the direct effect.

Chapter 4: Discussion

The purpose of the current study was to investigate how predictors such as gender, aging anxiety, aging knowledge, and quality of experience may differentially impact benevolent and hostile ageism in young adult college students.

The researchers expected there would be a significant difference between participants who identified as male or female, such that females would have responses that reflect benevolent ageism and males would have responses that reflect hostile ageism (H1). The rationale for this hypothesis is that females tend to view older individuals as warm rather than competent (Fiske, 2018; Fiske et al., 2007), which leads to a display more aligned with benevolent ageism. Additionally, previous literature has found that males tend to exhibit more hostile ageism than females (Fiske, 2018; Fiske et al., 2002; Fiske et al., 2007). This hypothesis was not supported; therefore, gender was not included in any further analyses. The participants who identified as male and the participants who identified as female did not differ with respect to how they responded to the study items.

The main theory to support the hypotheses based on gender differences was the stereotype content model (SCM; Fiske, 2018; Fiske et al., 2007). It does not appear, however, that the items in each scale mattered differently to those who identified as male than it did for those who identified as female. Although previous research has indicated gender differences based on the SCM, the research regarding gender and ageism has been mixed and still needs further assessment. The main focus of the SCM is that there are two universal dimensions of social cognition: warmth and competence. It is possible that participants who identify as male or female have different interpretations of warmth and competence and how those two dimensions relate to benevolent and hostile ageism. Research on the topic has yielded mixed findings. An

earlier study found that men tended to have higher levels of anxiety related to aging than women (Lasher & Faulkender, 1993). However, more recently the opposite was reported in that women had higher levels of aging anxiety (Harris & Dollinger, 2001). Because the current study used a convenience sample from the SONA participation pool, it could be that there just were not enough participants to see an effect in gender differences. Future researchers could include more participants and more clearly define warmth and competence. Regardless of the participant's gender, it is evident that responses of anyone can be reflective of both forms of ageism (i.e., benevolent and hostile ageism).

Additionally, there may not have been any gender difference because gender extends beyond just being binary. Perhaps there are differences in those who do not identify with the binary gender categorizations. With this in mind, it may be possible that individuals who identify outside of the gender binary category might reflect both forms of ageism, based on previous research (Krekula, Nikander, & Wilińska, 2018). However, it would be difficult to find enough participants to analyze these items in a non-gender binary sample. In order to test this, future researchers will need to collect enough participants and have items that are more specific to individuals who do not identify as strictly male or female (i.e., gender neutral termed items).

The second set of hypotheses (H2) stated that aging anxiety would be significantly, positively related to hostile ageism. The rationale for this was indicated in that higher levels of aging anxiety tend to lead to higher levels of hostile ageism (Drury et al., 2016; Harris & Dollinger, 2001). A study found that individuals with higher levels of anxiety tended to respond with more hostile ageism towards adults (Harris & Dollinger, 2001). This part of the hypothesis was supported. Aging anxiety was positively correlated with hostile ageism. The second set of hypotheses also stated that aging knowledge would be significantly, negatively related to hostile

ageism. Various past studies, using college-aged students, found that more age-related factual information (i.e., aging knowledge) led to lower levels of hostile ageism (Allan & Johnson, 2008) or elicited more positive rather than negative stereotypes about aging (Harris & Dollinger, 2001; Katz, 1990). This second part of the hypothesis was partially supported. Overall, the researchers found support for hypothesis 2; aging anxiety was positively correlated with hostile ageism and aging knowledge was marginally, negatively correlated with hostile ageism.

The final hypothesis (H3) was that aging anxiety, aging knowledge, and quality of experience would contribute significant and unique variance in predicting hostile ageism. The rationale is due to past research that has only supported the presence of negative relationships between anxiety (Drury et al., 2016; Harris & Dollinger, 2001) and aging knowledge (Allan & Johnson, 2008, Harris & Dollinger, 2001; Katz, 1990), along with negative relationships between anxiety and quality of experience contributing to hostile ageism. The hypothesis was partially supported. Aging anxiety and aging knowledge were significant predictors of hostile ageism, while quality of experience was not a significant predictor. Additionally, an exploratory analysis was conducted to assess the degree to which aging anxiety, aging knowledge, and quality of experience contribute significant and unique variance in predicting benevolent ageism. This exploratory hypothesis was partially supported. Results indicated that aging knowledge was the only predictor of benevolent ageism. Additionally, aging knowledge was found to be moderately, negatively correlated with benevolent ageism. Quality of experience was not a significant predictor of benevolent ageism. Overall, researchers found support for hypothesis 3; aging anxiety and aging knowledge were significant predictors of hostile ageism. Overall quality of experience was marginally, negatively related to hostile ageism. Moreover, an exploratory

analysis found that aging knowledge was also a predictor of benevolent ageism and was moderately, negatively correlated with benevolent ageism.

Follow-up, secondary analyses were performed to further explore the results found from hypothesis 3 and the exploratory analysis. Due to aging anxiety and aging knowledge serving as significant in a multiple regression model predicting hostile ageism (H3), a further analysis revealed that aging anxiety was the only predictor that contributed significant variance in hostile ageism. In addition, due to aging knowledge being a predictor of benevolent ageism (exploratory hypothesis), a further analysis revealed that aging knowledge did contribute significantly within a multiple regression model predicting benevolent ageism. The results of the current study were contradictory to previous findings including a significant moderate, negative correlation between aging knowledge and aging anxiety (Allan & Johnson, 2008). However, the results were consistent with previous research that found there was no direct impact of aging knowledge on hostile ageism (Allan & Johnson, 2008). Moreover, there was a study that indicated participating in an aging course led individuals to have more positive attitudes towards older adults (Harris & Dollinger, 2001; Katz, 1990; Stahl & Metzger, 2013). The researchers acknowledge that this result is fairly new due to research about benevolent ageism being sparse.

Due to analyses indicating that quality of experience was not a significant predictor of hostile ageism and aging anxiety was a significant predictor of hostile ageism, the researchers combined these findings to create a mediational model. The model included aging anxiety as a mediator of the relationship between overall quality of experience and hostile ageism. A mediation analysis was performed using the four-step procedure detailed by Baron and Kenny (1986). Overall quality of experience was utilized because earlier analyses indicated the predictor to be marginally, negatively correlated with hostile ageism. Previous research has

found a relationship between experience with older adults and ageism (Caspi, 1984; Drury et al., 2016). Research has also indicated that the more positive contact/interactions individuals have, the fewer negative stereotypes (Drury et al., 2016) or more positive attitudes they have toward older adults (Caspi, 1984). Previous research seems to be mixed. Ultimately, results indicated that the quality of experience with older adults was partially mediated by aging anxiety in predicting hostile ageism. Questions still remain about defining the measure of quality of experience and benevolent ageism. Both of these concepts should be further assessed in future research.

Overall, the predictors of aging anxiety, aging knowledge, and quality of experience were significant predictors of hostile ageism. Particularly, aging anxiety was important because responses to anxiety can be volatile, which leads individuals with anxiety to endorse more increased levels of hostile ageism. Additionally, the measure of hostile ageism seems to be more established. In contrast, the only predictor of benevolent ageism was aging knowledge. This could possibly be due to individuals not knowing what older adults need. Thus, the measure of benevolent ageism needs further validation.

Strengths and Limitations

The current study sought to fill the gaps regarding the lack of literature assessing quality of experience with the aged. The experience items (i.e., relationship and overall) were a strength and limitation of this study. The researchers created these items and first went through a process of defining quality of experience and differentiating it from the viewpoint of the older adult versus the viewpoint of the participant in the situation. The researchers expected that items would be separated into three factors: family member, coworker, and non-family member or

coworker. Although the items have never been validated, results indicated that the experience items were effective in capturing quality of experience in the current study.

The interpretation of experience may be an additional limiting factor of the study. Individuals may assess a situation differently from another even if they are the same or similar. For items assessing overall experience with an older adult, the results indicated that the quality of experience item used was found to be a strength of the study. Although items pertaining to the various relationships with older adults were not used, overall, the participants rated their relationships with older adults as high quality (i.e., supportive, respectful, meaningful, and positive). Strengths included that the overall experience item was found to be positively correlated with aging anxiety. Moreover, the item was found to be a significant predictor of hostile ageism along with aging knowledge partially mediated by aging anxiety. This is one of the few studies, to the researchers' knowledge, that attempted and was able to partially define quality of experience.

Although the study generated some mixed and interesting results regarding quality of experience, it was not without limitations in other areas. The primary source of data collection in university settings is SONA. This was the case for the current study. SONA has the convenience of collecting all needed data within just a few weeks. This can contribute to the study's lack of external validity, or generalizability to the population. While data can be collected in a timely manner, there is not much diversity in the data; specifically for the current sample, there was a lack of male participants. By having the study online, there is a possibility of random error being introduced because researchers do not have control over who takes the study (i.e., the participant) or when participants are taking the study (i.e., day and time). Furthermore, research

that is conducted in the field of psychology is typically collected from college-aged participants at universities, which can often produce misleading results (Sears, 1986).

Additionally, the study utilized a correlational design. Thus, cause and effect could not be determined; only relationships were evident. This can contribute to the study's lack of internal validity. This issue pertains specifically to the mediation aspect of the study. In order to determine cause and effect, the study would need to have an experimental design, which would establish a time-precedence. Thus, the mediation would need to incorporate a longitudinal design where repeated measures are taken of the same individual.

Future Directions and Implications

Aside from the strengths and limitations of this study, there are various ways to expand upon the current research findings and to further the investigation of ageism. Research on ageism is relevant in various situations, including places of work, schools, and at home. Additionally, ageism is progressing as an area of importance today, especially since more and more individuals who are part of the Baby Boomer generation are reaching 65 years of age or older (North & Fiske, 2013; U.S. Census Bureau, 2012). In a real-world setting, studying ageism could lead to improvements in the overall view of older adults.

In addition, the current study showed that extremely negative stereotypes may lead to hostile ageism; however, the relationship between stereotypes and benevolent ageism is less clear. Additionally, results indicated that participants who did not have a lot of aging knowledge were more likely to hold negative views of older adults. Future research could consider how different forms of aging knowledge, besides merely factual information, could predict behaviors of hostile ageism.

Furthermore, this study suggests that experience may contribute to levels of hostile ageism; however, it is indirectly related in the sense that aging anxiety partially mediates the relationship. The items created specifically for the current study should be examined for their psychometric properties and validated in different cultural contexts. Although research regarding experience is still in its preliminary stages, the current study further defines the network of associations among variables contributing to models of hostile and benevolent ageism. The researchers are hopeful that the current research will provide a foundation for the establishment of a theoretical model to describe and understand the concept of ageism more fully.

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Table 1

Participant Demographics

Demographic	Subsections	*n*	%
Gender	Female	73	73.7
	Male	22	22.2
	Prefer to self-describe	2	2.0
	Unspecified	2	2.0
Ethnicity	White	60	60.6
	African American	24	24.2
	American Indian or Alaska Native	2	2.0
	Asian	0	0.0
	Native Hawaiian or Pacific Islander	1	1.0
	Hispanic or Latino	5	5.1
	Other	6	6.1
	Unspecified	1	1.0
Class Standing	Freshman	29	29.3
	Sophomore	22	22.2
	Junior	28	28.3
	Senior	19	19.2
	Unspecified	1	1.0

Table 2a

Aging-related Scale Descriptive Statistics

Scale	*N*	*M*	*SD*	Range	Cronbach's Alpha (α)
Aging Anxiety Scale	99	3.32	0.43	2.15 – 4.55	.85
Facts on Aging Quiz	99	0.48	0.10	0.28 – 0.76	-
Benevolent Ageism	99	3.38	0.92	1.00 – 6.22	.83
Hostile Ageism	99	3.06	1.20	1.00 – 6.75	.82

Table 2b

Quality of Experience Scale Descriptive Statistics

Scale	*N*	*M*	*SD*	Range	Items	Cronbach's Alpha (α)
Overall Quality of Experience	98	4.26	0.89	1.00 – 5.00	1	-
Family member	97	4.35	0.76	2.00 – 5.00	4	.85
Coworker	21	4.20	0.99	1.25 – 5.00	4	.91
Non-Family/Coworker	41	4.29	0.72	1.50 – 5.00	4	.82

Table 3

Correlations among variables

Measures	Aging Anxiety Scale	Facts on Aging Quiz	Benevolent Ageism	Hostile Ageism	Quality Overall
Aging Anxiety Scale	-	-.017	.103	.316**	.335**
Facts on Aging Quiz	-	-	-.239*	-.180	-.093
Benevolent Ageism	-	-	-	.471**	-.021
Hostile Ageism	-	-	-	-	-.195
Overall Quality	-	-	-	-	-

** $p < .01$
* $p < .05$

Table 4

Multiple Linear Regression Model for Hostile Ageism

	Table Design							
Variables	*df*	R^2	*F*	f^2	*B*	*SE B*	*β*	*t*
Hostile Ageism	(3, 94)	.15	5.34	.18				
Aging Anxiety (AAS)					-.78	.28	-.28	-2.75**
Aging Knowledge (FAQ)					-2.34	1.14	-.20	-2.05*
Quality of Experience					-.16	.14	-.12	-1.18

** $p < .01$
* $p < .05$

Table 5

Multiple Linear Regression Model for Benevolent Ageism

	Table Design							
Variables	*df*	R^2	*F*	f^2	*B*	*SE B*	*β*	*t*
Benevolent Ageism	(3, 94)	.07	2.51	.09				
Aging Anxiety (AAS)					.29	.23	.13	1.27
Aging Knowledge (FAQ)					-2.22	.91	-.24	-2.44**
Quality of Experience					-.09	.11	-.09	-.84

** $p < .01$
* $p < .05$

Table 6

Regression Model for Anxiety and Aging Knowledge Predicting Hostile Ageism

Step and Variables	Table Design							
	df	R^2	*F*	f^2	*B*	*SE B*	*β*	*t*
Hostile Ageism	(2, 96)	.13	7.43	.15				
Aging Knowledge (FAQ)					-2.21	1.13	-.19	-1.95
Aging Anxiety (AAS)					-.89	.26	-.32	-3.36*

* $p < .05$

Table 7

Regression Model for Aging Knowledge Predicting Benevolent Ageism

	Table Design							
Variables	*df*	R^2	*F*	f^2	*B*	*SE B*	*β*	*t*
Benevolent Ageism	(1, 97)	.06	5.89	.06				
Aging Knowledge (FAQ)					-2.19	.90	-.24	-2.43*

* $p < .05$

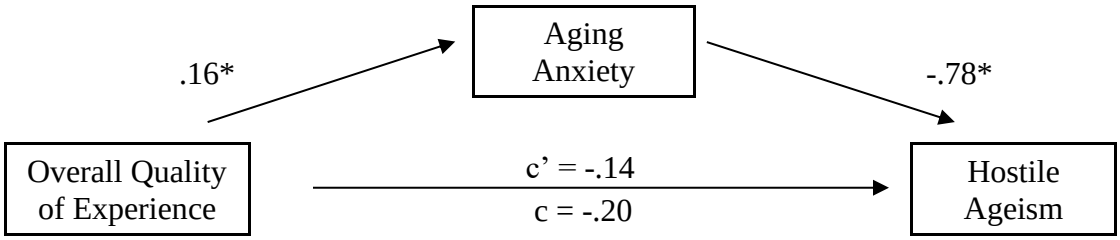

Figure 1. A mediational model of the relationship between overall quality of experience and hostile ageism: aging anxiety. Standardized regression coefficients for the relationship between overall quality of experience and hostile ageism as mediated by aging anxiety. *$p < .05$

Note. 47.9% reduction rate between c and c' ($Z = -2.08$, $p < .02$).

Appendix A: Informed Consent

RADFORD UNIVERSITY

Informed Consent

Title of Research: **Examining Differential Predictors of Benevolent and Hostile Ageism in College Students**

Researcher(s): Celie McKinley, Jenessa Steele, Ph.D., Carly Pullen, Hannah Mone, and Hayley Hodock

We ask you to be in an *online* research study designed to examine predictors of benevolent and hostile ageism. If you decide to be in the study, you will be asked to complete a series of surveys lasting around 20 minutes. Approximately 150 participants from the Radford University SONA participation pool will be asked to participate in the study.

This study has no more risk than what is encountered in everyday life with this study. Participation is voluntary, you may leave the study at any time by exiting your browser. If you choose not to participate or decide to withdraw, there will be no penalty.

If you decide to be in this study, it is required that you are at least 18 years of age. Additionally, you may choose not to answer certain questions. There is compensation for you to be in this research. If you choose to participate you will be compensated with 1 SONA participation credit for the approximately 20-minute duration of the study. Additional course credit may be given by course instructors. Benefits to you for being in the study include contributing to better understanding of views on aging and older adults.

If you decide to be in this study, what you tell us will be kept private unless required by law to tell. The data collected in this study are anonymous, thus, IP addresses will not be collected. Additionally, this means that not even the research team can match you to your data. We will collect your information through Qualtrics surveys. This information will be stored on a limited access password- protected computer for up to three years. The research team will work to protect your data to the extent permitted by technology. It is possible, although unlikely, that an unauthorized individual could gain access to your responses because you are responding online. This risk is similar to your everyday use of the internet.

If you have questions now or later about this study, feel free to email Jenessa Steele, Ph.D., jcsteele@radford.edu, (540) 831-5176.

This study was approved by the Radford University Committee for the Review of Human Subjects Research. If you have questions or concerns about your rights as a research subject or have complaints about this study, you should contact Dean Ben Caldwell, Institutional Officer for Research, Graduate College, Radford University, bcaldwell13@radford.edu, (540) 831-5723.

It is your choice whether or not to be in this study. What you choose will not affect any current or future relationship with Radford University. If all of your questions have been answered and you would like to take part in this study, please press “Yes.” Otherwise press “No” and you will be exited from the study.

Appendix B: Scales and Measures

Quality Experience – Family (10 items, first item conditional if no is selected block is skipped)

1. Can you think of an older adult (approximately over age 65) whom is a family member?
    - Yes
    - No
2. What is the approximate age of the older adult to you? ____
3. What is the relationship of the older adult to you? ____
4. For the older adult over age 65 whom is your family member, to what extent do you agree with the following statements regarding your relationship with this individual?
5. To what extent do you interact with the older adult family member?
    - Rarely (less than monthly)
    - Sometimes (monthly)
    - Frequently (weekly)
    - Always (daily)
6. To what extent do you believe the older adult family member to be **independent** (e.g. can complete all daily activities on their own and without assistance, such as cooking, driving shopping, etc.)?
    - Not at all independent
    - Rarely independent
    - Sometimes independent
    - Frequently independent
    - Always independent
7. To what extent do you believe your interactions with the older adult family member to be **meaningful** (i.e., important, useful conversation with quality or purpose)?
    - Never meaningful
    - Rarely meaningful
    - Sometimes meaningful
    - Frequently meaningful
    - Always meaningful
8. To what extent do you believe your interactions with the older adult family member to be **positive**?
    - Never positive
    - Rarely positive
    - Sometimes positive
    - Frequently positive
    - Always positive
9. To what extent do you believe your interactions with the older adult family member to be **supportive** of each other?
    - Never Supportive
    - Rarely Supportive
    - Sometimes Supportive
    - Frequently Supportive
    - Always Supportive

10. To what extent do you believe your interactions with the older adult family member to be **respectful** of each other?
    - Never respectful
    - Rarely respectful
    - Sometimes respectful
    - Frequently respectful
    - Always respectful

Quality Experience – Coworker (10 items, first item conditional if no is selected block is skipped)

1. Can you think of an older adult (approximately over age 65) whom is a coworker?
    - Yes
    - No
2. What is the approximate age of the older adult to you? ____
3. What is the relationship of the older adult to you? ____
4. For the older adult over age 65 whom is your coworker, to what extent do you agree with the following statements regarding your relationship with this individual?
5. To what extent do you interact with the older adult family member?
    - Rarely (less than monthly)
    - Sometimes (monthly)
    - Frequently (weekly)
    - Always (daily)
6. To what extent do you believe the older adult coworker to be **independent** (e.g. can complete all daily activities on their own and without assistance, such as cooking, driving shopping, etc.)?
    - Not at all independent
    - Rarely independent
    - Sometimes independent
    - Frequently independent
    - Always independent
7. To what extent do you believe your interactions with the older adult coworker to be **meaningful** (i.e., important, useful conversation with quality or purpose)?
    - Never meaningful
    - Rarely meaningful
    - Sometimes meaningful
    - Frequently meaningful
    - Always meaningful
8. To what extent do you believe your interactions with the older adult coworker to be **positive**?
    - Never positive
    - Rarely positive
    - Sometimes positive
    - Frequently positive
    - Always positive

9. To what extent do you believe your interactions with the older adult to be **supportive** of each other?
    - Never Supportive
    - Rarely Supportive
    - Sometimes Supportive
    - Frequently Supportive
    - Always Supportive
10. To what extent do you believe your interactions with the older adult coworker to be **respectful** of each other?
    - Never respectful
    - Rarely respectful
    - Sometimes respectful
    - Frequently respectful
    - Always respectful

Quality Experience – Not family member / coworker (10 items, first item conditional if no is selected block is skipped)

1. Can you think of an older adult (approximately over age 65) whom is NOT a family member or coworker, but with whom you have a relationship (e.g., a client, a neighbor, landlord, etc.)?
    - Yes
    - No
2. What is the approximate age of the older adult to you? ____
3. What is the relationship of the older adult to you? ____
4. For the older adult over age 65 whom has a relationship with you, but is NOT a family member or coworker, to what extent do you agree with the following statements regarding your relationship with this individual?
5. To what extent do you interact with the older adult whom has a relationship with you, but is NOT a family member or coworker?
    - Rarely (less than monthly)
    - Sometimes (monthly)
    - Frequently (weekly)
    - Always (daily)
6. To what extent do you believe the older adult whom has a relationship with you, but is NOT a family member or coworker to be **independent** (e.g. can complete all daily activities on their own and without assistance, such as cooking, driving shopping, etc.)
    - Not at all independent
    - Rarely independent
    - Sometimes independent
    - Frequently independent
    - Always independent
7. To what extent do you believe your interactions with the older adult coworker to be **meaningful** (i.e., important, useful conversation with quality or purpose)?
    - Never meaningful

- Rarely meaningful
- Sometimes meaningful
- Frequently meaningful
- Always meaningful

8. To what extent do you believe your interactions with the older adult whom has a relationship with you, but is NOT a family member or coworker to be **positive**?
    - Never positive
    - Rarely positive
    - Sometimes positive
    - Frequently positive
    - Always positive
9. To what extent do you believe your interactions with the older adult whom has a relationship with you, but is NOT a family member or coworker to be **supportive** of each other?
    - Never Supportive
    - Rarely Supportive
    - Sometimes Supportive
    - Frequently Supportive
    - Always Supportive
10. To what extent do you believe your interactions with the older adult whom has a relationship with you, but is NOT a family member or coworker to be **respectful** of each other?
    - Never respectful
    - Rarely respectful
    - Sometimes respectful
    - Frequently respectful
    - Always respectful

Overall Quality of Experience

1. To what extent do you agree that you have overall high quality (i.e., supportive, respectful, meaningful, and positive) relationships with older adults?
    - Strongly disagree
    - Disagree
    - Neither agree nor disagree
    - Agree
    - Strongly agree

Demographics Survey (Please select the answer that most applies to you.)

1. What is your gender?
    - Male
    - Female
    - Other (Display logic: please specify)
2. What is your ethnicity?
    - White
    - Black or African American

- American Indian or Alaska Native
- Asian
- Native Hawaiian or Pacific Islander
- Hispanic or Latino
- Other (Display logic: please specify)

3. Please indicate your class standing.
    - Freshman
    - Sophomore
    - Junior
    - Senior
    - Other (Display logic: please specify)

Appendix C: Debriefing Statement

Thank you for participating in the study. We appreciate your time and effort while completing all questionnaires.

If you have any questions regarding the research being conducted, you may contact the co-investigator, **Jenessa Steele, Ph.D., jcsteele@radford.edu**. For additional concerns the university provides counseling services. You may call Student Counseling Services at (540) 831-5226 they are located in the Lower Level of Tyler Hall.

We want to remind you that that all of your information, including answers to the questionnaires, will be kept confidential. This information will never be linked to you in any way. Additionally, all researchers are bound by confidentiality and will never discuss your participation. Your participation and that of other people will contribute to a greater understanding of how benevolent and hostile ageism is predicted in college students.

You will be compensated with 1 SONA research participation credit. If you have any questions, feel free to ask us. Thank you again for your time and participation.