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COLLEGE STUDENTS' ATTITUDES TOWARD OLDER WORKERS

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COLLEGE STUDENTS' ATTITUDES TOWARD OLDER WORKERS

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
in
Psychology:
Industrial/Organizational

by
Rachel Bravo
March 2017

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ABSTRACT

As college students are preparing to enter the workforce as professionals, it is important that we examine their explicit and implicit attitudes toward older workers to investigate what organizations can do on behalf of older workers. For instance, organizations may have policies that are giving preferential treatment toward older workers and reinforcing younger workers' negative attitudes. For the present study, I used a scenario based-procedure in which participants read about an older worker who has been promoted based on an employment policy that favors older workers or the most competent workers. I examined students' pre- and post explicit and implicit attitudes toward older individuals for each condition. Students in the preferential treatment condition did not have significantly different explicit attitudes from students in the merit condition, thus Hypothesis 1 was supported. Aside from treatment, students' post implicit attitudes significantly decreased (i.e., were less negative) from students' pre-implicit attitudes. Therefore, Hypothesis 2 was partially supported. In addition, students in the preferential treatment condition exhibited only negative emotions toward the older worker and not harmful behaviors. Therefore, Hypothesis 3 was partially supported. Finally, there was no impact of preferential treatment toward older workers on students' aging anxiety. Implications of these findings with regard to both implicit and explicit attitudes toward older workers are discussed.

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CHAPTER ONE

INTRODUCTION

According to the U.S. Census Bureau, 62.8 percent of the U.S population was aged between 18 to 64 years old (Toossi, 2012). As the baby boomers age, the percentage of these working ages will drop to 57.3 percent by 2030. Although the growth rate of the U.S. labor force is expected to be slower than the previous decade, the 55-years-and older age group is going to compose roughly 29 percent of the 2020 resident population (Toossi, 2012). This demonstrates an increase from the 25 percent in 2010. The trend in labor force participation by the baby-boom generation has declined as this group has moved from the prime age group to the older age groups. This trend in an overall decline in labor force participation rate is expected to continue and decline even more from 2010 to 2020 (Toossi, 2012). However, Ortman, Velkoff, and Hogan (2014) predict each age group to be larger in 2050 than 2012. With the baby-boom generation still being part of the workforce in the next few years, strides can be made in learning more about negative perceptions of older workers and identifying possible roots of these perceptions as the youth and prime age group will inevitably belong to the older age group in years to come.

As the workforce continues to age, the treatment and attitude toward workers are going to differentiate from those just entering the workforce. As a result, the potential for ageism is likely to dramatically increase in the decades

ahead. It had been recognized that protection was needed for individuals over the age of 40 with the passing of the Age Discrimination in Employment Act (ADEA) of 1967, and subsequently amended in 1986 and 1991. According to the Equal Employment Opportunity Commission (EEOC), the number of ADEA claims filed grew from 2000 to 2003 and dropped substantially in the period of 2004 to 2006. However, claims filed under the ADEA spiked in 2008 and have slowly decreased over the years since then. While there was a fluctuation in discrimination claims, it is clear that the extending presence of older individuals in the workplace could potentially spike the number of claims in years ahead.

This relationship also poses a threat of long term unemployment for older workers. As Barrington (2015) pointed out, 45 percent of unemployed 55- to 64-year olds were reported as unemployed for twenty-seven weeks or longer versus 33 percent of 25- to 34-year olds in 2014. With an increase in the share of unemployed people being in the 55-years and older age group, Barrington (2015) anticipates a higher likelihood of older workers having to face long term unemployment. These trends indicate that outward manifestations of age bias need to be addressed and brought to the attention of younger and older employees, but most importantly to the attention of employers.

Tripartite View of Ageism

According to Fiske (2000) there are five core motives that underlie stereotyping, prejudice, and discrimination and therefore, influence interactions with outgroup members. Ingroups are formed from interdependence, which

motivates the need for one to understand its ingroup members as individuals, not as a stereotypical approximation. Belonging is a core social motive that drives young workers to mirror another ingroup member's stereotypic beliefs or to hide their own stereotypes. The need to belong assists in creating the foundation for the type of beliefs and interactions one will have with the considered outgroup. As an individual learns about the groups' beliefs, sharing a common understanding serves as a motive to stay apart of the ingroup and structures automatic categorization processes, such as categorizing a person as young or old. The type of attributions made for stereotypic behavior of the outgroup members also become intertwined in the ingroups' shared understanding. These socially constructed understandings reinforce stereotypes as effort is applied to remain a member of the ingroup.

An individual's motive for social control will also affect one's reliance on stereotypes when seeking information. In any relationship, a slight loss of control is present as one seeks information about the other and also furthers group life by coming to a shared common understanding. In addition, powerful individuals, who lack a sense of dependency, are less motivated to pay attention to specific details and become vulnerable to stereotyping. This vulnerability influences their reliance on automatic categories and satisfies the need for control without having to individuate others. One's reliance on stereotypes serves as the cognitive component of the tripartite view as it consists of "...beliefs and expectancies about a social object due to membership in a particular group" (Finkelstein &

Farrell, 2007, p. 75). Physical appearance is one salient characteristic that allows younger individuals to identify another individual as “older” along with other characteristics that are believed to describe that group. A more in-depth review of common stereotypes about older workers will be given in the next section.

Self-enhancement and trust are two affective motives that follow control and understanding, which are cognitive motives. Self-enhancement facilitates group life by improving the interactions with one’s group members due to a healthy self-esteem. With the support of previous research, Fiske (2000) explained how an overly high self-esteem could become rigid and vulnerable, thus leading to emotions that are evoked by perceived danger from the outgroup. As a result, these emotions influence discrimination and levels of anxiety that underlie prejudice (Blaine, 2012). Trust is needed between ingroup members if interdependence is to be attained and the acceptance of fellow members. These five motives serve as a basis for how thoughts, feelings, and behaviors are formed and contribute to negative perceptions toward older individuals.

Serving as an affective component and a behavioral component in ageism, intergroup emotions also play a role in the construction and outcome of stereotypes. In this case, emotions and age stereotypes influence how a young individual will treat a member of an outgroup and may result in age discrimination. These emotions fall into warmth-competence dimensions on the stereotype (BIAS) map and are linked to discriminatory behaviors (Cuddy, Fiske, & Glick, 2007). The BIAS map (see Appendix A) consists of two dimensions:

active-passive and facilitation-harm. Behaviors distinct to the active-passive dimension are those that tend to be carried out with more or less effort, directness, engagement, intent, and intensity. Cuddy et al., (2007) defined the facilitation-harm dimension as behaviors that clearly favor outcomes or gains for groups to behaviors that produce negative outcomes or losses for groups. There are four classes of behavior within the facilitation-harm dimension. Active facilitation consists of behaviors that aim to benefit a group. In contrast, active harm is where one is acting against a group with the intention of producing harm. Whereas contact is not desired, passive facilitation is displayed when one passively cooperates with a group and facilitation becomes the by-product of tolerating the group in order to meet other goals. An individual's behavior is classified as passive harm when one denies the existence of a group by purposely excluding outgroup members. Along with certain emotions, these four classes of behaviors interact differently and result in patterns of behaviors toward groups.

Cuddy et al. (2007) examined four emotions (i.e., pity, admiration, contempt, and envy) and hypothesized that specific pattern of behavioral tendencies (active/passive facilitation and active/passive harm) would be predicted by these emotions. At the participant level, all four emotions predicted behaviors. In contrast, envy did not predict active harm at the group level. Interestingly, pitied groups elicited higher ratings of active facilitation and passive harm. According to research, pity is an emotion often felt toward the elderly and

this group is also viewed as being low in competence, but high in warmth (Bal, Reiss, Rudolph, & Baltes, 2011; Kite, Stockdale, Whitley, & Johnson, 2005; Krings, Sczesny, & Kluge, 2011). On the BIAS map, pity falls in those exact dimensions. Sadly, these results suggest that while one may be more likely to perform behaviors that will benefit the elderly, another person may be more likely to ignore or dismiss older individuals. However, job requirements that fit the stereotype of older workers, such as warmth, do not necessarily reduce bias. Contrary to their hypothesis, Krings et al. (2011) found older candidates were not likely to be selected despite the job requiring qualities that were warmth-related. These findings suggest that the chance of being selected for a job, that requires qualities mirroring a stereotype, remains low and displays the existence of bias in selection outcomes.

Stereotypes About Older Workers

Ng and Feldman (2012) used 40 years of age as the definition of an older worker due to its alignment with research findings regarding inferences for hiring, termination, performance evaluation, and promotion. They examined the content of six stereotypes that are commonly directed towards older workers and infer that older workers are: less motivated, less willing to participate in training and career development, more resistant and less willing to change, less trusting, less healthy, and more vulnerable to work-family imbalance. The content of these stereotypes provide the foundation for perceptions toward older workers as younger workers presume them to be true, especially if preferential treatment is

given to workers due to their age. Out of the six stereotypes, the only stereotype consistent with cumulative research evidence was the suggestion that older workers are less willing to participate in training and career development. Overall, Ng and Feldman (2012) suggested that stereotypes commonly held about older workers were not consistent with cumulated research evidence. Therefore, if younger workers were more aware of these counterfactual stereotypes and thought about their future as an older worker, they would be less inclined to use age as a primary or even sole factor in their perceptions.

The context in which older workers are being viewed and the amount of external information provided can contribute to overall perceptions. Kite et al. (2005) observed when minimal information was presented about older and younger individuals, differences in perceived competence were larger than when considerable or no information was given. Individuals rely on information that is readily available and use that to form judgments about others in the workplace. Age is one salient characteristic that many use to make comparisons and trigger cognitive components of an attitude, such as stereotypic beliefs.

Finkelstein and Farrell (2007) discussed findings regarding decision contexts in which older workers were being compared to younger workers or considered, alone, without comparison. The authors questioned the ability to make decisions on an absolute basis without recognizing other factors in the process and in the case of age, decisions may always be made in the context of comparison. Krings et al. (2011) also concluded that in the context of evaluating

older and younger workers, comparative stereotypes were apparent in their findings. Therefore, context may influence the type of affect and behavior (i.e., positive or negative) one will have toward older individuals in the workplace. Despite the amount of information presented, older adults were always perceived more negatively based on competency, evaluation, and treatment than younger adults (Kite et al., 2005).

Perhaps these commonly held stereotypes might prompt organizations to create policies that indirectly favor older workers and cause younger workers to question the reasons for the preferential treatment. As Iweins, Desmette, and Yzerbyt (2012) have investigated, these policies exhibit preferential treatment and may reinforce negative stereotypes about older workers, particularly by younger individuals within the same organization. In Iweins et al.'s (2012) first study, results revealed that the more preferential treatment older workers seemed to procure from their organization, the more that younger workers viewed them as being less effective in their job. Because younger workers do not benefit from the perceived preferential treatment, negative biases are directed towards older workers and thus may provide reinforcement for pre-existing stereotypes.

According to the OECD (Organization for Economic Cooperation and Development), an older worker is defined as being 50 years of age or older and thus, Iweins et al. (2012) used their definition as a cut off. In addition to the results of their first study, younger workers nearing the age of 50 did not have an

increase in work effectiveness bias due to preferential treatment of older workers. Because these individuals are close to becoming an older worker, it is likely that they do not link preferential treatment with work effectiveness because they will be receiving the same treatment in the near future. In the second part of Iweins et al.'s study, affective, behavioral, and cognitive components of ageism were examined. With the presence of preferential treatment, an increase in negative attitudes, behavioral tendencies, and negative emotions toward older workers were found in that condition. Along with work effectiveness, younger workers also questioned the competence of the target in the preferential treatment condition. This target also elicited more contempt than in the merit condition. Overall, when age is related to preferential treatment, the harmful effects are exhibited only among non-beneficiaries (Iweins et al., 2012).

Organizational policies that display preferential treatment may influence implicit attitudes that cannot be identified in self-report measures. Malinen and Johnston (2013) attempted to reduce hidden biases through a mental imagery intervention by displaying positive examples of older workers. However, negative implicit attitudes remained stable before and after the intervention. Interestingly, no biases were shown against older workers in the explicit attitude measures, which were more than likely due to impression management by respondents (Malinen & Johnston, 2013). These results demonstrate that directly confronting employees will not address their hidden bias and highlight the challenges faced in reducing ageism in the workplace. However, these challenges should not deter

researchers from exploring strategies to reduce ageism as older workers will face deleterious consequences due to a manager's level of ageism and attributions (i.e., unpleasant, dislike, terrible, etc.) for older worker's errors.

With ageist managers, older workers are more likely to be victims of age bias and experience more severe recommendations, such as demotion, termination, and resignation, after committing errors in the workplace (Rupp, Vodanovich, & Crede, 2006b). Managers, with implicit biases, may attribute these errors to causes that are age-related and stable. Therefore, more severe recommendations are more likely to be viewed as the best options for older employees than for younger employees with poor performance (Rupp et al., 2006b). Older workers may also experience pressure to retire due to these age-related assumptions. When considering how the decision was made for recommendations for older workers, one aspect of the study that was not addressed in Rupp et al. (2006b) was the age of the manager evaluating the hypothetical employee.

The age of decision makers is going to influence the nature of their approach towards younger and older workers and their attributions for inefficiency. Cox and Beier (2014) included age of the raters as a factor in determining the type of attributions made for the poor performance of younger and older workers. The intergroup attribution bias theory predicts that the attributions raters make for employees similar in age lead to more negative reactions to poor performance, but also lead raters to foresee an improvement in

performance (Cox & Beier, 2014; Islam & Hewstone, 1993). Similar to Rupp et al.'s (2006b) findings, the poor performance of older targets was more likely to be attributed to stable causes by younger raters. In contrast, older raters were more likely than younger raters were to attribute the older targets errors to unstable, controllable, and external factors. Despite the idea that controlled causes of poor performance can be improved, managers were less inclined to provide training for targets whose poor performance was attributed to controllable causes. As Cox and Beier (2014) discussed, older raters may feel that the controllable causes (e.g., lack of motivation) associated with poor performance will also interfere with training and not provide improvement. The similarity/dissimilarity in age between managers and employees will influence the specific causes managers believe to be responsible for negative behaviors, as well as the outcomes for correction. In the case of older workers, having managers, who are similar in age, may not necessarily produce more positive outcomes in treatment and attitudes.

Unfortunately, age serves as a factor, both explicitly and implicitly, in workplace decisions and outcomes. Bal et al. (2011) conducted a meta-analysis on a body of research examining positive and negative perceptions of older workers and the workplace outcomes of these perceptions. As predicted, selection and general evaluations were negative outcomes for older workers. Advancement was also a negative outcome, as older employees were perceived lower on potential for development, promotion outcomes, and predicted success

of the target than younger employees. Also consistent with their hypothesis, older workers were perceived to be lower on interpersonal skills than younger workers. Of the five outcomes of interest, reliability was found to be the only positive perception of older workers as they were seen as more reliable than younger workers. In addition, Bal et al. (2011) investigated study design (i.e., whether studies were performed using a between-subjects or a within-subjects design) as a moderator on the relationship between age and both selection and general evaluations. Studies that applied a within-subjects design had results that displayed a significantly stronger, and negative, effect of age on only the selection outcome for older workers (Bal et al., 2011). Moreover, when individuals are asked to make a comparison between an older and younger employee, the distinction in age only strengthens the negative relationship between age and the workplace outcomes examined.

The outcomes an older worker may experience due to age as a predictor only strengthens the need to determine how these attitudes evolve and how they can be altered to reflect a more positive light on aging. In the context of the workplace, young decision makers, who manage older employees, play a role in the type of outcomes an older worker may experience. Therefore, it is important that the attitudes of younger employees be examined as well as they may find themselves managing and evaluating older employees. By targeting students in college, and possibly even as young as high school, research could focus on

molding positive attitudes toward aging and ultimately lead to more positive work outcomes that are not due to bias.

College Students' Attitudes

If there is to be any long term change in attitudes towards the aging population, younger generations must be targeted in an effort to ultimately decrease negative perceptions of older workers. Anguillo, Whitbourne, and Powers (1996) investigated the effects of instruction on college students who had taken a psychology course on aging. The students' attitudes were measured prior to the course and after the course was completed, as well as a few months after completion. Students had to choose between options for a special project that would require them to either volunteer hours at a nursing home, or congregate apartments, or participate in group discussion about age related issues. Students could also choose to conduct an interview with an older adult and write a life history paper. Upon examining their knowledge about and attitudes toward the elderly at two points in time, Anguillo et al. (1996) found the class, as a whole, yielded increased knowledge and more positive attitudes over time. Four months after the aging course had been completed, students had maintained a positive view of older adults.

However, these students did have negative attitudes toward the elderly and contrary to the authors' hypothesis, those who volunteered did not have more positive attitudes than students who had chosen the other project options. As Anguillo et al. (1996) pointed out, 60 percent of the volunteers reported, in

their journals, negative aspects of aging despite the overall increase in positive attitudes from the class as a whole. The comments made by the volunteers were related to topics such as cognitive deficiencies and low performance of the elderly. These findings provided evidence for the remnants of negative perceptions due to the salient physical characteristics of growing older, but also the need for college courses where students can learn more about their own aging. Funderburk, Damron-Rodriguez, Storms, and Solomon (2006) found students had higher levels of knowledge about aging and more positive attitudes toward older adults when they had taken an aging elective than those who had not. Also of interest, students' attitudes remained positive at 3, 6 to 9, and 18 months after taking the aging elective. One way to tackle the formation of negative attitudes is to provide students learning opportunities where they can gain more knowledge about aging.

More recently, Huang (2013) examined college students' knowledge of aging and attitudes toward older adults from western and eastern countries. Overall, the United States had more positive attitudes and more knowledge toward aging than eastern countries (i.e., China, Taiwan, and Japan). Huang (2013) addressed this issue in eastern countries by suggesting that the rate of population aging and the timing of industrial modernization in these countries had influenced the levels of knowledge and attitudes toward older adults. As Palmore (2005) explained, modernization occurs when societies become industrialized and the changes result in the decline in status of older adults. This decline in

status may also be carried over into the workplace where younger adults are likely to have more contact with older adults and formulate negative perceptions. The United States became industrialized at an early time and the population grew old at a slower rate (Huang, 2013). This suggests that, in the next few years, younger workers may experience an elevation in negative perceptions as the baby boom generation is near their exit from the workplace. Because a huge portion of the workforce has aged and are now near retirement, negative attitudes may have increased among younger workers who are eagerly waiting for that group to exit.

The amount of contact one has with older workers will not necessarily foster positive attitudes. Schwartz and Simmons (2001) observed frequency of contact with elderly men and women had no effect on attitudes. Perceived quality of contact had a significant effect on attitudes and suggests that when students interact with older adults who do not fit the common stereotypes, they may be likely to develop more positive attitudes. In addition to contact quality, Bousfield and Hutchison (2010) examined intergroup anxiety and aging anxiety as possible mediators, as well as the association aging anxiety has with contact, attitudes, and behavioral intentions toward the elderly. A positive association was found between contact quality and attitudes and behavioral intentions. Intergroup anxiety was negatively associated with contact quality, attitudes and behavioral intentions toward the elderly. Intergroup anxiety was also found to mediate the relationship between those variables.

Allan and Johnson (2009) explored the relationship contact and knowledge has on ageism among participants whose age ranged from 17 to 49 years. Ageism and anxiety were least likely to occur for older participants and participants who were knowledgeable about aging. Participants who had daily contact with the elderly at work had lower levels of anxiety. Interestingly, anxiety was higher for participants who resided with one or more elderly relatives. These results suggest that ageism is a likely outcome for older adults when younger adults experience different levels of anxiety, contact, and knowledge. Efforts need to be focused on increasing college students' knowledge about aging so that their future, in becoming an older worker, is not approached with anxiety and their contact with older adults in the workplace will be more positive. Ultimately, these efforts will decrease younger workers reliance on negative stereotypes about older workers and assist organizations in creating policies that will not harness these stereotypes.

Aging Anxiety

According to Lynch (2000), aging anxiety is defined as people's concerns or fears about getting older, which include worries about declines in health and physical functioning, financial well-being, cognitive ability, changes in physical appearance, and social losses. Aging anxiety differs from death anxiety and general anxiety due to its focus on the future and aging specific concerns. Lynch (2000) found inaccurate knowledge about aging to be a factor that influenced aging anxiety for older persons and suggested accurate knowledge about aging

may be more influential in reducing anxiety for older adults approaching retirement than younger cohorts.

Unfortunately, the sole focus on increasing knowledge about aging will not in and of itself assist in forming more positive attitudes toward older workers. As demonstrated by Allan and Johnson (2009), anxiety served as a mediator between knowledge of aging and ageism. More knowledge about aging resulted in less anxiety and in turn, lower levels of anxiety directly reduced ageist attitudes. Therefore, simply increasing knowledge about aging will not result in lower ageism. As Boswell (2012b) pointed out, ageism is a form of discrimination that could exist in healthcare settings and result in harmful health outcomes for the elderly seeking care. Boswell (2012b) examined knowledge of aging, aging anxiety, contact with older adults and compassion as predictors of ageism in trainees seeking careers in the physical and psychological profession. Higher anxiety about aging was significantly associated with increased ageism. Boswell (2012b) stated how greater degrees of aging anxiety might drive views of older adults as “symbols of change and loss associated with the aging process” (p. 739). Also of interest, Kessler, Tempel, and Wahl (2014) found a positive association between psychological distress and fearful representations of aging and dementia for a sample of geriatric nurses and childcare workers. The physical characteristics of aging and working with the elderly influenced the level of anxiety about one’s aging.

In previous literature, inconsistencies have been found in whether there is a relationship between knowledge of aging and aging anxiety. While Allan and Johnson (2009) and Harris and Dollinger (2001) had results displaying a relationship, Boswell (2012a) found the opposite. Using undergraduate students in a course on aging, Boswell (2012a) measured aging anxiety, ageist attitudes, knowledge of aging, and interest in working with older adults at the beginning and end of the course. Anxiety and knowledge of aging were not related before and after completion of the aging course. In addition, knowledge of aging was inversely related to ageist attitudes prior to the course, but this relationship no longer existed at the end. These findings provide evidence for the notion that having more/less knowledge about aging will not directly affect aging anxiety and/or ageist attitudes.

Building on the suggestions made by Lynch (2000) in relation to age groups, Brunton and Scott (2015) examined four different aging fears across adulthood (i.e., young, middle and older). Fear of old people, fear of losses, physical appearance, and psychological concerns were hypothesized to be prevalent for different age groups and gender. Although the results for age groups were not significant, the results found for gender were significant. Specifically, aging anxiety for women was related to physical appearance and for men, fear of old people. As men age, it is suggested that their attitudes improve based on the knowledge they gain from experience, which then informs their perceptions of aging (Brunton & Scott, 2015). Poorer health was also associated

with greater aging anxiety and richer quality of contact (i.e., work, family or community) was associated with less aging anxiety. Considering young adults may associate aging with deteriorating health and have less quality contact with older adults, Brunton and Scott (2015) suggested young adults' aging anxiety may not be related to their own aging, but rather focused more on older adults and as a result, contributing to ageism in the workplace.

In order to improve attitudes towards older adults, Prior and Cox (2014) investigated the impact of imagined contact with an older adult on expectations of aging and aging anxiety. Undergraduate students were assigned to one of three conditions: 1) imagined contact with a 75 year old male, 2) imagined contact with a 75 year old female, or 3) a control. There was also a follow up measurement four weeks after the initial measurement. Results were examined by participant gender as an interaction was found between condition and participant gender. Compared to the control group, male participants in the imagined male and female conditions had significantly better expectations of aging and significantly lower aging anxiety at both time points. By contrast, female participants did not display significant differences between the imagined contact conditions and the control condition for either expectations of aging or aging anxiety. Overall, the imagined contact conditions had a significant direct effect on expectations of aging and aging anxiety for males. These findings strengthen the possibility that students' aging anxiety may be impacted by conditions where organizational policies display preferential treatment towards older workers.

Explicit and Implicit Attitudes

Self-report measures are commonly used to assess attitudes. However, respondents may be unaware of their attitudes toward a specific group (Fazio & Olson, 2003). Respondents may also be answering self-report questions in a manner that is socially desirable. Studies have addressed this issue by examining explicit and implicit attitudes and comparing the results from both measures (Lin, Bryant, & Boldero, 2010; Malinen & Johnston, 2013; McConnell & Leibold, 2001). Results have not been consistent in terms of what is found by explicit measures compared to the results of an implicit measure. Lin et al. (2010) examined students' attitudes towards older people as their attitudes pertain to the growing need for elder care by younger adults. Results indicated students' reported positive explicit attitudes and neutral implicit attitudes toward older people. By contrast, Malinen and Johnston (2013) found no bias against older workers after students had completed the explicit attitude measures, but found negative implicit attitudes. In another study that examined the relation between the Implicit Association Test (IAT) and explicit measures of prejudice, undergraduate students revealed positive attitudes toward Whites than Blacks on the IAT and reported more positive evaluations of Whites (McConnell & Leibold, 2001). As Malinen and Johnston (2013) and Lin et al. (2010) pointed out, there have been very few studies that have compared self-report measures with implicit measures of attitudes toward older people or even in the context of the workplace. Although there were mixed findings when comparisons were being

made, it is clear that the IAT is a valuable tool to assess attitudes and discover implicit biases.

Present Study

College students are being prepared to enter the workforce as professionals and most are already employed in large organizations where they encounter older workers. As the baby boom generation retires, it is important that researchers examine the attitudes of the new generation that will be occupying the workforce and investigate what organizations can do on behalf of older workers. In the present study, undergraduate students' attitudes toward older workers were examined by measuring explicit and implicit attitudes. Iweins et al. (2012) examined preferential treatment toward older workers that was exhibited by organizational policies and its influence on stereotype bias through the use of self-report measures. As Malinen and Johnston (2013) noted, impression management may lead participants to answer self-report questions in a socially desirable manner. Therefore, I included a social desirability measure to determine if that is occurring in participants' self-reported answers. In addition, the type of emotions and harmful behaviors elicited by preferential treatment for older workers was investigated.

According to the Age Discrimination in Employment Act (ADEA), an older worker is defined as being 40 years of age or older and therefore, this definition was used for the purpose of this study. Using modified scenarios adapted from Iweins et al. (2012) and an undergraduate student population, I examined explicit

and implicit attitudes toward older workers. I proposed that students in the preferential treatment condition would not have significantly different explicit attitudes from students in the merit condition. The proposed relationship is displayed in Figure 2 in Appendix A. Furthermore, I proposed students' post implicit attitudes, in the preferential treatment condition, would significantly increase (i.e., be more negative) compared to students' post implicit attitudes in the merit condition. The proposed relationship is displayed in Figure 3 in Appendix A. I also intended to replicate Iweins et al. (2012) hypothesis using a larger, more diverse US based sample and examined the emotions and harm behaviors that may be elicited from the preferential treatment condition.

Hypothesis 1

Students' explicit attitudes toward older workers in the preferential treatment condition would not significantly differ from students' explicit attitudes in the merit condition both pre and post reading the scenarios. See Figure 2 in Appendix A.

Hypothesis 2

In the preferential treatment condition, students' post-implicit attitudes toward older workers would significantly increase (i.e., be more negative) compared to students' post-implicit attitudes in the merit condition. See Figure 3 in Appendix A.

Hypothesis 3

Based on the bias map model (Cuddy et al., 2007), I hypothesized that the target would elicit more contempt and harm behaviors in the preferential treatment condition than in the merit condition.

There are many characteristics of an older individual that may elicit negative stereotypes, emotions, and harmful behaviors. However, there may be a different emotion that younger individuals experience when encountering older individuals in the workplace. Anxiety about getting older can be worries about declines in health and physical functioning, financial well-being, cognitive ability, changes in physical appearance, and social losses (Lynch, 2000). When interacting with older workers, young workers may also be experiencing aging anxiety as they see how older workers are treated and may not realize their own anxiety as a factor that influences their attitudes. Interestingly, other research suggests students' aging anxiety may be related to the aging of older adults and not necessarily related to their own aging (Brunton & Scott, 2015). To further explore the roots of these negative attitudes, I proposed a research question to determine what impact preferential treatment towards older workers will have on students' anxiety about aging and provide further direction in how aging anxiety plays role in attitudes.

Research Question

Would placing students in a condition that exhibits preferential treatment towards older workers have an impact on students' aging anxiety?

CHAPTER TWO

METHODS

Participants

Based on a power analysis with an effect size of 0.5 (Cohen's d) and a power of 0.95, the present study recruited approximately 210 undergraduate students from California State University, San Bernardino. The criteria for study participation included individuals must be 18 years of age or older and have worked either part-time or full-time. A total of 385 participants were collected for the final sample, of whom 77% were women and 23% were men, with an average age of 22 years. Sixty five percent of participants were employed part-time and sixty seven percent were Hispanic/Latino. When asked about whether he/she was currently living with an older adult who is at least 55 years old, 41 percent reported "yes" while 59 percent reported "no". Specifically, 40 percent of Hispanic/Latinos reported living with an older adult while 60 percent reported that they do not.

Procedure

The participants who were recruited from California State University, San Bernardino were invited to complete an online survey through SONA. The survey consisted of three parts and after initial data collection, it was clear that participants were not successfully completing all parts due to complications with the IAT software. The study was then changed to a lab study where participants

signed up on-line through SONA to come in to the computer lab to complete the surveys on-line. In doing so, participants could be monitored and seek guidance in case complications arose. Participants completed an explicit and implicit attitude scale before assignment to conditions as well as the social desirability scale. Participants were then randomly assigned to a preferential condition or a merit condition and read a short text about a target and the organizational context in which the target was promoted. The target was a 55-year-old man. Additional information about the target, such as work history and education, was included in the text. In the preferential treatment condition, the target is being promoted because of an employment policy favoring older workers. In the merit condition, the target is being promoted because of an employment policy that favors the most competent workers. Participants were then instructed to complete the same explicit and implicit attitude scales as well as the emotions scale, the behavioral tendencies scale, and the aging anxiety scale. A manipulation check and random responding items were also included in the survey. Upon completion of the survey, participants were awarded extra credit.

Measures

Fabroni Scale of Ageism

The Fabroni Scale of Ageism ([FSA]; Fabroni, Saltstone, & Hughes, 1990) was used to measure behavioral, affective and cognitive components of ageism. Rupp, Vodanovich, and Credé (2005a) revised Fabroni et al.'s (1990) factor structure by relabeling factors based on item loadings. Rupp et al. (2005a) stated

that their factor structure is more consistent with the original purpose of the FSA than Fraboni et al.'s original factor structure. The revised scale measures cognitive and affective components of ageism. In the present study the Stereotype factor (i.e., formerly labeled as Antilocution) of the FSA consists of 10 items that measure explicit beliefs about older individuals as a group and had an alpha reliability estimate of .76. The Separation and Affective Attitudes factors (i.e., formerly labeled avoidance and discrimination) assess an individual's eagerness to separate themselves from older people and reflect the emotionally related attitudes one has toward older adults. The Separation factor had eight items and an alpha reliability estimate of .76. The Affective Attitudes factor had five items and an alpha reliability estimate of .70. The FSA had a test retest reliability of $r = .93$. Participants were asked to indicate on a 4-point Likert scale how strongly they agree or disagree with each item (1 = strongly disagree to 4 = strongly agree). Higher scores indicated more stereotype bias. See Appendix C for the complete scale.

Implicit Attitude Scale

The Implicit Association Test ([IAT]; Greenwald, McGhee, & Schwartz, 1998) was used to measure implicit attitudes towards older workers in the present study. Although Landy (2008) sparked some controversy with his article criticizing the use of implicit measures in organizational settings, other researchers support the use of the IAT in organizational settings (e.g., Rudman, 2008; Rudolph & Baltes, 2008; Haines & Sumner, 2013). The Age IAT was

presented using the Inquisit Software. The IAT assessed associations between two concepts (i.e., *young people* and *old people*) and two attributes (i.e., *good* and *bad*) (Nosek, Smyth, Hansen, Devos, Lindner, Ranganath & Banaji, 2007).

Examples representing each of the categories appear in the center of the computer screen and participants categorized them into one of four categories as quickly as possible using two computer keys. There are seven blocks of response trials with the following categorization rules: (B1) 20 trials sorting the two concepts (e.g. *e* key for *young people*, *i* key for *old people*); (B2) 20 trials sorting *good* and *bad* words (e.g., *e* key for *good* words, *i* key for *bad* words); (B3) 20 trials sorting all four categories, with one concept category and one attribute category sharing a response key, and the other attribute category and concept category sharing the other response key (e.g., *e* key for *good* and *young people*, *i* key for *bad* and *old people*); (B4) 40 trials using the same sorting rules as B3; (B5) 40 trials sorting the concept examples as in B1, but with key mappings reversed (e.g., *e* key for *old people*, *i* key for *young people*); (B6) 20 trials sorting all four category types, but reflecting the change in key mapping in B5 (e.g., *e* key for *good* and *old people*, *i* key for *bad* and *young people*); (B7) 40 trials using the same sorting rules as B6. Blocks B3, B4, B6, and B7 consist of the primary data for analysis. Categorizing the examples more quickly when *old people* and *bad* (and *young people* and *good*) share a response key compared to when *old people* and *good* (and *young people*

and *bad*) share a response key is taken to indicate an implicit preference for young people compared to old people (Nosek et al, 2007, pp. 43-44).

Emotions Scale

Contempt was measured using two items adapted from Cuddy et al. (2007). Using a 7-point Likert scale (1 = extremely unlikely to 7 = extremely likely), participants were asked to rate how much the target would elicit contempt. In the present study, the alpha reliability estimate was .80. See Appendix C for the complete scale.

Behavioral Tendencies Scale

Harm behavioral tendencies were measured using four items adapted from Cuddy et al. (2007). Participants were asked to rate on 7-point Likert scale (1 = extremely unlikely to 7 = extremely likely) the extent to which they thought the target would elicit harm behaviors. In the present study, the alpha reliability estimate was .89. See Appendix C for the complete scale. Continue writing text here after using a second-level heading.

Social Desirability

The Balanced Inventory of Desirable Responding scale was used to measure social desirability that may be present in using self-report measures ([BIDR]; Paulhus, 1988). The BIDR is a 40-item instrument that measures two constructs. Items 1-20 measure self-deception and have an alpha reliability estimate of .70. Items 21-40 measure impression management and have an alpha reliability estimate of .79. Participants were asked to rate their agreement

for each item on a 7-point Likert scale (1 = not true, 7 = very true). Participants who give more socially desirable responses will attain higher scores. In the present study, the alpha reliability estimate for the BIDR was .84. See Appendix C for the complete scale.

Work Values

The Work Values scale created by Lyons (2003) was used to measure younger workers' values with respect to work. Only the Intrinsic and Extrinsic factors were used in this study and consisted of 7 items. Participants were asked to rate the importance of each value on an 8-point Likert scale (-1 = Opposed to my values, 7 = Of supreme importance). In the present study, the Intrinsic subscale consists of four items and had an alpha reliability estimate of .74. The Extrinsic subscale consists of three items and had an alpha reliability estimate of .72. The overall alpha reliability estimate was .70. See Appendix C for the complete scale.

Aging Anxiety

Participants' anxiety about aging was measured using the Anxiety about Aging Scale ([AAS]; Lasher & Faulkender, 1993). The AAS is a 20-item instrument used to measure anxiety about aging, which consists of four dimensions: fear of old people, fear of loss, age-related changes in physical appearance, and psychological concerns. In the present study, the fear of old people subscale had an alpha reliability estimate of .89. Fear of loss had an alpha reliability estimate of .74. The age-related changes in physical appearance

subscale had an alpha reliability estimate of .67. As a subscale, psychological concerns had an alpha reliability estimate of .74. Participants were asked to indicate the extent to which he or she agrees or disagrees with each item on a 5-point Likert type scale. Higher total scores indicate greater anxiety about aging. Lasher and Faulkender (1993) reported a Cronbach's alpha of .82 for the twenty-item scale, while in the present study the alpha reliability estimate for the AAS is .78. See Appendix C for the complete scale.

Manipulation Check and Random Responding

Participants were asked to complete a final question that would check whether attention was paid to the manipulation of the type of treatment (preferential vs. merit). Specifically, the item read "This person has been hired under a policy that favored...". It could be answered with one of three possible responses: (a) older workers; (b) the most competent workers; and (c) I don't know. Three items were also placed randomly throughout the scales to check for participants who may be randomly responding to items. See Appendix C for manipulation check and the random responding items used.

CHAPTER THREE

RESULTS

Data Screening

Out of the total sample of 385 participants, 123 were removed for not completing all three parts of the survey and 56 participants were removed for failing at least one of the random responding items. Participants who had failed the manipulation check item were not removed as there was no significance difference in the results compared to those who had passed the same item. Using the remaining sample, the data was screened for univariate outliers, normality, and homogeneity of variance. Using the standard of $z > 3.29$ or < -3.29 , one outlier was identified and deleted (Tabachnick & Fidell, 2001). All variables were examined for normality by visual inspection of histograms and did not violate the assumption of normality. Homogeneity of variance was tested by examination of the standard deviations of each variable. Based upon visual inspection, no violation had been incurred as neither variable was four times larger than the other. After cleaning and testing assumptions, the total final sample consisted of 205 participants.

For Hypothesis 1, there was no significant effect of treatment, indicating that explicit attitudes toward an older adult were similar in the merit and preferential treatment condition, $F(1,203) = .25$, $p = .621$, full $\eta^2 = .001$. Using Cohen's (1988) guidelines for effect sizes (i.e., small ($\eta^2 = .01$), medium ($\eta^2 = .09$), and large ($\eta^2 = .25$), this result displayed a very small effect size. There was

no significant main effect of pre- and post explicit attitudes, $F(1, 203) = .65$, $p = .420$, full $\eta^2 = .003$. This result also displays an extremely small effect size.

There was no significant interaction effect between pre- and post explicit attitudes and the conditions in which students were placed, $F(1, 203) = 1.06$, $p = .305$, full $\eta^2 = .005$. Therefore, Hypothesis 1 was supported, as there was no significant difference between students' explicit attitudes in the preferential treatment and merit condition (See Figure 4 in Appendix A).

There was a marginal effect of treatment on pre- and post implicit attitudes, $F(1, 203) = 3.17$, $p = .077$, full $\eta^2 = .02$. The small effect of treatment indicates that students' implicit attitudes in the merit condition were similar to those in the preferential treatment condition. There was also a significant main effect of pre- and post implicit attitudes, $F(1, 203) = 40.06$, $p < .001$, full $\eta^2 = .17$. This medium to large effect indicates that there is a difference between pre- and post implicit attitudes aside from treatment. Specifically, students' pre-implicit attitudes indicated a preference for younger individuals. However, students' post implicit attitudes indicated that their preference for younger individuals decreased and were closer to showing no preference for young or old. However, there was no significant interaction effect between pre- and post implicit attitudes and the condition in which students were placed, $F(1, 203) = 1.49$, $p = .224$, full $\eta^2 = .007$. Therefore, Hypothesis 2 was only partially supported (See Figure 5 in Appendix A).

On average, the target did elicit more contempt ($M = 2.9$, $SE = .14$) in the preferential treatment condition than the contempt ($M = 2.4$, $SE = .13$) elicited in the merit condition. However, the target did not elicit more harm behaviors ($M = 3.4$, $SE = .14$) in the preferential treatment condition than the merit condition ($M = 3.3$, $SE = .14$). The difference, 0.44 , $95\% CI [.062, .818]$, for contempt was significant $t(202) = 2.29$, $p = .023$ and yielded a small to medium effect, $d = .33$. For harm behaviors, the difference, $.078$, $95\% CI [-.312, .467]$, was not significant $t(203) = .39$, $p = .694$ and yielded an extremely small effect, $d = .06$. Therefore, Hypothesis 3 was partially supported. On average, placing students in the preferential treatment condition ($M = 3.5$, $SE = .04$) did not impact their aging anxiety compared to students in the merit condition ($M = 3.5$, $SE = .04$). The difference, $.006$, $95\% CI [-.116, .128]$, was not significant $t(203) = .10$, $p = .922$ and yielded another miniscule effect, $d = .01$. Upon exploring the proposed research question, there was little to no impact of the preferential treatment condition on aging anxiety. Thus, further exploration was needed to determine what factors influenced students' aging anxiety. These findings are presented below.

Supplemental Analyses

Social desirability was also examined to determine if there was any impact on participants' explicit attitudes. For the covariate, social desirability, there was a significant main effect on pre- and post explicit attitudes, $F(1, 189) = 21.34$, $p < .001$, full $\eta^2 = .10$. This medium effect size indicates social desirability has an

impact on students' pre- and post explicit attitudes. However, similar to Hypothesis 1, there was no significant main effect of pre- and post explicit attitudes, $F(1, 189) = .008$, $p = .929$, full $\eta^2 = .00$. The interaction effect between explicit and attitudes and social desirability was also not significant, $F(1, 189) = .22$, $p = .638$, full $\eta^2 = .001$.

The impact of students living with an older adult, who is 55 years old or older, was also examined on explicit and implicit attitudes. There was no significant effect of living with an older adult on pre- and post explicit attitudes, $F(1, 203) = .13$, $p = .722$, full $\eta^2 = .001$. This result indicates that there were no differences in explicit attitudes for those living with or without an older individual and portrays another miniscule effect. The main effect of pre- and post explicit attitudes was also not significant, $F(1, 203) = .80$, $p = .374$, full $\eta^2 = .004$. This very small effect size estimate indicates there were no differences between pre- and post explicit attitudes. There was also no significant interaction effect between pre- and post explicit attitudes for those students living with or without an older adult, $F(1, 203) = .11$, $p = .740$, full $\eta^2 = .001$.

However, there was an effect of living with an older adult on pre- and post implicit attitudes, $F(1, 203) = 3.92$, $p = .049$, full $\eta^2 = .02$. This small effect reveals there is a difference in pre- and post implicit attitudes for those living with or without an older adult. A significant main effect for pre- and post implicit attitudes was also observed, $F(1, 203) = 41.71$, $p < .001$, full $\eta^2 = .17$. This result displays a medium effect and indicates a difference between pre- and post

implicit attitudes. Nevertheless, the interaction effect between pre- and post explicit attitudes and living with an older adult was not significant, $F(1, 203) = 1.60$, $p = .207$, full $\eta^2 = .008$, and displays a very small effect.

In addition to social desirability and living with an older adult, students' work values and their influence on explicit and implicit attitudes were investigated as well. For the covariate, work values, there was a significant main effect on pre- and post explicit attitudes, $F(1, 203) = 34.37$, $p < .001$, full $\eta^2 = .15$. This medium sized effect indicates students' work values have an impact on their explicit attitudes toward older adults. Specifically, as importance of intrinsic work values increases, students' stereotype biases decrease, $r = -.43$, $p < .001$. Nonetheless, there was no significant main effect of pre- and post explicit attitudes, $F(1, 203) = 1.44$, $p = .232$, full $\eta^2 = .007$. The interaction effect between explicit attitudes and work values was also not significant, $F(1, 203) = 1.63$, $p = .203$, full $\eta^2 = .008$. There was no effect of students' work values on their pre- and post implicit attitudes, $F(1, 203) = 1.18$, $p = .279$, full $\eta^2 = .006$. Students' work values did not influence their implicit attitudes nor was there a significant main effect of pre- and post implicit attitudes, $F(1, 203) = 1.04$, $p = .308$, full $\eta^2 = .005$. Similar to explicit attitudes, the interaction effect between implicit attitudes and work values was not significant, $F(1, 203) = .209$, $p = .648$, full $\eta^2 = .001$.

CHAPTER FOUR

DISCUSSION

The major purpose of this study was to determine what organizational settings might influence ageist attitudes by examining students' explicit and implicit attitudes toward older workers. Specifically, students were randomly placed into a condition where an organization displayed preferential treatment toward an older worker and student's attitudes were measured before and after reading the condition. Replicating Iweins et al.'s (2012) hypotheses, emotions and harmful behaviors that may be elicited by preferential treatment was examined. In addition, the effects of the preferential treatment condition on students' aging anxiety were also investigated.

Consistent with previous research, social desirability was found to have an effect on explicit attitudes and therefore, no differences were found between pre- and post explicit attitudes (Malinen & Johnson, 20013; Stocké, 2007). Stocké (2007) found that young, educated, female respondents were more likely to report positive racial attitudes than negative ones. Hispanic/Latino samples may also be more likely to respond in a socially desirable manner compared to Anglo samples (Hopwood, Flato, Ambwani, Garland, & Morey, 2009). Considering that the majority of participants were women attending college and/or Hispanic/Latino, it may help to explain why social desirability had an effect on explicit attitudes. Paulhus (2003) described how an individual can have a biased self-view and choose survey answers that maintain a positive self-image. Students may have

felt the need to manage their impressions of not having a bias toward older workers. Or, students believed they do not have any biases toward older workers and chose socially desired answers to reinforce their self-deception.

Although treatment did not have an effect on students' implicit attitudes, the finding that students' post implicit attitudes decreased to an almost neutral attitude toward young or old may be due to different underlying processes. Previous research has utilized the Quadruple process model (Quad model) to examine differences in implicit attitudes (Gonsalkorale, Sherman, & Klauer, 2014; Lueke & Gibson, 2015; Sherman, Gawronski, Gonsalkorale, Hugenberg, Allen, & Groom, 2008). The Quad model consists of four processes that interact to direct behavior and account for automatically activated mental constructs and competing self-regulatory process (Sherman, et al., 2008). Activation and detection are the first two processes that take place upon encountering a stimulus object in which an association or behavioral impulse is activated. An individual must then "detect" a contextually appropriate response and the likelihood that the individual overcomes an activated bias and behaves appropriately is the third component, overcoming bias. For instance, overcoming bias is only relevant when an activated bias is incompatible with the appropriate response determined by detection. When a bias is not activated or a correct response cannot be determined, the fourth process that may occur is a guess. However, Sherman et al. (2008) stated that guessing does not need to be an

automatic process and some individuals may already have conscious guessing strategies in place.

Sherman et al. (2008) applied the Quad model to past studies and conducted a new study that examined individual differences in motivation to respond without prejudice. Results showed that participants with high internal motivation and low external motivation demonstrated less bias on implicit measures. That is, these participants had less activation of biased associations and were able to detect appropriate and inappropriate responses. When taking the Age IAT a second time, students may have had less activation of biases and were able to quickly identify the correct response that would indicate less of a preference for the young. Therefore, students' ability to regulate their responses was enhanced and resulted in less bias in their post implicit attitudes. To further strengthen this finding, Sherman et al. (2008) conducted another study that resulted in older adults exhibiting greater implicit race biases due to their failing ability to inhibit activated associations and indicated regulatory functions diminish with age. While young adults have a better ability to self-regulate, this function may decline with age and make it more difficult for them to inhibit activated associations.

Upon further exploring factors that may influence college students' attitudes, whether students lived with an older adult was also examined. Students who lived with an older adult had implicit attitudes that indicated a slightly lower preference for young individuals compared to those who do not live with an older

adult. Those who did not live with an older adult had a greater preference for young individuals. This slight discrepancy in implicit attitudes may stem from a family domain in which old age stereotypes are less negative than in a health domain (Kornadt, Meissner, & Rothermund, 2016). The older adults, who students live with, may be parents, grandparents, or members of their household who students consider as family. Therefore, students' personal experiences in living with an older adult may be more positive as creating memories becomes more important in old age.

While living with an older adult may influence implicit attitudes, the alignment of work values between young and old adults may also create more positive explicit attitudes. In the current study, as students' placed a higher importance on intrinsic work values, their stereotype biases against older adults decreased. This finding indicates that if younger and older adults have similar work values then younger worker's attitudes toward older workers could potentially become more positive in the future. Drawing from the BIAS map framework (Cuddy, et al., 2007), North and Fiske (2012) provided evidence for how older people can create more favorable views. For instance, if older workers were aware of younger workers having similar work values, they may be more inclined to help students find careers. In this generous context, older workers would be perceived as being highly competent, in addition to the high-warmth dimension that is commonly associated with old age. Work values have also been examined by generations. Cennamo and Gardner (2008) found no

significant differences in altruism, extrinsic, and intrinsic work values for Baby Boomers, Generation X, and Generation Y in New Zealand. Although work values of older adults were not examined in this study, empirical evidence has shown inconsistent findings for age differences in work values (Barnes-Farrell & Matthews, 2007). Rather than focusing on the differences between younger and older workers, the focus should shift to changing perceptions of intergenerational competition by focusing on similarities.

North and Fiske (2012) discussed issues of intergenerational interdependence and how younger generations may feel more negatively towards the older population. For example, the threat of scarce resources being consumed by older people may create tension and prejudice from younger generations who are also eager to consume societal rewards. North and Fiske (2012) identified passive consumption as one area of intergenerational tension in which a large, older population may require a redistribution of shared resources that will favor the old. Policies are one of many strategies organizations may implement to assist the older population who are remaining in the workforce for a longer period or returning to work. In the preferential treatment condition, an organization had given a promotion to an older individual because of a policy that favors older workers. As a result, students in the preferential treatment condition felt more contempt toward the older individual compared to students in the merit condition. It is clear that policies trying to help older workers may create

resentment and fuel tension between younger and older individuals in the workplace.

In contrast, the preferential treatment condition did not elicit more harmful behaviors compared to the merit condition. Perhaps, giving a promotion to an older individual due to his/her age would elicit negative feelings, but contempt, alone, may not drive younger workers to engage in harmful behaviors. In their first two studies, Cuddy et al. (2007) found competence to be a stronger predictor than warmth of passive behaviors (i.e., exclude, ignore, neglect). Contempt was also found to mediate the relationship between competence stereotypes and passive harm. Therefore, in addition to contempt, how capable or competent students viewed the older individual in the preferential treatment condition may elicit certain types of behaviors. Iweins et al. (2012) found younger workers viewed older workers as less effective in their job the more they perceived their organization to give preferential treatment to older coworkers. However, if highly competent older workers are placed into higher status positions in the workplace, but are cooperative and helpful to younger workers then admiration and active facilitation may be the result despite perceptions of preferential treatment.

Future Research

Although the current study did not find differences for pre- and post explicit attitudes, clear instructions emphasizing honesty and instructing participants to not think too hard about their answers may bypass the effect of social desirability (Phillips & Olson, 2014). Future research could examine experimental

instructions for explicit attitude measures and compare results to implicit attitude measures to see if attitudes align. Once researchers are able to clearly identify other processes that play a role in how participants respond to self-report measures, the type of workplace threats that may influence younger workers' explicit attitudes more than implicit ones, or vice versa, could be more closely examined. When younger workers feel indirectly threatened by older workers, they may be more inclined to empathize with and take the perspective of an outgroup member when immersed in a virtual environment (Oh, Bailenson, Weisz, & Zaki, 2016). However, when the threat was direct (i.e., participants were told that their elderly virtual partner preferred older adults over young adults), perspective taking, either mentally or virtually, did not overcome bias. Oh et al. (2016) found participants still had an implicit preference for young people over the elderly in both the mental simulation and virtual environment. By focusing on direct and indirect threats young workers may experience in the workplace, future research may be able to identify how organizations can create more successful contact between younger and older workers.

In order to closely examine the difference in direct and indirect threats posed by older workers, more specific scenarios should be written. In the current study, it is not clear what type of position the older worker was promoted to. It could be argued that younger workers were simply an observer and did not feel threatened by the older worker being promoted due to his age. Participants may have felt that seniority and work experience played a bigger role than age in the

decision to promote the older worker despite explicitly stating there was an employment policy in place that favors workers over the age of 40. Future research should use more descriptive scenarios that display a direct threat posed by an older worker for a job that younger workers would apply for as well. North and Fiske (2012) identified empirical evidence that demonstrates successful contact within the family domain, but further investigation is needed on how organizations can facilitate relationships between younger and older workers and how it may impact younger workers' aging anxiety.

Implications

Ageism is one -ism that can be experienced by everyone despite race, gender, and ethnicity. Every person will eventually age and most will become an older worker. Unfortunately, younger individuals do not consider how they will be treated once an older worker, but when asking a young age group to report their attitudes, these results often do not reflect true attitudes. The current study highlights the common problem with self-report measures, but, as mentioned before, manipulation to the instructions given may display actual held beliefs about older individuals. With analyzing implicit attitudes, it can clearly be seen that negative attitudes still exist and can prompt employers and employees to understand where their biases stem from. However, being mindful of the underlying processes that may influence differences in implicit attitudes can assist in drawing conclusions from the results of these implicit measures. Although preferential treatment did not have an effect on implicit attitudes,

students' living with an older adult had a slightly lower preference for the young compared to those who do not. Perhaps, high schools and other avenues of education can introduce projects where students would interact more with older family members and learn how to utilize the elderly as a resource. Hopefully, what is learned through these positive interactions would be applied to the workplace where young adults will encounter older workers who are likely to have similar work values. Organizations can also focus on facilitating relationships between younger and older workers by utilizing internships and placing interns with successful older workers.

Organizations may try to foster positive attitudes by implementing age-related diversity goals, but result in more negative attitudes instead. In order to achieve these goals, organizations may create policies that exhibit preferential treatment toward older workers and activate stereotypes, specifically negative emotions such as contempt. Organizations can examine their policies more closely and determine what component of these policies employees may find unfair. For example, organizations can determine if it is specific assignments or tasks that seem to benefit older employees and not younger employees. Before implementing an employment practice, management should consider how it will be perceived and inform employees about this change so there is less reliance on stereotypes. By recognizing that negative age stereotypes persist and what type of treatment affect attitudes, employers can be mindful of the kind of employment practices they instill.

While there is controversy around the use of the IAT, there is still support for its use on college students and studying stereotypes (Landy, 2008; Rudman, 2008; Rudolph & Baltes, 2008). The results of this study provide more evidence for the use of the IAT versus explicit measures of attitudes. It also contributes to our ability to identify what conditions in organizations promote automatic processes and the type of emotions and behaviors these conditions elicit (Haines & Sumner, 2013). In certain organizational contexts (i.e., promotions and performance evaluations), individuating information about employees is available. As Leslie, King, Bradley, and Hebl (2008) argued in response to Landy (2008), individuating information might increase discrimination, not reduce it. The type of individuating information that may increase or decrease negative attitudes is another avenue of exploration that can address concerns about the results of laboratory studies being generalized. Future research can continue to examine implicit attitudes toward older workers and investigate training programs that may alter negative attitudes. Aging anxiety will also be a variable of interest in creating these types of programs and addressing specific dimensions of this construct that will potentially decrease anxiety.

Theoretically, this study provides additional insight into the BIAS map model, which extends the stereotype content model (SCM; Fiske, Cuddy, Glick & Xu, 2002), by investigating a potential scenario that may drive students' stereotypes, emotions, and behaviors. According to the BIAS map model, passive behaviors should have also occurred as a result of students' feeling

negatively towards the promoted older worker. However, the harmful behaviors were not elicited more by preferential treatment. North and Fiske (2012) described SCM as a sociocultural theory that focuses on social structure and considering the increase of older individuals expected to still be in the workplace, the commonly held beliefs of the older population being warm and incompetent might not hold true in the future. With older workers becoming more visible in the workforce, the social structure of age is bound to change and create new combinations of stereotypic high versus low competence and warmth as well as the corresponding emotions and behaviors.

In order to learn more about strategies in adjusting attitudes, students can be placed in conditions where they experience direct and indirect threats from the older population in the workplace. It would be interesting to see what type of perspective taking strategies may alter attitudes for threats related to work. Studies that exemplify the similarities between younger and older workers may also provide additional insight into how younger individuals may feel and behave towards an older population that share the same work values. Emotions and behaviors should also be investigated in depth as affective and behavioral components of ageism may shift with a higher presence of older individuals in the workforce. Qualitative data may contribute insight into the specifics of where these negative attitudes stem from and provide direction into which variables should be examined more closely.

Limitations

One particular limitation was the complexity of integrating the Age IAT into a survey that could be completed online rather than in a lab. Unfortunately, students were not able to complete all parts of the survey and it became clear that students were struggling with being redirected between two different websites. This resulted in the need to move to a lab study so students could successfully complete the Age IAT within the survey. Although the main focus of this study was college students' attitudes, another limitation is the student sample as it consisted of mostly women and Hispanics. Also, a majority of students were working part-time and had an average age of 22 years. Students in this sample may not have been employed for very long and may not have had much contact with older workers as other students who have a more extensive work history. It would be difficult to generalize these results to a student population that consists of men and other ethnicities. In addition, the gender of the target in the written scenarios was an older man. Students may have reacted differently if the target was a female or if gender could not be identified so that bias was based solely on age.

Conclusion

As younger workers interact more with the older population in the workforce, it is important that additional insight is gained on the formation of ageist attitudes. The present study found the lack of difference in students' pre- and post explicit attitudes were due to social desirability influencing how students

completed the stereotype bias measure. Students' implicit attitudes were not influenced by the preferential treatment condition, but a difference was found in their pre- and post implicit attitudes. Specifically, students had a stronger preference for the young in their pre- attitudes, but that preference for the young was reduced to an almost neutral preference in their post attitudes. In addition, negative emotions were higher for students in the preferential treatment condition compared to the merit condition, but harmful behaviors were not found. An older worker receiving a promotion due to his age did not impact students' aging anxiety. Although living with an older adult had an effect on pre- and post implicit attitudes, further investigation is needed to determine what factors may influence attitudes in a shared household. Furthermore, as students valued more intrinsic characteristics about their work, perhaps the similarities between the young and the old should be examined more closely and used to create positive attitudes toward older workers.

APPENDIX A
FIGURES

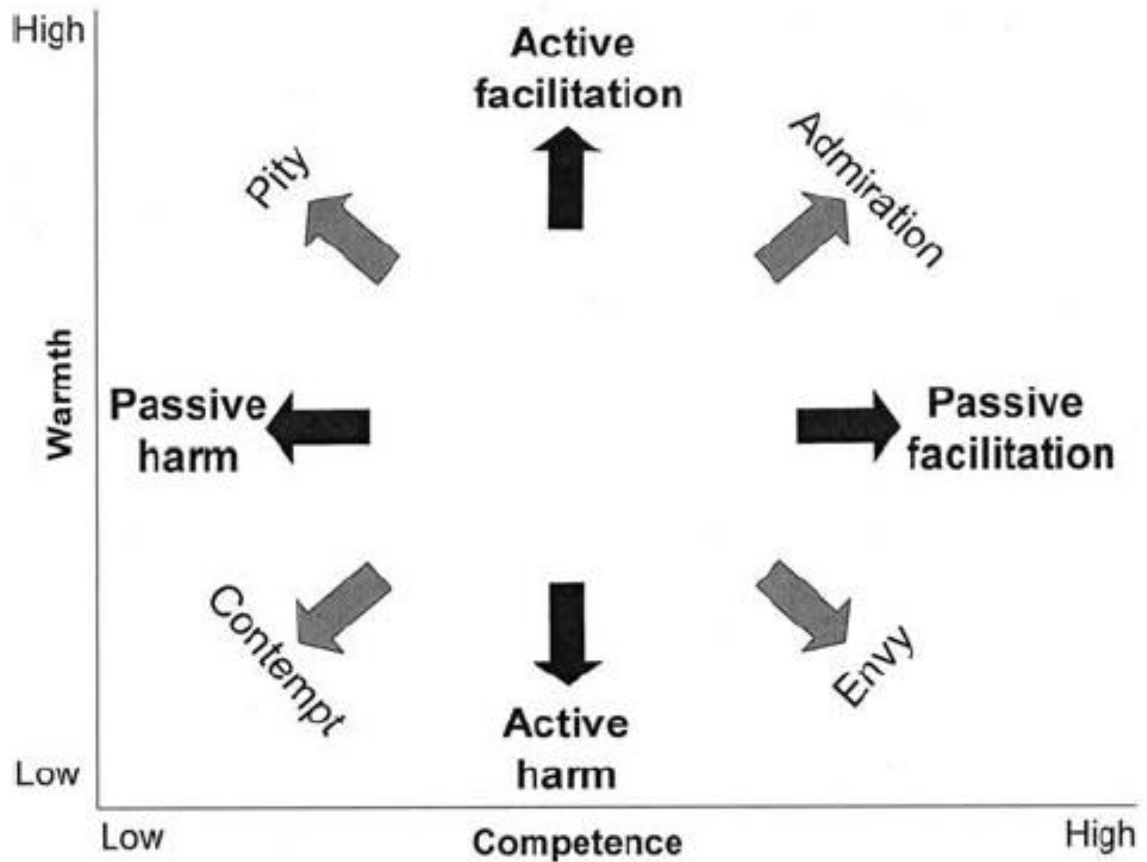


Figure 1. This figure is a map of behavioral tendencies, which are represented by black arrows, and its corresponding emotions that are represented by gray arrows.

Cuddy, A. J., Fiske, S. T., & Glick, P. (2007). The BIAS map: behaviors from intergroup affect and stereotypes. *Journal of personality and social psychology*, 92(4), 631-648.

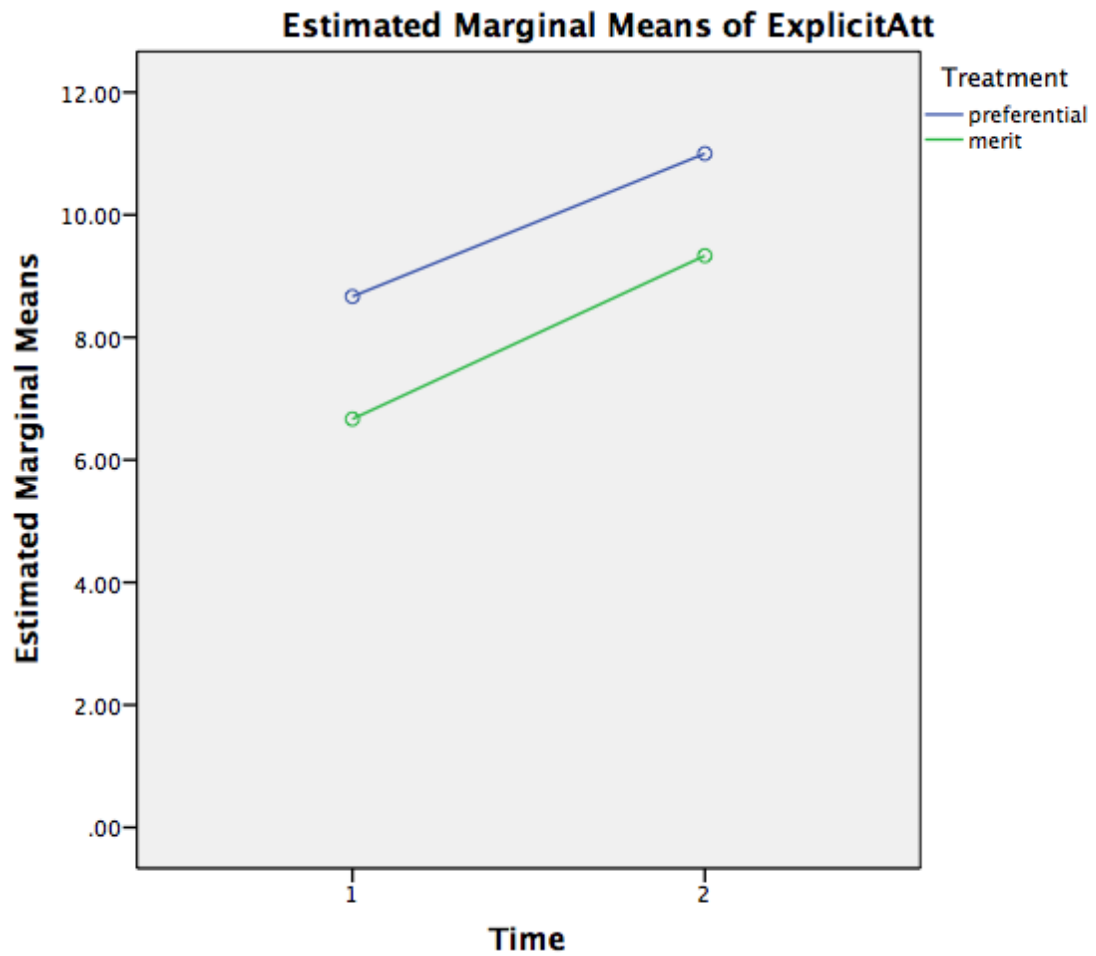


Figure 2. This figure portrays the proposed relationship of students' post explicit attitudes of older workers based on the preferential treatment condition vs. the merit condition.

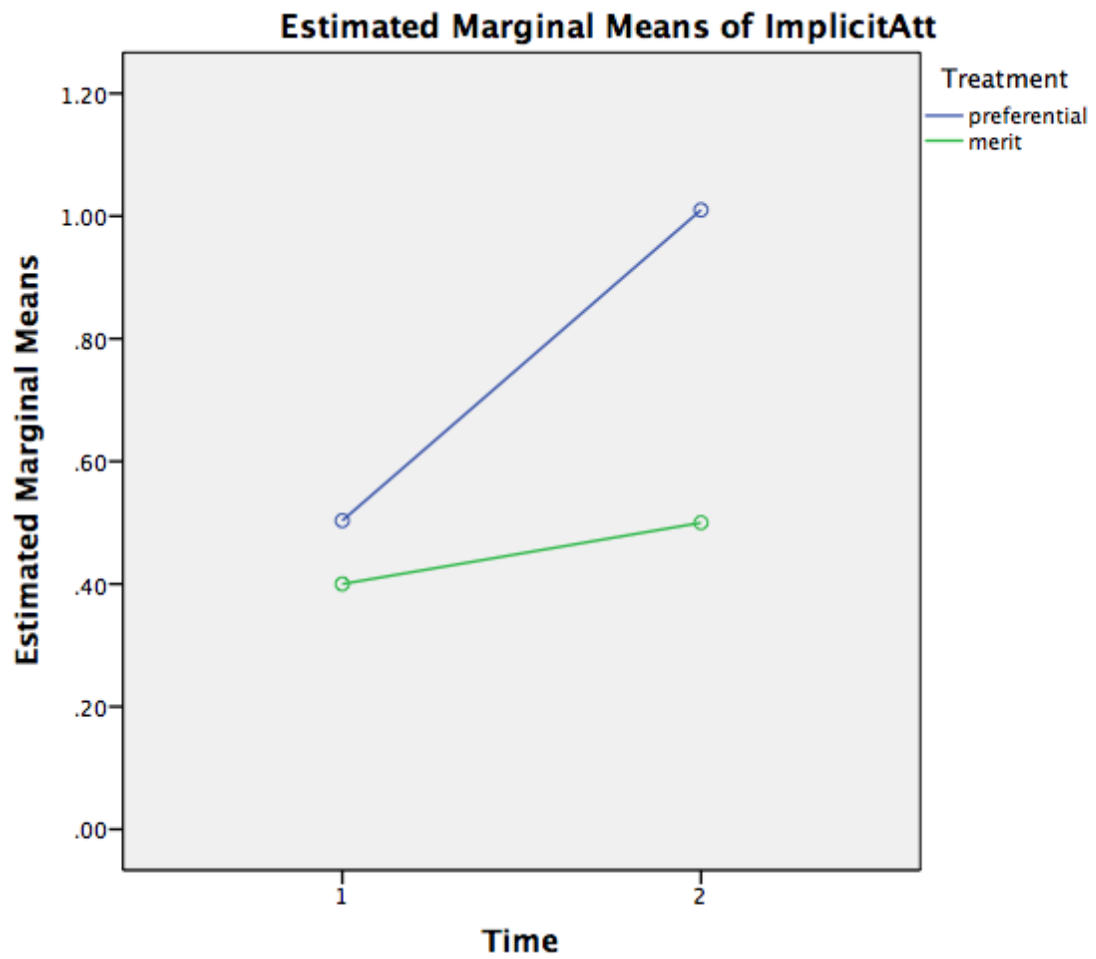


Figure 3. This figure portrays the proposed relationship of students' post implicit attitudes of older workers based on the preferential treatment condition vs. the merit condition.

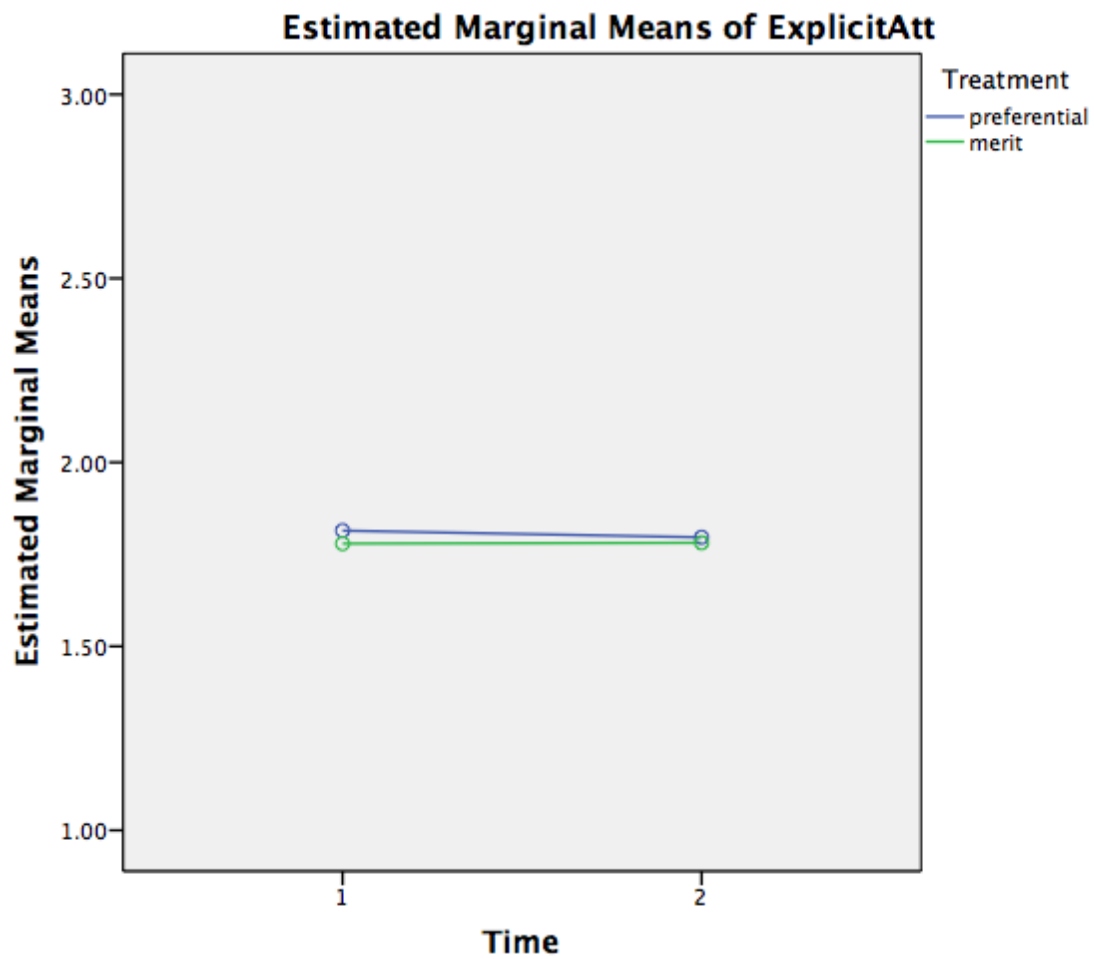


Figure 4. This figure indicates there is no difference between students' explicit attitudes in the preferential treatment condition and the merit condition.

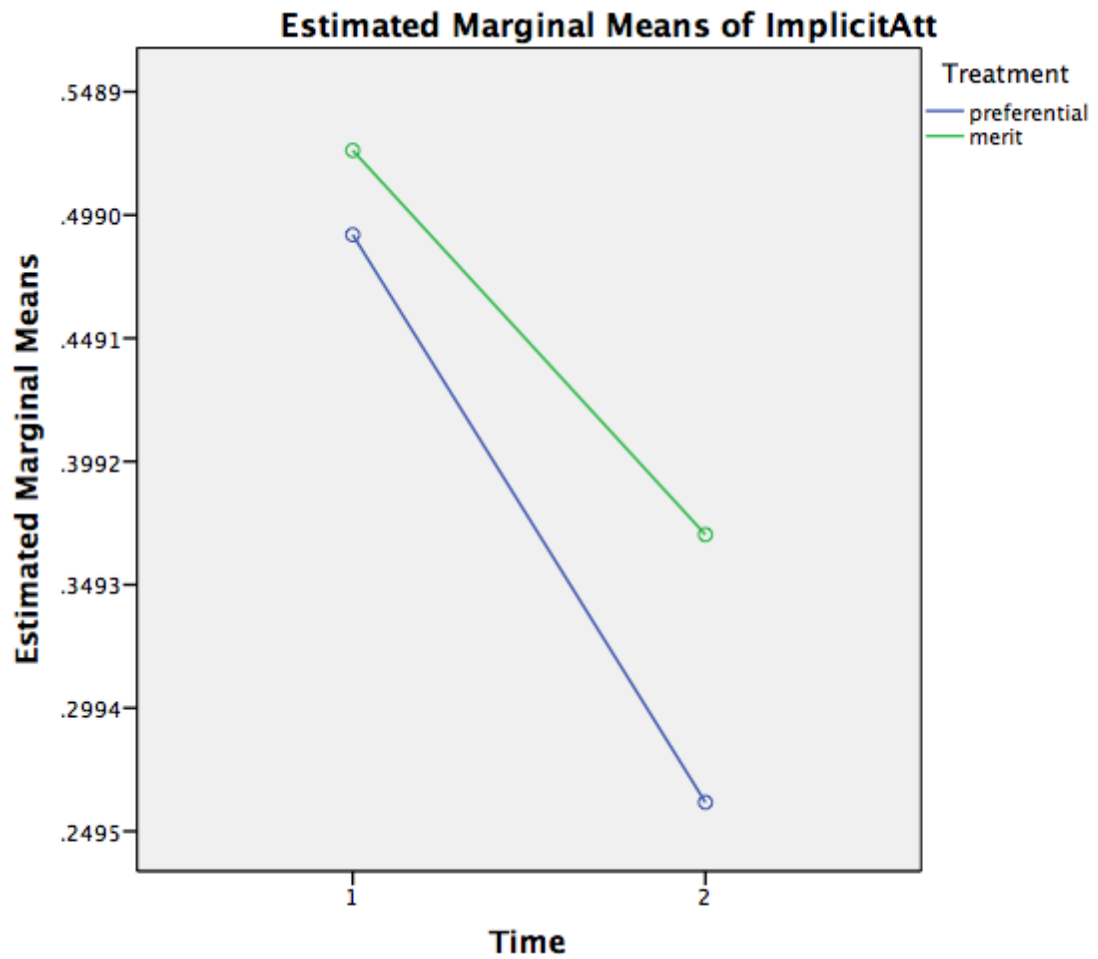


Figure 5. This figure indicates while there is a difference in pre and post implicit attitudes aside from treatment, there is no interaction effect.

APPENDIX B
SCENARIOS

Preferential treatment condition

A company has recently promoted a handful of individuals after implementing new employment policies and wishes to know how these newly promoted employees will be perceived by their colleagues. Your participation is needed as a pre-test for a questionnaire that will be used by other organizations that have also implemented new employment policies.

Elliot Brown is 55 years old and has recently been promoted to a senior level position in a computer company. He was first employed as an entry-level computer technician and has been with the company for over 20 years. Elliot has a bachelor's degree from a four-year university and a certificate from a computer and information technology training school. Elliot has been promoted in accordance with an employment policy that favors workers over the age of 40.

Merit condition

A company has recently promoted a handful of individuals after implementing new employment policies and wishes to know how these newly promoted employees will be perceived by their colleagues. Your participation is needed as a pre-test for a questionnaire that will be used by other organizations that have also implemented new employment policies.

Elliot Brown is 55 years old and has recently been promoted to a senior level position in a computer company. He was first employed as an entry-level computer technician and has been with the company for over 20 years. Elliot has a bachelor's degree from a four-year university and a certificate from a computer

and information technology training school. Elliot has been promoted in accordance with an employment policy that favors the most competent workers.

Iweins, C., Desmette, D., & Yzerbyt, V. (2012). Ageism at work: What happens to older workers who benefit from preferential treatment? *Psychologica Belgica*, 52(4), 327-349.

APPENDIX C
SCALES

Demographic variables

Gender: male or female

What is your age? (in years)

Please indicate your ethnic background (select one):

African American

Asian American

European/White

Hispanic/Latino

Other

Have you ever been employed?

Yes

No

Are you currently employed?

Part-time

Full-time

Unemployed

Are you currently living with an adult who is at least 55 years old?

Yes

No

Fabroni Scale of Ageism

1 = strongly disagree to 4 = strongly agree

Stereotype factor

1. Teenage suicide is more tragic than suicide among the old.
2. Many old people are stingy and hoard their money and possessions.
3. Many old people are not interested in making new friends, preferring instead the circle of friends they have had for years.
4. Many old people just live in the past.
5. I prefer not to go to an open house at a senior's club, if invited.
6. Most old people should not be trusted to take care of infants.
7. Many old people are happiest when they are with people their own age.
8. Most old people would be considered to have poor personal hygiene.
9. Most old people can be irritating because they tell the same stories over and over again.
10. Old people complain more than other people do.

Separation factor

11. I sometimes avoid eye contact with old people when I see them.
12. I don't like it when old people try to make conversation with me.
13. Complex and interesting conversation cannot be expected from most old people.
14. Feeling depressed when around old people is probably a common feeling.
15. Old people should find friends their own age.

*16. Old people should feel welcome at the social gatherings of young people.

17. Old people don't really need to use our community sports facilities.

18. It is best that old people live where they won't bother anyone.

Affective Attitudes factor

19. I personally would not want to spend much time with an old person.

*20. The company of most old people is quite enjoyable.

*21. It is sad to hear about the plight of the old in our society these days.

*22. Old people should be encouraged to speak out politically.

*23. Most old people are interesting, individualistic people.

Rupp, D. E., Vodanovich, S. J., & Credé, M. (2005a). The multidimensional nature of ageism: Construct validity and group differences. *The Journal of Social Psychology, 145*(3), 335-362.

Emotions Scale

1. How much would Elliot Brown elicit disgust as a result of his promotion?
2. How much would Elliot Brown elicit repulsion as a result of his promotion?

Behavioral Tendencies Scale

1. To what extent will Elliot Brown elicit being excluded by his peers?
2. To what extent will Elliot Brown elicit his peers to ignore him?
3. To what extent will Elliot Brown elicit neglect?

Iweins, C., Desmette, D., & Yzerbyt, V. (2012). Ageism at work: What happens to older workers who benefit from preferential treatment? *Psychologica Belgica*, 52(4), 327-349.

Balanced Inventory of Desirable Responding (BIDR)

Using the scale below as a guide, write a number beside each statement to indicate how much you agree with it.

1 = Not true to 7 = Very true

Self-Deceptive Positivity (SDE)

1. My first impression of people usually turn out to be right.
- *2. It would be hard for me to break any of my bad habits.
3. I don't care to know what other people really think of me.
- *4. I have not always been honest with myself.
5. I always know why I like things.
- *6. When my emotions are aroused, it biases my thinking.
7. Once I've made up my mind, other people can seldom change my opinion.
- *8. I am not a safe driver when I exceed the speed limit.
9. I am fully in control of my own fate.
- *10. It's hard for me to shut off a disturbing thought.
11. I never regret my decisions.
- *12. I sometimes lose out on things because I can't make up my mind soon enough.
13. The reason I vote is because my vote can make a difference.
- *14. My parents were not always fair when they punished me.
15. I am a completely rational person.

*16. I rarely appreciate criticism.

17. I am very confident of my judgments.

*18. I have sometimes doubted my ability as a lover.

19. It's all right with me if some people happen to dislike me.

*20. I don't always know the reasons why I do the things I do.

Impression Management

*21. I sometimes tell lies if I have to.

22. I never cover up my mistakes.

*23. There have been occasions when I have taken advantage of someone.

24. I never swear.

*25. I sometimes try to get even rather than forgive and forget.

26. I always obey laws, even if I'm unlikely to get caught.

*27. I have said something bad about a friend behind his or her back.

28. When I hear people talking privately, I avoid listening.

*29. I have received too much change from a salesperson without telling him or her.

30. I always declare everything at customs.

*31. When I was young I sometimes stole things.

32. I have never dropped litter on the street.

*33. I sometimes drive faster than the speed limit.

34. I never read sexy books or magazines.

*35. I have done things that I don't tell other people about.

36. I never take things that don't belong to me.

*37. I have taken sick-leave from work or school even though I wasn't really sick.

38. I have never damaged a library book or store merchandise without reporting it.

*39. I have some pretty awful habits.

40. I don't gossip about other people's business.

*, Items keyed in the "False" (negative) direction. Add one point for every "6" or "7" (minimum = 0; maximum = 20).

Paulhus, D. L. (1988). Balanced inventory of desirable responding (BIDR).

Acceptance and Commitment Therapy. Measures Package, 37-41.

Work Values Scale

The items below represent values that people consider to be important in their work. People use these values in making important decisions about their jobs and careers. They are not all considered to be equally important and different people place importance on different values. Carefully read each of the items below and indicate how important each item is to you by choosing a number that corresponds to the most appropriate response. If you feel that the item is opposed to your values, choose -1.

How important is each of the following to you WITH RESPECT TO WORK?

-1 Opposed to my values, 0 Not at all important to 7 Of supreme importance

Intrinsic factor

Doing work that is *intellectually stimulating*

Working on tasks and projects that *challenge your abilities*

Doing work that you find *interesting*, exciting, and engaging

Having the opportunity to *continuously* learn and develop new knowledge and skills

Extrinsic factor

Having *benefits* (e.g., vacation pay, health/dental insurance, pension plan, etc.) that meet your personal needs

Having the assurance of *job security*

Doing work that affords you a good *salary*

Lyons, S. (2003). *An Exploration of Generational Values in Life and* (Doctoral dissertation, Carleton University Ottawa).

Anxiety about Aging Scale

1 = strongly disagree to 5 = strongly agree

Factor I: Fear of Old People

1. I enjoy being around people.
3. I like to go visit my older relatives.
10. I enjoy talking with old people.
13. I feel very comfortable when I am around an old person.
19. I enjoy doing things for old people.

Factor II: Psychological Concerns

- *5. I fear it will be very hard for me to find contentment in old age.
7. I will have plenty to occupy my time when I am old.
11. I expect to feel good about life when I am old.
16. I believe that I will still be able to do most things for myself when I am old.
18. I expect to feel good about myself when I am old.

Factor III: Physical Appearance

4. I have never lied about my age in order to appear younger.
9. It doesn't bother me at all to imagine myself as being old.
12. I have never dreaded the day I would look in the mirror and see gray hairs.
15. I have never dreaded looking old.
- *20. When I look in the mirror, it bothers me to see how my looks have changed with age.

Factor IV: Fear of Losses

- *2. I fear that when I am old all my friends will be gone.
- *6. The older I become, the more I worry about my health.
- *8. I get nervous when I think about someone else making decisions for me when I am old.
- *14. I worry that people will ignore me when I am old.
- *17. I am afraid that there will be no meaning in life when I am old.

*Denotes items reversed for scoring purposes.

Lasher, K. P., & Faulkender, P. J. (1993). Measurement of aging anxiety: development of the Anxiety about Aging Scale. *The International Journal of Aging & Human Development*.

Manipulation check and random responding items

This person has been hired under a policy that favored...” It could be answered with one of three possible responses:

- (a) older workers
- (b) the most competent workers
- (c) I don't know

Please click agree if you are reading this

Strongly disagree Disagree Neutral Agree Strongly agree

Please click disagree if you are reading this

Strongly disagree Disagree Neutral Agree Strongly agree

Please click neutral if you are reading this

Strongly disagree Disagree Neutral Agree Strongly agree

APPENDIX D
INFORMED CONSENT

Informed Consent

Purpose: The purpose of this research is to examine students' implicit and explicit attitudes as well as their emotions and behaviors toward older workers. Students' aging anxiety will also be explored. This study is being conducted by Rachel Bravo under the supervision of Dr. Kenneth Shultz. This study has been approved by the Department of Psychology Institutional Review Board Sub-Committee of the California State University, San Bernardino, and a copy of the official Psychology IRB stamp of approval should appear on this consent form.

Procedures: If you choose to participate in this study, you will be asked to fill out an online survey through SONA in a computer lab setting. The study should take approximately 30 minutes to complete. You will receive 4 units of extra credit as compensation at the end of the session, which you can apply to a selected Psychology class at your instructor's discretion.

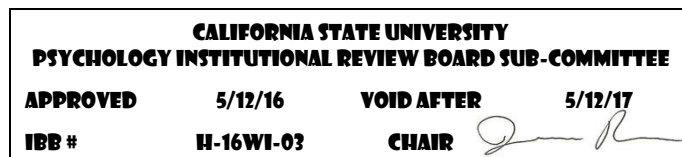
Confidentiality: The information you provide in this study will be anonymous. Your responses will not be in any way linked to your name and your name will not appear on any data reports. You will be asked to provide your name and SONA ID for extra credit points. This information will be stored separately from your survey responses to protect the anonymity of your responses. All survey responses will be stored in a password protected computer and only the research investigators will be able to access the data. The results of this study might be submitted for presentation at a scientific conference. If the research investigators decide not to publish the research, the data will be destroyed immediately after collection is completed.

Risks and Benefits: Participation in this study does not pose any foreseeable risks beyond those of daily life or provide any benefits to you. Although there are no benefits for you directly, this research has the potential to provide important information on younger workers' attitudes toward older workers considering each student will eventually be an older worker.

Participant's Rights: Your participation in this study is voluntary. You have the right to refuse to participate in this study, not answer any question, or terminate your participation at any time and still receive participation credit points.

Contact: Results from this study will be available from Rachel Bravo at bravr305@coyote.csusb.edu after April 3rd, 2017. If you have any complaints or comments regarding this study, you can contact Dr. Kenneth Shultz or the Psychology Institutional Review Board Sub-Committee at psyc.irb@csusb.edu.

By clicking on the "I agree" below, I acknowledge that I have been informed of and understand the nature and purpose of this study, and I freely consent to participate. I also acknowledge that I am at least 18 years of age.



REFERENCES

- Allan, L. J., & Johnson, J. A. (2009). Undergraduate attitudes toward the elderly: The role of knowledge, contact and aging anxiety. *Educational Gerontology, 35*(1), 1-14.
- Angiullo, L., Whitbourne, S. K., & Powers, C. (1996). The effects of instruction and experience on college students' attitudes toward the elderly. *Educational Gerontology: An International Quarterly, 22*(5), 483-495.
- Bal, A. C., Reiss, A. E., Rudolph, C. W., & Baltes, B. B. (2011). Examining positive and negative perceptions of older workers: A meta-analysis. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 66*(6), 687–698.
- Barnes-Farrell, J., & Matthews, R. A. (2007). Aging and work attitudes. Shultz, K. S., & Adams, G. A. (Ed.), *Aging and work in the 21st century* (pp 139-162). Psychology Press, 2012.
- Barrington, L. (2015). Ageism and Bias in the American Workplace. *Generations, 39*(3), 34-38.
- Blaine, B. E. (2012). *Understanding the psychology of diversity*. Sage Publications.
- Boswell, S. S. (2012a). "Old People are Cranky": Helping professional trainees' knowledge, attitudes, aging anxiety, and interest in working with older adults. *Educational Gerontology, 38*(7), 465-472.

- Boswell, S. S. (2012b). Predicting trainee ageism using knowledge, anxiety, compassion, and contact with older adults. *Educational Gerontology*, 38(11), 733-741.
- Bousfield, C., & Hutchison, P. (2010). Contact, anxiety, and young people's attitudes and behavioral intentions towards the elderly. *Educational Gerontology*, 36(6), 451-466.
- Brunton, R. J., & Scott, G. (2015). Do we fear ageing? A multidimensional approach to ageing anxiety. *Educational Gerontology*, (just-accepted).
- Cennamo, L., & Gardner, D. (2008). Generational differences in work values, outcomes and person-organisation values fit. *Journal of Managerial Psychology*, 23(8), 891-906.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.) Mahwah, NJ: Erlbaum.
- Cox, C. B., & Beier, M. E. (2014). Too old to train or reprimand: The role of intergroup attribution bias in evaluating older workers. *Journal of Business and Psychology*, 29(1), 61-70.
- Cuddy, A. J., Fiske, S. T., & Glick, P. (2007). The BIAS map: behaviors from intergroup affect and stereotypes. *Journal of personality and social psychology*, 92(4), 631-648.
- Fazio, R. H., & Olson, M. A. (2003). Implicit measures in social cognition research: Their meaning and use. *Annual review of psychology*, 54(1), 297-327.

- Finkelstein, L. M., & Farrell, S. K. (2007). An expanded view of age bias in the workplace. *Aging and work in the 21st century*, 73-108.
- Fiske, S. T. (2000). Stereotyping, prejudice, and discrimination at the seam between the centuries: Evolution, culture, mind, and brain. *European Journal of Social Psychology*, 30(3), 299-322.
- Fiske, S. T., Cuddy, A. J., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: competence and warmth respectively follow from perceived status and competition. *Journal of personality and social psychology*, 82(6), 878.
- Fraboni, M., Saltstone, R., & Hughes, S. (1990). The Fraboni Scale of Ageism (FSA): An attempt at a more precise measure of ageism. *Canadian Journal on Aging/La revue canadienne du vieillissement*, 9(01), 56-66.
- Funderburk, B., Damron-Rodriguez, J., Storms, L. L., & Solomon, D. H. (2006). Endurance of undergraduate attitudes toward older adults. *Educational Gerontology*, 32(6), 447-462.
- Gonsalkorale, K., Sherman, J. W., & Klauer, K. C. (2014). Measures of implicit attitudes may conceal differences in implicit associations the case of anti aging bias. *Social Psychological and Personality Science*, 1948550613499239.
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. (1998). Measuring individual differences in implicit cognition: the implicit association test. *Journal of personality and social psychology*, 74(6), 1464-1480.

- Haines, E. L., & Sumner, K. E. (2013). Digging deeper or piling it higher? Implicit measurement in organizational behavior and human resource management. *Human Resource Management Review*, 23(3), 229-241.
- Harris, L. A., & Dollinger, S. (2001). Participation in a course on aging: Knowledge, attitudes, and anxiety about aging in oneself and others. *Educational Gerontology*, 27(8), 657-667.
- Hopwood, C. J., Flato, C. G., Ambwani, S., Garland, B. H., & Morey, L. C. (2009). A comparison of Latino and Anglo socially desirable responding. *Journal of Clinical Psychology*, 65(7), 769-780.
- Huang, C. S. (2013). Undergraduate Students' Knowledge about Aging and Attitudes toward Older Adults in East and West: A Socio-Economic and Cultural Exploration. *The International Journal of Aging and Human Development*, 77(1), 59-76.
- Islam, M. R., & Hewstone, M. (1993). Intergroup attributions and affective consequences in majority and minority groups. *Journal of Personality and Social Psychology*, 64, 936–950.
- Iweins, C., Desmette, D., & Yzerbyt, V. (2012). Ageism at work: What happens to older workers who benefit from preferential treatment? *Psychologica Belgica*, 52(4), 327.
- Kessler, E. M., Tempel, J., & Wahl, H. W. (2014). Concerns about one's aging: The role of work context and psychological distress. *GeroPsych: The Journal of Gerontopsychology and Geriatric Psychiatry*, 27(2), 81.

- Kite, M. E., Stockdale, G. D., Whitley, B. E., & Johnson, B. T. (2005). Attitudes toward younger and older adults: An updated meta-analytic review. *Journal of social issues, 61*(2), 241-266.
- Kornadt, A. E., Meissner, F., & Rothermund, K. (2016). Implicit and explicit age stereotypes for specific life domains across the life span: Distinct patterns and age group differences. *Experimental aging research, 42*(2), 195-211.
- Krings, F., Sczesny, S., & Kluge, A. (2011). Stereotypical inferences as mediators of age discrimination: The role of competence and warmth. *British Journal of Management, 22*(2), 187-201.
- Landy, F. J. (2008). Stereotypes, bias, and personnel decisions: Strange and stranger. *Industrial and Organizational Psychology, 1*(4), 379-392.
- Lasher, K. P., & Faulkender, P. J. (1993). Measurement of aging anxiety: development of the Anxiety about Aging Scale. *The International Journal of Aging & Human Development.*
- Leslie, L. M., King, E. B., Bradley, J. C., & Hebl, M. R. (2008). Triangulation across methodologies: All signs point to persistent stereotyping and discrimination in organizations. *Industrial and Organizational Psychology, 1*(04), 399-404.
- Lin, X., Bryant, C., & Boldero, J. (2010). Measures for assessing student attitudes toward older people. *Educational Gerontology, 37*(1), 12-26.

- Lueke, A., & Gibson, B. (2015). Mindfulness meditation reduces implicit age and race bias the role of reduced automaticity of responding. *Social Psychological and Personality Science*, 1948550614559651.
- Lynch, S. M. (2000). Measurement and prediction of aging anxiety. *Research on Aging*, 22(5), 533-558.
- Lyons, S. (2003). *An Exploration of Generational Values in Life and* (Doctoral dissertation, Carleton University Ottawa).
- Malinen, S., & Johnston, L. (2013). Workplace ageism: discovering hidden bias. *Experimental aging research*, 39(4), 445-465.
- McConnell, A. R., & Leibold, J. M. (2001). Relations among the Implicit Association Test, discriminatory behavior, and explicit measures of racial attitudes. *Journal of experimental Social psychology*, 37(5), 435-442.
- Ng, T. W. H. and Feldman, D. C. (2012), Evaluating six common stereotypes about older workers with meta-analytical data. *Personnel Psychology*, 65, 821–858.
- North, M. S., & Fiske, S. T. (2012). An inconvenienced youth? Ageism and its potential intergenerational roots. *Psychological bulletin*, 138(5), 982.
- Nosek, B. A., Smyth, F. L., Hansen, J. J., Devos, T., Lindner, N. M., Ranganath, K. A., ... & Banaji, M. R. (2007). Pervasiveness and correlates of implicit attitudes and stereotypes. *European Review of Social Psychology*, 18(1), 36-88.

- Oh, S. Y., Bailenson, J., Weisz, E., & Zaki, J. (2016). Virtually old: Embodied perspective taking and the reduction of ageism under threat. *Computers in Human Behavior, 60*, 398-410.
- Ortman, J. M., Velkoff, V. A., & Hogan, H. (2014). An aging nation: the older population in the United States. Washington, DC: US Census Bureau, 25-1140.
- Palmore, E. B. (2005). Modernization theory. *Encyclopedia of ageism*, 231-232.
- Paulhus, D. L. (1988). Balanced inventory of desirable responding (BIDR). *Acceptance and Commitment Therapy. Measures Package*, 37-41.
- Paulhus, D.L. (2003). Self-presentation measurement. In R. Fernandez-Ballesteros (Ed.), *Encyclopedia of psychological assessment* (pp. 858–860). Thousand Oaks, CA: Sage.
- Phillips, J. E., & Olson, M. A. (2014). When implicitly and explicitly measured racial attitudes align: The roles of social desirability and thoughtful responding. *Basic and Applied Social Psychology, 36*(2), 125-132.
- Prior, K., & Sargent-Cox, K. A. (2014). Students' expectations of ageing: An evaluation of the impact of imagined intergenerational contact and the mediating role of ageing anxiety. *Journal of Experimental Social Psychology, 55*, 99-104.
- Rudman, L. A. (2008). The validity of the Implicit Association Test is a scientific certainty. *Industrial and Organizational Psychology, 1*(04), 426-429.

- Rudolph, C. W., & Baltes, B. B. (2008). Main effects do not discrimination make. *Industrial and Organizational Psychology*, 1(04), 415-416.
- Rupp, D. E., Vodanovich, S. J., & Credé, M. (2005a). The multidimensional nature of ageism: Construct validity and group differences. *The Journal of social psychology*, 145(3), 335-362.
- Rupp, D. E., Vodanovich, S. J., & Crede, M. (2006b). Age bias in the workplace: The impact of ageism and causal attributions. *Journal of Applied Social Psychology*, 36(6), 1337-1364.
- Schwartz, K., Joseph P. Simmons, L. (2001). Contact quality and attitudes toward the elderly. *Educational Gerontology*, 27(2), 127-137.
- Sherman, J. W., Gawronski, B., Gonsalkorale, K., Hugenberg, K., Allen, T. J., & Groom, C. J. (2008). The self-regulation of automatic associations and behavioral impulses. *Psychological review*, 115(2), 314.
- Stocké, V. (2007). Determinants and consequences of survey respondents' social desirability beliefs about racial attitudes. *Methodology*, 3(3), 125-138.
- Tabachnick, B. G., Fidell, L. S., & Osterlind, S. J. (2007). Using multivariate statistics. Boston: Pearson/Allyn & Bacon.
- Toossi, M. (2012). Labor force projections to 2020: a more slowly growing workforce. *Monthly Lab. Rev.*, 135, 43.