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Effects of an Educational Intervention on Students' Knowledge and Attitude towards Working with Older Adults

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EFFECTS OF AN EDUCATIONAL INTERVENTION ON STUDENTS' KNOWLEDGE AND
ATTITUDE TOWARDS WORKING WITH OLDER ADULTS

by

JOHNNA KELLEY

(Under the Direction of Rebecca Ryan)

ABSTRACT

Many individuals report reservations about working with an older adult population. A potential factor that may influence this is openness to experience. Additionally, research shows that educational interventions are effective in increasing individuals' level of knowledge on various topics including older adults and aging. This increased level of knowledge contributes to a higher level of willingness to work with an older adult population. In order to support and extend the existing literature on this topic, we examined the effect of a short-term education session on undergraduate students' willingness to work with older adults in a variety of positions and settings. Analyses revealed that there were significant differences in reported willingness to work with older adults after the education session. Specifically, participants reported a higher level of willingness to work with older adults when they were asked to imagine working in a field that was associated with working with an older adult population. This applied to their responses to working with both an active and a frail population. Participants also indicated lower levels of ageism after the education session. This study helped fill a gap in the existing literature as well as provided additional information regarding factors that promote individuals' willingness to work with an older adult population.

INDEX WORDS: Older adults, Openness, Willingness, Ageism, Terror management theory

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CHAPTER 1: INTRODUCTION

RATIONALE

Due to a rapidly increasing population of older adults, the need for additional workers in many areas including mental health, social work, and the medical field is growing. The United States is currently undergoing a “gerontological explosion,” which refers to the phenomenon of the population of individuals aged 65 and older growing at an unprecedented rate (Crowther, Scogin, Wayde, & Austin, 2012). When one considers rural America in particular, these rates of growth are occurring even more rapidly when compared to more suburban or urban areas (Stewart, Jameson, & Curtin, 2015). One reason for this population growth is longer life spans, which can be attributed to many factors including: lifestyle improvements, better quality health care, increased access to health care, and technological innovations in health care practices. Also contributing to this population growth is the fact that the baby boomer generation is moving into older adulthood (Barnett & Quenzel, 2017). These shifting demographics mean that older adults will become larger consumers in the general economy as well as in various specialized services areas such as in the medical sector, mental health field, and other service professions. The aging of the United States will have far reaching implications for virtually every aspect of our culture. These changes will have the weightiest effects on our nation’s public health, social services, and health care systems (Centers for Disease Control, 2013).

While this need continues to increase, there is a shortage of individuals who want to work with older adults. In the health care field specifically, research indicates there is not an adequate number of individuals who want to work with older adults in specialties such as physicians, social work, nurses, psychologists, and psychiatrists (Lee, Volans, & Gregory, 2003). Multiple factors contribute to this disinterest in working with older adults including: lack of specialized

education and training, poor compensation, and negative personal perceptions of older adults (Barnett & Quenzel, 2017; Lee et al., 2003).

This disinterest in working with older adults may also be attributable to the presence of ageism in the general population. Ageism includes negative stereotypes of, prejudice against, and discrimination towards older adults. The stereotypes and attitudes associated with older adults have negative as well as positive elements. Negative elements include: reduced competence, absence of creativity, inability to acquire new skills, lack of productivity, burdensome, sickly, lonely, and socially isolated. Positive elements include: wisdom, generosity, honesty, knowledge, faithfulness, and dependability. As a rule, older adults are viewed as possessing lower levels of competence and higher levels of warmth. This tends to bring about feelings of pity towards older adults, and can result in patronizing attitudes and interactions. Even the positive stereotypes and attitudes are harmful due to the fact they can produce benevolent ageism, which is defined as assuming older adults need protection and help, or viewing older adults as having low levels of competence (Swift, Abrams, Lamont, & Drury, 2017). When the average American is asked what they think about when they hear aging there are a number of negative assumptions that are frequently endorsed including: illness, memory loss, inability to drive, end of sexual activity, loneliness and depression, and difficulty paying bills. In reality however, older adults report experiencing these negative events at lower levels than younger adults report expecting them to occur during aging (Taylor, Morin, Parker, Cohn, & Wang, 2009).

One potential source of ageist attitudes can be explained by terror management theory (TMT), which was created to help explain human preoccupation with death. The awareness and fear of death found in humans creates a paradox. The fear of death must be suppressed in some way in order to help humans to survive and thrive (Harvell & Nisbett, 2016). As a way to cope

with this awareness and fear, humans developed what came to be known as culture as a means of combating the fear and anxiety that death causes. Culture refers to the ideas, customs, and social behavior of a society (Harvell & Nisbett, 2016). In addition to culture, self-esteem and close relationships also help protect humans from anxiety and fear (Harvell & Nisbett, 2016). TMT offers a framework to help understand these fears as well as the reactions they produce in individuals, including ageist attitudes and actions. Due to stereotypes and incorrect beliefs, older adults serve as reminders of the aging process, the loss of valued attributes and abilities and physical decline and ailments.

The ubiquitous nature of ageism is concerning for many reasons and contributes to negative consequences for both the individuals who hold the ageist attitudes as well as the individuals these attitudes are directed towards. With regards to individuals who hold ageist attitudes, research shows that individuals who demonstrate higher levels of ageism also demonstrate lower levels of reported interest in considering a career in the field of gerontology (Boswell, 2012). This means that these individuals are limiting their career options in a rapidly growing area of employment, particularly in rural areas with a smaller job market and a greater proportion of older adult residents (Parker et al., 2018; Stewart et al., 2015). Research shows that these smaller job markets, with fewer opportunities for both academic and economic advancement are one of the major reasons young adults are leaving rural areas for more densely populated areas (Kumar, 2018).

Considering older adults, ageist attitudes result in many harmful outcomes including: stereotype embodiment, stereotype threat, and being a target of ageism. Stereotype embodiment describes the process that occurs as negative attitudes toward a certain group, like older adults, begin to be applicable to the self. Internalization of negative stereotypes related to older adults

leads to negative outcomes such as lower levels of life satisfaction, physical health and functioning, physical activity, and mortality. Stereotype threat is when an individual is placed in a situation in which they feel they are at risk of confirming a negative stereotype about their particular group. This can only occur if the individual views themselves as part of a stereotyped group and is aware of the expectations that are attached to that group membership. If both these factors are present, then the value and positive attributes of one's identity based on membership to a particular group can be brought into question. These stereotype threats negatively influence performance on a variety of tasks including memory, cognitive performance, driving, and physical strength. Finally, being a target of ageism can occur in any setting where older adults can be deprived of access to a particular good, service, or treatment either in an indirect or direct manner (Swift et al., 2017). If older adults are forced to wait to receive care and services they need, both the financial and social costs could be catastrophic (Barnett & Quenzel, 2017). Overall, by improving younger participants' views of older adults and older adulthood, ageist attitudes may be less likely to be internalized as they age, making them less vulnerable to the negative health and social outcomes that can result.

While the potential consequences are troubling, there are solutions to the problems of ageism and not enough people being willing to work with older adults. Research suggests that ageism can be countered in many ways; including increasing knowledge about the older adult population, utilizing the effects of empathy, and capitalizing on openness to experience traits (Allan, Johnson, & Emerson, 2014; Batson, Chang, Orr, & Rowland, 2002; Hughes et al., 2008; Karner, Rheinheimer, DeLisi, & Due, 1998; Mellor et al., 2015). As this pertains to the current study, by decreasing participants' ageist attitudes and increasing participants' willingness to work with older adults, individuals will be more willing to consider a career in the field of

gerontology, thus reducing the shortage of individuals in these careers. This will also increase individuals' potential career options when they begin the search for employment; especially in rural areas. All this means that while the issues of ageism and lack of willingness to work with older adults are problematic, there are feasible solutions to these challenges.

PURPOSE

The purpose of this study was twofold: to determine whether it was possible to influence individuals' willingness to work with older adults with a short-term educational session delivered in-person and to assess the impact of this session on knowledge and ageist attitudes. Willingness was assessed in terms of the desire to work with older adults at various levels of capability, in various settings, and within various disciplines. The current study sought to answer the following questions:

- a) Will an education session that covers facts about older adults and older adulthood increase willingness to work with older adults, increase levels of knowledge about older adulthood, and decrease levels of ageist attitudes?
- b) Will pre-existing levels of low versus high openness to experience correlate with individuals' willingness to work with older adults and level of ageism?
- c) Will intent to live and work in a rural versus urban area be related to individuals' willingness to work with older adults?

SIGNIFICANCE

Although the majority of research thus far focused on improving knowledge and desire to work with older adults through the use of educational sessions of varying frequencies and lengths of time, it is possible that shorter educational sessions may be just as effective. However, there is no research as of yet exploring how a single short-term educational session can influence both

individuals' knowledge of and willingness to work with older adults in an undergraduate population.

DEFINITION OF TERMS

Ageism. Ageism can be defined as the application of stereotypes, prejudice, and discrimination toward people due to their age (Abrams, 2010). While ageism can occur against any age group, for the purposes of this study it will refer to attitudes and actions toward adults age 65 and above. In the current study, participants' level of ageism is measured by the Ambivalent Ageism Scale (Cary, Chasteen, & Remedios, 2017), which will serve as one of the dependent variables.

Openness to Experience. Openness to experience is one of five personality traits that comprise the Five Factor Theory of Personality. Openness entails elements including curiosity, ingenuity, and interest in novelty (Costa & McCrae, 1992). In the current study, openness as measured by the Openness versus Closedness to one's own Experience scale from the Five Factor Model Rating Form (Widiger, 2004).

Willingness to Work with Older Adults. In previous studies that have investigated this concept, researchers have measured willingness to work with older adults in various ways such as asking participants to: rate their interest in working in a setting that provides services to older adults, rate the likelihood that in their future career they will work with older adults, and describe their expectations regarding future work with older adults (Boswell, 2012; Chonody, Webb, Ranzijn, & Bryan, 2014; Eshbaugh, Gross, and Satrom, 2010; Hughes et al., 2008; Woodhead et al., 2013) (see Appendix E for exact wording and measurement scales used by previous researchers). In the current study, willingness to work with older adults will be measured with similar items, and we will also assess willingness to work in some capacity with specific

segments of the older adult population (i.e., individuals who are considered active or individuals who are in long-term care settings). This addition of items that specify various capability levels, settings, and contexts will allow for a more comprehensive measure of willingness to work with older adults. In the current study, willingness to work with older adults will serve as one of the dependent variables.

CHAPTER 2: LITERATURE REVIEW

EFFECTS OF AN EDUCATIONAL INTERVENTION ON STUDENTS' KNOWLEDGE AND ATTITUDE TOWARDS WORKING WITH OLDER ADULTS

The demographics of the United States are rapidly changing, and more specifically an aspect of this change is a higher proportion of older adults. The current number of older adults is expected to almost double by 2030 and by 2050 older adults will account for one-fifth of the population of the United States (Crowther et al., 2012). Additionally, the growth varies when one considers the three age groups older adulthood is divided into: 65-74, 75-84, and 85 and older. While individuals aged 65-89 are expected to double by 2050, individuals who are 90 or above will more than quadruple by 2050 (Barnett & Quenzel, 2017). When considering rural areas in particular, older adults currently comprise 17.2% of the population (Stewart et al., 2015). This percentage is in contrast to suburban areas where older adults make up 15% of the population and urban areas where they comprise 13% of the population (Parker et al., 2018). This number is expected to continue to increase in the future due to factors such as retired individuals moving into rural areas while younger individuals move out and the continued aging of the baby boomers (Stewart et al., 2015). While this population continues to grow, specialized services for these groups, especially in rural areas, remain lacking or nonexistent. This is particularly problematic when considering mental health workers because research indicates that older adults living in rural settings are at a high risk of experiencing mental health issues (Crowther et al., 2012).

While it is estimated that between 10-25% of older adults living in rural areas have a diagnosable mental disorder, this population has minimal access to mental health services. Many factors contribute to these low rates of mental health service utilization, and they can broadly be categorized into three domains: availability, accessibility, and acceptability. Availability issues

may arise due to limited numbers of mental health providers in a rural area. This may lead to individuals either going without needed mental health services or relying on their general physicians to diagnose and treat mental health issues. Accessibility issues may be due to a number of factors, which include financial and transportation difficulties. When considering older adults, they report higher rates of poverty when compared with the general population, and these rates are even slightly higher for individuals living in rural areas (Stewart et al., 2015). Research indicates that rural older adults perceive the following five main themes as barriers they face to health care access: transportation, limited health care supply, lack of quality care, social isolation, and financial constraints. With regards to limited health care supply, research shows that not only are physicians in general difficult to recruit and keep in rural areas, but specialists are even more scarce (Goins, Williams, Carter, Spencer, & Solovieva, 2005). Acceptability is an important and somewhat unique factor that may limit access to mental health services. While both availability and accessibility account for much of the low utilization rates, they highlight more concrete barriers to access such as lack of services or inability to reach these services. In contrast, acceptability represents a barrier to access that is due to social and cultural norms that may inhibit an individual from viewing the use of mental health services as a positive or viable option. This way of thinking can often result from the stigma associated with mental health services, which may be especially salient in rural communities due to lower levels of knowledge about these issues and a culture that encourages self-sufficiency (Stewart et al., 2015).

Overall, given these trends, the need for additional workers in many areas including mental health, social work, and the medical field is growing. This need is only amplified in rural areas where the older adult population is growing at an increased rate and service providers are

already more difficult to access. Unfortunately, the older adult population is often overlooked and underserved. Research highlights a disinterest and even a dislike among professionals and emerging professionals when it comes to working with older adults (Boswell, 2012; Chonody et al., 2014). These rurality issues make the current study and subsequent work to both encourage individuals to consider working with older adults and understanding rural versus urban populations an important and a needed area of inquiry.

AGEISM

One potential source of difficulty in recruiting individuals to work with older adults is ageism. It is important to determine where ageism stems from, how it is maintained, and ways to overcome the barriers it produces. Professionals and emerging professionals need to be encouraged to consider working with older adults where there is a growing need for services in many areas (Parker et al., 2018; Stewart et al., 2015). Ageism is a unique form of prejudice that involves discrimination based solely on age. The construct of ageism includes negative stereotypes of, prejudice against, and discrimination towards individuals based solely on their age (Swift et al., 2017). When ageism is directed toward older adults it occurs against a group to which most individuals will eventually belong. Common negative stereotypical themes for older adults specifically include: reduced competence, absence of creativity, inability to acquire new skills, lack of productivity, burdensomeness, sickly, lonely, and socially isolated (Swift et al., 2017). When the average American is asked what they think about when they hear aging there are a number of negative stereotypes brought up including: illness, memory loss, inability to drive, end of sexual activity, loneliness and depression, and difficulty paying bills. In reality, these negative stereotypical events actually occur at lower levels than younger adults report expecting them to occur during aging (Taylor et al., 2009). Prejudice consists of ideas or beliefs

individuals may hold regarding older adults and the ways in which their functioning is affected by the aging process (Swift et al., 2017). Prejudices that someone might hold include the idea that older adults are unable to change or the belief that older adults will perform poorly on memory tasks. Finally, discrimination is some sort of behavior or action that results in harm or unfair treatment towards someone due to their age (Swift et al., 2017).

Despite the fact that we are all growing older, ageism is quite common (Martens, Goldenberg, & Greenberg, 2005). It is important to better understand how ageism develops as well as potential ways to combat it given its insidious effects on both the individuals who hold the attitudes and the individuals the attitudes are directed towards (Swift et al., 2017). Additionally, research shows that individuals (including students, teachers, and practitioners) who demonstrate either negative or indifferent attitudes towards older adults, as well as higher levels of ageism, demonstrate lower levels of reported interest in considering a career in the fields of geriatrics and gerontology (Boswell, 2012; Chonody et al., 2014). One explanation for this reluctance to work with older adults is due to the fact that they embody a future that in most cases is inevitable; death is assured and physical decline possible. The negative actions and attitudes that encompass ageism can be accounted for by fears regarding both the aging process and death. TMT offers a framework to help explain these fears as well as the ageist reactions they produce (Martens et al., 2005).

TERROR MANAGEMENT THEORY (TMT)

TMT was created within the realm of social psychology and integrates the observations of cultural anthropologist Ernest Becker regarding the uniquely human preoccupation with death. This preoccupation stems from the ability of humans to engage in the use of language, future-oriented thinking, and self-awareness. While these abilities provide advantages to the species,

they also enable humans to conceptualize their own mortality. Humans possess a strong drive to survive; the awareness of our own mortality creates a paradox within us. The fear of death must be suppressed in order to allow humans to function effectively in their environment (Harvell & Nisbett, 2016).

As a way to cope with the awareness and fear of death, culture was developed as a means of instilling human existence with meaning and significance. Culture encompasses the ideas, customs, and social behavior of a society (Harvell & Nisbett, 2016). Through culture, a common world view could be developed that provided life with meaning, was enduring across time, provided standards for individuals to live up to, and offered a hope of immortality. This could come in the form of literal or symbolic immortality. Literal immortality refers to the idea of an existence that endures after a physical death, often through a religious afterlife. Whereas symbolic immortality involves engaging in actions that are greater than one's personal existence and therefore allowing one to be remembered after a physical death (Harvell & Nisbett, 2016). Through the framework of culture, rituals were developed which provided a sense of control over the uncertainties of life. These rituals developed around beliefs that the group deemed important, and as time went on they became solidified into fixed cultural knowledge. However, these worldviews framed by cultural contexts are symbolic, so they cannot be directly observed or proven. In order to strengthen belief in them, one will seek out others who share and validate that belief system. When one encounters opposing worldviews, they are extremely threatening due to the fact that they bring the legitimacy of one's viewpoint into doubt. In addition to culture, self-esteem and close relationships also serve to protect the individual from the anxiety that occurs because of the awareness of one's mortality (Harvell & Nisbett, 2016).

TMT offers a framework to help understand these fears as well as the reactions they produce in individuals, including ageist attitudes and actions. Older adults serve as a salient reminder of both the aging process and our inescapable mortality (Martens et al., 2005). Less directly, older adults may also serve as symbols of physical decline and ailments. Regardless of whether or not these portrayals are accurate, older adults are often besieged by stereotypical depictions of their declining physical states through the media (Swift et al., 2017). Additionally, older adults represent the loss of attributes and abilities that are valued by society and contribute to a sense of self-esteem. Examples of these traits that are stereotypically diminished or lost include mental quickness, attractiveness, strength, and speed (Martens et al., 2005).

In the current study, TMT will be used as way to better understand a possible source of individuals' fear of aging and death as well as to inform the type of information that will be provided during our education session. This fear that exists stems at least in part from the perception that being an older adult (over age 65) is inevitably linked to physical decline and loss of valued traits. These perceptions are tied to stereotypes, misinformation, and ageist attitudes that individuals may possess. In turn, these ageist attitudes can manifest as individuals not wanting to work with older adults. Therefore, the current study will explore the extent to which ageist attitudes are influenced or related to factors such as openness and improved knowledge and attitudes in order to better understand and reduce ageism and increase willingness to work with older adults.

THE ROLE OF OPENNESS

While reminders of death are typically viewed as negative and threatening, leading to defensive reactions as explained by TMT, it is possible that certain personality traits may help individuals view reminders of death in a different way. One such personality trait is that of

openness to experience, which may help temper typical reactions to death due to its novelty. Additionally, varying levels of this trait may influence willingness to work with older adults and existing levels of ageist attitudes.

Openness to experience is described as the level to which individuals are inquiring and curious, amenable to a variety of experiences and ideas, and appreciative of novelty. This trait tends to be stable over one's lifetime, with a tendency to peak in early adulthood and then gradually decrease (Costa & McCrae, 1992). Based on the way in which individuals that are high in openness process information, they may be more likely to be receptive to new experiences, including death, due to their curiosity and interest in novelty. Research shows that higher levels of curiosity, along with high levels of openness, leads to lower reactivity in response to a mortality salience task (Boyd, Morris, & Goldenberg, 2017). This was assessed by asking participants to complete a questionnaire intended to evoke thoughts of death and then read a mock police report concerning a woman who was arrested and charged with prostitution. Next, participants were asked to recommend bail for the arrested women. Finally, participants were asked to complete a death thought accessibility task to investigate the relationship between suggested amount of bail and accessibility to death related thoughts. This research shows that increased levels of curiosity and openness does result in lower levels of worldview defense in reaction to a mortality salience task (Boyd et al., 2017). In their study investigating individual differences and their role in accounting for ageism within an undergraduate population, Allan et al. (2014) found that ageist attitudes were negatively correlated to levels of openness.

Overall, these findings pertaining to openness support the idea that individuals who are naturally high in openness may be more willing to work with older adults and hold lower levels of ageist attitudes. These findings led to the consideration of openness to experience as a

moderator in the current study. While openness has been investigated solely in relation to ageism, the role it plays in influencing both ageism and willingness to work with older adults has not yet been investigated.

THE ROLE OF KNOWLEDGE AND ATTITUDES

Generally, research in many areas shows that short-term educational interventions are effective in creating a significant positive impact on participants' knowledge, attitudes, and behaviors (Dalcin et al., 2011; Davis & Sherrod, 2015; Hughes et al., 2018; Karner, Rheinheimer, DeLisi, & Due, 1998; Kutcher, Lauria-Horner, MacLaren, Bujas-Bobanovic, & Karlovic, 2003; Mellor, McCabe, Rizzuto, & Gruner, 2015; Schellhase, Plant, & Mazerolle, 2017). Literature that applies specifically to older adults will be covered in the subsequent paragraph. The Dalcin et al., Davis & Sherrod, Kutcher et al., and Schellhase et al. references pertain to how more general short-term education experiences can result in positive changes in the variables of interest. Specifically, research shows that a 45 minute education session about adherence to asthma treatment, inhalation techniques, and asthma control results in improvements in the use of medications for asthma control and a decrease in the number of ER visits (Dalcin et al., 2011). Additionally, research demonstrates that a one hour education session about evidence-based breastfeeding for baccalaureate nursing students facilitates gains in the students' knowledge and attitudes with regards to providing breastfeeding support for new mothers (Davis & Sherrod, 2015). Research shows that a one hour education session about the epidemiology, neuro-biology, clinical presentation, diagnosis, and treatment of depression results in improvements in physicians' knowledge of depression (Kutcher et al., 2003). Lastly, research demonstrates that a three hour education session about exertional heat stroke and its treatment

results in improvements in attitudes and perceptions of athletic trainers about the assessment and treatment of exertional heat stroke in the short term (Schellhase et al., 2017).

Specifically, with regard to knowledge and attitudes related to older adults, research demonstrates that a short-term intervention results in a significant positive change in medical professionals' knowledge and attitudes towards this population and a reduction in levels of bias as well (Karner et al., 1998). This group of researchers utilized a two-hour experiential learning education program intended to increase knowledge and improve attitudes towards aging. Within the program, participants took part in an experiential aging simulation game designed to help them experience feelings similar to what older adults might face on a daily basis. Additionally, the program included clarification of common biopsychosocial misconceptions of aging through a viewing of film segments and discussion. They found that participants scored significantly higher at posttest than pretest on the Palmore's Facts on Aging Quiz, which indicated the program was effective in its short-term goal of increasing knowledge of issues and needs of older adults. Significant decreases in negative bias scores and significant increases in positive bias scores were also found using the same measure (Karner et al., 1998). The design of this program was similar to the current study's education session in that participants engaged in an education session designed to clear up common misconceptions about a variety of subjects related to aging and older adults. The current study did not include an experiential aging simulation as a part of the intervention in order to allow the full session to be completed in under an hour.

Research also shows that implementing a four-session curriculum into high school classes successfully develops understanding of and respect for older adults, and promotion of positive interactions with older people (Mellor et al., 2015). Within this program, participants received information on commonalities between themselves and older adults, how to show

respect for older adults, how to increase positive interactions with older adults, and raising awareness of common stereotypes and ageist attitudes. This research shows that adolescents who receive information through the educational workshop group report significantly greater knowledge, less negative bias, more positive attitudes, and improved social skills in relation to older adults from baseline to 6-month follow-up. The control group who did not receive the four-session educational curriculum on older adults did not demonstrate changes in these variables (Mellor et al., 2015). The design of this program was similar to the current study's education session in that participants engaged in an education session designed to bring awareness to and correct common stereotypes and ageist attitudes that participants might hold. The current study did not include discussion of how to show respect for older adults or communicate more effectively with older adults as a part of the intervention. This was to allow the full session to be completed in under an hour and for the focus of the session to be on willingness and attitudes towards working with older adults.

Finally, research shows that a short-term educational intervention focused on topics related to older adults delivered to medical students increases their willingness to consider a career in geriatric medicine (Hughes et al., 2008). The researchers requested that fourth year medical students complete The University of California at Los Angeles (UCLA) Geriatrics Attitudes Scale and answer a question regarding their willingness to consider a career in geriatric medicine. These measures were filled out before and after the completion of an intensive geriatric medicine training program. The program was an eight day experience during which students were trained on and assisted in running an acute geriatric assessment ward. Additionally, students were given daily tutorials on topics related to geriatric medicine and were asked to develop a project related to a special topic in geriatrics. These students did not

demonstrate a statistically significant improvement in their attitudes towards older adults upon completion of the training program. However, they demonstrated a statistically significant increase in their willingness to consider a career in geriatric medicine in the future as a result of the experience (Hughes et al., 2008). The design of this program was similar to the current study in that participants engaged in an education session and both prior to and after this session they were given questionnaires designed to measure their attitudes towards and intent to work with older adults. The current study did not include an extended training experience as a part of the intervention, but instead included a short term education session. This was to allow the full session to be completed in under an hour.

EMPATHY

Research shows that it is possible to improve attitudes for members of a marginalized group by bringing to mind empathy for a single member. Empathy can be brought about when individuals are asked to take on the perspective of a member of a stigmatized group and envision how their life is impacted by their situation (Coke, Batson, & McDavis, 1978). Research has demonstrated that it is possible to bring about empathy for individuals who are addicted to drugs as well as increase helping behaviors towards that group (Batson et al., 2002). Helping behavior was measured by the amount of government money participants suggested should be given to a program meant to assist individuals addicted to drugs at the cost of other outreach programs. Participants were asked to listen to a recorded interview with a 22-year-old male who was said to be in prison for the use and sale of heroin. Across the two conditions, one group was instructed to maintain objectivity while listening to the interview while the other group was asked to imagine the feelings of the subject of the interview. Individuals who were instructed to imagine the feelings of the interviewee reported experiencing more positive attitudes than those who were

instructed to remain objective. Additionally, participants who were instructed to imagine the feelings of the subject of the interview recommended more funding be given to the program that assists individuals addicted to drugs (Batson et al., 2002). These findings support the idea that empathy can successfully result in both higher levels of positive attitudes and higher levels of helping behaviors towards marginalized groups. As a natural beginning to our session, participants will be asked to try to imagine how older adults feel about common misconceptions and how they affect their lives. This statement will be heard before participants begin learning facts about older adults and aging.

CURRENT STUDY

HYPOTHESES.

The overall goal of this study is to increase the level of willingness to work with older adults. The objective is to evaluate the efficacy of increasing knowledge about older adults through a short-term education session as a means to increase willingness to work with older adults. Additionally, we will evaluate the impact on knowledge and ageist attitudes. We will also investigate the extent to which openness to experience and plans to reside in a rural versus urban setting correlate with willingness to work with older adults. Based on previous research, the current study hypotheses are:

1. There will be an increase in reported willingness to work with older adults after the education session. We hypothesize that after experiencing the short-term educational session, participants' scores on willingness items will significantly increase. This hypothesis is supported by research that demonstrates similar experiences resulted in higher levels of willingness to work with older adults (Hughes et al., 2008).
2. Participants who are higher in levels of innate openness will display higher levels of willingness as measured at baseline. This hypothesis is supported by findings that higher

levels of the trait of openness are associated with lower levels of defensive responses to reminders of death and ageism (Allan et al., 2014; Boyd et al., 2017).

3. Scores on the Ambivalent Ageism Scale will significantly decrease, and scores on the Facts on Aging Quiz Revised will significantly increase, after participants experience the education session. Additionally, individuals who are higher in levels of innate openness will display lower levels of ageism as measured at baseline. This hypothesis is supported by research that shows similar experiences resulted in higher levels knowledge about issues related to aging and older adults' needs and higher levels of the trait of openness is related to lower levels of defensive responses to reminders of death and ageism (Allan et al., 2014; Boyd et al., 2017; Karner et al., 1998; Mellor et al., 2015).
4. We will see a significant positive correlation between levels of willingness to work with older adults at baseline and intent to live and work in a rural as opposed to an urban setting at baseline. Additionally, we will see a significant positive correlation between levels of willingness to work with older adults after the education session and intent to live and work in a rural as opposed to an urban setting after the session. This hypothesis is supported by findings that there are fewer job options available to residents in rural areas, as well as a higher proportion of older adults residing in rural places. Therefore participants who intend to reside in rural settings are expected to exhibit a greater willingness to work with older adults compared to participants who intend to reside in urban settings (Barnett & Quenzel, 2017; Parker et al., 2018; Stewart et al., 2015).

CHAPTER 3: METHODS

PARTICIPANTS

The participants were undergraduate students from a Southeastern university. Boswell (2012) and Chonody et al. (2014) used a similar population in their studies investigating willingness to work with older adults. The participants were recruited via an interactive website known as SONA, which is a system that allows students to view descriptions of and sign up for research studies. In order to be included in the study, individuals had to be a currently enrolled undergraduate student and over the age of 18. There were no additional exclusion criteria. They received course and/or extra credit for participating in the study. The initial sample consisted of 225 participants.

After screening to exclude individuals who did not pass the manipulation check (described below in the Materials section) and those with substantial missing data, which was defined as participants who were missing more than six items on a given measure, a total of 207 participants were included in the final sample. Of the remaining 207 participants, those with missing data on specific measures were not included in the analysis of those measures. The participants ranged in age from 18 to 29 with an average age of 19.4 years ($SD = 1.75$ years) and the majority of the respondents were women (63.3%, $n = 131$). The sample consisted of participants who identified as African-American/Black (34.3%, $n = 71$), Asian/South-Pacific (1.9%, $n = 4$), Caucasian/White (54.1%, $n = 112$), Hispanic/Latin American (4.8%, $n = 10$), Middle-Eastern/Persian (.5%, $n = 1$), Native American (.5%, $n = 1$), and those who identified themselves as Other (3.9%, $n = 8$).

MATERIALS

Education Session. All participants were presented with a 20-minute education session inspired by material from the Facts on Aging Quiz Revised and “Myths and Realities of Aging” by Salzman (2006), and the previously reviewed similar sessions conducted by Karner et al. (1998), Hughes et al., (2008), and Mellor et al. (2015). The education session covered facts on older adults and aging meant to clear up common misconceptions that individuals may hold. The entirety of the education session can be found in Appendix A.

MEASURES

The dependent variables included measures of knowledge of older adults, ageism, willingness to work with older adult populations, and intent to work in a rural area. All of these measures were administered pre/post; both before and after the education session. A demographics questionnaire was administered at the end of the data collection sessions. The selection of items from the Facts on Aging Quiz Revised that informed the education session was used as a dependent variable to measure knowledge. These items, in addition to other items that pertain to information covered during the session, were also used as part of the manipulation check to ensure the participants were paying adequate attention during the session.

Facts on aging quiz revised. This is a 50-item measure developed to assess existing knowledge of the most common misconceptions about older adults and the aging process (see Appendix B). The Facts on Aging Quiz Revised is modeled after Palmore’s Facts on Aging Quiz Parts One and Two that were published in 1977 and 1981 respectively. Half of the questions on this current revision come directly from Palmore’s quizzes with minor rewording and updating. The other half of the questions reflects topics that have become more prominent since the creation of the original quizzes. The Facts on Aging Quiz Revised can be used to help identify

misconceptions about the aging process (Breyspraak & Badura, 2015). A selection of 16 of the 50 questions from the full Facts on Aging Quiz Revised were used both as a pre-posttest to assess participants' knowledge of older adults and aging as well as a manipulation check. Those 16 items are bolded in Appendix B. In the current study the subset of items from the scale used to measure participant knowledge had questionable internal consistency as evidenced by a Cronbach's alpha of .544 at pre-test and .489 at post-test.

Ambivalent ageism scale. This is a 13-item measure designed to assess levels of benevolent and hostile ageism (see Appendix C). This measure was developed by Cary et al. (2017) and has been shown to demonstrate a test-retest reliability of $r = .80$ and a reported Cronbach's alpha of .91. This scale includes nine benevolent items and four hostile items. All items are rated on a 7-point, Likert-type scale (1 = *Strongly Disagree*, 7 = *Strongly Agree*). In the current study the scale had acceptable internal consistency as evidenced by a Cronbach's alpha of .824 at pre-test and .858 at post-test.

Five Factor Model Rating Form (FFMRF) - Openness versus Closedness to one's own Experience scale. This scale is taken from a 30-item measure of the big five personality domains. The openness versus closedness to one's own experience scale is a 6-item subscale (see Appendix D). The FFMRF has a reported median Cronbach's alpha of .72 across all scales and a Cronbach's alpha of .63 for the openness to one's own experience scale specifically (Widiger, 2004). All items are rated on a 5-point, Likert-type scale (1 = *Extremely Low*, 5 = *Extremely High*). In the current study the scale's internal consistency was questionable with a Cronbach's alpha of .513 at pre-test and .536 at post-test.

Willingness. Participants rated their willingness, comfort, and desire to work with older adults of varying capabilities and in various settings by answering nine items using a 7-point,

Likert-type scale with various anchors. Some of these questions were based on items used in similar studies by Boswell (2012), Chonody et al. (2014), Eshbaugh et al. (2010), Hughes et al. (2008), and Woodhead et al. (2013). Additional items were included to provide for a broader assessment of willingness to work with older adults (see Appendix E for the current measure and items from the literature). In the current study the scale had acceptable internal consistency as evidenced by a Cronbach's alpha of .879 at pre-test and .901 at post-test. It is important to note that this is not an existing measure with psychometrics, but instead a collection of items including one used previously in the literature and additional items added by the current researchers.

Demographics. Participants were asked to complete a demographic questionnaire that gathered information regarding age, sex, race, socioeconomic status, religious affiliation, college classification, and major (see Appendix F).

The demographics questionnaire also included items pertaining to their prior experience interacting with and working with older adults, the quality of their previous relationships with older adults, their aging-related course history, information on the area they grew up in (population density, size, zip code), and information on the area they wish to live in once they graduate. The definition for what areas are considered urban, suburban, or rural comes from Ratcliffe, Burd, Holder, and Fields (2016). This information may be used to explore possible covariates of willingness to work with older adults.

Rural Vs. Urban Intent. Participants rated their intent to work and live in a rural setting as compared to an urban setting. This question was taken from one used by Kirschbaum, Khalil, Talyor, and Page (2016) in their research investigating pharmacy students' intentions to practice rurally (see Appendix G).

Manipulation check. The selection of items from the Facts on Aging Quiz Revised and additional questions based on session content was used as a manipulation check to ensure that participants were attending to the material presented during the education session. Data was not used from participants who scored lower than 70% (i.e., who answer fewer than 12 of the 16 questions correctly) on this measure.

PROCEDURE

Participants were recruited via SONA, and were prompted to sign up for an available time slot to attend an in-person session to complete the study. Participants were run in groups of no more than 15, which is comparable to the size of the groups used by Karner et al. (1998) in their in-person education sessions. They arrived at a designated location and were presented with an informed consent document by the researcher and/or the trained research assistants. Those who choose to participate provided their consent by signing an informed consent document and returning it to the researcher, and they were offered an additional copy to keep for their records. Participants then completed the Palmore's Facts on Aging Quiz Revised, followed by the Ambivalent Ageism Scale, Openness versus Closedness to one's own Experience scale from the Five Factor Model Rating Form, willingness items, and a question about their plans to work in rural versus urban settings. They were then presented with the education session material, which took approximately 20 minutes. Next, they completed all of the aforementioned measures again with the addition of a demographics questionnaire. Finally, the participants were thanked for their participation and released.

CHAPTER 4: RESULTS

The first hypothesis stated that there would be an increase in willingness to work with older adults after the education session. Additionally, the second hypothesis stated that participants higher in levels of innate openness would display higher levels of willingness as measured at baseline. A two-way 2 (time [pre, post]) x 2 (openness [high, low]) mixed analysis of variance (ANOVA) was used to address those hypotheses. This test was run twice, the first analysis used only the established and previously used willingness item (Eshbaugh et al., 2010), and the second analysis used an overall score for willingness that included all nine of the willingness items.

When examining willingness using the single established item used by Eshbaugh et al. (2010), there was not a significant main effect of time as participants did not indicate a higher level of willingness to work with older adults in their future career after the education session than they did prior to the education session, $F(1, 205) = 1.95, p = .164, \text{partial } \eta^2 = .009$. There was also not a significant main effect of innate openness on willingness as measured by the Eshbaugh et al. (2010) item, $F(1, 205) = .083, p = .773, \text{partial } \eta^2 = .000$. Additionally, the interaction between time and levels of innate openness on individuals' level of willingness to work with older adults as measured by the single willingness item was also not significant, $F(1, 205) = 2.71, p = .101, \text{partial } \eta^2 = .013$.

When examining willingness using the overall score for willingness, there was a significant main effect of time such that participants indicated a higher level of overall willingness to work with older adults after the education session ($M = 44.34, SD = 9.81$) than they indicated prior to the education session ($M = 43.11, SD = 9.52$), $F(1, 205) = 12.67, p < .001, \text{partial } \eta^2 = .058$. Partial eta squared values suggest small practical significance of engagement in

the education session on increasing willingness to work with older adults. There was not a significant main effect of innate openness on overall willingness, $F(1, 205) = .75, p = .388$, partial $\eta^2 = .004$. Additionally, the interaction between time and levels of innate openness on individuals' level of willingness to work with older adults was also not significant, $F(1, 205) = .56, p = .455$, partial $\eta^2 = .003$.

To further explore the impact of the education session on willingness to work with an older adult population we conducted an additional series of 2 x 2 ANOVAs with time and openness on the sets of willingness items (see Tables 1-4).

Table 1. Analysis of Variance (Willingness to Work with OA Coworkers – Questions 2, 3)

	<i>df</i>	MS	F	<i>p</i>	Partial η^2
Time (A)	205	.01	.01	.936	.000
Openness (Pre) (B)	205	14.31	1.76	.186	.009
A*B	205	.75	.59	.442	.003

Note. MS = Mean squares. * $p < .05$. ** $p < .001$.

Table 2. Analysis of Variance (Willingness to Work with OA Clients – Questions 4, 5)

	<i>df</i>	MS	F	<i>p</i>	Partial η^2
Time (A)	205	.18	.10	.751	.000
Openness (Pre) (B)	205	5.30	.48	.491	.002
A*B	205	.95	.55	.461	.003

Note. MS = Mean squares. * $p < .05$. ** $p < .001$.

Table 3. Analysis of Variance (Willingness to Work with Active OAs – Questions 6, 7)

	<i>df</i>	MS	F	<i>p</i>	Partial η^2
Time (A)	205	18.42	13.25	.000**	.061
Openness (Pre) (B)	205	5.21	.47	.492	.002
A*B	205	2.65	1.91	.169	.009

Note. MS = Mean squares. * $p < .05$. ** $p < .001$.

Table 4. Analysis of Variance (Willingness to Work with Frail OAs – Questions 8, 9)

	<i>df</i>	MS	F	<i>p</i>	Partial η^2
Time (A)	205	39.90	20.34	.000**	.090
Openness (Pre) (B)	205	6.01	.31	.577	.002
A*B	205	.05	.02	.879	.000

Note. MS = Mean squares. * $p < .05$. ** $p < .001$.

Specifically, the four sets of items examined were: desire and comfort working in their future career with older adult co-workers, desire and comfort working in their future career with older adult clients, desire and comfort working in a field exclusively associated with working with an active older adult population, and desire and comfort working in a field exclusively associated with working with a frail older adult population. Notably, the significant main effect of time found when the overall willingness score was examined appears to have been driven by a statistically significant change in two particular subsets of the willingness items. These subsets were: participants' willingness to work in a field that is exclusively associated with working with

an older adult population that is active as well as their willingness to work in a field that is exclusively associated with working with an older adult population that is frail. For the subsets of questions regarding participants' desire and comfort working in their future career with older adult co-workers and their desire and comfort working in their future career with older adult clients, no statistically significant change was observed.

The third hypothesis stated that scores on the Ambivalent Ageism Scale would significantly decrease, and scores on the Facts on Aging Quiz Revised would significantly increase, after participants experienced the education session. Additionally, it was expected that participants higher in innate openness would demonstrate lower initial levels of ageism. A two-way 2 (time [pre, post]) x 2 (openness [high, low]) mixed ANOVA was used to address this hypothesis. Additionally, a paired samples t-test was used to compare participants' scores at pre and post-test on the Facts on Aging Quiz Revised. There was a significant main effect of time such that participants indicated lower levels of ageism after the education session ($M = 35.74$, $SD = 10.88$) than they indicated prior to the education session ($M = 40.87$, $SD = 10.61$), $F(1, 205) = 123.4$, $p < .001$, partial $\eta^2 = .376$. Partial eta squared values suggest large practical significance of engagement in the education session on decreasing reported levels of ageism among participants. There was not a significant main effect of innate openness on ageism scores $F(1, 205) = .65$, $p = .421$, partial $\eta^2 = .003$. Additionally, the interaction between time and levels of innate openness on individuals' reported level of ageism was also not significant $F(1, 205) = .07$, $p = .791$, partial $\eta^2 = .000$.

In the paired sample t-test used to compare participants' score at pre and post-test on the subset of questions from the Facts on Aging Quiz Revised examined during the education session, time did affect participants' scores, $t(205) = 30.60$, $p = .001$, Cohen's $d = 2.12$.

Participants demonstrated higher levels of knowledge as represented by their scores on the Facts on Aging Quiz Revised after the educational intervention ($M = 15.3$, $SEM = .08$) compared to before the educational intervention ($M = 9.87$, $SEM = .18$). Cohen's effect size values suggest large practical significance of engagement in the education session on increasing participants' levels of knowledge about older adults and older adulthood.

The fourth hypothesis stated that we would see a significant positive correlation between willingness to work with older adults in participants who plan to live and work in a rural setting compared to those who plan to reside in an urban setting. Pearson correlation coefficients were used to determine whether there was a relationship between willingness to work with older adults and intent to live and work in a rural setting. These analyses were run with both the single willingness item and the overall willingness score at both pre and post-test. There was not a significant correlation between the single willingness item and pre intent to live and work in a rural setting, $r(205) = .10$, $p = .144$. However, there was a significant positive correlation between the overall willingness score and pre intent to live and work in a rural setting, $r(205) = .17$, $p = .010$. There was also a significant positive correlation between the single willingness item and post intent to live and work in a rural setting, $r(205) = .19$, $p = .006$. Additionally, there was a significant positive correlation between overall willingness and post intent to live and work in a rural setting, $r(205) = .29$, $p = .001$. Correlations were also computed among the study's main variables of openness, ageism, and the total willingness score at pre-test (see Table 5).

Table 5. Correlations of Primary Variables

	Ageism (Total, Pre)	Openness (Total, Pre)	Willingness (Total, Pre)
Ageism (Total, Pre)		.005	-.161*
Openness (Total, Pre)			.057
Willingness (Total, Pre)			

Note. * $p < .05$.

CHAPTER 5: DISCUSSION

The current study involved a short-term education session as a means to increase willingness to work with older adults. The goal of the study was to determine if a short-term education session was able to bring about a change in the level of knowledge about older adults, and in self-reported levels of willingness to work with older adults. We also were interested in the impact this session would have on participants' self-reported ageist attitudes. Finally, we wanted to investigate the relationship of openness to experience and intent to reside in a rural versus urban setting upon graduation on participants' willingness to work with older adults. Overall, we found that after engaging in a roughly 20 minute education session about facts on older adults and aging, current and projected population numbers for older adults in the United States, and information about where older adults live, participants reported higher levels of knowledge relating to older adults as well as broad willingness to work with older adults, and lower levels of ageist attitudes.

CHANGES IN WILLINGNESS SCORES

Participants reported higher levels of overall willingness to work with older adults after the education session as demonstrated by their total scores on our nine-item willingness measure. This was consistent with findings from Hughes et al. (2008) in which medical students who completed a short-term educational intervention focused on topics related to older adults demonstrated a statistically significant increase in their willingness to consider a career in geriatric medicine in the future. Hughes and colleagues measured willingness with an item that asked participants to rate the likelihood that "In the future" [they] "would consider a career in geriatric medicine." These findings are also in line with other research that short-term interventions can result in positive changes in participants' knowledge and attitudes, as well as

reductions in reported levels of bias towards older adults (Karner et al., 1998; Mellor et al., 2015).

The information provided in the education session was designed to provide participants with more accurate knowledge about gerontology. This increase in accurate knowledge may have led to reductions in self-reported bias, and in turn the observed increase in reported willingness to work with older adults in hypothetical situations. In addition to our overall willingness question that was taken from Eshbaugh et al. (2010), we had four subsets of questions which explored more specific elements of participants' willingness. We wanted to better understand the impact of the education session on participants' willingness to work with an older adult population in various settings and situations; to accomplish this we examined these four subsets of questions independently. Specifically, the four domains examined were: desire and comfort working in their future career with older adult co-workers, desire and comfort working in their future career with older adult clients, desire and comfort working in a field exclusively associated with working with an active older adult population, and desire and comfort working in a field exclusively associated with working with a frail older adult population.

After analyzing these four subsets of willingness, we did observe some differences in participants' willingness across the four areas. Participants did report statistically significant changes in their willingness to work in a field exclusively associated with an older adult population that is active as well as with an older adult population that is frail. However, participants did not report statistically significant changes in their willingness to work in their future career with older adult coworkers or older adult clients. One possible explanation for the lack of change in these scores could be that participants' willingness in those areas was already

relatively high. However, based on participants' reported scores on these items it appears this is not the case due to the fact that the mean totals for these item pairs fell at, or just above, the neutral level on our 7-point, Likert-type scale. Another possibility is that the way the sets of willingness items were worded may have influenced participants' response patterns. The items they did not report statistically significant changes on asked them to "imagine yourself working in your future career" working with older adults coworkers and older adults clients. In contrast, they did demonstrate statistically significant changes on the items that requested they "imagine yourself working in a field" with active and frail older adults. Perhaps the differences in reporting willingness can be attributed to the implications of the phrasing of those sets of questions. Participants appeared to be more receptive to imagining themselves working with older adults in "a field" than they were to imagining working with older adults in "their future career." This difference might be due to a divergence between what participants were willing to imagine themselves doing versus what they actually plan to do in the future.

As mentioned above, participants did report statistically significant changes in their willingness to work in a field that is exclusively associated with working with an older adult population that is active as well as to work in a field that is exclusively associated with working with an older adult population that is frail. It is possible that their understanding of what working with active and frail older adults might look like was changed as a result of the education session. Prior to participating in the session, participants' view of working with older adults might have been skewed by the misconceptions they held about older adults and the aging process. After participants engaged in the education session, their accurate knowledge about gerontology may have increased because of the information presented. Following the education session, they may have held a more accurate and balanced view of older adults and the aging

process. This increase in accurate knowledge could have contributed to the observed increase in willingness to work with both active and frail older adults. For example, after the session they knew that most older adults do not have Alzheimer's disease, most older adults are still able to be productive and contributing members of society in a variety of ways (e.g., working, volunteering, and participating in clubs), and mental health concerns such as depression and suicide are no more common among this population than other age groups.

Through engagement in our short-term education session, participants increased their knowledge about older adults and older adulthood. Research has shown that young adults often hold inaccurate beliefs about older adults and stereotypical events associated with aging (Taylor et al., 2009), and the information provided during the education session was aimed at clearing up some of these common myths. We took steps to ensure that our education session content was structured in a way that was developmentally appropriate for its intended audience, specifically undergraduate students. This was accomplished by selecting topics relevant to the misconceptions about aging this age group may hold. Additionally, we attempted to present our material in a way that was engaging and impactful enough to be memorable after the presentation. Specifically, those who presented the session were trained to present the material clearly, at an easily followed pace, and with enthusiasm. We also covered information about future job prospects, which is very salient to current undergraduate students given the current job market, especially for those considering remaining in rural areas where job markets are more limited. Lastly, empathy was encouraged by delivering a statement prior to the education session adapted from Coke et al. (1978), which asked participants to take on the perspective of older adults and envision how their lives are impacted by common misconceptions about aging.

The current findings, in combination with the aforementioned previous research findings, demonstrate the importance of providing individuals with accurate information about gerontology in order to not only reduce misconceptions, bias, and ageist attitudes, but also as a means to increase willingness to work with a quickly growing and underserved population that individuals often report not wanting to work with. It is worth highlighting that the greatest area of need is in areas of employment where individuals work exclusively with an older adult population and that the current study revealed significant improvements in willingness to work in that specific area; notably with both active and frail older adults.

We also found a significant positive correlation between willingness to work with older adults and planning to live and work in a rural setting, compared to those who plan to live and work in an urban setting. Specifically, we found significant positive correlations between willingness to work with older adults and intent to live and work in a rural setting compared to those who plan to reside in an urban setting at both pre and post-test. These findings were consistent with information which suggests that due to larger populations of older adults in rural areas, the increasing need for workers to serve this population in various capacities, and fewer job options available to residents in rural areas, these individuals might have a greater willingness to work with this population (Barnett & Quenzel, 2017; Parker et al., 2018; Stewart et al., 2015). Previous findings, combined with the findings from the current study, exhibit the importance of not only providing individuals with accurate information about older adults and the aging process, but also about the population growth associated with older adults and the implications for employment prospects. This education may be especially salient in areas with fewer job options available to residents such as rural locations.

Jang, Oh, and Kim (2019) found nursing students from both the United States and Korea noted the factors that were most meaningful when it came to determining their willingness care for older adults were: anxiety about aging, the quality of the contact they had with older adults, their attitude towards older adults, and their level of empathy for older adults. Additionally, they found quality of contact and empathy for older adults was positively correlated with willingness to work with older adults; attitudes and aging anxiety were negatively correlated with willingness. These researchers measured willingness with the Care Willingness to the Elderly Scale, a measure comprised of five items in a 5-point Likert-type scale, with higher scores indicating a higher willingness to care for older adults.

CLINICAL IMPLICATIONS

These findings contribute to existing literature supporting the effectiveness of education about gerontological findings in increasing accurate knowledge, decreasing bias, and increasing willingness to work with older adults (Hughes et al., 2008; Karner et al., 1998; Mellor et al., 2015). For geriatric and gerontology educators as well as individuals currently providing care or services to older adults, it can be difficult to understand the disinterest in working with this population. Even more troubling, it can be hard to know what the most effective strategies are for combating these attitudes. The current study provides a possible avenue through which this prevalent disinterest can be addressed. In particular, by delivering a short-term educational intervention aimed at reducing misconceptions, increasing knowledge, and providing information about population growth and career opportunities individuals may become more receptive to the idea of working with older adults. These interventions could be implemented in various settings including classrooms and places of employment (e.g., hospitals, law firms, etc.) with minimal time or financial burden placed on organizations.

Furthermore, the positive effects of correcting these inaccurate but commonly held beliefs, especially among young adults (Taylor et al., 2009), speaks to the importance of this information being disseminated in a more wide-spread manner. If this information was introduced into educational settings at various levels (e.g., grade school, high school, and higher education) these inaccurate beliefs could be combated both earlier and throughout development. In higher education settings, especially those that are training individuals to work in various helping professions, it is essential that this information be presented as a means of encouraging individuals to consider working with older adults. This is a pressing and growing need in the United States and around the world. In the United States alone, the population of older adults is expected to almost double by 2030 and by 2050 older adults will account for one-fifth of the population (Crowther et al., 2012). When considering the growth worldwide, by 2050, one in six people will be over age 65, an increase from one in 11 in 2019. The population of adults 65 years or over is projected to double between 2019 and 2050 in areas including: Northern Africa, Western Asia, Central and Southern Asia, Eastern and South-Eastern Asia, Latin America, and the Caribbean (United Nations, 2019).

AGEISM

The education session also resulted in participants reporting lower levels of ageism as demonstrated by their scores on the Ambivalent Ageism Scale. This was consistent with findings from Boswell (2012) and Chonody et al. (2014) who indicated that individuals who report either negative or indifferent attitudes towards older adults, as well as higher levels of ageism, demonstrate lower levels of reported interest in considering a career in the fields of geriatrics and gerontology. Ageism in its various forms is quite common in our population despite the ever increasing population of older adults. The framework of TMT helps us understand the basis of

these fears as well as the ageist reactions they produce (Martens et al., 2005). While ageism can be quite harmful, it is important to remember it is a response to something we do not necessarily fully understand and therefore often fear.

Current research reveals that levels of ageism are influenced by various factors including: participants' gender, participation in trainings related to older adults, age of participants, and prior contact with older adults (Gök Uğur & Hendekci, 2019; Toygar & Kardakovan, 2020). Burnes et al. (2019) conducted a meta-analysis to assess the effectiveness of various interventions to reduce ageism. Overall they found that these interventions resulted in statistically significant changes in participants' attitudes and knowledge, which were the most commonly used ageism outcome categories. Of the three types of interventions examined (education-only, intergenerational-only, and combined), it was found that combined interventions that included both education and intergenerational contact demonstrated the largest impact on participant attitudes, followed by education-only, and intergenerational-only. When considering knowledge, it was shown that intergenerational-only interventions demonstrated the largest impact on participant knowledge, followed by education-only. The effect of combined interventions on knowledge did not reach statistical significance. Additionally, certain populations including females and young adults were shown to exhibit particularly strong increases in knowledge and attitudes when compared with other groups (Burnes et al., 2019).

When considering the nature of the items included in the Ambivalent Ageism Scale, they get at common misconceptions and stereotypes that individuals hold about the aging process including the prevalence of health issues, ability of older adults to work and take care of themselves, and the need to protect older adults. The content of our education session was designed to combat common misconceptions regarding older adults and provide accurate

information on these topics. While there were many subjects we could have covered during the education session, using this strategy to narrow our focus allowed the education session to be both impactful as well as parsimonious.

These previous findings, combined with the findings of the current study, demonstrate the importance of increasing individuals' knowledge of older adults and the aging process as a means to combat ageism and ageist attitudes. The current findings contribute to existing literature supporting the effectiveness of educational interventions to reduce levels of ageism, and in turn to increase willingness to work with older adults. Based on existing research, this sort of education may be especially effective in creating change when delivered to young adults. This speaks to the necessity of incorporating this category of knowledge into educational settings at various levels as a part of regularly taught curriculum.

Reducing levels of ageism in the general population has implications for both the individuals who these attitudes target, as well as for the individuals who hold these attitudes. For older adults, ageist attitudes that become relevant to the self put them at risk of negative outcomes such as lower levels of life satisfaction, physical health and functioning, physical activity, and mortality. These individuals may also be deprived of access to particular goods, services, or treatments either in an indirect or direct manner due to their age and how it is perceived (Swift et al., 2017). Because of these negative outcomes, it is also important to work to implement strategies to minimize ageism in individuals who already have contact with older adults as a part of their jobs. Finally, by reducing levels of ageism among the general population, a possible long-term effect may be a reduction in the prevalence of ageist stereotypes in the media and our culture as a whole. By decreasing the occurrence of ageist attitudes, they will be less likely to be internalized as the population ages, making future generations of older adults

less vulnerable to the negative health and social outcomes that can come about from encounters with ageism in their day-to-day lives.

Clinically speaking, reductions in ageist attitudes could potentially have many positive impacts for individuals. For older adults who may already be experiencing ageism in some capacity in their day-to-day lives, the research suggests that these changes could have positive outcomes on areas such as physical health, mental health, and life satisfaction. Additionally, if the general public is more informed about the aging process and what older adulthood actually looks like, these individuals might experience reductions in the effects of stereotype threat, which can cause anxiety and negatively influence performance on a variety of tasks including memory, cognitive performance, driving, and physical strength (Swift et al., 2017). For all members of our society, being more informed about the aging process and holding fewer ageist attitudes could provide a pathway to lower levels of death anxiety due to more accurate knowledge being held. In addition, society could benefit from more successful and positive aging experiences if age is able to be viewed more accurately and with less stigma and fear.

OPENNESS

In our current study, it was hypothesized that participants higher in levels of innate openness would demonstrate lower initial levels of ageism. This hypothesis was not supported. Participants did not demonstrate statistically significant differences in levels of ageism as a function of their innate openness to experience. While openness was operationally defined in similar ways across our study and the previous studies mentioned, it is possible that the way the relationship between openness and ageism was measured within our study differed enough from how prior studies measured it to account for the divergent findings. Within the two previous studies, participants were asked to complete the personality measures in their entirety, rather than

only the openness scale as in our study. This could have impacted the way participants thought about their personality due to being prompted to consider it holistically rather than considering a single facet.

Previous studies that considered openness to experience (Allan et al., 2014; Boyd et al., 2017) with relation to older adults and ageism, as well as our study, operationally defined openness in similar ways (e.g., entailing elements including curiosity, ingenuity, and interest in novelty). However, as noted above, that the way in which the current study measured the personality trait of openness to experience differed from these prior studies. Allan et al. (2014) used the NEO Five Factor Inventory (NEO-FFI), which a 60-item measure with 12 of the items assessing for level of openness. While Boyd et al. (2017) used the Ten-Item Personality Inventory (TIPI), which is a ten item measure with two of the items assessing for level of openness. The measure used within our study was the Five Factor Model Rating Form (FFMRF), which is a 30-item measure with six of the items assessing for level of openness.

Additionally, the current study measured ageism using the Ambivalent Ageism Scale, a 13-item measure. In contrast, Allen et al. (2014) did not directly measure ageism, but instead used mortality salience and death thought accessibility tasks to examine the impact of openness on participants' defensiveness in response to mortality reminders. Boyd et al. (2017) utilized the Fraboni Scale on Ageism, which is a 23-item measure. Finally, neither Allan et al. (2014) or Boyd et al. (2017) directly measured participants' willingness to work with older adults, so that was a component unique to this study. So, divergences between the current study's findings and those of Allan et al. (2014) and Boyd et al. (2017) might also be due in part to these differences in measures.

Additionally, in our study it was hypothesized that participants higher in levels of innate openness would demonstrate higher initial levels of willingness to work with older adults. This hypothesis was also not supported. Participants did not demonstrate statistically significant differences in levels of willingness as a function of their innate openness to experience. These null findings could be due to the way openness was measured in our study. As previously mentioned, our study used a different measure of openness than previous researchers. It is also possible that openness to experience could potentially positively influence the ageist attitudes people hold, but have no effect on their actions and, as a result, their willingness to work with older adults.

Within the two previous studies, (Allan et al., 2014; Boyd et al., 2017) participants' willingness to work with older adults was not directly investigated. While openness had been examined exclusively in conjunction with ageism, the impact it could potentially have in influencing willingness to work with older adults had not yet been investigated. However, Allan et al. (2014) demonstrated that for an undergraduate population, ageist attitudes were negatively correlated with levels of openness. Additionally, Boyd et al. (2017) showed that higher levels of curiosity and openness resulted in lower levels of worldview defense in response to a mortality salience task. These findings point to personality traits, and more specifically openness to experience, as relevant when it comes to the application of Terror Management Theory and individuals' responses to death reminders and related cues.

Given the mixed results of previous findings and the current study, further research into the personality trait of openness to experience should be considered. Based on previous research, openness shows potential to have an impact on ageism and potentially in turn, willingness to work with older adults. More studies are needed to determine if the null findings of the current

study are accurate, or if this variable can be of use in the areas of gerontology, ageism, and willingness to work with this population. If further research shows that openness to experience does have an effect on these constructs, it warrants further exploration to determine why that is and if there are ways to enhance state openness to experience.

Increasing state openness might serve as a means to help facilitate viewing older adults in a more accurate light as well as the possibility of working with them. Schutte, Malouff, Segrera, Wolf, and Rodgers (2003) showed that it is possible to induce change in levels of openness in individuals using an experimental manipulation. They were able to temporarily increase a state, or feeling, of openness as evidenced by participants' pre and post scores on the Big Five State measure. This was accomplished by having participants read statements related to openness and then spend ten seconds imagining what was described in each item. For ethical reasons, the statements were intended to shift the state in what was viewed as a more desirable direction. For example, one of the requests was for the participants to "Visualize yourself eating a food that you have never tried before." This finding pertaining to openness supports the idea that temporarily inducing openness may present similar buffering effects against death-related anxiety as seen in those naturally high in openness.

LIMITATIONS

When considering the implications of the current study, it is important to keep a few limitations in mind. First, due to time and resource constraints, there was no control group included to help account for alternative explanations for our findings. Specifically, future research with a control group could allow more concrete conclusions to be drawn about the findings. If a similar study was conducted that included a control group, the researchers would be able to state more confidently that any observed changes were due to the effect of the educational

session rather than unknown extraneous variables. Also, a median split was used to divide the continuous variable of openness to experience as measured by the Five Factor Model Rating Form (FFMRF) - Openness versus Closedness to one's own Experience scale into two groups of "high" and "low." A better approach to assessing the influence of openness might have been to consider using a more comprehensive measure of the construct, such as the NEO Five Factor Inventory (NEO-FFI), as previous studies have done. This measure could have allowed the construct to be captured more effectively, and allowed openness to be divided into three groups of "high," "medium," and "low." Another consideration is that many statistical tests were run to examine the multiple hypotheses within this study. While these tests were useful in allowing us to better understand the various areas our study investigated, they also bring with them the risk of increasing the chances of a type one error occurring. That is, running a large number of statistical tests increases the chance of rejecting a true null hypothesis.

Additionally, social desirability issues as well as generalizability issues must be considered based on the study's topic and participant pool. It is important to think about the potential effects of social desirability in accounting for the reported changes in variables such as ageism and willingness to work with older adults. The participants may have felt that they were expected to respond a certain way to the measures given after experiencing the education session. Specifically, participants may have deduced what the study was about and realized that more positive answers with regards to working with older adults and their ageist attitudes would be in line with what the researchers were expecting to find. It is also important to recognize that the population consisted exclusively of undergraduate students in a rural southeastern college. Future research must investigate whether the results replicate across populations that vary in age, location, level of education, and other pertinent factors.

Finally, the current findings are limited to an increase in willingness for hypothetical situations and items framed as participants imagining themselves working in a field that is exclusively associated with working with an older adult population. It is important to note that these increases did not occur for items framed as participants working in their future careers with older adult co-workers and clients. Future research will need to figure out how to increase willingness within participants for the future career type items as well, given that they represent less hypothetical situations. Potential ways to accomplish this might include additional elements to education sessions or more specialized information tailored to participants' area of study or employment.

FUTURE RESEARCH

As suggested by TMT and the current finding of a significant negative correlation between ageism and willingness to work with older adults, there is the possibility that participants' lower levels of ageist attitudes may have contributed to an increased willingness to work with older adults. Future researchers might consider exploring the impact of a similar education session in an experimental fashion so that more decisive conclusions about the nature of the relationships can be drawn. For example, researchers could randomly assign participants to receive accurate or inaccurate information about older adults and the aging process via an educational session, and take pre and post-test measures of their levels of ageist attitudes and willingness to work with older adults. It would be particularly informative to see if the participants that receive the inaccurate, and more negative, information about older adults demonstrate lower levels of willingness and higher levels of ageism after the education session.

In order to extend the current research findings, future researchers might also consider exploring ways to build upon and extend the education session beyond the current scope to

increase its effectiveness. Research suggests that while education alone does have positive impacts on various factors, additional components can increase the effectiveness of the intervention. Some additional elements that might be explored include contact or interaction with older adults, experiential learning activities, the viewing of videos, or some combination of the above. Another method to increase the effectiveness of the sessions could be to tailor the content and delivery of the sessions to target specific populations. For example, if presenting an education session to a group of psychology graduate students, while more general information about older adults and the aging process might be useful, it could also be beneficial to include information about therapy and change in older adults to combat myths and misconceptions that might be more applicable to the field of mental health. Finally, future researchers should consider additional delivery methods of the educational session to reach broader audiences. One possibility is utilizing online platforms such as social media sites or virtual meeting platforms.

Another line of necessary follow-up research involves investigating the long term effects of education sessions so we can know if the effects on ageist attitudes and willingness to work with older adults persist. If the answer is yes, then it would be useful to further clarify for how long these effects are sustained and to what degree. Additionally, beyond exploring the impacts these sessions have on attitude change and hypothetical willingness, it will also be helpful to understand how participants' behavior is impacted. It would be useful to observe whether participants demonstrate any changes in behavior related to older adults after completing an education session such as taking classes or continuing education related to topics on aging, increasing time spent with older adults who they are or are not related to, or volunteering or working in a job that involves contact with older adults. By answering these questions,

interventions aimed at educating individuals and bringing about attitude change can be optimally effective and utilize resources and time in the best way possible.

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APPENDIX A: EDUCATION SESSION CONTENT

Background Information – The Growing Need

- Today's session will be about clearing up some common myths associated with older adults
 - We will also learn some facts about how many older adults live in the US and what areas they live in
- Whenever we refer to an **older adult**, we are referring to an individual who is **65 years or older**
- The older adult population requires increasing attention because it is expected to almost **double** by the year 2030
- By the year 2050 older adults will be 1/5 of the population of the United States
- When considering **rural** areas in particular, older adults currently comprise 17.2% of the population
 - This percentage is in contrast to **suburban** areas where older adults make up 15% of the population and **urban** areas where they comprise 13% of the population
- Due to this **rapidly increasing population**, the need for additional employees in many areas including mental health, social work, the medical field, and more is **growing**
- However, this is often an overlooked and underserved population
 - Research has shown that many people have a disinterest and even a dislike when it comes to working with older adults
- This means that these individuals are **limiting their career options** in a rapidly growing area of employment
 - This is particularly the case in **rural areas** with a smaller job market and a greater proportion of older adults
- Often, negative attitudes about working with older adults stem from misconceptions about the aging process and what it means to be an older adult

1. The majority of older adults do not have Alzheimer's disease. True.

According to the 2019 Alzheimer's disease Facts and Figures Report published by the Alzheimer's Association, one in ten people 65 and older (10%) have Alzheimer's disease. About one-third of people age 85 and older (32%) have Alzheimer's disease. Of those with Alzheimer's disease, the vast majority (81%) are age 75 or older.

2. As people grow older, their intelligence declines significantly. False.

Although there are certain circumstances where this may be true, current research evidence indicates that intellectual performance in healthy individuals does not significantly decline with age. The amount of intellectual decline is typically small in the 60s and 70s and is probably of little significance.

3. It is very difficult for older adults to learn new things. False.

Although learning performance tends on average to decline with age, all age groups can learn. Additionally, it is well established that those who regularly practice their learning skills maintain their learning efficiency over their life span.

4. Older adults respond just as well to therapy for depression as younger adults. True

Research has shown that psychosocial interventions for older adults experiencing depressive symptoms are quite effective. Additionally, the effectiveness of psychotherapy for depression for older adults is comparable to the effectiveness of psychotherapy for depression across all adult ages.

5. Personality changes with age. False.

Personality remains consistent in men and women throughout life. Particular traits in youth and middle age will not only persist but may be more pronounced in later life.

6. In general, most older adults are pretty much alike. False.

Older adults are at least as diverse as any other age group in the population, and on many dimensions they may actually be more diverse due to their varied health, social role, and coping experiences throughout the life course.

7. Depression occurs more frequently in older than younger people. False.

There is no evidence that depression occurs more often in older adults than younger groups, and it should not be considered a normal part of aging.

8. Older adults have the highest suicide rate of any age group. False.

The Centers for Disease Control & Prevention reported that in 2013 the highest suicide rate was among persons 45-64 years old (19.1/100,000). The second highest rate (18.6) occurred in those 85 years and older. The 65-84 age group had roughly the same rate as 25-44 year olds with the third highest rate.

9. Older adult workers are dependable, productive, and have lower accident rates compared to younger workers. True.

Older workers have developed work records indicating that they are healthy, dependable, and productive and have low accident rates. Performance of older workers is highly individual and not necessarily different from that of younger workers. Studies comparing older and younger workers, using performance appraisal techniques based on job-relevant behaviors, have shown that many older workers perform as well as or better than younger workers.

10. Older workers cannot work as effectively as younger workers. False.

To the contrary, research identified characteristics of low turnover, less voluntary absenteeism and fewer injuries in older workers. Recent high ratings of older workers from employers cite loyalty, dependability, emotional stability, congeniality with co-workers, and consistent and accurate work outcomes.

11. Most older adults are set in their ways and unable to change. False.

The majority of older people are not "set in their ways and unable to change." There is some evidence that older people tend to become more stable in their attitudes, but it is clear that older people do change. To survive, they must adapt to many events of later life such as retirement, children leaving home, widowhood, moving to new homes, and serious illness.

12. The majority of older adults are bored. False.

Older persons are involved in many and diverse activities. After retirement many participate as volunteers in churches, schools or other nonprofit organizations or engage in hobbies and other leisure pursuits. They report themselves to be "very busy."

13. Most older adults do not live in nursing homes. True.

A relatively small percentage of the 65+ population, 3.4% in 2013 (1.3 million) lived in institutional settings such as nursing homes.

14. Participation in volunteering through organizations (e.g., churches and clubs) tends to decline among older adults. False.

According to the Bureau of Labor Statistics, older adults devote many more hours to volunteering activities than middle-aged or younger adults, although there is a significant drop off after age 80. Research shows volunteerism to be correlated with improved self-reports of health, increased physical function, better cognitive function, reduced depressive symptoms, and longer lives.

15. Older adults are much happier if they are allowed to disengage from society. False.

Although many people obviously do scale back certain activities, particularly if health deteriorates, there is substantial evidence that many who remain active and engaged (whether in social, family, or civic activities) have higher levels of function and happiness.

16. Most older adults consider their health to be good or excellent. True.

The majority of older adults consider their health to be excellent, very good, or good. Overall, most people over age 65 still rate their health positively. Additionally, older adults are dealing with more chronic conditions that develop gradually, so they have had to adapt and compensate for them over a period of time. Oftentimes, many of these chronic conditions do not compromise

their everyday functioning to a high degree, so they tend to think of their situation as being manageable.

17. Research has shown that old age truly begins at 65. False.

Old age is a social construct. Meanings, definitions, and experiences of aging vary across cultures and throughout history. What people consider to be "old" has changed significantly just within the past 100 years in the U.S. as people live longer and healthier. Age 65 is an arbitrary marker that has been associated with eligibility for governmental programs such as Social Security and Medicare (although the age of eligibility for Social Security is gradually being raised).

18. All medical schools now require students to take courses in geriatrics and gerontology (study of older adulthood). False.

As of 2010 less than half (41%) of medical schools had a structured geriatrics curriculum. This is problematic due to the fact that 27% of all physician office visits are from older adults, and other health professions report statistics as high or much higher.

Conclusion

- Today we learned the truth behind some common negative misconceptions about older adults
 - The older adult population is **rapidly increasing**
 - **More** older adults reside in **rural areas** than urban or suburban
 - The majority of older adults **live at home**
 - Older adults are **no more likely to experience depression or die by suicide** than younger adults
 - Most older adults consider themselves to be in **good health** and are able to learn and **engage in work or other activities**

APPENDIX B: FACTS ON AGING QUIZ REVISED

Note: The creators of this measure provide the following statement on their website “The authors of the 2015 version grant permission for anyone to use the Facts on Aging Quiz for educational purposes as long as credit is given using the following citation: Breyspraak, L. & Badura, L. (2015). Facts on Aging Quiz (revised; based on Palmore (1977; 1981)). Retrieved from <https://aging.umkc.edu/quiz/>.”

Facts on Aging Quiz Revised

Items 1, 2, 3, 4, 7, 11, 26, 33, 34, 35, 36, 41, 42, 44, 48, and 50 will be covered during the education session.

Instructions: Please circle either a T for true or an F for false for each of the following statements.

T F 1. The majority of old people (past 65 years) have Alzheimer's disease.

T F 2. As people grow older, their intelligence declines significantly.

T F 3. It is very difficult for older adults to learn new things.

T F 4. Personality changes with age.

T F 5. Memory loss is a normal part of aging.

T F 6. As adults grow older, reaction time increases.

T F 7. Clinical depression occurs more frequently in older than younger people.

T F 8. Older adults are at risk for HIV/AIDS.

T F 9. Alcoholism and alcohol abuse are significantly greater problems in the adult population over age 65 than that under age 65.

T F 10. Older adults have more trouble sleeping than younger adults do.

T F 11. Older adults have the highest suicide rate of any age group.

T F 12. High blood pressure increases with age.

T F 13. Older people perspire less, so they are more likely to suffer from hyperthermia.

- T F 14. All women develop osteoporosis as they age.
- T F 15. A person's height tends to decline in old age.
- T F 16. Physical strength declines in old age.
- T F 17. Most old people lose interest in and capacity for sexual relations.
- T F 18. Bladder capacity decreases with age, which leads to frequent urination.
- T F 19. Kidney function is not affected by age.
- T F 20. Increased problems with constipation represent a normal change as people get older.
- T F 21. All five senses tend to decline with age.
- T F 22. As people live longer, they face fewer acute conditions and more chronic health conditions.
- T F 23. Retirement is often detrimental to health--i.e., people frequently seem to become ill or die soon after retirement.
- T F 24. Older adults are less anxious about death than are younger and middle-aged adults.
- T F 25. People 65 years of age and older currently make up about 20% of the U.S. population.
- T F 26. Most older people are living in nursing homes.**
- T F 27. The modern family no longer takes care of its elderly.
- T F 28. The life expectancy of men at age 65 is about the same as that of women.
- T F 29. Remaining life expectancy of blacks at age 85 is about the same as whites.
- T F 30. Social Security benefits automatically increase with inflation.
- T F 31. Living below or near the poverty level is no longer a significant problem for most older Americans.
- T F 32. Most older drivers are quite capable of safely operating a motor vehicle.
- T F 33. Older workers cannot work as effectively as younger workers.**

- T F 34. Most old people are set in their ways and unable to change.**
- T F 35. The majority of old people are bored.**
- T F 36. In general, most old people are pretty much alike.**
- T F 37. Older adults (65+) have higher rates of criminal victimization than adults under 65 do.
- T F 38. Older people tend to become more spiritual as they grow older.
- T F 39. Older adults (65+) are more fearful of crime than are persons under 65.
- T F 40. Older people do not adapt as well as younger age groups when they relocate to a new environment.
- T F 41. Participation in volunteering through organizations (e.g., churches and clubs) tends to decline among older adults.**
- T F 42. Older people are much happier if they are allowed to disengage from society.**
- T F 43. Geriatrics is a specialty in American medicine.
- T F 44. All medical schools now require students to take courses in geriatrics and gerontology.**
- T F 45. Abuse of older adults is not a significant problem in the U.S.
- T F 46. Grandparents today take less responsibility for rearing grandchildren than ever before.
- T F 47. Older persons take longer to recover from physical and psychological stress.
- T F 48. Most older adults consider their health to be good or excellent.**
- T F 49. Older females exhibit better health care practices than older males.
- T F 50. Research has shown that old age truly begins at 65.**

APPENDIX C: AMBIVALENT AGEISM SCALE

All items are rated on a 7-point, Likert-type scale (1 = *Strongly Disagree*, 7 = *Strongly Agree*)

Items 1-9 make up the benevolent ageism subscale and items 10-13 make up the hostile ageism subscale. Participants' scores on the benevolent ageism subscale can range from 9 to 63, with higher scores indicating higher levels of benevolent ageism. Participants' scores on the hostile ageism subscale can range from 4 to 28, with higher scores indicating higher levels of hostile ageism.

Instructions: Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

1. It is good to tell old people that they are too old to do certain things; otherwise they might get their feelings hurt when they eventually fail
2. Even if they want to, old people shouldn't be allowed to work because they have already paid their debt to society
3. Even if they want to, old people shouldn't be allowed to work because they are fragile and may get sick
4. It is good to speak slowly to old people because it may take them a while to understand things that are said to them
5. People should shield older adults from sad news because they are easily moved to tears.
6. Older people need to be protected from the harsh realities of society
7. It is helpful to repeat things to old people because they rarely understand the first time
8. Even though they do not ask for help, older people should always be offered help
9. Even if they do not ask for help, old people should be helped with their groceries
10. Most old people interpret innocent remarks or acts as being ageist
11. Old people are too easily offended
12. Old people exaggerate the problems they have at work
13. Old people are a drain on the health care system and the economy

APPENDIX D: FIVE FACTOR MODEL RATING FORM (FFMRF) – OPENNESS VERSUS
CLOSEDNESS TO ONE’S OWN EXPERIENCE SCALE

All items are rated on a 5-point, Likert-type scale (1 = *Extremely Low*, 5 = *Extremely High*)

Participants’ scores can range from 6 to 30, with higher scores indicating higher levels of open-mindedness.

Instructions: Please describe yourself on a 1 to 5 scale on each of the following questions, where 1 is extremely low (i.e., extremely lower than the average person), 2 is low, 3 is neither high nor low (i.e., does not differ from the average person), 4 is high, and 5 is extremely high. Use any number from 1 to 5. Please provide a rating for all 6 questions.

For example on the first question (Fantasy), a score of 1 would indicate that you think you are extremely low in fantasy (i.e., practical, concrete). A score of 2 would indicate that you think you are low in fantasy (lower than the average person, but not extremely low). A score of 5 would indicate that you think you are extremely high in fantasy (i.e., dreamer, unrealistic, imaginative); a score of 4 would indicate you think you are higher than the average person in fantasy, but not extremely high. A score of 3 would indicate that you think you are neither high nor low in fantasy (does not differ from the average person) or that you are unable to decide.

Circle the number that applies to you for each of the questions.

Openness versus Closedness to one’s own Experience:

13. Fantasy (dreamer, unrealistic, imaginative)	5	4	3	2	1	(practical, concrete)
14. Aesthetics (aberrant interests, aesthetic interests)	5	4	3	2	1	(uninvolved, no aesthetic interests)
15. Feelings (self-aware, alexythymic)	5	4	3	2	1	(constricted, unaware, alexythymic)
16. Actions (unconventional, eccentric, habitual, stubborn)	5	4	3	2	1	(routine, predictable, habitual, stubborn)
17. Ideas (strange, odd, peculiar, creative)	5	4	3	2	1	(pragmatic, rigid)
18. Values (permissive, broad-minded, dogmatic)	5	4	3	2	1	(traditional, inflexible, dogmatic)

APPENDIX E: WILLINGNESS SCALE

Instructions: The following questions pertain to your future career and working with older adults (people 65 years of age or older). Client can be defined as someone who is a customer or otherwise uses your professional advice or services. Active, with regards to older adults, can be defined as individuals who are physically active and live independently within their communities. Frail, with regards to older adults, can be defined as individuals who are at an increased risk of adverse health outcomes, caused by deterioration of bodily functions and unable to live and care for themselves independently.

Willingness

1. In your future career, how likely is it that you will work with older adults?

1	2	3	4	5	6	7
Very Unlikely			Neutral			Very Likely

2. Imagine yourself in your future career, regardless of what that may be, and rate your **desire** to work with **older adult co-workers**

1	2	3	4	5	6	7
Low			Neutral			High

3. Imagine yourself in your future career, regardless of what that may be, and rate your **comfort** with working with **older adult co-workers**

1	2	3	4	5	6	7
Low			Neutral			High

4. Imagine yourself in your future career, regardless of what that may be, and rate your **desire** to work with **older adult clients** in that field

1	2	3	4	5	6	7
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Low Neutral High

5. Imagine yourself in your future career, regardless of what that may be, and rate your **comfort** with working with **older adult clients** in that field

1 2 3 4 5 6 7

Low Neutral High

6. Imagine yourself working in a field that is exclusively associated with working with an older adult population that is **active**, and rate your **desire** to work with that population

1 2 3 4 5 6 7

Low Neutral High

7. Imagine yourself working in a field that is exclusively associated with working with an older adult population that is **active**, and rate your **comfort** with working that type of job

1 2 3 4 5 6 7

Low Neutral High

8. Imagine yourself working in a field that is exclusively associated with working with an older adult population that is **frail** (such as in long-term care settings), and rate your **desire** to work that type of job

1 2 3 4 5 6 7

Low Neutral High

9. Imagine yourself working in a field that is exclusively associated with working with an older adult population that is **frail** (such as in long-term care settings), and rate your **comfort** with working that type of job

1 2 3 4 5 6 7

Low Neutral High

The above questions were based on how previous researchers investigated the concept of willingness to work with older adults:

Boswell (2012): Participants rated their interest in working in a setting that provides services to older adults using a 7-point, Likert-type scale. The scale ranged from 1 (not at all interested) to 7 (very interested).

Chonody et al. (2014): Participants responded to the following question: “I am very comfortable when I am around an old person.” Response choices were on a 6-point Likert-type scale (1 = strongly disagree to 6 = strongly agree).

Eshbaugh et al. (2010): The future likelihood of an individual working with older adults was measured by one item: “In your future career, how likely is it that you will work with older adults?” Response choices were on a 7-point Likert-type scale from 1 (not at all likely) to 7 (very likely).

Hughes et al. (2008): Participants were asked to respond to the following question: “In the future I would consider a career in geriatric medicine.” Response choices were on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 strongly agree.

Woodhead et al. (2013): Participants were asked whether they anticipated working with older adults in the future using a yes or no item.

APPENDIX F: DEMOGRAPHICS QUESTIONNAIRE

Age: _____ (please write in a number in years)

Gender: _____

With which racial/ethnic group do you primarily identify? (Please check one)

____ African-American/Black

____ Asian/South-Pacific

____ Caucasian/White

____ Hispanic/Latin American

____ Middle-Eastern/Persian

____ Native American

Other: _____ (please write in)

How would you classify the area you grew up in?

- Rural (defined as fewer than 2,500 people)
- Suburban (defined as areas with at between 2,500-49,999 people)
- Urban (defined as areas with 50,000 or more people)

Please estimate the number of people living in your hometown: (check one)

____ 100 – 10,000

____ 10,000 – 20,000

____ 20,000 – 30,000

____ 30,000 – 40,000

____ 40,000 – 50,000

____ 50,000 – 60,000

____ 60,000 – 70,000

____ 70,000 – 80,000

____ 80,000 – 90,000

____ 90,000 – 100,000

____ 100,000+

What is the zip code of your hometown? _____

How would you classify the area you wish to live in once you graduate?

- Rural (defined as fewer than 2,500 people)
- Suburban (defined as areas with at between 2,500-49,999 people)
- Urban (defined as areas with 50,000 or more people)

College Classification:

- Freshman Sophomore
- Junior Senior
- Other: _____

College Major: _____**How many courses have you taken that covered aging-related content?:** _____**Please list the title(s) of those courses:** _____**Annual Income Range (Please check one):**

- Less than \$20,000 Between \$20,001 – \$40,000
- Between \$40,001 - \$60,000 Between \$60,001 - \$80,000
- Between \$80,001 - \$100,000 Between \$100,001 - \$120,000
- Between \$120,001 - \$140,000 Greater than \$140,001

Religious Identification (check all that apply)

- Christian Jewish Catholic
- Muslim Buddhist Hindu
- Atheist/Agonistic Other: _____

The following questions pertain to your personal experiences with older adults (people 65 years of age or older). Quality relationships refer to ones in which you felt there was positive interactions, you felt connected, you felt supported, you felt valued, etc.:

1. I have had and/or currently have quality relationships with older adults who are not related to me.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

2. I have had and/or currently have quality relationships with older relatives.

1	2	3	4	5	6	7
Strongly Disagree			Neutral			Strongly Agree

3. How much have you worked with older adults in job/volunteer settings?

1	2	3	4	5	6	7
None			Somewhat			A Great Deal

APPENDIX G: RURALITY QUESTION

The following question pertains to your intent to work and live in a rural setting as compared to an urban setting. Rural is defined as fewer than 2,500 people and urban is defined as areas with 50,000 or more people (Ratcliffe et al., 2016).

On the following scale please indicate your likelihood of considering living and working in a rural area at some time in your career:

1	2	3	4	5	6	7
Not at All Likely			Neutral			Very Likely

[Item used by Kirschbaum et al., 2016]