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The Challenges Of Young-typed Jobs And How Older Workers Adapt

Michael Reeves
University of Central Florida

THE CHALLENGES OF YOUNG-TYPED JOBS AND HOW OLDER WORKERS ADAPT

by

MICHAEL DENNIS REEVES
B.S. B.A. Sonoma State University, 2006
M.S. University of Central Florida, 2011

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ABSTRACT

This study sought to explore the challenges faced by older workers who do not fit the age-type of their jobs and how older workers adapt to overcome those challenges. Specifically, I surveyed a national sample of 227 workers 50 years of age and older, in a wide variety of jobs, on measures of perceived age discrimination and adaptation behaviors. I found that fit, as determined by career timetables theory, but not prototype matching theory, successfully predicted perceived age discrimination. Specifically, more age discrimination was perceived when fewer older workers occupied a job. Additionally, multiple regression analysis showed that career timetables theory, prototype matching theory, and measures of perceived discrimination interacted to predict adaptation behaviors. That is, older workers made more efforts appear younger at work when they perceived age discrimination in jobs occupied by fewer older workers and older women expressed greater desires to appear younger at work when they perceived age discrimination in jobs viewed as more appropriate for younger workers. Although older workers made a wide variety of efforts to appear younger at work, from changing the way they dressed to undergoing surgical procedures, the adaptation efforts believed to be the most effective against age discrimination were more oriented toward enhancing job performance than one's appearance. It is especially troubling that greater perceived age discrimination was found in young-typed jobs (than in old-typed jobs) given that the number of older workers occupying young-typed jobs is expected to rapidly grow in the near future and perceived discrimination is associated with mental and physical consequences for older adults. Understanding effective adaptations to age discrimination is a valuable first step in helping older workers overcome the

disadvantages they may face in the workplace, especially when they occupy young-typed jobs. Implications for theory and research are discussed.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER ONE: INTRODUCTION

This dissertation sought to understand the challenges faced by older workers when working in jobs that are commonly believed to be more appropriate for younger workers (i.e., young-typed jobs) and how older workers adapt to overcome the challenges they face. Theories of worker fit have been rather successful in showing that employers' expectations and evaluations decrease when workers and their stereotypes do not match the stereotypes related to the job (Dipboye, 1985; Goldberg, 2007; Perry & Finkelstein, 1999). Multiple studies have supported fit theories by showing that less is expected of older workers and they are given poorer evaluations when the job in question is perceived to more congruent with a young worker (e.g., Finkelstein, Burke, & Raju, 1995; Perry, Kulik, & Bourhis, 1996; Perry & Bourhis, 1998). However, little attention has been paid to the cognitive and behavioral responses of the workers who are treated differently due to their poor fit with a job, especially in the ageism literature. My dissertation was dedicated to exploring the other side of fit theories by extending the two most common fit theories in the ageism literature (i.e., prototype matching and career timetables) to the perceptions of older workers across jobs stereotyped to be more approprite for younger or older workers, as well as the behavioral responses older workers show in each situation. In other words, do older workers perceive that they are being discriminated more in young-typed jobs and how do they respond to adapt in unfavorable situations (e.g., dressing more youthful, speaking more youthful, using creams to hide wrinkles, injecting botox, getting a face-lifts, etc.; see figure 12)?

Understanding the Challenges of Young-Typed Jobs – Why it is Important

Age-type, the belief that some jobs are more appropriate for older workers and others are more appropriate for younger workers, is associated with the poor treatment of older workers and legal action against businesses. For instance, laboratory studies have shown that older workers receive lower evaluations and are expected to perform more poorly than younger workers when attempting to occupy a young-typed job, but not when attempting to occupy an old-typed job (e.g., Finkelstein, Burke, & Raju, 1995; Perry, Kulik, & Bourhis, 1996). According to legal briefings, lawsuits are more likely to make it to trial the older worker does not match the job's age-type (Reeves et al., 2013).

Making the problem worse, changes in the U.S. workforce and labor demands are expected to force a large number of older workers into young-typed jobs. The 55+ workforce is growing 36 times faster than any other age group (U.S. Bureau of Labor Statistics, 2010) and the number of positions in young-typed jobs is growing significantly faster than positions in old-typed jobs (Reeves et al., 2013). With more older workers moving into jobs believed to be more appropriate for younger workers, the challenges associated with poor perceived fit will affect a large segment of the workforce. Specifically, older workers in young-typed jobs will likely experience more dicrimination, which can range from avoidance, unfriendly communication, and lack of eye contact (Pettigrew & Martin, 1987) to more severe forms like withholding privileges of employment (*Hazen Paper Co. v. Biggins*, 1993). Following experiences of age discrimination, older workers tend to experience poorer mental and physical health (Grosch, Roberts, & Grubb, 2005).

The costs of discrimination go beyond those endured by the individual and also impact

organizations. Workers who perceive discrimination show lower productivity (Dovidio, Gaertner, Kawakami, & Hodson, 2002), reduced job satisfaction and organizational commitment (Ensher, Gran-Vallone, & Donaldson, 2001; Sanchez & Brock, 1996), increased turnover intentions (Nyberg, 2010), fewer organizational citizenship behaviors (Ensher et al., 2001), and greater turnover (Schneider, Hitlan, & Radharkishnan, 2000), all of which are estimated to cost employers $64 billion each year (Bradford, 2012). Age discrimination also hurts companies through costs derived from litigation. Companies involved in age discrimination claims were required to pay over $95 million in damages during 2011, which is $10 million more than claims for race, religion, national origin, and any dissability (Equal Employment Opportunity Commission, 2011). The number of costly age discrimination claims has increased 100% since the late 90s (Equal Employment Opportunity Commission, 2011) and will continue to grow if we do not understand the challenges faced by older workers in unfavorable situations and how these challenges can be overcome. The aforementioned evidence highlights the importance of furthering our understanding of older worker's experiences at work.

The Current Study

I explored the discrimination perceived by older workers across old and young-typed jobs and how they adapted by surveying older workers in a wide variety of jobs (see figures 16 and 17). To discover the experiences that are unique to older workers in young-typed jobs, I included older workers across a wide variety of age-typed jobs, from strongly young-typed to strongly old-typed. The survey assessed the extent to which older workers have perceived age discrimination in their workplace and the adaptation behaviors they have used, the desires they

have had to use adaptations, and the adaptation behaviors older workers believed to be successful in reducing the age discrimination across old and young-typed jobs. Further, I explored whether older workers in young-typed jobs used a greater number or more extreme adaptation behaviors (e.g., dressing more youthful vs. cosmetic surgery) and if they were motivated to do so in order to reduce the discrimination they experience. To attain the age-type measures of each job, an independent sample responded to a survey containing multiple approaches to conceptualizing worker fit for each job, stemming from prototype matching theory (i.e., general age-type to assess category-level matching and centrality of stereotypically age-related features to assess attribute/feature-level matching) and career timetables (i.e., normative age group and age composition to assess age deviations from the norm). I used multiple approaches to assess worker fit through varying theoretical conceptualizations of age-type to explore which of the many popular approaches best predicts perceived age discrimination and the behavioral response of using adaptation behaviors. By assessing various approaches to worker fit through age-type and their relationships with older workers' perceptions and behaviors, I have explored the other side of prototype matching and careertimetables – the side of the older worker.

Theoretical Contribution

Considering that the focus of this study was based upon the degree to which older workers fit the age-types of their jobs, fit theories form my theoretical framework. I chose two competing theories of worker fit – prototype matching (Niedenthal, Cantor, & Kihlstrom, 1985; Perry, 1994) and career timetables (Lawrence, 1988). Prototype matching theory operates through two forms of cognitive processing, category-based processing and attribute-based

processing. In category-based processing, people form a degree-of-match between a worker and a job by comparing the social category of the worker (i.e., older worker, younger worker) and the overall age-type of the job (i.e., older worker's job, younger worker's job). In attribute-based processing, people form a degree-of-match between the stereotypical features associated with older workers (e.g., flexibility, drive for achievement) and the features central to the job (Finkelstein & Farrell, 2007; Goldberg, 2007; Perry, 1994; Perry & Finkelstein, 1999). Career timetables operates through a more social approach, wherein people form age norms of jobs based upon the typical ages of people in those jobs. The fit of an older worker is based upon a comparison to the age norms. When jobs have young age norms, older workers are viewed as low achievers and unable to keep up with their peer groups, which leads to lower evaluations (Lawrence, 1988).

Both theories have been successfully tested by assessing perceptions of employers and decision makers. However, these theories had not been used in predicting the perceptions and behaviors of older workers. Therefore, my study contributed by testing the unexplored side of prototype matching and career timetables theory – the side of the older worker. I assessed whether either theoretical approach to worker fit was capable of predicting older workers' perceptions of discrimination and their behavioral response of using adaptation behaviors (see figure 1). Additionally, I compared two theories to determine whether prototype matching or career timetables offers a stronger approach to predicting perceived age discrimination and the use of adaptation behaviors. By comparing the two most popular fit theories in the ageism literature, I am able to guide future researchers, who would also like to explore the other side of fit theories, in their choice of theory and conceptualization of age-type when attempting to

predict the perceptions and behaviors of older workers.

Practical Contributions

In addition to the theoretical contributions, my dissertation results have made practical contributions. I identified the specific job-related contexts that predict greater instances of perceived discrimination. I also identified the specific adaptation behaviors that are believed to have worked for older workers across old and young-typed jobs. By identifying the ways older workers have successfully adapted to reduce their perceptions of discrimination, my results offer approaches to reduce the discrimination older workers face. Career guidance resources and the popular press offer an overwhelming amount of suggestions to reduce the likelihood of discrimination in the workplace (Clarke & Griffin, 2008; Geyer, 2006; Enelow & Bolt, 2006; financialhighway.com; how-to-write-a-resume.com; Madden, 2012; McKinney, 1999; Muise & Desmarias, 2010; resumepower.com; Rosen & Ablaza, 2006; Ryan, 2010; Tanner, 2006; Vollmer, 2005), however, no source could say which behaviors have worked for older workers in the past. My results not only provide suggestions to reduce the likelihood of discrimination, but also how successful each suggestion has been in reducing perceptions of discrimination in the past. By exploring older workers' experiences across old and young-typed jobs, my results have the potential to reduce future experiences of age discrimination by offering concrete examples of adaptation behaviors that have worked for older workers in a wide variety of jobs.

Literature Review

In the next section, I will review the literature that explains why older workers experience

more challenges when they do not fit their job's age-type and the behaviors they have used to adapt in environments that value youth.

CHAPTER TWO: LITERATURE REVIEW

Ageism and the "Older" Worker

The U.S. workforce has recently seen dramatic demographic shifts. In the past decade the number of workers over age 65 increased 46% (U.S. Bureau of Labor Statistics, 2009). Additionally, the number of workers over the age of 55 is expected to grow at a much larger rate than any other age group, making up over one-third of all workers before the end of the decade (U.S. Bureau of labor statistics, 2010). Older workers, once considered minorities, now have a large presence in the workforce, and they continue to experience ageism (Equal Employment Opportunity Commission, 2011). Ageism was originally defined by Robert Butler (1969) to be:

> the subjective experience implied in the popular notion of the generation gap…a deep seated uneasiness on the part of the young and middle-aged—a personal revulsion to and distaste for growing old, disease, disability, and fear or powerlessness, 'uselessness,' and death.

To be more applicable in social scientific research, Butler (1980) later altered his original definition to include "institutional practices and policies that perpetuate stereotypes about older adults, reduce their opportunity for life satisfaction, and undermine their personal dignity" (Nelson, 2002, p. 339). According to the original definition, ageism was merely an attitude, but it evolved to focus on negative behaviors directed toward older workers – behaviors that we commonly refer to today as age discrimination.

The term "older" worker is difficult to define, as all workers are in fact aging workers. Federal law defines an older worker as any person 40 years of age and over (Age Discrimination

in Employment Act, 1967). Although, a meta-analysis by Finkelstein, Burke, and Raju (1995) found that lab simulations of ageism typically view older workers as between 55 and 65 years of age. If we use a more functional approach and define "older" according to one's abilities, it becomes far more complicated. Many declines in functioning begin prior to the arbitrary age of 55. For instance declines in fluid intelligence begin shortly following late adolescence (Horn, 1978, 1989; Wang & Kaufman, 1993) and spatial ability tends to steadily decline following one's 30s (Salthouse, 1982). Declines in physical abilities can also take place prior to 55. For instance, structural changes to the eye begin in one's 40s, causing problems with vision. Conversely, many other functions decline in later years. Vision problems due to changes in the retina begin in one's 50s (Kline & Schieber, 1982), declines in height and walking speed begin in one's 60s (Khalil et al., 1994; Laux, 1995), and hearing problems from reduced sensitivity to high-pitched tones begin in one's 70s (Gulya, 1995). Additionally, there is a large degree of variability across older adults when it comes to ability loss (Smither & Mouloua, 2004) and it is therefore nearly impossible to select a chronological age that defines older workers based on changes in abilities.

Due to the difficulty in choosing an age to represent an "older worker" according to the loss of various abilities, I will conceptualize "older" in a way that is consistent with past research, measures, and available of data that is critical to my study. Ashbaugh and Fay (1987) found in their review of 105 ageism studies, which included more than just lab simulations, 80% of researchers conceptualized "older workers" as being 50 years of age and over. Similarly, the only existing measure of older worker stereotypes (Worker-Related Age-Based Stereotype Scale (WAS); Marcus, Fritzsche, & Le, 2011) considered older workers to be 50 and over. Lastly, the

U.S. Bureau of Labor Statistics reports age related data according to decades, allowing me to extract data of workers 50 years of age and over, but not 55 years and over. To be consistent with my stereotype measure, age data, and past field studies, my dissertation will consider "older" workers to be anybody employed over the age of 50.

The Changes Workers Experience as They Age

As workers age, many cognitive, physical, and attitudinal changes can occur. These changes can be both positive and negative (Salthouse, 1990, 1992) and the changes that do occur are rarely the same from person to person (Shimura, Berry, Mangels, Rusting & Jurica, 1995). For instance, it is common for older adults to experience increases in the type of intelligence that is most highly related to typical intellectual performance (Horn, 1978, 1989; Goff & Ackerman, 1992). It is also common for older adults to experience declines in certain cognitive functions like processing speed (Cerella, 1990; Salthouse, 1985; Salthouse, 1996), but loss of functions vary greatly across people (Botwinick, 1984) and it is rare for someone to experience reductions in all functions (Shaie, 1996). Additionally, older workers tend to develop strategies to overcome their losses in abilities (Baltes & Baltes, 1990). Considering the increases in some abilities (Kaufman, 1990), strategies to overcome losses in other abilities (Freund & Baltes, 1998, 2002), and the enhanced attitudes that are displayed as we age (Ng & Feldman, 2010), it is no surprise that older workers perform as well (McEvoy & Cascio, 1989), if not better than younger workers in their jobs (Ng & Feldman, 2008: Waldman & Avolio, 1986). In the sections below, I will elaborate upon the cognitive, physical, and attitudinal changes that occur as workers age and how they relate to the job performance of older workers.

Changes in Cognitive Ability

It has been well documented that chronological age is related to declines in certain cognitive resources, including working memory, processing speed, inhibition function, and sensations (Park, 2000). These cognitive limitations in certain older subgroups lead to decreased mean performance levels across older samples in assessments of general speed (Bunce et al., 1996; Park et al., 1996; Robertson-Tchabo & Arenberg, 1976), episodic memory (Bors & Forrin, 1995; Crook & West, 1990; Fastenau et al., 1996), working memory (Hooper et al., 1984; Perlmutter & Nyquist, 1990), reasoning (Bromley, 1991; Charness, 1987; Koss et al., 1991), and spatial ability (Kaufman et al., 1989; Salthouse & Mitchell, 1990; Tamkin & Jacobsen, 1984). According to a meta-analysis by Salthouse (1992) this overall age-related decline in cognitive ability is moderately large.

There are multiple explanations for age-related differences in scores on cognitive performance measures, the first of which emphasizes a general decrease in processing speed (Cerella, 1990; Salthouse, 1985; Salthouse, 1996). That is, declines in the speed of processing are largely responsible for decrements in cognitive performance (Salthouse, 1991). Salthouse (1993) demonstrated support for this logic by showing that processing speed significantly impacted age-related performance on several verbal tasks. Salthouse (1996) then found that reduced processing speeds associated with age may determine lower performance on most cognitive tasks. The reason being that when processing speed is slow, it may not be possible to successfully complete all tasks when their time is limited and the outcomes of prior cognitive processing may no longer be available for older adults once processing is finished (Park, 2000).

The second major approach to explaining age-related decrements in cognitive ability is

through age-related differences in working memory. According to Baddeley (1992), working memory is the extent of cognitive resources that deliver concurrent information processing and storage. In other words, working memory is one's ability to store information, and simultaneously process information in the same instance. Numerous studies have noted age-related declines and differences in working memory (e.g. Heron & Chown, 1967; Horn et al., 1981; Kirasic et al., 1996; Park et al., 1990), with older individuals showing decrements in their ability to simultaneously process and store new information. It has been proposed that this is due to limited processing resources (Van der Linder, Bredart, & Beeten, 1994), reduced storage capacity (Salthouse, 1991), or a combination of the two (Foos, 1995). This approach has been used to explain the moderating effect of task complexity. Past studies have shown that as task complexity increases, the difference between older adult and younger adult performance intensifies (e.g. Cherry, Park, Frieske, & Smith, 1996; Morrell & Echt, 1996). As the task increases in complexity, it places additional demands on working memory, particularly with respect to processing. As more working memory resources are dedicated to processing information, fewer are available to preserve existing information.

In 1992, Salthouse demonstrated that about 50% of the age-related variance in cognitive performance was explained by working memory. In a later meta-analysis by Salthouse (1993) it was found that 73% of the age-related variance in cognitive performance was explained by processing speed. Therefore, working memory and processing speed explain much of the cognitive differences between older and younger workers. Numerous other studies have identified overlapping variance between working memory and processing speed, indicating that these determinants of cognitive ability are not independent from one another (e.g. Park et al.,

1996). In a meta-analysis to assess the dynamics of the processing speed, working memory, and cognitive performance relationships, Salthouse (1996) found that both processing speed and primary/working memory largely mediate the relationship between age and most cognitive performance tasks. Additionally, processing speed was found to partially mediate the relationship between age and working memory. Therefore, performance outcomes on measures of cognitive ability are largely a function of processing speed and working memory. Since processing speed and working memory decrease on average with chronological age, performance on cognitive tasks will decrease at a greater rate in older adults as processing speed and working memory demands increase.

Why general declines in cognitive ability do not equate to declines in job performance. Although there is a general trend showing a decrease in cognitive functioning as workers age (Avolio & Waldman, 1990), that trend does not mean job performance decreases with age (Rosen & Jerdee, 1988). Past research has clearly shown that age-related declines in cognitive ability have not impacted the job performance of older workers. A meta-analysis by McEvoy and Cascio (1989) resulted in no relationship between age and job performance. Another early meta-analysis demonstrated an increase in productivity and peer evaluations as workers aged (Waldman & Avolio, 1986). Subsequent studies have continued to illustrate that age is not related to job performance (Ali & Davies, 2003; Avolio, Waldman, & McDaniel; Liden, Stilwell, & Ferris, 1996). A more recent meta-analysis by Ng and Feldman (2008) found that age was largely unrelated to core task performance, but older workers are more likely to display positive behaviors that contribute to productivity, such as organizational citizenship behaviors.

A strong explanation for the nonexistent and sometimes positive relationship between age and job performance is that there is a high degree of variability among older populations (Botwinick, 1984; Shimura, Berry, Mangels, Rusting & Jurica, 1995). Declines do not take place in all older adults and changes in functioning are often multidirectional within individuals. Certain abilities may decrease with age in some people, while they enhance with age in others (Salthouse, 1990). Many losses of function can be stopped or slowed by treating diseases and living a healthy lifestyle (Shute, 1997). In fact, several cognitive functions are unrelated (Cavanaugh, 1998) and others even increase with age (Horn, 1978, 1989; Horn & Cattell, 1967; Kaufman, 1990, Kaufman, Reynolds, & McLean, 1989).

When understanding why there is not an age-related decrease in job performance, it is critical to consider that crystallized intelligence, the form of intelligence that is most related to typical intellectual performance (i.e., a person's usual performance during an intellectual task) actually increases with age (Ackerman, 1994). Simply stating that age is related to cognitive decline is a dramatic overgeneralization, especially when considering the age-related differences in the two forms of intelligence that most highly relate to general mental ability - crystallized intelligence and fluid intelligence (Carroll, 1993). Crystallized intelligence consists of a person's base of knowledge (Cattell, 1941, 1943, 1971), involving language development, verbal language comprehension, lexical knowledge, reading comprehension, reading decoding, cloze ability, spelling ability, phonetic coding, grammatical sensitivity, foreign language aptitude, communication ability, listening ability, foreign language proficiency, reading speed, oral production and fluency, and writing ability (Carroll, 1993). Fluid intelligence consists of abilities in reasoning and higher mental processes, wherein crystallized skills do not offer an advantage

(Cattell, 1941, 1943, 1963, 1971), involving general sequential reasoning, induction, quantitative reasoning, Piagetian reasoning, and speed of reasoning (Carroll, 1993).

Numerous studies, both cross-sectional and longitudinal, have shown that although fluid intelligence may peak in late adolescence (Horn, 1978, 1989; Wang & Kaufman, 1993), crystallized intelligence, which is a function of learning and accumulating abilities overtime, may be positive related to age (Horn, 1978, 1989; Horn & Cattell, 1966, 1967; Kaufman, 1990, Kaufman, Reynolds, & McLean, 1989; Shaie, 1996). A seminal study by Horn and Cattell (1967) demonstrated that crystallized intelligence was systematically higher for adults in the older age group (i.e., 40-61) than adults in younger age groups and no difference was shown for general speediness, carefulness, and fluency factors. In a later study, Cunningham, Clayton, and Overton (1975) used a sample of slightly older adults (i.e., 60-79) and found that the correlation between crystallized and fluid intelligence is significantly lower for older adults than younger adults. These studies demonstrate the flaw in stating that cognitive ability declines with age, when in fact crystallized intelligence increases as one ages. Increases in crystallized intelligence may give older workers many advantages relevant to job performance.

Although increases in crystallized intelligence provide older workers with advantages when performing in their jobs, this advantage may not appear in many selection tests. Selection tests commonly involve maximal intellectual performance, which is defined as a worker's level of performance when all of their effort is dedicated to an intellectual task (Goff & Ackerman, 1992). Unfortunately, maximal intellectual performance is related to fluid intelligence (Ackerman, 1994), which declines after late adolescence (Horn 1978, 1989). Typical intellectual performance, which is a worker's average level of performance across multiple situations (Goff

& Ackerman, 1992), is more strongly related to crystallized intelligence (Ackerman, 1994), which increases with age (Kaufman, Reynolds, & McLean, 1989). Considering that most job performance occurs in the context of typical performance, workers should experience more performance-related advantages on the job as they their crystallized intelligence increases with age. In other words, although it may not appear in selection tests that solely measure maximal performance, older workers have job-related advantages due to their increased crystallized intelligence and typical performance. Additionally, the knowledge that increases throughout one's life rarely gives older workers an advantage in selection contexts, as employee selection is largely based on ability, rather than knowledge assessments (Beier & Ackerman, 2009). Time-related gains in knowledge, such as that related to interpersonal interaction and the management of people, greatly transfers across jobs (Motowidlo & Beier, 2010), giving an advantage to older workers. However, the increased knowledge of older workers will not give an advantage in selection contexts, which most commonly measure intellectual ability, rather than knowledge (Beier & Ackerman, 2012).

Changes in Physical Ability

In addition to changes in cognitive abilities, older workers also experience various changes in physical abilities. Movement control is one of the most job related changes that workers experience as they age. Movement control has been widely studied in the literature on aging (e.g. Welford, 1977; Ketcham and Stelmach, 2002). Previous studies have determined that the degree of variability in movement precision is greater in older adults than younger adults in both eye (Abrams, Pratt, & Chasteen, 1998; Tedeschi, et al., 1989; Warabi, Kase, & Kato, 1984)

and extremity movement (Ketcham, Seidler, Van Gemmert, & Stelmach, 2002). There are two primary causes for the reduction in movement control. The first is due to general muscle loss (Metter et al., 1999), particularly involving reduced quantity and size of type II or fast-twitch fibers (Lexell, 1993). According to Yamada et al. (2002), existing motor units become reorganized to involve additional muscle fibers per innervation. This changes the dynamics of force output in older adults, in that the smoothness of muscle activation is reduced relative to younger adults (Roos et al., 1997; 1999). The second cause is reduced sensitivity of joints and muscles (Lord, Rogers, Howland, & Fitzpatrick, 1999). This has resulted in a reduced capability to match limb positions that are displayed by a contralateral limb (Stelmach & Sirica, 1986; Stelmach & Worrington, 1985) as well as determining the position of one's own limb (Pettrella, Lattanzio, & Nelson, 1997). Whether using tools, operating machinery, or simply controlling a computer mouse (Charness, Kelly, Bosman, & Mottram, 2001; Smith, Sharit, & Czaja, 1999; Walker, Philbin, & Fisk, 1997; Worden, Walker, Bharat, & Hudson, 1997), older workers can be placed at a disadvantage when they experience reductions in motor control.

Vision is another physical ability that has been shown to decline with age. For instance, the pupillary aperture in the pigmented iris muscle is responsible for the amount of light that enters the eye. As we age, pupillary miosis becomes more likely. Pupillary miosis occurs when the pupil's average diameter relative to the present illumination level decreases (Schieber, 2006). As a result, a reduced amount of light is able to enter the eye and reach the retina. Owsley et al. (1999) demonstrated that older adults tend to report problems in visual task performance in conditions of low illumination. This is largely due to the loss in visual acuity at lower lighting levels (Kline & Scialfa, 1997). As a result, many older workers performing physical tasks in

darker settings (e.g., many warehouses or outdoors during night shifts) are disadvantaged due to their vision.

Other age-relevant changes to the eye include degeneration of the macula (Holland, 2001) and lost elasticity in the lens (Atchison, 1995). The macula, which is part of the retina, is mostly used for color vision and fine spatial resolution (Schieber, 2006). Destruction of the visual receptors in the macula as well as the peripheral retina causes poor ability to see detail, which becomes exasperated under conditions of low light (Kline & Scialfa, 1997). Adding to the problems caused by macular degeneration, the lost elasticity in the lens leads to reduced ability to undergo accommodation (Atchinson, 1995), which is the ability to alter the lens' shape. The inability to alter the lens' shape decreases focusing power in older adults (Hofsetter, 1965). Therefore, certain physical differences in age-based subgroups lead to a reduced ability to see detail and focus. With a reduction in one's ability to see, older workers performing a wide variety of tasks, from controlling vehicles (Owsley et al., 1998; Smither et al., 2004) to reading printed text (even while wearing glasses; Laux, 1995) are placed at a disadvantage. With such disadvantages, older adults must find ways to compensate in order to continue being successful in their careers and compete with younger workers.

Why general declines in physical ability do not equate to declines in performance. With general trends of decline in physical abilities, as well as cognitive abilities, one may question how older workers are able to perform in their jobs as well or better than younger workers. First, it is important to note that older adults differ dramatically with respect to ability loss (Smither & Moloua, 2004). Adults who differ genetically, demographically, or in their health behaviors will likely experience differences in the types of abilities that decline and the

degree to which their abilities decline. Rarely do older adults experience decline in all functions (Shaie, 1996). Second, workers who perform poorly are often weeded out as time passes, regardless of age, leaving few performance differences among workers (Kanfer, Crosby, & Brandt, 1988). Third, older workers tend to acknowledge their new found limitations and use strategies to make up for them, such as narrowing one's focus to the most important goals, building specific skills to attain their goals, and using technology and external aids to compensate for their limitations (Abele & Wiese, 2008; Freund & Baltes, 2002).

The strategies older workers use to overcome declines in physical and cognitive abilities are formally labeled as selection, optimization, and compensation (SOC) (Baltes, 1997; Baltes & Baltes, 1990; Freund & Baltes, 1998, 2002). Selection is the strategy of focusing on a smaller number of the most critical activities. There are two forms of selection, elective selection and loss-based selection. Elective selection involves a person's choice to focus on specific activities out of all options available (e.g., choosing to devote time to develop certain computer skills rather dedicating the same time to develop a wide variety of skills), whereas loss-based selection involves the loss of resources that restricts one's option to focus on certain activities. Optimization involves enhancing skills and abilities in order to attain the goals a person selects, such as enhancing the existing knowledge and skills a person has with a software application. Lastly, compensation involves utilizing external aids and technology to sustain a necessary level of performance in times when earlier strategies no longer allow the older worker to achieve desired goals. (Abraham & Hansson, 1995; Bajor & Baltes, 2003; Baltes & Dickson, 2001). For instance, older users can reduce their speed setting of their computer mouse to overcome motor control issues and increase accuracy (Walker, Millians, & Worden, 1996) or use direct input

devices (e.g., touch screen, light pen) to overcome issues with controlling movement on one plane with a mouse to represent movement on another plane through a monitor (Charness, Holley, Feddon, & Jastrzembski, 2004).

Past studies have shown that adults choose to use SOC strategies more as they age (Freund, 2006; Freund & Baltes, 2002; Yeung, Lan, & Dannii, 2009). The use of SOC strategies is likely a result of workers acknowledging age-related decreases in abilities and choosing to narrow their focus to specific strategies that will help them succeed in the most important tasks. According to Abraham and Hansson (1995), older workers who used more selection and optimization strategies achieved higher self-reported performance maintenance and older workers who used more compensation strategies reported higher goal attainment. Yeung and Fung (2009) found that older workers were better able to maintain their job performance (i.e., sales productivity) when they used elective selection and compensation. They also found that the use of elective selection was positively related to perceived task performance. Yeung, Lan, and Dannii (2009) found similar results in that the use of elective selection and compensation was associated with higher job performance for older workers, but SOC strategies did not always help younger workers. Lastly, a study by Abele and Wiese (2008) demonstrated that the use of optimization is associated with subjective and objective career success.

Changes in Job Attitudes

As Posthuma and Campion (2009) noted in their review, there is "virtually no research" showing that older workers display more negative attitudes and their resulting behaviors (e.g., more resistant to change, less willing to adapt and be flexible) than younger workers. However, a

large amount of research exists showing that older workers display more positive attitudes at work (Ng & Feldman, 2010). A strong explanation for older workers possessing more positive job attitudes stems from socioemotional selectivity theory, which states that people maximize their social and emotional gains and minimize social and emotional risks as they age (Carstensen, 1991). The need to maximize social and emotional gains has been shown to motivate older workers in particular to satisfy their social and emotional needs at work (Ebner, Freund, & Baltes, 2006; Kanfer & Ackerman, 2004). Much research has shown that older adults and workers are more apt to attend to positive information and use more intricate cognitive processes to recall information that is positive. Yet, older adults and workers tend to avoid and suppress negative information (Issacowitz, Wadlinger, Goren, & Wilson, 2006; Levine & Bluck, 1997; Mather & Carstensen, 2003; Mather & Johnson, 2000; Mather & Knight, 2005). It makes sense that the workers who focus on and recall positive information, while avoiding and suppressing negative information will display more positive attitudes while at work.

In an early qualitative review by Rhodes (1983), it was discovered that workers do in fact display more positive job satisfaction, work satisfaction, job involvement, job motivation, and affective commitment as they age. More recently, Ng and Feldman (2010) conducted a meta-analysis relating job attitudes to age. Their inclusion of job attitudes was guided by Tett and Burnett's (2003) personality-situation interactionist model of job performance, in that the job attitudes were categorized according to task-based, social-based, and organization-based attitudes. In the category of task-based attitudes, it was found that age was associated with higher job satisfaction, work satisfaction, pay satisfaction, intrinsic work motivation, and job involvement. Older workers also displayed a better sense of job control and a sense of lower role

conflict, role ambiguity, role overload, and burnout dimensions (i.e., emotional exhaustion, depersonalization, personal accomplishment). In the category of social-based attitudes, age was related to higher satisfaction with coworkers, satisfaction with supervisors, interpersonal trust, and lower interpersonal conflict. Lastly, the category of organization-based attitudes included greater organizational commitment, affective commitment, normative commitment, continuance commitment, and identification with the organization, loyalty, perceived of person-organization fit, perceived distributive fairness, perceived organizational support, and trust in the organization.

Why changes job attitudes equate to better job performance. Considering that workers with more positive work attitudes tend to be more motivated (Chen & Bargh, 1999) and show better job performance (Harrison, Newman, & Roth, 2006), it is no surprise that older workers display greater motivation (Okun, Barr, & Herzog, 1998) and as good, if not better performances at work, compared to younger workers (Avolio, Waldman, & McDaniel, 1990; McEvoy & Cascio, 1989; Rosen & Jerdee, 1988; Waldman & Avolio. 1986). Older workers especially appear to be valuable when considering behaviors that contribute to productivity, beyond core task performance. Past studies have shown that age is related to lower hostility (Barefoot, Beckham, Haney, Siegler, & Lipkus, 1993), higher emotional intelligence (Chapman & Hayslip, 2006; Siu, Spector, Cooper, & Donald, 2001), organizational citizenship behaviors, compliance with safety rules and procedures, and fewer counterproductive work behaviors like aggression, on-the-job substance abuse, and voluntary absence (Ng & Feldman, 2008).

If Older Workers Perform as Good or Better in their Jobs, Why Are They Stereotyped To Perform More Poorly?

Despite large amounts of evidence that older workers perform as well (McEvoy & Cascio, 1989), if not better (Ng & Feldman, 2008; Waldman & Avolio, 1986) in their jobs than younger workers, many people expect older workers to perform more poorly (Cuddy & Fiske, 2002; Gordon & Arvey, 2004; Hedge et al., 2006). Older workers are commonly believed to perform more poorly in their jobs because society holds multiple stereotypes of older workers that relate to job performance (Posthuma & Campion, 2009) and these stereotypes are typically negative (Finkelstein et al., 1995; Gordon & Arvey, 2004; Kite & Johnson, 1988). Common stereotypes of older workers include being absent-minded (Kogan & Shelton, 1960), resistant to change, lacking in creativity, slow in judgment, lower in physical capacity, lacking interest in technology (Rosen & Jerdee, 1976a, 1976b, 1977; Taylor & Walker, 1998; Weiss & Maurer, 2004), contributing less (Perry & Verney, 1978), less productive, less able to learn, and less motivated (Posthuma & Campion, 2009). Older workers are also seen as less ambitious and more opinionated (Craft, Doctors, Shkop, & Benecki, 1979), as well as lower in development potential (Crew, 1984; Gibson, Zerbe, & Franken, 1993; Rosen & Jerdee, 1976), energy (Levin, 1988; Parsons & Mayne, 2001), and flexibility (Rosen & Jerdee, 1977; Vrugt & Schabracq, 1996). Additionally, older workers are perceived to not work well in team settings (Lyon & Pollard, 1997) and as less valuable economically (Finkelstein, Higgins, & Clancy, 2000). Additional stereotypes involve lower responsiveness to training (Cleveland & Shore, 1992; Maurer & Rafuse, 2001) and reduced interpersonal skills, stamina, physical strength, competence, and

dexterity (Finkelstein & Burke, 1998; Kite, Stockdale, Whitley, & Johnson, 2005; McMullin & Marshall, 2001).

Although far fewer (Finkelstein et al., 1995; Gordon & Arvey, 2004; Kite & Johnson, 1988), older workers do have some positive stereotypes that enhance society's perception of them. The positive stereotypes tend to be related to the better attitudes older workers display in their jobs. These positive stereotypes include dependable, stable, honest, trustworthy, loyal, committed, sincere, sociable, and less likely to steal (Postuma & Campion, 2009).

Several studies have found that both positive and negative older worker stereotypes are commonly based on the general dimensions described in the stereotype-content model (Fiske, Cuddy, & Glick, 2007), which consists of warmth and competence. In western cultures, people commonly view their ingroup as high in both dimensions, but view minority groups as lacking in one or more dimension (Kassin, Fein, Markus, 2011). Minority groups that are not viewed as strong competition for resources (e.g., older adults) are often viewed as high in warmth. Additionally, groups that are considered lower in social status, like older adults, are also considered low in competence. As a result, older workers commonly rate highly on the dimension of warmth, but low on the dimension of competence (Fiske, Cuddy, Glick, Xu, 2002; Krings, Sczeny, and Kluge, 2011).

Similarly, Marcus et al. (2011) factor analyzed the most common older worker stereotypes and found that they load on the two negative dimensions of competence and adaptability, but also load on the positive dimension of warmth and friendliness. In other words, older workers are generally believed to lack competence in their jobs and the ability to adapt to changes, but are also expected to display warm and friendly attitudes. Unfortunately, the amount

of positive stereotypes is minimal compared to the vast number of negative stereotypes that impact the lives of older workers.

Given the large amount of research showing that older workers are not less competent and that there is "virtually no research that examines the validity" of the belief that older workers are less adaptable (Posthuma & Campion, 2009, p. 168), why does society continue to hold such negative stereotypes? General declines in cognitive and physical ability offer a grain of truth to older worker stereotypes, but society's negative beliefs go far beyond that which is warranted by the research. According to social identity theory (Tajfel & Turner, 1979), it is likely that older worker stereotypes are the result of social categorization, in that older workers are commonly placed into a social category and viewed as members of an outgroup by the rest of society (Gaertner & Dovidio, 2000).

Outgroups are consortiums to which members of a particular social category do not identify. Alternatively, ingroups are consortiums with which members of a social category do socially identify. In a series of experiments (Tajfel, 1970; Tajfel, Billing, Bundy, & Flament, 1971; Tajfel, 1974), it was discovered that subtle differences like preferences in artwork or estimations of dots that briefly appear are enough to form social identities, and therefore an ingroup vs. outgroup mentality. Further, ingroups and outgroups could even be formed when individuals were randomly assigned to groups and simply told that they were assigned due to their perceptions of dots on a screen. In other words, ingroups and outgroups were formed despite the fact that no actual differences were formed. According to Allport (1979), the strength of an ingroup can vary according to its level of inclusiveness, with race being a primary group membership to which people choose to identify. Group membership is commonly used to define

one's own social identity (Tajfel & Turner, 1979, 1986) and to better understand how one's social identity fits into the environment, we sort people into social categories (Allport, 1979).

Age is a rather salient feature, and therefore, is likely to be used when forming social categories. Once social categories are formed (e.g., younger workers, middle-aged workers, and older workers), attributes involved in personal experiences and secondary information of outgroup members (e.g., older workers), including rare events, can transition into "cognitive structures used to store our beliefs and expectations about the characteristics of members of social groups" (Cuddy, 2002, p. 4). In the case of older workers, knowledge of certain types of age related declines in mental or physical ability may become a belief that all older workers have lost their abilities to perform mentally or physically in their jobs. The false associations of features like reduced mental and physical ability to all members of a social category like older workers are known as stereotypes (Chapman & Chapman, 1967; Feldman & Lynch, 1988; Gaertner & Dovidio, 2000). Considering that certain forms of cognitive and physical decline exist in different forms across various older workers, it is likely that people have encountered an older worker who is less capable mentally or physically. As a result, these encounters have probably led to illusory correlations that associate all older workers with being less capable of performing jobs, compared to the rest of society. The illusory correlations that have been shared amongst society and commonly accepted have become the stereotypes that older workers are now forced to overcome in order to be treated fairly in their jobs.

The Problem with Stereotypes: They Lead to Discrimination

Stereotypes, which represent what we think about a social category, like older workers, can be especially dangerous because they can determine how we feel about older workers (Finkelstein & Farrell, 2007). How we feel about older workers, or the "emotional flavor of favorableness or unfavorableness that accompanies prior unsupported judgment," is known as prejudice (Allport, 1979, p. 6). What we think (i.e., stereotypes) and how we feel (i.e., prejudice) about older workers ultimately can determine how well we treat them (Finkelstein & Farrell, 2007; Fiske, 2004). Stereotypes can be a damaging when they result in the poor treatment of older workers. Partially operating through prejudice, stereotypes are believed to be a major cause of the poor treatment that older workers are forced to endure, otherwise known as discrimination (Breckler, 1984; Eagly & Chaiken, 1998; Fiske, 2004; Finkelstein & Farrell, 2007).

What is Age Discrimination?

Allport (1954) originally identified discrimination as one of several forms of prejudicial expression. The least severe expression of prejudice is antilocution, which is speaking poorly about social category members when among like-minded people. Avoidance is the next severe, which is the act of eluding members of a social category, even when inconvenient. After antilocution and avoidance is discrimination. Discrimination is defined as the withholding rights and privileges from social category members. Federal laws, such as the Age Discrimination in Employment Act (1967), also define discrimination in terms of withholding rights and privileges, but specifically as the result of one's age. Due to the existence of federal law and social disapproval, such overt withholdings of rights and privileges have become less common

(Dipboye & Halverson, 2004; Dovidio & Gaertner, 1998; Sellers & Shelton, 2003). Due to overt discrimination becoming less common, modern definitions of discrimination have begun to also include Allport's (1954, 1979) less severe forms of prejudicial expression, which can consist of avoidance, unwillingness to provide assistance, and unfriendly communication (Pettigrew & Martin, 1987).

Evidence of Age Discrimination

Past research has provided a great deal of evidence that age discrimination does in fact exist in the workplace, but rarely from the perspective of older workers. For instance, one of the first age discrimination studies was conducted by the U.S. Department of Labor (1965). The Secretary of labor assessed the amount of arbitrary age discrimination across multiple states. In the Secretary of Labor's report, it stated that older adults are considered more often for vacant positions in states that had strong age discrimination laws for employers, employment agencies, and labor organizations. With this report, age discrimination in the United States was considered a legitimate problem that adversely impacts older workers' abilities to become employed (U.S. Department of Labor, 1965). Following the study, President Lyndon Johnson signed the Age Discrimination in Employment Act (1967 and later amended in 1974 & 1978) with the goal of encouraging employment based on ability, prohibiting arbitrary discrimination, and helping with problems related to employment and age.

Following the Secretary of Labor's study and the enactment of the ADEA, multiple social scientific researchers began to conduct studies to better understand age discrimination in the workplace. In a series of studies, Rosen and Jerdee (1976a, 1976b, 1979; Rosen, Jerdee, & Lunn,

1981) used simulated employment contexts with college students to show that managerial decision making is impacted by the simulated employee's age. Specifically, they found that students acting as managers view older workers as less capable of performance, less able to develop, and less stable. Additionally, they found that participants had a youth bias when making employment decisions like recommendations for selection, promotion, and retirement. Multiple other empirical studies have followed Rosen and Jerdee's pivotal studies by showing that older workers are given lower overall evaluations and recommendations for hire in selection interviews (Avolio & Barrett, 1987; Cleveland et al., 1988; Gibson et al., 1993; Haefner, 1977; Marcus et al., 2011; Perry et al., 1996; Raza & Carpenter, 1987; Weiner & Schneider, 1974). Further, older applicants are given lower ratings of future potential than younger applicants (Avolio & Barrett, 1987; Gibson et al., 1993) and they are more penalized for errors than younger workers (Rupp, Vodanovich, & Credé, 2006).

Finkelstein et al. (1995) conducted a meta-analysis of the existing age discrimination studies, finding that age negatively relates to perceptions of qualifications and potential for development. Further, they found that the effect sizes largely increase when age is made salient. Although Finkelstein et al. (1995) found support for the existence of age discrimination in employment contexts, all the studies included were laboratory simulations. As a result, Gordon and Arvey (2004) performed a subsequent meta-analysis that included field studies. Their meta-analysis found evidence of disadvantages for older workers across both laboratory and field settings, with regards to overall evaluations, and potential for development. They also found that the study's setting (i.e., lab vs. field) moderates the relationship between employee age and managerial decisions, such that effect sizes are larger in laboratory settings ($d = .19$) than field

settings (d = .10). Contrary to Rosen and Jerdee (1976a), they found that ratings of stability were higher with age.

A major limitation of past age discrimination studies is that they have rarely captured age discrimination from the perspective of the older worker. These studies, both laboratory and field, typically measure discrimination through outcomes like manager evaluations and recommendations. However, discrimination has an especially negative impact, for both the older worker and the employer, when it is perceived by the target of discrimination (i.e., the older worker). By only measuring employment outcomes, past research has largely neglected to include a side of discrimination that relates to critical outcomes like health, productivity, and legal issues. In the following section I will elaborate upon why it is important to study age discrimination from the perspective of the older worker.

The Importance of Studying Perceived Discrimination

As mentioned previously, numerous studies have assessed the existence of age discrimination by measuring biases in employment decisions. However, few studies have attempted to understand workplace discrimination from the perspective of older workers. It is important to understand workplace discrimination from the perspective of older workers for several reasons. For instance, workers must first perceive that they are the target of discrimination before filing legal action against their employers. The number of age discrimination claims filed against employers last year was nearly 100,000 (Equal Employment Opportunity Commission, 2011). Without even including litigation, organizations were forced to pay over $600 million in age discrimination damages to older workers who perceived instances

of discrimination in the last decade and that number is continuing to grow (Equal Opportunity Commission, 2011). Numbers this large cannot be ignored.

In addition to legal costs, employers suffer financially when workers perceive discrimination through outcomes like lost productivity (Dovidio, Gaertner, Kawakami, & Hodson, 2002). Poor job attitudes are a notable consequence of workers perceiving discrimination. Workers who perceive workplace discrimination have shown reduced job satisfaction and organizational commitment (Ensher et al., 2001; Sanchez & Brock, 1996), as well as increased turnover intentions (Nyberg, 2010). A reduction in the quality of workplace behaviors is also a consequence of perceived discrimination. For instance, workers who perceive discrimination tend to display fewer organizational citizenship behaviors (Ensher et al., 2001) and they are more likely to quit their jobs (Schneider et al., 2000). In fact, perceived discrimination is believed to be the cause of two million workers leaving their jobs and workplace outcomes of perceived discrimination, like turnover and productivity loss, are believed to cost employers $64 billion each year (Bradford, 2012).

Perhaps even more importantly, perceived discrimination has the potential to impact the mental and physical wellbeing of workers (DeCastro, Gee, & Takeuchi, 2008; Pavalko, Mossakowski, & Hamilton, 2003). Pascoe and Richman (2009) conducted a meta-analysis, including over 100 studies, showing that people who perceive discrimination show a heightened stress response, engage in more risky behaviors, and ultimately display poorer mental and physical health. Several theoretical models have been proposed to explain the link between perceived discrimination and health. For instance, the biopsychosocial model (Clarke, Anderson, Clark, & Williams, 1999) shows that the perception of discrimination impacts health outcomes

by triggering a psychological and physiological stress response. Stressful events like discrimination are particularly harmful to one's health, as they are unpredictable and out of the perceiver's control (Williams and Mohammed, 2009). As a result, the body prepares itself for these unpredictable events (Richman, Bennett, Pek, Siegler, & Williams, 2007) with immune, neuroendocrine, and cardiovascular reactions (Clarke et al., 1999).

Pascoe and Richman's (2009) perceived discrimination-health model also states that people who perceive discrimination also have poorer mental and physical health due to a heightened stress response, but also includes that they have less energy and fewer cognitive resources to make healthy decisions like avoiding alcohol, tobacco, and other substances (Landrine and Klonoff, 1996; Bennett, Wolin, Robinson, Fowler, & Edwards, 2005; Martin, Tuch, & Roman, 2003; Yen, Rangland, Grenier, & Fisher, 1999), using condoms, managing diabetes, screening for cancer (McSwan, 2000; Yoshikawa, Wilson, Chae, & Cheng, 2004), and showing a general sense of self-control (Inzlicht, McKay, & Aronson, 2006). Through poorer health behaviors and a heightened stress response, perceived discrimination has been linked to health consequences including heightened levels of C-reactive proteins (Lewis, Aiello, Leurgans, Kelly, 2010), hypertension (Richman, Pek, Pascoe, & Bauer, 2010), coronary artery calcification (Lewis et al., 2006), increased blood pressure (Guyll, Matthews, & Bromerger, 2001), cardiovascular disease, pelvic inflammatory disease, and diabetes (Pascoe & Richman, 2009).

Several studies specifically involving older adults have also shown health consequences relating to perceived discrimination. For instance, Garstka, Schmitt, Branscombe, and Hummert (2004), Scott, Jackson, and Bergeman (2011), van den Heuvel and van Santvoort (2011), and Yuan (2007) revealed that perceptions of age discrimination in everyday life predict a heightened

stress response, poorer psychological wellbeing, and poorer perceived health in older adults. Studies looking at the negative outcomes of age discrimination in the workplace are highly limited, but still show evidence of health consequences and reduced job attitudes. For instance, Grosch et al. (2005) found that the age discrimination perceived by older workers in the workplace predicted poor general health, injury at work, back pain, poor mental health, and lower job satisfaction.

With perceptions of discrimination resulting in such dire consequences for older workers and their employers, it is important to understand the contexts in which older workers are most likely to perceive discrimination. One context that may predict whether older workers will perceive discrimination is the degree to which their jobs are stereotyped as more appropriate for older or younger workers. The above sections covered stereotypes of older workers, but age stereotypes can be far more problematic when they contrast with job stereotypes, leaving older workers to be seen as a poor fit. The following sections will elaborate upon the theoretical reasons as to why older workers may be perceived as a poor fit in certain types of jobs and how I plan to predict perceptions of age discrimination through the job's age-type.

Predicting Perceived Discrimination through Age-Type

Age-type is the degree to which a job is perceived as more appropriate for an older or younger worker and determines an older worker's perceived fit with a job (Cleveland & Hollmann, 1990; Finkelstein & Ferrell, 2007). Just as we hold stereotypes about workers, we hold stereotypes about jobs (Perry & Finkelstein, 1999). Some jobs are stereotyped to be more appropriate for older workers (i.e., old-typed jobs) and some jobs are stereotyped to be more

appropriate for younger workers (i.e., young-typed jobs; Reeves et al., 2013). Past lab studies have shown that older workers in young-typed jobs receive lower evaluations (Finkelstein, Burke, and Raju, 1995). However, no study has explored whether older workers in young-type jobs actually perceive more age discrimination. Considering the importance of perceived discrimination, (Grosch, Roberts, and Grubb, 2005), my study will explore the differences in older workers perspectives when they fit the job and when they do not.

Theoretical Approaches to Occupational Age-Type

There are several ways to measure a worker's fit with the age-type of jobs. This study will use the two most supported approaches – prototype matching and career timetables. These two theories were selected because they use very different methods to determine how well workers are believed to fit their jobs. Prototype matching is a cognitive theory that assesses fit through the degree to which workers match person-in-job prototypes. Career timetables is a demography theory that assesses fit through the degree to which the worker's age fits the typical age of those who occupy the job. Not only do prototype matching and career timetables differ conceptually, they offer approaches to measuring older worker fit that show low correlations with one another (Reeves et al., 2013). As a result, these two theories will compete against each other to establish which approach to job fit best predicts perceived age discrimination and adaptation behaviors. Although other fit theories exist (e.g. lack-of-fit, relational demography), they were not included in this study because they are largely redundant with prototype matching and career timetables and they have not been catered to or thoroughly tested in the context of the unique nature of age discrimination. In the following sections, I will elaborate upon the two

competing approaches to assessing older worker fit and why I believe workers will perceive more discrimination when they poorly fit the age-type of the job.

Predicting Perceived Discrimination through Prototype Matching

Background. Currently, the most common theory used to link age-type to the differential treatment of older workers is prototype matching theory. Originally created to better understand decision making processes, prototype matching is described as a cognitive strategy to compare self-concepts and relative prototypes (Niedenthal, Cantor, & Kihlstrom, 1985). The creation of this theory and the concept of prototypes evolved from earlier categorization literature. The categorization literature began with the "classical" position (Vygotsky, 1965), which suggested that a stimulus fits a category only if it possesses all of the "critical" or central features. Later came the "exemplar" approach to categorization (Brooks, 1978; Medin & Schaffer, 1978; Walker, 1975), in which new instances are categorized based upon their similarity to old instances. For instance, an older worker may be viewed as a poor fitness instructor because she does not possess many similar features to the popular fitness instructors.

The most recent approach, which will be a primary focus of my dissertation, is the "prototype" position (Cantor & Mischel, 1979; Rosch, 1978). The prototype position compares new instances to "an abstract image or set of features (prototype)" (Cantor & Mischel, 1979, p. 29) and the degree of prototypicality (i.e., goodness of membership) is based on judgments of how well an object (e.g., worker) fits a category label (e.g., prototype of a fitness instructor). Prototypes are commonly viewed within a context, generating a person-in-situation prototype (Cantor, Mischel, & Schwartz, 1982). When placed in a context, prototypes represent the

accumulation of all perceived personality traits, expected behaviors, physical characteristics, capabilities, and other features commonly associated with a typical person in a specific situation.

Lord, Foti, and Phillips (1982) later applied the concept of prototyping to leader categorization. Within a notable series of studies, Lord, Foti, and DeVader (1984) tested the application of prototyping to the context of leadership by giving participants a vignette of a hypothetical district manager, which was prototypical, neutral, or antiprototypical of leadership behaviors. The prototypicality of each vignette was created by imbedding two-word behavioral descriptions that were either prototypical (e.g., provides information, specifies problems), neutral (e.g., seeks information, seeks suggestions) or antiprototypical (e.g., admits mistakes, withholds rewards). They found that the manager described by the positive central features received higher leadership ratings (i.e., manager effectiveness, influence in determining the new product's success, leadership exhibited, and desirability as a district manager), behavioral expectations (i.e., antiprototypical, neutral, prototypical, and very prototypical), and causal ascriptions (i.e., responsibility and accountability for the new product's success).

The prototyping literature has evolved from the mere judgment of how well attributes match categories (Rosch, 1978; Rosch & Mervis, 1975), onto the context of a person in a general situation (Cantor & Mischel, 1979), followed by the context of a person in a leadership situation (Lord et al., 1982; 1984), and ultimately to the context of a person in a job (Perry, 1994). My dissertation is largely based on the later, assessing the degree to which older workers are perceived to fit their job through the context of person-in-job prototypes. Adopting Rosch, Mervis, Gray, Johnson, and Boyes-Braem's (1976) levels of abstraction, people are compared to person-in-job prototypes at both the category level (i.e., older worker compared to the age-type

of the job) and at the attribute/feature level (i.e., stereotypical features of older workers compared to the central or critical features of the job). Matching at various levels of abstractions involves different forms of cognitive processing. The following sections will elaborate upon the two levels of abstraction at which my dissertation will use prototype matching to assess the fit of older workers with specific jobs and the underlying cognitive processes people use to make such assessments of fit.

Direct prototype matching through category-based processing. Prototypes have most recently been placed in the context of specific jobs, creating person-in-job prototypes (Perry, 1994). In the first of a series of studies, Perry (1994) demonstrated that people compare workers to person-in-job prototypes by manipulating the age of the worker and the age-type of the job. One job included age itself as a central feature (i.e., teaching assistant), and the other included age as a peripheral feature (i.e., receptionist). Younger workers received significantly higher ratings of job suitability, compared to older workers, only when age was central to the job. The match between the category of worker (i.e., younger or older) and the category of the job (i.e., young-typed or not young-typed) was an example of category-based processing. Category-based processing is a procedure that requires little effort and involves the use of schemas and heuristics (Fiske, 1998; Fiske & Pavelchak, 1986). This approach to processing often takes precedence over more detailed forms of processing due to its efficiency (Fiske & Neuberg, 1990). The match formed between two general categories, through category-based processing is known as a direct match. That is, the match between the age category of the worker and the age-type of the job (Perry & Finkelstein, 1999).

Perry et al. (1996) later tested the impact of a direct match between the age of the worker and the age-type of the job with a high fidelity employment simulation. Participants evaluated video resumes of older and younger workers for an old-typed job (i.e., stamp and coin salesperson) and a young-typed job (i.e., CD, record, and cassette salesperson). It was discovered that the workers who matched the age-type of the job received higher overall evaluations on likelihood of hiring the applicant, performance of the applicant during the video, qualification of the applicant for the job under consideration, expected job performance of the applicant, and adequacy of the applicant's background and experience for the job under consideration. Specifically, younger applicants received higher evaluations than older applicants when applying for the young-typed job and older applicants received higher evaluations than younger applicants when applying for the old-typed job. However, the advantage of younger workers in the young-typed job was far greater than the advantage of the older workers in the old-typed job. This age-age-type interaction suggests that there are certain jobs in which older workers are not placed at a disadvantage due to age and there are other jobs wherein older workers are highly disadvantaged.

Indirect prototype matching through attribute-based processing. The previously mentioned studies illustrated the impact of a direct match between job and worker categories, which occurs through category-based processing. The other type of matching used in decision making is referred to as an indirect match, or the match between the stereotypical features of the worker and the central features of the job. An indirect match is formed through attribute-based processing, which involves detailed, systematic processing of all information that is available about the target (Fiske, 1988). According to Fiske, Neuberg, Beattie, and Milberg (1987), raters may opt for attribute-based processing when he or she has sufficient cognitive capacity,

attention, and motivation. To test the impact of an indirect match between stereotypically older worker features and central job features, Perry and Bourhis (1998) asked participants to evaluate younger and older workers applying for a strongly young-typed job (i.e., pizza delivery driver) and a mildly young-typed job (fast food worker). The jobs were selected based on the degree to which they contained central features that contrasted with stereotypically older worker features. Participants were presented with application information containing the worker's age and worker features. The applications possessing more stereotypically older worker features (i.e., older applicants) received lower ratings for the strongly young-typed job, compared to the mildly young-typed job. Considering how the strongly young-typed job was described as having more central features contrasting with stereotypically older worker features, it was concluded that the disadvantage faced by older workers in their study is due to the mismatch between the stereotypically older worker features and the features central to the job – an indirect prototype match.

Getting out of the lab and into the lives of older workers. Although previous studies have demonstrated that both direct and indirect prototype matching have the potential to disadvantage older workers, the aforementioned studies were conducted in the lab, using university students to make fictitious employment decisions. Very few studies have assessed the prototype match of older workers outside the lab. Goldberg, Finkelstein, Perry, and Konrad (2004) surveyed a highly educated sample of workers to determine whether the age-type of their job was related to career progress, but no relationship was found, probably because their study did not include young-typed jobs. The jobs in question ranged from highly old-typed to age neutral. Without young-type jobs, which are more commonly related to biased evaluations (e.g.

Finkelstein et al., 1995; Perry et al., 1996), their study did not have the appropriate range of jobs to test the relationship between age-type and work-related outcomes. Reeves et al. (2013) did include young-typed jobs and found support for prototype matching in the real-world. He found that age discrimination cases are most likely to go to court if they involve an older worker in a young-typed job (i.e., a poor prototype match).

Reeves et al. (2013) supports the idea that prototype matching can predict actual employment experiences for older workers. Yet, no study has explored prototype matching from the older worker's perspective. Do older workers perceive more discrimination when there is a poor prototype match and is the experience different when the poor match is direct vs. indirect? My study is dedicated to testing prototype matching through the perceptions of older workers – the same perceptions that can lead to health risks for older workers and legal problems for their employers. Past lab studies have shown that a poor prototype match can lead to biases in university students, but by testing prototype matching through the older worker's perspective, prototype matching theory will be extended to the lives of older workers and the hassles that actually take place on the job.

Predicting Perceived Discrimination through Career Timetables

Background. A rather different approach to assessing the perceived fit of older workers in age-typed jobs is through the career timetables perspective. Whereas prototype matching relies on the importance of stereotypically age related features and the centrality of age itself to the job, career timetables assert that a job is stereotyped as more appropriate for older or younger workers based on the age of workers who currently occupy the job. The disadvantages and

pressures faced by an older worker are explained through the worker's age relative to the normative age of the environment (Lawrence, 1984). Specifically, when older workers exceed the normative age of a particular group, they are viewed more negatively. All jobs possess age norms (Shore & Goldberg, 2005), which are commonly formed through the age composition of workers occupying the job. Therefore, jobs more often occupied by younger workers are perceived as more appropriate for younger workers and jobs more often occupied by older workers are perceived as more appropriate for older workers (Reeves et al., 2013). Past studies have supported the idea that age bias in decision making is predicted by the age composition of the work group (Cleveland, Festa, Montgomery, 1988; Cleveland & Shore, 1992; Ferris, Judge, Chachere, & Liden, 1991), the applicant pool (Cleveland et al., 1988), and the job (Cleveland & Hollmann, 1990), such that older workers in contexts primarily composed of younger workers were viewed as less suitable, less expected to perform, rated lower after performance, and received fewer development opportunities.

Support for an age-specific demography theory. Career timetables theory is different from other demography-based theories (e.g. relational demography, organizational demography) because it does not treat all deviations from the norm equally. Through the career timetables perspective, those who deviate above the age norm are viewed negatively, but those who deviate below the age norm are not necessarily viewed negatively and are often viewed more positively. The logic behind this asymmetrical relationship is that workers who exceed the age norm are perceived as "behind schedule," unable to keep up with their peer group, and lacking ambition. As a result, "behind schedule" workers and are the least likely to receive a promotion (Lawrence, 1988) or high performance ratings (Rosenbaum, 1984), and they are ultimately the most likely to

display lower work satisfaction and work orientation (Lawrence, 1984). Conversely, workers who are younger than the age norm are viewed as "ahead of schedule," ambitious, and high achieving. As a result, "ahead of schedule" workers are the most likely to receive higher performance ratings, compared to "on schedule" and "behind schedule" workers (Lawrence, 1988). The uneven approach to addressing age bias through the career timetables perspective makes it an ideal theory for evaluating ageism, as compared to general demography theories (Riordan, 2000; Williams & O' Reilly, 1998), which view all deviations from the norm as negative.

Numerous studies have supported the notion that the age composition of the employment context (e.g. job, applicant pool, workgroup) predicts whether older workers will experience poor treatment. For instance, Cleveland and Shore (1992) found that manager perceptions of an employee's age relative to the ages of the other workgroup members predicted ratings of performance, promotability, and employee potential, such that workers older than the age norm of the workgroup received lower ratings. Not only is it one's age in relation to coworkers' ages, employment outcomes have also been predicted by one's age in relation to supervisors and subordinates (Cleveland, Montgomery, & Festa, 1984; Ostroff & Atwater, 2003; Shore, Cleveland, & Goldberg, 2003). Cleveland et al. (1988) also looked at the normative age of the applicant pool, finding that workers who exceeded the age norm in the applicant pool received lower recommendations for hire and were viewed to possess lower potential to advance. Lastly, Cleveland & Hollmann (1990) focused on the age composition of the job itself. By manipulating the age composition of fictitious jobs, they found that the relative number of older and younger workers in the occupation impacts ratings of older workers. Specifically, it was found that older

workers were expected to perform more poorly when the job was more often occupied by younger workers than older workers.

Extending career timetables to perceived discrimination. Although there has been an extensive amount of theoretical and empirical support linking normative age in various employment contexts to older workers' perceptions of employment outcomes, no study has attempted to link the normative age of the job itself to perceptions of discrimination. Cleveland and Shore's (1992) study demonstrated that normative age in a workgroup can lead to employee perceptions of their job attitudes and performance. This dissertation utilized the same logic that a younger normative age can disadvantage older workers by making them appear too old and behind schedule. However, I used the normative age of the job itself, rather than the normative age within specific organizations. That is, the normative age of the job should predict older worker perceptions of employment outcomes. Instead of focusing on distal outcomes like attitudes and performance, I focused on perceived discrimination, because perceived discrimination is a more proximal construct that theoretically should result from exceeding the age norm and later impact workers' perceptions of their performance and attitudes. Additionally, career timetables needed to be tested in the context of perceived discrimination, as perceived discrimination can lead to critical health and legal problems. I believed that when older workers occupied jobs primarily composed of younger workers, they would be viewed as "behind schedule" and would experience the discriminatory consequences that are associated with the negative label. In line with past career timetables studies, consequences of a youthful normative age should include severe forms of discrimination like scrutiny from supervisors, as well as less severe forms of discrimination like alienation and the withholding of job-related information.

Comparing Measures

Although prototype matching and career timetables both assess how well older workers fit their jobs, they do so in dramatically different ways with little conceptual or statistical overlap (Reeves et al., 2013). The prototype matching approach represents the degree to which the social category of older workers is perceived as being appropriate for the job through a direct match. It also represents the degree to which stereotypically older worker features match the features central to the job through an indirect match (Perry, 1994). Prototype matching is a cognitive approach that explains our perceptions of worker fit through detailed attribute-based information processing and more general category-based information processing (Fiske, 1998; Fiske & Pavelchak, 1986). Career timetables is a demography approach that explains worker fit by comparing the age of the worker to the normative age of the job (Lawrence, 1988). Normative age can be determined by the typical age range of workers in the job, as well as the composition of older workers relative to younger workers in the job (Cleveland & Hollmann, 1990; Cleveland & Smith, 1989; Lawrence, 1988; Shore & Goldberg, 2005). When the normative age is low, older workers are more likely to be stereotyped as behind schedule, lacking ambition, unable to keep up, and a poor fit for the job (Lawrence, 1984, 1988; Rosenbaum, 1984). Theoretically, both approaches should predict older worker perceptions of discrimination, but which approach is the strongest predictor? This study tested both approaches, hypothesizing that each approach predicts perceived age discrimination and exploring which approach is the better predictor.

My study explored which of these popular approaches was the better predictor of perceived age discrimination across jobs. Considering that prototype matching and career timetables have shown strong support for older workers being treated more poorly when they do

not fit the job's age-type, I formally hypothesized that each of these approaches was a valid predictor of perceived age discrimination. I then took a more exploratory approach to determining which theory offered the best predictor of perceived age-discrimination across jobs.

Hypothesis 1a: *The prototype matching approach (direct and indirect) to assessing an older worker's fit with the job is expected to predict significant variance in perceived age discrimination; specifically older workers will perceive more age discrimination as they deviate from the person-in-job prototype.*

Hypothesis 1b: *The career timetables approach to assessing an older worker's fit with the job is expected to predict significant variance in perceived age discrimination; specifically older workers will perceive more discrimination as they deviate above the normative age of workers in the job.*

Research Question 1: *When predicting the perceived age discrimination of an older worker in a particular job, which is the best approach – prototype matching or career timetables?*

Adaptations – The Efforts Taken to Fit In and Avoid Discrimination

Older workers are well aware that age discrimination exists in the workplace and they are commonly told that they must adapt to succeed (Enelow & Bolt, 2006; Johnson, Kawachi, & Lewis, 2009; McKinney, 1999; Tanner, 2006). It has been clear that age discrimination exists in the workplace since the U.S. Department of Labor noted it in their 1965 report. The existence of ageism has been made well known by the multiple lab and field studies showing that numerous negative stereotypes are associated with older workers (e.g., lower competence and adaptability; Marcus et al., 2011; Posthuma & Campion, 2009), they are expected to perform worse in their jobs (Cuddy & Fiske, 2002; Gordon & Arvey, 2004; Hedge et al., 2006), and they receive lower evaluations across a wide variety of contexts (Finkelstein et al., 1995; Gordon & Arvey, 2004). As a result, one-fourth of older workers feel discriminated when applying for a job (Romano, 1994), one-third of older workers feel it is somewhat likely that they will lose their jobs within a year (Johnson et al., 2009), and it takes workers aged 55 and over 15 weeks longer to find a new job than workers under 35 (U.S. Bureau of Labor Statistics, 2011).

To overcome so many disadvantages, older workers engage in a wide variety of adaptation methods from de-emphasizing age on their resumes to undergoing plastic surgery (Berger, 2009; Clarke & Griffin, 2008; Geyer, 2006; Rosen & Ablaza, 2006; Vollmer, 2005). The popular press, career building websites, career guidance books, and workshops remind older workers of the potential for age discrimination and the need to adapt (e.g., Berger, 2009; Madden, 2012; Ryan, 2010; Tanner, 2006). Considering the pressure to appear youthful in young-typed jobs (Finkelstein & Farrell, 2007), older workers may engage in adaptation behaviors substantially more when in a job perceived as young-typed. Although a few

researchers have explored the various adaptation methods that are used, none have assessed the contexts in which older workers feel the greatest need to adapt (i.e., across old- and young-typed jobs). Furthermore, no study to my knowledge, has explored which adaptation methods have worked best for older workers. Therefore, this dissertation will build upon past studies by assessing the context in which older workers most often engage in adaptation methods and the types of adaptations that have helped reduce perceived age discrimination. The following sections elaborate upon the encouragement older workers receive to adapt, the adaptation methods older workers commonly use, and theoretical reasons as to why older workers may be more likely to engage in adaptation methods when they do not match the age-type of the job.

Encouragement to Adapt

A variety of sources, such as websites, books, workshops, and articles in the popular press offer advice to help overcome workplace ageism. For instance, the Wall Street Journal (Lubin, 2001) encouraged older workers to deemphasize age on their resumes by limiting their experience to the last 10-15 years and remove their graduating years. The Wall Street Journal also advised older workers to try appearing younger by updating their wardrobe, buying new shoes, dying grey hair, losing weight, leaving their big battered briefcases at home, and fixing their baggy eyes. Additionally, older workers were encouraged to emphasize high energy and an active lifestyle, offering examples like citing frequent business trips or asking if there is an opportunity for biking in the area. Lastly, the Wall Street Journal advised older workers to provide evidence of up-to-date skills to overcome the stereotypes that their knowledge is outdated and that they are unable to learn new skills.

Many other leaders in the popular press encourage older workers to adapt by hiding their age. For instance, CNN encouraged older job seekers to "try a new hairstyle, dye your hair, switch to contemporary glasses, and get your teeth whitened" (Ryan, 2010). BusinessWeek recommended that older job-seekers keep their hair and outfit updated and look energetic rather than arthritic (You're older? So Sell Your Wisdom, 2007). The Chicago Tribune (Madden, 2012) advised older workers to overcome the stereotype that they lack energy by staying in shape through walking, jogging, and participating in weekend athletic activities. It was also encouraged that older workers adapt by showing a flexible management style, technology proficiency, and the ability to learn new skills.

It is not just the popular press that offers advice to appear young. Sources, such as career guidance books (e.g., Enelow & Bolt, 2006; McKinney, 1999; Tanner, 2006) and career building websites (e.g., resumepower.com, how-to-write-a-resume.com, financialhighway.com), also encourage older workers to adapt by hiding their ages in similar ways, such as reducing years of experience, omitting graduation dates, limiting the number of jobs listed, and using energetic words. Workshops and programs for older workers seeking employment also give similar advice. In fact, Berger (2009) found that advice from career guidance programs was the primary reason older workers adapted by hiding their ages on resumes. Older workers are well aware of their negative stereotypes (Chasteen, Schwarz, & Park, 2002) and the likelihood that they will experience discrimination (Johnson et al., 2009; Romano, 1994). The pressures to adapt and overcome the likelihood of discrimination from their experiences in the workplace, combined with the encouragement to adapt from career guidance sources have led older workers to adapt in a wide variety of ways from simple resume modifications to invasive plastic surgeries (Clarke &

Griffin, 2008; Vollmer, 2005). The following section will elaborate on the various adaptation methods older workers have used to adapt in an ageist workforce.

The Ways Older Workers Adapt

Older workers have engaged in a wide variety of adaptation behaviors to overcome ageism in their workplace. In one of the only studies to list the ways older workers adapt to ageism in the workplace, Berger (2009) interviewed 30 workers between the ages of 45 and 65 to discover the ways in which older workers adapt to workplace ageism. She found that older workers use a wide variety of adaptation behaviors. The adaptation behaviors that Berger found older workers to use included maintaining skills, de-emphasizing age on resumes, using more youth-oriented language, and altering their physical appearance. Skill maintenance was the most common adaptation behavior. Older workers did not want to be seen as out of touch and they felt employers did not want to invest time and money training them. Unfortunately, several older workers expressed that they were in a difficult situation because did not have money to pay for their own skill maintenance, but could not gain a paying job without maintaining their skills. As a result, they would engage in volunteer work to maintain their skills during periods of prolonged unemployment.

The other major adaptation behavior that older workers used in Berger's (2009) study was age concealment. In line with suggestions from the popular press, career building websites, and career guidance books mentioned above, older workers expressed that they hide their age in order to appear more youthful to employers. One way older workers concealed their age was by deemphasizing age on their resumes. They eliminated older jobs from their resume, removed

graduation years, and switched to a functional rather than a chronological resume to emphasize skills instead of jobs and years. Another age concealment behavior older workers engaged in was changing the way they speak to sound more youthful. Older workers would use more youth-oriented language like modern buzzwords, and they discussed physically active sports and social groups. Language was also used as a behavior when reframing conversations about age. For instance, a question like "how old are you" would be addressed with "old enough to have 25 years of experience." These behaviors are an effort to overcome ageism in employment situations by deflecting or reframing negative age stereotypes.

The final age concealment method mentioned in Berger's (2009) study was that older workers changed their physical appearance to appear more youthful. Older workers expressed that they had altered their appearances by dying hair, wearing a toupee, shaving beards, dressing more youthfully, and maintaining physical health. Overall, Berger (2009) discovered that older workers acknowledged ageism and attempted to overcome it by maintaining their skills and concealing their age through their resumes, language, and physical appearance.

Consistent with Berger's (2009) findings, Vollmer (2005) found that 64% of older workers (i.e., 50+) who were reentering the workforce altered their physical appearance and 58% modified their resumes to deemphasize age. Clarke and Griffin (2008) found that women between the ages of 50 and 70 engaged in beauty work methods like hair dye, make-up, and non-surgical cosmetic procedures like Botox, injectable fillers, chemical peels, microdermabrasion, photofacials, sclerotherpy, laser hair removal, and acupuncture for wrinkles. Some older women had surgical cosmetic procedures like liposuction, abdominoplasty, breast reduction, breast reconstruction, and breast augmentation. When asked why they engaged in these invasive

procedures, the most common response was to avoid ageism in the workplace.

Adapting to an ageist workplace by concealing one's age is not just a method practiced by women. Several popular press articles have reported that men are more commonly engaging in anti-aging and age reduction procedures to appear more youthful. 50plus Online Magazine (Geyer, 2006) and the Cosmetic Surgery Times (Rosen & Ablaza, 2006) have reported that plastic surgery is moving into the mainstream for men over 50. This is largely due to the recently reduced stigma associated with cosmetic procedures, combined with the pressures to appear youthful in the workplace. Popular procedures have included face-, neck-, eye-, and browlifts, laser procedures and peels, nose resculpting, liposuction, tummy tucks, and breast reduction. Even though the economy is in a recession and excess spending has greatly declined, the number of cosmetic procedures, including eye lifts, facelifts, and injectables like Botox and fat injections have increased, with the primary motivation being the need to adapt in an ageist workforce (Dickler, 2011).

Extending Prototype Matching and Career Timetables Theories to Adaptation Behaviors

Older workers are motivated to maintain their skills and conceal their ages to overcome ageism (Berger, 2009; Clarke & Griffin, 2008; Muise & Desmarias, 2010). Especially in young-typed jobs, older workers are likely to feel more pressure to engage in adaptation methods. Although prototype matching and career timetables theories have never been tested in the context of older worker behaviors, they both offer conceptual explanations as to why older workers would feel a greater need to use adaptation behaviors when they do not fit the age-type of their jobs. In the following sections, I will elaborate upon the theoretical logic explaining why

I expected older workers to use a greater number and more extreme adaptation behaviors in young-typed jobs, as well as introduce the first study to extend prototype matching and career timetables to the behaviors of older workers.

The benefit to appearing youthful in a young-typed job. According to prototype matching and career timetables theory, the possibility for age discrimination is greater in jobs that are more young-typed (Finkelstein & Farrell, 2007; Lawrence, 1988). Prototype matching theory states that young-typed jobs involve more central features that contrast with stereotypically older worker features, leading older workers to appear as a poor fit (Perry, 1994; Perry & Finkelstein, 1999). When older worker stereotypes contrast with central job features, they tend to receive biased evaluations relative to younger workers (Perry & Bourhis, 1998). To adapt to their situation, older workers would need to overcome the stereotypes that lead them to appear as a poor fit. This may involve maintaining one's computer skills to appear competent with technology or emphasizing their infatuation with fitness classes, like BodyPump, during conversations at work to appear energetic and physically able. Given the greater possibility of discrimination in jobs possessing central features contrasting with stereotypically older worker features (i.e., young-typed jobs), older workers should have a greater need to appear youthful and avoid being associated with older worker stereotypes.

Career-timetables theory also supports the idea that older workers should have a greater need to appear youthful in young-typed jobs. Whereas prototype matching expresses that a youthful appearance allows older workers to avoid stereotypes that contrast with important features of the job (e.g., competence and adaptability), career-timetables states that older workers should appear more youthful in young-typed jobs to avoid stereotypes related to exceeding the

typical age of workers in the job (e.g., behind schedule, unable to keep up with their peer group, and lacking ambition). For instance, in a young-typed job like dental assistant, employers and co-workers are used to seeing people who appear young. As a result, workers who appear older may be stereotyped as lacking ambition and unable to keep up with their peer group (Lawrence, 1988), plus their evaluations may be negatively biased relative to the younger workers in that job (Lawrence, 1988). Given the greater possibility of discrimination in jobs typically occupied by younger workers (i.e., young-typed jobs), older workers have a greater need to appear youthful and avoid being stereotyped as unable to keep up with their peer group and lacking ambition.

The lack of benefit to appearing youthful in an old-typed job. In jobs stereotyped as more appropriate for older workers than younger workers (i.e., old-typed jobs), older workers may not have the same need to adapt and appear more youthful in order to be perceived as a good fit. For instance, in a job like pharmacist, older workers are already perceived as a good fit (see table 1), but a pharmacist who changes their speech to use more youth-oriented language may lead the worker to be viewed as a poor fit. From the perspective of prototype matching, age concealment behaviors may not help or could even disadvantage an older worker in jobs with central features that match stereotypically older worker features. For instance, an old-typed job like professor (see table 1) requires proof of an extensive amount of experience, particularly when attempting to earn the rank of full professor. De-emphasizing age on a full professor's resume or vitae by limiting experience to the last 10 years may disadvantage the worker, particularly if major accomplishments occurred before that time. Due to the far greater number of negative, compared to positive, stereotypes associated with older age, I did not expect older workers in old-typed jobs to emphasize their age. However, given theoretical support from

prototype matching theory, I did expect it to be less common for older workers to attempt appearing more youthful when the job involves central features that match features stereotypical to older workers (i.e., old-typed jobs).

From the perspective of career-timetables, age concealment behaviors may not be as valuable in jobs that are more commonly occupied by older workers. In old-typed jobs, older workers are more common and people expect to see older workers (Cleveland & Hollmann, 1990). For instance, nearly three-fourths of librarians are over the age of 40 (U.S. Census Bureau, 2012) and most people expect to see a worker over the age of 50 when they think of librarians (Reeves et al., 2013). Given that it is common for librarians to be older, workers who appear old should already fit the age range that their employer and co-workers expect to see, making attempts to appear younger less valuable. The additional theoretical support from career-timetables theory further supports my expectation that it will be less common for older workers to attempt appearing more youthful when the job is typically occupied by older workers.

When adaptation behaviors are more common and when they are more useful. Past research has provided some evidence supporting the idea that older workers would more commonly engage in adaptation behaviors when they do not match the age-type of the job. For instance, Clarke and Griffin (2008) found that older women in health and image-oriented occupations, which tend to be young-typed (see table 1), believed a youthful appearance to be a requirement of the job and engaged in "increasingly extensive and intrusive beauty work interventions" (p. 666). In this case, being physically healthy was a central feature to the job. Given that health is commonly associated with a youthful appearance, the older women felt it was necessary to adapt to their youth-biased environment and conceal their age.

Another study by Muise and Desmarias (2010) found that older adults are more likely to use adaptation behaviors like anti-aging products (e.g., skin cream) when their appearance is important to success or failure in life. According to prototype matching theory and career timetables theory, a youthful appearance is especially important to fitting young-typed jobs, and therefore important to success or failure. Considering that a worker's age is taken into account when evaluating their fit with a job (Perry and Finkelstein, 1999) and older workers are not believed to fit jobs that are young-typed, I hypothesized that older workers would use more adaptation behaviors, as well as more extreme adaptation behaviors when their jobs were more young-typed.

Hypothesis 2*: Older workers will engage in a greater number (2a) and more extreme (2b) adaptation behaviors when their jobs are more young-typed.*

Many adaptation behaviors require excess income, a large amount of time, and other resources that numerous older workers simply do not have. For instance realself.com reported the average cost of botox to be $425 across 981 customer reviews and some clinics like the McLean Clinic in Mississauga, ON charge upwards of $1,700. Many cosmetic procedures require repeated visits, as well as healing time. These limitations make it impractical for many older workers to engage in more extreme adaptation behaviors. Additionally, some behaviors are only necessary in certain contexts. For instance modifying one's resume is only necessary when applying to a new job, making it unnecessary for workers who have stable jobs to use this adaptation. Therefore, I also measured whether a worker would choose to use certain adaptation behaviors if the situation allowed. Considering the greater need to fit young-typed jobs by adapting, I expected that older workers who were in more young-typed jobs would choose to use

a greater number of adaptations, as well as more extreme adaptations if the situation allowed.

Hypothesis 3: *Older workers are expected to be more willing to engage in a greater number (3a) and more extreme (3b) adaptation behaviors (if the situation allowed) when their jobs are more young-typed.*

In addition to age-type encouraging older workers to adapt and better fit their jobs, I believed that if the situation allowed, older workers would choose to engage in a greater number and more extreme adaptation behaviors when they perceive more discrimination. Further, I believed that age-type would predict the choice to engage in a greater number and more extreme adaptation behaviors (if the situation allowed) through perceived discrimination. In other words, I believed that perceived discrimination would mediate the relationship between age-type and the desire to engage in a greater number and more extreme adaptation behaviors (if the situation allowed).

Hypothesis 4: *Older workers are expected to be more willing to engage in a greater number (4a) and more extreme (4b) adaptation behaviors (if the situation allowed) when they perceive more discrimination.*

Hypothesis 5ab: *Perceived discrimination is expected to mediate the relationship between age-type and the number of adaptation behaviors used (5a), as well as the extremeness of adaptation behaviors used (5b) by older workers.*

Hypothesis 5cd: *Perceived discrimination is expected to mediate the relationship between age-type and the number of adaptation behaviors used (5c), as well as the extremeness of adaptation behaviors used (5d), by older workers if the situation allowed.*

I further explored the degree to which each adaptation behavior was used or desired as a result of older workers experiencing discrimination. I hypothesized that older workers would use a greater number and more extreme adaptation behaviors when they do not fit the age-type of the job. To further explain the relationship between age-type and adaptations, I asked older workers to provide the degree to which they felt the need to use each adaptation behavior because they were experiencing disadvantages due to age discrimination. In doing so, I am able to answer the question of whether older workers actually used or want to use specific adaptation behaviors because they perceive age discrimination in their workplace.

Research Question 2: *Which adaptation behaviors do older workers use (2a) and which adaptation behaviors would older workers use (2b) in response to experiencing disadvantages due to age discrimination in their jobs?*

Adaptation behaviors are efforts designed to enable older workers to appear more youthful and avoid negative stereotypes associated with older age. I believed that more extreme adaptation behaviors would give older workers a better chance of appearing youthful and avoiding age-related stereotypes. For instance, using of youth-oriented speech would not conceal one's age as well as altering one's physical appearance. Considering that more extreme adaptation behaviors should have been more effective in allowing older workers to avoid age stereotypes, I explored the degree to which older workers believed each adaptation behavior has worked for them by helping them to avoid age discrimination.

Research Question 3: *Do older workers believe adaptation behaviors are successful in reducing age discrimination and which behaviors are believed to be the most effective?*

The last question I explored was how the use of adaptation behaviors has differed across young and old-typed jobs. As mentioned above, certain adaptation behaviors appear more appropriate for old-typed jobs and others appear more appropriate for young-typed jobs. Therefore, I explored which adaptation behaviors are most used in old-typed jobs and which are most used in young-typed jobs. Additionally, I explored how well older workers believed each adaptation method has worked when used in young-typed jobs compared to how well they have worked in old-typed jobs.

Research Question 4: *Which adaptation behaviors are more common (4a) and effective (4b) in young-typed jobs and which adaptation behaviors are more common and effective in old-typed jobs?*

The last hypothesis I proposed was that the use of adaptation behaviors will moderate the relationship between age-type and perceived discrimination. Adaptation behaviors were expected to be especially useful when older workers did not match the job's age-type. Young-typed jobs are viewed as more appropriate for younger workers, involve more central features that contrast with stereotypically older worker features, and people expect to see younger workers occupying them. Conversely, old-typed jobs are viewed as more appropriate for older workers, involve more central features that match stereotypically older worker features, and people expect to see older workers occupying them. Therefore, adaptation behaviors that make older workers appear more youthful should have been far more helpful in reducing perceived discrimination when the job was young-typed than when the job is old-typed. Considering that adaptation behaviors should have been more helpful in young-typed jobs, I hypothesized that the difference in perceived discrimination from old to young-typed jobs would be significantly lower for the

sample of older workers who engage in a greater amount of adaptation behaviors, as well as more extreme adaptation behaviors.

> ***Hypothesis 6:*** *The quantity (6a) and extremeness (6b) of adaptation behaviors used is expected to moderate the relationship between age-type and perceived discrimination, such that the relationship between age-type and perceived discrimination will not be as strong for older workers who adapt more, as compared to older workers who adapt less.*

CHAPTER THREE: METHOD

Participants

Participants consisted of 227 individuals, 50 years of age and older, who have been employed within the last year, occupying 207 unique jobs, were recruited to participate. The sample size was chosen via a power analysis using G*Power, with a power level of $1 - \beta = .80$, as recommended by Cohen (1988), and the effect sizes extracted from Perry, Kulik, and Bourhis' (1996) age-type study ($\Delta R^2 = .21$), as well as Muise and Desmarias' (2010) adaptation study ($r^2 = .07$). The large age-type effect size yielded to a total required sample size of 82 older workers. However, the low adaptation effect size increased the required sample size to be 176 older workers. To ensure adequate power for my analyses, I used the larger of the two required sample sizes and added 51 participants. Participants for the older worker sample were be recruited through Qualtrics Panels and were provided $5 compensation for their participation. Qualtrics Pannels prescreened the sample for age and employment status to ensure that all participants that were invited to the survey were employed within the past year and were 50 years of age and older. Additionally, age and employment status items were added to the survey and any participants who answered that they were under 50 years of age or unemployed longer than one year were removed from the survey and thanked for their time. 89% of the sample was Caucasian, 2% Hispanic, 3% African American, 1% Asian, 3% Native American or Alaskan, and 1% other. 58% were female and 42% were male. The average age was 57, with 70% in their 50s, 27% were in their 60s, and 3% were in their 70s. 75% were currently employed, 25% were unemployed for less than one year.

Procedure

The older workers in my sample were asked to complete a set of measures about themselves and their experiences in the workplace. They first reviewed the "explanation of research" form that was disclosed the purpose of the study, assured them that their responses will be kept anonymous, told them how long they could expect the survey to take, and gave them the contact information of the researcher and IRB for any questions or complaints. Participants then completed the older workers' demographics measures, except for the core self-evaluation and vanity measures to keep participants from thinking about their self-evaluations while completing the other measures. Once the demographics were complete, participants responded to the age discrimination measure. After the age discrimination measure, participants completed the adaptations measure. After completing the adaptations measure, participants completed the core self-evaluation and vanity measures. Lastly, they were debriefed and thanked for their time.

Measures

Perceived Age Discrimination

A review of the literature revealed no psychometrically established measures of perceived age discrimination in the workplace. Therefore, a modified version of the Workplace Prejudice/Discrimination Inventory (James, Lovato, & Crompanzano, 1994) was used to represent perceived age discrimination. This 15-item measure has been shown to load onto a single factor, accounting for 53.6% of the variance (James et al., 1994). Originally intended for use in racial discrimination, this measure has been modified for use in other forms of

discrimination like sexual orientation, while maintaining a high coefficient alpha of .94 (Raggins & Cornwell, 2001). Similarly, I modified the instrument by replacing terms related to race with terms relating to age, with items such as "at work I feel socially isolated because of my age group" and "where I work promotions and rewards are not influenced by age group membership." This measure uses a 7-point scale, with response options ranging from 1 ("completely disagree") to 7 ("completely agree"). Additionally, an open-ended section was provided under the discrimination scale with instructions stating "please list any other problems or challenges you have faced in your job that you believe may have been related to your age."

Adaptations

The adaptations measure was primarily designed to capture the efforts older workers have made, or would like to make, in order to appear more youthful in the workplace. Additionally, subsequent sections also captured why older workers made the efforts and which efforts were effective in helping them avoid age discrimination. The measure involved 8 youth-oriented adaptation categories. Included in the measure were efforts to appear more youthful on a resume (e.g., only showing most recent work history), efforts to sound more youthful and avoid age-related conversations (e.g., emphasizing a high energy lifestyle), efforts to dress more youthful (e.g., updating clothes or shoes), and efforts to physically appear more youthful through store-bought products (e.g., reduce/hide wrinkles with skin creams, exfoliating products, or make-up), all of which came from a series of interviews with older workers (Berger, 2009). Three other categories were created from additional studies involving adaptations, as well as recommendations of how to adapt from the popular press and career guidance resources (Clarke

& Griffin, 2008; Geyer, 2006; Enlow & Bolt, 2006; financialhighway.com; how-to-write-a-resume.com; Madden, 2012; McKinney, 1999; Muise & Desmarias, 2010; resumepower.com; Rosen & Ablaza, 2006; Ryan, 2010; Tanner, 2006; Vollmer, 2005). The additional adaptation categories included efforts to maintain health and fitness (e.g., exercising regularly), efforts to appear more youthful through non-surgical cosmetic procedures (e.g., laser scar or wrinkle removal), and efforts to appear more youthful through surgical cosmetic procedures (e.g., face, neck, or brow lift) Lastly, the use of modern technology in public was added as an adaptation behavior at the request of my dissertation committee.

Adaptation behaviors. For each adaptation, participants were asked to identify the extent to which they engaged in each behavior to appear youthful at work on a 7-point scale from 1 ("Not At All") to 7 ("Very Much"). Examples of possible adaptation behaviors were provided for each category. Next to each scale was an open-ended section that asked participants to provide the specific efforts they made within each category. For each of the adaptation categories, participants were instructed to provide answers that only applied to their current job. Following the 8 adaptation category items, four open-ended items were provided. The first asked if any of the adaptations they have made were in an effort to avoid age discrimination in their current job. The second asked if there were any reasons for their adaptation behaviors or desires, other than discrimination. The third asked if there were any other adaptations they may have used in response to age discrimination. In the third item, they were provided examples of the most common adaptations mentioned in past literature (Dipboye et al., 2012). The additional adaptation examples included seeking social support, avoiding certain people at work (i.e., those who discriminate), emotional withdrawal, maintaining skills, and speaking to authorities. Lastly,

participants were asked if any of the youth-oriented or general adaptation behaviors that they used had helped them to avoid age discrimination at work.

Adaptation desires. To assess adaptation desires (i.e., adaptation behaviors in which older workers would like to engage), the items were repeated, but amended to lift the situational constraints. Participants were asked if they *would* use each adaptation if time, money, and other resources were not an issue. Additionally, the items of resume modification and youthful speech were modified to include the context of applying for a job or seeking a promotion. The last open-ended item was removed from the adaptation desires portion, as desires are not capable of helping older workers avoid age discrimination. The final section repeated all 8 youth-oriented and 5 general adaptation behaviors and asked participants to indicate the degree to which each behavior would be effective in reducing age discrimination across all older workers. Following each adaptation category, examples of relevant adaptation behaviors were provided. Response options were on a 7-point scale from 1 ("Disagree Very Much") to 7 ("Agree Very Much"). By completing the measure, older workers indicated their adaptation behaviors and desires, the reasons for their adaptations, which adaptations helped them avoid age discrimination, and which adaptations would be the most effective for all older workers.

Adaptation extremeness. Some older workers were willing to take more extreme efforts to adapt than others. While it was clear that surgical procedures were more extreme than modifications to one's resume, it was unclear how much more extreme most people believe one adaptation behavior is compared to another. Therefore, after collecting data from the older worker sample, a separate group of 61 participants completed a measure designed to determine the degree to which each adaptation behavior identified by older workers was believed to be

extreme. The top of the measure presented instructions that stated "Older workers commonly make efforts to appear more youthful in the workplace. Some older workers are willing to make more extreme efforts than others. Below is a list of efforts older workers have made. Please identify how extreme you believe each effort to be." Next to each adaptation behavior were response options on a 7-point scale ranging from 1 ("not extreme at all") to 7 ("very extreme"). The degree to which each adaptation behavior was perceived as extreme was calculated by the average of all responses for that specific behavior.

Demographics

The demographics variables included job title, job description, and relevant industry to later determine the age-type of each older worker's job. Participants were also asked to provide their age to assure that each participant was an older worker according to the specifications of this study. I used several demographic variables as control and exploratory variables to help explain and extend my findings.

Past studies have identified numerous demographic variables to be related to workplace discrimination, including sex, race (see Dipboye et al., 2012), core self-evaluation (Randle, 2011), supervisor age, subordinates' age composition, and workgroup age composition (Cleveland, Montgomery, & Festa, 1984; Cleveland & Shore, 1992; Ostroff & Atwater, 2003; Shore et al., 2003). I used a an open-ended item asking for participants' ages and supervisors' ages. Sex and race were multiple-choice. Participants were allowed to mark as many race categories as needed, and then a follow-up question asked participants to list the race with which they identified most.

Core self-evaluation was captured through Judge, Erez, Bono, and Thorensen's (2003) 12 item measure which loaded strongly onto a single-factor (X^2/df = 2.03), had good internal consistency (α = .85), and good test-retest reliability (r = .81). Items were on a 5-point scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"), with such items as "I am confident I get the success I deserve in life" and "I determine what will happen in my life."

The age composition of workgroups and subordinate groups was measured on the same scale as the age composition measure mentioned above, which was modified from Cejka and Eagly's (1999) gender composition measure (α = .99), wherein participants were asked "to the best of your ability, identify the proportion of workers 50 years of age and older relative to workers 39 years of age and younger" on a 5-point scale.

Vanity of the older workers was included as a control variable in order to remove the variance in adaptation behaviors and desires that was solely due to the excessive concerns and values that individuals have for their physical appearance and professional achievement. Considering that attempts to appear more youthful intuitively relates to concerns with one's physical appearance, it was likely that one's attempts to use adaptations were partially a function of vanity. By controlling for the degree of vanity in my sample before testing my hypotheses, I was better able to capture variance that was due to age-type and discrimination. Vanity was captured using Netemeyer, Burton, and Lichtenstein's (1995) measure. Their measure included four subscales, including an excessive concern for one's physical appearance (physical concern; α = .85), a positive or inflated view of one's physical appearance (physical view; α = .90); an excessive concern for one's personal achievements (achievement concern; α = .86); and a positive or inflated view of one's personal achievements (achievement view; α =.84). Response

options were on a 7-point scale ranging from (“strongly agree”) to (“strongly disagree”).

Several additional variables were also collected as controls and to explore possible explanations for relationships, including pay, years employed (if employed), time unemployed (if unemployed), reason for unemployment (if unemployed), and the number of employees in the organization.

Age-Type Measures

Age-type represents the degree to which a worker is perceived as fitting the job based on their age group. To determine the age-type of each job identified by the older workers in my sample, 293 undergraduate students attending a large, southeastern university responded to several age-type measures. Participants were enrolled in at least one psychology class and participation credit was awarded for their time. For the age-type survey, a minimum of 10 participants rated the age-type of each job that was listed in the older worker surveys. The number of participants who evaluated each job was determined by a modified version of the Spearman-Brown prophecy formula (Shrout & Fleiss, 1979), given a .90 aspiration level of reliability and .49 lower bound ICC for all age-type related measures used by Reeves et al. (2013). Each survey consisted of 10 jobs. In total, 293 cases were collected. 64% were Caucasian, 20% Hispanic, 7% black or African American, 6% Asian, and 3% Hawaiian, Pacific Islander, or other. 80% were female and 20% were male. The race and gender proportions should not have impacted the responses, as a previous study with a representative sample of popular jobs and a sufficient sample size to assess respondent demographics found no differences in

perceptions of age-type according to race or gender. Lastly, 89% were currently or previously employed.

Prototype matching and career timetables theories both offered approaches to determining age-type that have successfully predicted unfair treatment of older workers in the past (Finkelstein, Burke, & Raju, 1995; Perry, 1994; Perry & Bourhis, 1998; Perry, Kulik, & Bourhis, 1996; Lawrence, 1988). Therefore, I included age-type measures from both prototype matching (i.e., general age-type and prototypicality) as well as career timetables (normative age and age composition). By measuring multiple forms of age-type, not only did I have a better overall representation of age-type, I was also able to explore which measures were better at predicting perceived discrimination and adaptation behaviors. Below, I elaborate on each of the adaptation measures used in my study.

Prototype matching measures of age-type.

General age-type. Prototype matching theory states that workers are commonly perceived as matching their jobs when their age group matches the general age-type of the job. Therefore, I used Cleveland and Hollmann's (1990) two-item measure of general age-type. The first item asked raters to describe a job on a 9-point scale ranging from 1 ("younger worker's job") to 9 ("older worker's job"). The second item asked raters to specify who would be the most appropriate person for the job, with response options ranging from 1 ("younger worker") to 9 ("older worker"). With a coefficient alpha of .99, this measure has recently demonstrated strong internal consistency (Reeves et al., 2013).

Age prototypicality. Prototype matching theory also states that workers are commonly perceived as matching their jobs when the stereotypes associated with their age group match the

central features of the job. Therefore, I used a modified version of Cejka and Eagly's (1999) instrument that measures how strongly raters believe gender stereotypes are important to success in the job. Gender stereotypes were replaced with age stereotypes from the worker-related age-based stereotype scale (WAS; Marcus et al., 2011). The WAS is presently the only instrument that captures stereotypes of older workers. It consists of 18 items that load on the dimensions of competence (α = .89), adaptability (α = .85), and warmth (α = .92). For each job rated, participants were asked "please identify the extent to which you believe each worker feature presented is necessary to be successful in the job." Response were on a 6-point scale ranging from 1 ("Disagree Very Much") to 6 ("Agree Very Much") and were chosen in accordance with Bass, Cascio, and O'Connor's (1974) magnitude estimations. The centrality of each stereotypical dimension was determined by the average of each item that loads on the respective dimension. In a recent use of this job stereotype measure, Reeves et al. (2013) found strong reliabilities for competence (α = .98), adaptability (α = .94), and warmth (α = .96).

Career timetables measures of age-type.

Normative age. To attain the normative age, I used Lawrence's (1988) measure that captures the "set of standard or typical ages of individuals holding roles" (p. 319). Lawrence (1988) discovered that people are good at determining typical ages because social norms around age are embedded in everyday life, however, when people were asked questions about atypical ages (i.e., who *does not* belong), they commonly treated the question as ridiculous. Therefore, when assessing age, it was best to establish normative age groups by assessing what is typical, rather than what is atypical. The measure consists of one item stating "my perception of (e.g. fast food workers) are:" and participants were asked to provide the youngest and oldest age that was

typical of workers in the specified job. To help respondents conceptualize their age ranges, they were also asked to provide the one age that was most typical of workers in the job. Normative age groups were established by selecting age group boundaries with the youngest and oldest ages that received a minimum of 10% of the responses. Considering that my study was solely concerned with older workers who exceeded the normative age group, I used the upper boundary for each job to determine normative age in this study.

***Perceived age composition*.** Career timetables theory also stated that age norms were commonly created by people's perceptions of who currently occupies the job. Therefore, I captured the degree to which jobs were occupied by older or younger workers by modifying Cejka and Eagly's (1999) measure of gender composition. Their measure asked raters to identify the percentage of employees who are women in each job. With a coefficient alpha of .99, Cejka and Eagly's (1999) measure possesses strong internal consistency. To apply to age, my study asked participants "to the best of your ability, identify the proportion of workers 50 years of age and older relative to workers 39 years of age and younger." The age ranges specified in this measure were chosen to be consistent with the U.S. Bureau of Labor Statistics' (2010) EEO study, which reported age data in 10 year intervals.

Actual age composition. To establish the actual degree to which each job is occupied by older and younger workers, I used the most recent US Census data available (2010). The number of older workers were considered to be anybody 50 years of age and older, whereas the number of younger workers were considered to be anybody 39 years of age and younger occupying each job. Age composition was determined by the ratio of younger to older workers in each job.

CHAPTER FOUR: RESULTS

Data Preparation

Data preparation was conducted using SPSS 21 and Microsoft Excel 2013. In the primary sample, random responding was identified with reverse coded items in the discrimination measure and an attention filter in the adaptations measure. The attention filter consisted of a list of instructions, with one sentence imbedded in the middle asking participants to disregard the rest of the instructions and select "none of the above," ensuring that only participants who fully attended to their instructions were included in the dataset. Participants who indicated similar responses on positive and negatively worded items in the discrimination measure and who failed to indicate the appropriate response on the attention filter were removed from the dataset. Participants who provided nonsense words in critical text boxes (e.g., job title) were also removed from the dataset. Univariate outliers were identified through calculations of *z* scores and cases greater than +/- 3.29 were further reviewed. After screening item-level responses in the primary dataset, responses from the student sample were screened for quality and then added to the primary dataset.

In the student sample, random responding was identified through repeat items imbedded in the measures. The age-type survey contained two duplicate items for each job in the prototypicality measure. The adaptation extremeness survey had three duplicate items appear throughout the entire set of adaptation behaviors. Correlations were calculated between the duplicate items for each participant. Data from each participant with a correlation below .70 were further analyzed. Of these participants, those with responses that appeared invalid (e.g., all

responses were the same, large amount of missing data, etc.) were removed from the dataset. The correlation between duplicate items was .85 for the age-type survey and .83 for the adaptation extremeness survey following removal of the bad data. Initially, the age-type dataset contained 445 participants and the extremeness dataset contained 63 participants. After removing participants determined to provide invalid data, a total of 283 students evaluated the age-type of the jobs held by the older workers in my sample and 62 students evaluated the extremeness of adaptation behaviors used by the older workers in my sample.

After screening the data for quality, responses for each job and adaptation behavior were averaged across participants and linked to their respective jobs and behaviors in the primary dataset through Excel's vlookup function. Once all data were present in the primary dataset, multivariate outliers on the primary dependent variables were identified by a calculation and plot of Cook's Distance by response ID, as recommended by Fidell and Tabachnick (2007). No cases were identified as substantially distant or out of line with the rest of the cases. The primary dataset originally contained 239 cases. After screening for data quality with the methods mentioned above, the final dataset included $N = 227$ cases.

Data Analysis

The primary goal of this dissertation was to extend two popular fit theories (i.e., prototype matching and career timetables) to perceptions of age discrimination and adaptation behaviors. Both prototype matching and career timetables offer a variety of approaches to measuring the fit of older workers with jobs through occupational age-type. It was hypothesized that age-type would predict both discrimination perceptions and the use of adaptation behaviors,

such that older workers who poorly fit the age-types of their jobs would perceive more discrimination and use more adaptations. Part one describes the results regarding each of my primary variables (i.e., age-type, discrimination, and adaptations). Then, part two systematically reveals the outcomes to each of my hypotheses. Part three expands upon my research questions and their answers. Lastly, part four covers my exploratory analyses, which built upon the results of my formal hypotheses.

Part One: Describing My Primary Variables - Age-Type, Discrimination, and Adaptations

The central theme of my dissertation was to extend age-type theories to perceptions of age discrimination and adaptation behaviors. Therefore, there were three primary sets of variables that I tested – age-type, perceived age discrimination, and adaptations. In this section, I elaborate on each of my primary variables and the descriptive statistics relevant to each.

Prototype Matching Approaches to Age-Type

General age-type (job level matching). Prototype matching theory assesses the fit of older workers with jobs in two ways – general age-type at the job-level and prototypicality at the feature-level. At the job-level, in which older workers are compared to the general age-type of the job and at the feature level in which stereotypical features of older workers are compared to features important to the job. General age-type was operationalized through a measure that generally asks whether the job is a young person's job or an old person's job, as well as whether the job is more appropriate for younger or older workers. The general age-type measure had strong reliability ($\alpha = .98$), there was a rather normal distribution of generally old and young-

typed jobs, and the mean was almost in the center of the 9-point scale (M = 4.89, SD = .81). Overall, the most young-typed jobs involved unloading trucks (i.e., freight associate, merchandise pickup), assisting teachers (i.e., vocational aide, assistant teacher), and retail sales (sales associate, retail associate). Conversely, the most old-typed jobs included religious leaders (i.e., pastor, hospice chaplain), senior business personnel (i.e., CFO, senior business analyst), and academic positions (professor, adjunct professor, principle investigator).

Prototypicality (feature level matching). At the feature level, stereotypically older worker features are compared to features that are associated with a prototypical worker in that job (i.e., prototypicality). Prototypicality was operationalized as the centrality or importance of four age stereotype dimensions, including warmth (α = .95), competence (α = .98), adaptability (α = .98), and physical ability (α = .95), all of which had strong reliabilities. Warmth was the only positive stereotype of older workers, and therefore, it was expected that jobs high in warmth (M = 4.56, SD = .70) would involve less discrimination and fewer adaptations, whereas jobs higher in the negative stereotypes of competence (M = 5.19, SD = .33), adaptability (M = 4.98, SD = .56), and physical ability (M = 4.17, SD = .57) would be associated with greater discrimination and adaptations.

Jobs rated as requiring the greatest amount of warmth included Hospice Chaplain, Caregiver for Seniors, and Assistant Teacher helping with students who need coaching, whereas jobs requiring the least warmth included Power Plant Scrubber Operator, Truck Driver, and Operations Manager responsible for moving freight. Jobs requiring the greatest competence included Senior Business Computer Analyst, Training Coordinator responsible for managing statewide training for law enforcement, and Emergency 911 Operator, whereas jobs requiring the

least competence included Landlord of a rental property, School Bus Driver, and Janitor. Jobs rated as requiring the greatest adaptability were Nurse, Functional Manager, and Senior Business Computer Analyst, whereas jobs rated as requiring the least adaptability were Landlord of rental home, Janitor, and Picker responsible for picking customer orders out of a warehouse. Lastly jobs rated as requiring the greatest physical ability were Firefighter, Home Healthcare Aide responsible for bathing, dressing, and transporting elderly, and Freight Associate responsible for unloading pallets onto a sales floor, whereas jobs rated as requiring the least physical ability were Pastor, Data Entry Clerk, and CFO.

Career Timetables Approaches to Age-Type

Normative age. The first career timetables approach to age-type was the most general. Normative age captured the ages represented in the typical group of workers. Rather than simply taking the average age in the ranges reported, the upper boundaries of the normative age ranges were calculated by taking the highest age reported by at least 10% of respondents, as recommended by Lawrence (1988). Therefore normative age was operationalized by the highest age viewed as appropriate in a specific job. As expected, the reliability for this measure was lower than that found for the others, as there were only two items with response options ranging from 0 to 100 and the data only included responses from 10% of the participants. Also as expected, the average normative age was rather high, with large variability (M = 62.08, SD = 6.81). The large standard deviation is due to the range of response options (i.e., 0-100) and the large diversity of jobs, ranging from landlord, RN, and mail processing clerk, which had the

highest normative ages to draft beer tech, yardman, and an assistant to the chairman whose responsibilities primary include event and party planning, which had the lowest normative ages.

Actual age composition. The next career timetables approach to age-type was actual age composition. That is the number of younger workers (under 40) in the job compared to the number of older workers (over 49), as reported by the U.S. Census Bureau (2010). Theoretically, as the job becomes more highly occupied by younger workers, then older workers would be viewed as behind schedule and a poor fit for the job (Lawerence, 1988). The average job in my sample had a ratio of 3 younger workers for every older worker (M = 1.48, SD = .79). Jobs that had far more younger workers than older workers were firefighter, administrative assistant, and cashier, whereas jobs that had far more older workers than younger workers were driver (of lease vehicles), CFO, and agricultural marketing specialist.

Perceived age composition. Unlike actual age composition, perceived age composition comes from participants' perceptions of the degree to which a job is occupied by more younger or older workers. It was a single-item measure asking the extent to which a job is occupied by more younger or older workers. As with actual age composition, the average job was perceived to have more younger workers than older workers (M = 2.66, SD = .51). Examples of jobs thought to have far more younger workers than older workers were sales associate, freight associate, and assistant teacher, whereas jobs thought to have far more older workers than younger workers were CFO, landlord, and pastor.

Perceived Age Discrimination

How perceived age discrimination was measured. Another major variable in my dissertation was perceived age discrimination. Perceived age discrimination was expected to be predicted by age-type and a predictor of adaptations. The measure of perceived discrimination captured the degree to which older workers believed blatant and subtle forms of age discrimination occur in their workplace. The discrimination score used was the sum of 16 items, on a 7-point scale, with positively worded items reverse-coded, and a strong reliability ($\alpha = .95$). The average discrimination score was rather low ($M = 34.42$, $SD = 18.97$), indicating that most of the sample had not perceived much age discrimination at work. However, the high variability shows the largely different experiences that people have perceived within the sample.

How common was perceived age discrimination? To assess the differences across groups of people who have perceived discrimination compared to those who have experienced no discrimination, a separate score was calculated. Those considered to have not experienced discrimination did not indicate that they agreed with any of the discrimination items, whereas those considered to have experienced discrimination marked that they at least somewhat agreed with one or more discrimination items. Although the mean across all discrimination items was low, most of the sample (53%) indicated that they have experienced at least one form of discrimination. The most common form of discrimination dealt with promotions and rewards, with 21% of the sample believing that promotions and rewards are influenced by age. In open ended responses, participants elaborated with statements such as “promotions were given to younger employees even though I had more education, training, and experience in that field,” “they make fun of me by saying things like you can’t teach an old dog new tricks,” “promotions

are not wasted on someone with a possible short time left at the company," "older pastors are appointed to diminishing roles and smaller congregations," and "if someone is in their upper fifties, there will be no moving into upper management if one is not there already."

Sobering examples of real-life experiences. Many powerful statements about poor treatment in the workplace were expressed throughout the survey. Expressions of experiences with discrimination were often put in text boxes that did not even ask about discrimination. Only one text box asked about experiences with discrimination and specifically asked about experiences that were not already covered by the discrimination measure. Yet, participants still elaborated on experiences that were already covered in the measure. With such an intense number of powerful statements, often given when they were not asked for one, it is clear that participants just wanted to be heard and for somebody to know this was happening to them. Most comments involved pressure to retire, being socially isolated and made fun of, and simply being treated poorly. In the space below, I will provide examples of the statements older workers gave about their experiences with age discrimination (no changes have been made to these direct quotes).

> One of my associates had a heart attack and I heard one of the other young people saying that he should not be allowed to come back to work because what if he has a heart attack on the job and he is too old to be working here.
>
> I am constantly asked when I will retire.
>
> Frequently asked when I was planning on retiring.
>
> My supervisor encouraged my retirement – I believe to utilize my salary in other areas.
>
> A youngish male teacher verbally threatened me and shouted in my face, but when I reported it to my principal (also a male & younger than me), he literally laughed it off.

I'm often required to close late at night and then open extremely early the next morning. If I question it, then I'm told that if I'm too old to work the hours, I should look for another job.

Others think you don't know as much as someone younger.

Ignored, not recognized, nobody listens.

There is an attitude that because you are older and have more tenure that you need to work harder because you are being overpaid and that someone fresh out of school could start at a much lower salary, thus saving the company money in benefits and yearly salary.

School system placed pressure on older teachers. They can hire 1 new teacher and a half, for what they pay older teachers with more experience.

The biggest challenge I face is getting higher on the wage scale. School systems are looking to eliminate higher cost employees for younger and cheaper workers, despite the experience they are losing.

There is some insensitivity to me and to my age group from most of the supervisors.

She (my supervisor) has had some outbursts at me and tirades at me as well as another older women. She does not do this with younger persons.

The three (coworkers) frequently went in one office and laughed, etc. leaving me completely out of whatever the conversations were. I ignored "humor" that went on among faculty members about other, older faculty members. I always tried not to make remarks about "how we used to do it....."

At my company older employees are made to feel isolated and bullied

I feel isolated from all the employees and not included in anything, therefore I go home alone and do not socialize and am not invited to do so; I am called Old man at work; No one wants to hire me, I am too old

Adaptation Behaviors

The adaptations that older workers use are referred to as adaptation behaviors. Adaptation behaviors hypothesized in this study are efforts older workers take to appear more youthful at

work. Only youth-oriented adaptations are included in this section, as they are the only adaptations that theoretically relate to age-type. More general adaptations (e.g., speaking to authorities and seeking social support) will be addressed in the following section relating adaptations to discrimination (i.e., Part 3), as they are theoretical responses to age discrimination, rather than age-type. Among the youth-oriented adaptation behaviors, the order from most common to least common was maintaining health and fitness, using store-bought products, using technology in public, wearing more youthful clothing and accessories, speaking youthfully, deemphasizing age on resumes, non-surgical cosmetic procedures, and surgical cosmetic procedures. The adaptation behaviors measure asked older workers to provide the extent to which they have done each of the adaptations listed above. Scores were calculated by taking the sum of responses to every adaptation. The overall measure had a strong reliability ($\alpha = .84$) and a rather low average ($M = 11.31$, $SD = 6.06$). The low average was due to the small number of older workers who engaged in several of the less popular adaptations. Below is a list of the adaptation behaviors from most popular to least popular, containing the specific efforts that older workers provided within each category.

> 43% of the overall sample and 45% of discriminated workers indicated that they attempted to appear younger at work through efforts like going to the gym, exercising regularly, losing or maintaining weight, dieting, eating healthy, and simply taking the stairs instead of the elevator.
>
> 27% of the overall sample and 31% of discriminated workers attempted to appear younger at work through efforts like dying hair, keeping an updated hair style, wearing a weave or hairpiece, using wrinkle creams, wearing make-up. Among the responses dealing with store-bought products, there was a strong emphasis on one's hair, particularly with dying it to remove the grays.
>
> 25% of the overall sample and 29% of those who were discriminated attempted to appear younger at work through efforts like wearing more modern and trendy clothing, wearing more youthful clothing that is still age appropriate, dressing more casually, keeping up

with professional fashions, asking family what their younger peers wear and where to shop, and wearing modern glasses.

24% of the overall sample and 26% of discriminated workers attempted to appear younger at work through efforts like using a smartphone or tablet in public. In addition to just being seen using technology, one worker admitted "I send texts to my coworkers to prove that I can."

15% of the overall sample and 17% of discriminated workers attempted to sound more youthful through efforts like learning and using words used by younger workers, picking up idioms from younger people in the workplace, using language that shows knowledge of current trends, talking about sports, avoiding older sayings and "old wives tales," and keeping up with current music and television shows.

13% of the overall sample and 15% of discriminated workers attempted to appear more youthful by highlighting skills rather than years of experience, removing older jobs, and only listing the last 10 years of experience.

10% of the overall sample and 9% of discriminated workers attempted to appear younger through whitening teeth, using depilatories (hair removal), and undergoing microdermabrasion. The reason for the low percentage of discriminated workers using non-surgical cosmetic procedures is that only 2% of discriminated men had a procedure, compared to 14% of women.

2% of the overall sample and 2% of discriminated workers attempted to appear more youthful through surgical cosmetic procedures, however, none of the older workers who had a surgical procedure were willing to share the specific procedure that they underwent.

Adaptation Desires

Desires to adapt were slightly different than behaviors, as many older workers wanted to adapt in a variety of ways that their situation simply would not allow. From most common to least common, the youth-oriented adaptations that older workers used were maintaining health and fitness, using technology in public, speaking youthfully, using store-bought products, deemphasizing age on resumes, dressing more youthfully, getting non-surgical cosmetic procedures, and getting surgical cosmetic procedures. The adaptation desires measure asked

older workers to provide the extent to which they would engage in each of the adaptations listed above if the situation allowed. Scores were calculated by taking the sum of responses to every adaptation. The overall measure had a strong reliability ($\alpha = .90$) and a rather low average ($M = 9.31$, $SD = 6.29$). Like with adaptation behaviors, the low average is due to the small number of older workers who desired to engage in several of the less popular adaptations. Below is a list of the adaptation desires from most popular to least popular, containing the specific efforts that older workers provided within each category.

> 33% of the overall sample and 36% of discriminated workers wanted to appear more youthful at work through efforts like joining a gym, use a personal trainer, signing up for a swimming program, purchasing expensive fitness gear and better exercise equipment, going to a spa, exercising more, going on a paid diet plan, eating better or all organic, avoiding sugary snacks brought in by coworkers, and getting a personal chef.
>
> 26% of the overall sample and 31% of discriminated workers wanted to appear more youthful at work through efforts like buying a smartphone, tablet, or "gadget," updating to the latest phone, and taking classes to know how to use the latest technology.
>
> 26% of the overall sample and 29% of discriminated workers wanted to appear younger at work through efforts taking keeping up to date on current trends and issues, talking about skills rather than experience, using modern buzzwords, emphasizing high energy lifestyle and activities, and taking "some pointers from younger members of my immediate family to learn how to fit in."
>
> 25% of the overall sample and 28% of discriminated wanted to appear more youthful at work through efforts like using or purchasing more expensive anti-aging creams, makeup, perfume, and other beauty products, undergoing skin toning treatments and facials, coloring hair, updating hair style or getting a better weave, and using more male grooming products from notable retail stores.
>
> 24% of the general sample and 30% of discriminated workers wanted to appear more youthful through efforts like removing dates from education, removing older experience or limiting content to the past 10 years, emphasize skills rather than years of experience, focusing on knowledge of current workplace processes.
>
> 22% of the overall sample and 24% of discriminated workers want to appear more youthful at work through efforts like wearing more modern clothing and shoes, purchasing more expensive clothing, shoes and accessories, updating clothing more

often, wearing designer clothes, having a greater variety of clothing and shoes, purchase a more attractive uniform.

16% of the overall sample and 22% of discriminated workers wanted to appear more youthful at work through cosmetic procedures like Botox, Restylane, laser wrinkle removal, facial hair removal, moles and discoloration treated/removed, teeth pulled for dentures, and teeth whitening.

11% of the overall sample and 14% of discriminated workers wanted to appear more youthful at work through efforts like surgical cosmetic procedures like a tummy tuck, liposuction, eye lift, face lift, neck lift, breast lift, breast enhancement, breast reduction, varicose vein treatment, and Lasik eye surgery.

Which adaptations were most extreme? Some adaptations are believed to be more extreme than others. As a result, my study also accounted for the extremeness of adaptations in several hypotheses. To attain the extremeness of each adaptation, an independent sample rated the degree to which each adaptation would be considered an extreme behavior. The overall measure had a strong reliability ($\alpha = 80$). The order of adaptations from least to most extreme was maintaining health and fitness ($M = 2.20$, $SD = 1.38$), using technology in public ($M = 3.07$, $SD = 1.97$), dressing youthfully ($M = 3.69$, $SD = 1.82$), using store bought products ($M = 3.84$, $SD = 1.85$), getting non-surgical cosmetic procedures ($M = 4.25$, $SD = 1.79$), modifying one's resume ($M = 4.48$, $SD = 1.72$), speaking youthfully ($M = 4.75$, $SD = 1.56$), and surgical cosmetic procedures ($M = 5.74$, $SD = 1.50$). It is interesting that non-surgical cosmetic procedures were not considered as one of the most extreme adaptations. Such a low score spotlights the increased social acceptance of such procedures. Another interesting result is the high score given to resume modification. However, modifying one's resume implies turnover intentions, which is a rather extreme response compared to exercising and buying new clothes. Now that I have addressed the specific adaptation behaviors that older workers use and how extreme they are perceived to be, in

the next section I will report upon the prevalence and extremeness of adaptations across old and young-typed jobs.

Part Two: Hypothesis Testing

Hypothesis 1: Can Perceived Discrimination be predicted by Prototype Matching and Career Timetables?

The main purpose of this study was to extend prototype matching and career timetables to older worker perceptions of discrimination and adaptation behaviors. The first hypothesis addressed whether perceived age discrimination could be predicted by either theory. Specifically, I hypothesized that older workers would perceive more age discrimination when their jobs were more young-typed according to prototype matching (H1a) and career timetables (H1b) theories.

To test hypotheses 1a and 1b, perceived discrimination was regressed upon all prototype matching variables (i.e., age prototypicality and general age-type) and career timetables variables (normative age, age composition, and supervisor age). Core self-evaluation was the only control used because it had the strongest zero-order correlation with perceived age discrimination (r = -.39, $p < .01$; see table 1) and was the only control variable significantly related to discrimination in the overall regression model (β = -.45, $t(210) = -7.33$, $p < .01$; see table 2).

Hypothesis 1a was not supported, as no prototype matching variables significantly predicted perceived age discrimination. When career timetables variables were added to the regression equation, two career timetables variables significantly predicted perceived age discrimination, $\Delta R^2 = .08$, $F(9, 201) = 2.60$, $p < .01$. Specifically, actual age composition predicted perceived age discrimination ($\beta = .19$, $t(201) = 2.86$, $p < .01$), in that older workers

perceive more age discrimination as their jobs became more dominated by younger workers than older workers. Supervisor age also predicted perceived age discrimination (β = -.42, t(201) = -3.70, p < .01) in that older workers perceived more discrimination in jobs with younger supervisors. Both age composition and supervisor age predicted perceived age discrimination in the hypothesized directions; thus, hypothesis 1b was supported.

Hypothesis 2: Adaptation Behaviors Predicted by Prototype Matching and Career Timetables

In addition to extending fit theories to older worker perceptions of age discrimination, another primary goal was to extend fit theories to older worker behaviors – specifically adaptation behaviors. To extend prototype matching and career timetables to adaptation behaviors, hypothesis 2a stated that older workers would use more adaptations when they poorly fit the age-types of their jobs and hypothesis 2b states that older workers would use more extreme adaptations when they poorly fit the age-types of their jobs.

To test hypothesis 2a, the amount of adaptation behaviors used by older workers was regressed upon all prototype matching and career timetables variables. The control variables included sex and physical concern vanity. These two variables were selected because sex (r = .18, p < .01) and physical concern vanity (r = .25, p < .01) had the strongest relationships with the amount of adaptation behaviors of all the proposed control variables (see table 1) and they were the only control variables significantly related to adaptation behaviors in the overall regression model (see table 2).

To test hypothesis 2b, the extremeness of adaptation behaviors used by older workers was regressed upon all prototype matching and career timetables variables. The control variables included sex and physical concern vanity. These two variables were selected because sex (r = .18, $p < .01$) and physical concern vanity (r = .24, $p < .01$) had the strongest relationships with the extremeness of adaptation behaviors of all the proposed control variables (see table 1) and they were the only control variables significantly related to adaptation behavior extremeness in the overall regression model (see table 2).

Age-type variables did not predict the amount, ΔR^2 = .04, $F(9, 200) = 1.02$, *ns* or extremeness, ΔR^2 = .04, $F(9, 200) = .99$, *ns* of adaptation behaviors over and above the control variables of sex and vanity; thus, hypotheses 2a and 2b were not supported. Although the overall age-type model was not significant, the prototype matching variables of competence and adaptability did have significant regression coefficients. Specifically, older workers in jobs requiring high adaptability engaged in more (β = .33, $t(200) = 2.02$, $p < .05$) and more extreme (β = .35, $t(200) = 2.13$, p = .03) adaptation behaviors. Conversely, older workers in jobs requiring high competence did not use as many (β = -.35, $t(200) = -2.24$, p = .03) or as extreme adaptation behaviors (β = -.38, $t(200) = -2.45$, p = .02). Given that older workers are stereotyped to lack adaptability and competence, I hypothesized that older workers would use more and more extreme behaviors to adapt in jobs requiring high adaptability and competence. Therefore the importance of adaptability to one's job predicted adaptation behaviors in the direction that I hypothesized, whereas the importance of competence did not.

Age-type variables did not significantly predict the amount or extremeness of adaptation behaviors, beyond the control variables. As a result hypotheses 2a and 2b were not supported.

Although hypothesis 2 was not supported, the significant regression coefficients for the importance of competence and adaptability to one's job are worth noting.

First, adaptability is a negative stereotype of older workers (Marcus et al., 2011) and commonly associated with jobs that are more appropriate for younger workers (Reeves et al., 2013). Therefore it was expected that older workers would use more adaptation behaviors when adaptability was central to success on the job. Correlations with specific adaptation behaviors revealed that greater efforts to appear more youthful at work through their health and fitness was predominately driving this relationship ($r = .18$, $p < .01$), as there were no other positive correlations between the centrality of adaptability and adaptation behaviors. Alternatively, older workers in jobs requiring high adaptability were significantly less likely to engage in surgical cosmetic procedures ($r = -.16$, $p = .02$). Given that jobs high in adaptability are commonly in the healthcare industry (e.g., RN, LPN, Behavior Health Specialist; $t(225) = -2.28$, $p = .02$), it is not surprising that older workers in these jobs choose to adapt through health-related, rather than cosmetic efforts.

Second, jobs that require high competence are commonly viewed as more appropriate for older workers, according to a previous study (Reeves et al., 2013) and the results of this study ($r = .16$, $p = .02$). Therefore, it is logical that older workers did not adapt as much in high competence jobs. The relationship between specific adaptation behaviors and the importance of competence were nearly identical to that of the importance of adaptability. Specifically, older workers in jobs requiring higher competence (e.g., firefighter, director of technology, senior electrical/instrumentation designer) maintained their health and fitness more ($r = .14$, $p = .04$), but had fewer surgical cosmetic procedures ($r = -.17$, $p < .01$). Therefore, as with jobs requiring

the feature of adaptability, people in jobs that require the feature of competence tend to adapt more than others, but only through more natural, health-oriented approaches.

The results indicated that the relationship between age-type and adaptation behaviors is more complicated than hypothesized. Specifically, people in jobs requiring high competence and adaptability tended to engage in more health-oriented adaptation behaviors, but underwent fewer cosmetic procedures. Although there were several notable relationships, the overall regression block for age-type did not significantly predict adaptation behaviors beyond the control variables and hypothesis 2 was not supported. Subsequent analyses, however, revealed that age-type did not have a significant main effect, but it did moderate the relationship between discrimination and adaptation behaviors. Subsequent analyses involving the age-type*discrimination interactions are further explained in the exploratory analyses section.

Hypothesis 3: Adaptation Desires Predicted by Prototype Matching and Career Timetables

The study of adaptation behaviors focuses solely on what older workers have done to adapt in their job under the constraints associated with their situation. I also extended the study of adaptation behaviors to include adaptation desires. Hypothesis 3a stated that older workers would have greater adaptation desires when they poorly fit the age-types of their jobs and hypothesis 3b stated that older workers would have more extreme adaptation desires when they poorly fit the age-types of their jobs. By studying adaptation desires, I was also able to capture what older workers would do if the constraints of their situations were lifted. In other words, what would older workers do to appear more youthful at work if given the chance?

To test hypothesis 3a, the amount of adaptation desires used by older workers was regressed upon all prototype matching and career timetables variables. The control variables included sex and physical concern vanity. These two variables were selected because sex (r = .18, $p < .01$) and physical concern vanity (r = .27, $p < .01$) had the strongest relationships with the amount of adaptation desires of all the proposed control variables (see table 1) and they were the only control variables significantly related to adaptation desires in the overall regression model (see table 3).

To test hypothesis 3b, the extremeness of adaptation desires used by older workers was regressed upon all prototype matching and career timetables variables. The control variables included sex and physical concern vanity. These two variables were selected because sex (r = .19, $p < .01$) and physical concern vanity (r = .28, $p < .01$) had the strongest relationships with the extremeness of adaptation desires of all the proposed control variables (see table 1) and they were the only control variables significantly related to adaptation desire extremeness in the overall regression model (see table 3).

Age-type variables did not predict the amount, $\Delta R^2 = .06$, $F(9, 200) = 1.62$, *ns* or extremeness , $\Delta R^2 = .07$, $F(9, 200) = 1.75$, *ns* of adaptation desires over and above the control variables; thus, hypotheses 3a and 3b were not supported. Although the overall age-type model was not significant, the prototype matching variable of warmth did have a significant regression coefficient. Specifically, older workers in jobs requiring high warmth had more (β = .17, $t(200) = 2.10$, p = .04) and more extreme (β = .18, $t(200) = 2.12$, p = .03) adaptation desires. Given that older workers are stereotyped to be high in warmth, I hypothesized that older workers adaptation desires would be lower and less extreme in jobs requiring high warmth. Therefore the

importance of warmth to one's job predicted adaptation desires in a different direction opposite of that hypothesized.

Age-type variables did not significantly predict the amount or extremeness of adaptation desires, beyond the control variables. As a result hypotheses 3a and 3b were not supported. Although hypothesis 3 was not supported, the significant regression coefficient for the importance of warmth in one's job is worth noting.

As with the importance of adaptability, the adaptation that was most related to warmth was maintaining one's health and fitness ($r = .19$, $p < .01$) and jobs high in warmth were commonly in the healthcare industry ($t(225) = 3.35$, $p = .01$). It is logical that older workers in the healthcare industry would like to appear more youthful through health-related approaches, as workers in health-related jobs believe that they need to appear healthy to be perceived as credible (Berger, 2009). Although there was one notable relationship in my analyses, the overall regression block for age-type did not significantly predict adaptation desires beyond the control variables and hypothesis 3 was not supported. Subsequent analyses, however, revealed that age-type did not have a significant main effect, but it did moderate the relationship between discrimination and adaptation behaviors. Subsequent analyses involving the age-type*discrimination interactions are further explained in the exploratory analyses section.

Hypothesis 4: The Relationship between Discrimination and Adaptations

Discrimination was expected to be a central variable in this study. Specifically, I expected that people who were experiencing age discrimination at work would make greater

efforts (hypothesis 4a) and have greater desires (hypothesis 4b) to adapt. Their adaptations would be in an effort to overcome their discrimination and better fit the age-type of their jobs.

To test hypothesis 4, the adaptation behaviors variable was added as a subsequent block in the same regression analyses that were used to test hypotheses 2 and 3. That is, the adaptation behaviors variable and the adaptation desires variable were regressed upon perceived discrimination in separate regression equations. Control variables included sex and physical concern vanity.

Supporting hypothesis 4a, perceived discrimination significantly predicted the amount of youth-oriented adaptation behaviors used by older workers ($\beta = .28$, $t(199) = 4.26$, $p < .01$) in a model that predicted over and above the control variables $\Delta R^2 = .07$, $F(1, 199) = 18.17$, $p < .01$. Supporting hypothesis 4b, perceived discrimination significantly predicted the amount of adaptation desires ($\beta = .27$, $t(199) = 4.16$, $p < .01$) over and above the control variables, $\Delta R^2 = .07$, $F(1, 199) = 17.32$, $p < .01$. The positive relationships indicated that older workers engaged in more adaptations and had greater adaptation desires as they perceive more discrimination, as hypothesized.

To see if perceived discrimination also predicted the extremeness of adaptation behaviors and desires, these variables were separately placed into the same regression equation. Perceived discrimination significantly predicted both the extremeness of adaptation behaviors ($\beta = .27$, $t(199) = 4.01$, $p < .01$) beyond the control variables, $\Delta R^2 = .07$, $F(1, 199) = 16.60$, $p < .01$ and the extremeness of adaptation desires ($\beta = .31$, $t(199) = 4.76$, $p < .01$) beyond the control variables $\Delta R^2 = .09$, $F(1, 199) = 2.64$, $p < .01$. Both relationships were positive, indicating that older

workers engaged in more extreme adaptation behaviors and had more extreme adaptation desires as they perceived more age discrimination.

Overall, perceived discrimination significantly predicted every adaptation variable, such that the adaptation desires and behaviors of older workers became greater and more extreme as more discrimination was perceived. All relationships were in the hypothesized direction, such that adaptation behaviors and desires were greater when older workers perceived more discrimination. As a result, hypotheses 4a and 4b were supported.

Hypothesis 5 and 6: Moderation and Mediation among Age-Type, Discrimination, and Adaptations

Hypothesis 5: The mediational effect of perceived age discrimination. Hypothesis 5 stated that perceived discrimination would mediate the relationship between age-type and the amount (H5a) and extremeness (H5b) of adaptation behaviors, as well as the amount (H5c) and extremeness (H5d) of adaptation desires. Analyses were conducted using hierarchical multiple regression. Hypotheses 5a through 5d were not supported. In step one, age composition was the only age-type variable to predict perceived discrimination ($\beta = .19$, $t(201) = 2.86$, $p < .01$). However, in step two, age composition did not significantly predict any adaptation variable (see tables 3 and 4). As a result, no mediational effect was found and hypothesis 5 was not supported. Although no mediational effect was found with age-type, discrimination, and adaptations, several moderational effects were found. All moderational effects found in this study are elaborated on in the exploratory analyses section.

Hypothesis 6: the moderational effect of age-type. My final hypothesis stated that the amount (H6a) and the extremeness (H6b) of adaptation behaviors would moderate the relationship between age-type variables and perceived age discrimination. Analyses were conducted by regressing perceived age discrimination on all age-type x adaptation behavior interaction terms. Control variables included core self-evaluation, all age-type variables, the amount of adaptation behaviors, and the extremeness of adaptation behaviors. Hypotheses 6a and 6b were not supported, as the regression block containing the age-type x adaptation amount interaction terms, $\Delta R^2 = .01$, $F(8, 191) = .39$, *ns* and the regression block containing the age-type adaptation extremeness interaction terms, $\Delta R^2 = .02$, $F(8, 183) = .72$, *ns* did not significantly predict perceived age discrimination beyond the control variables. Additionally, age-type x adaptation regression coefficients were not significant (see table 2). My results indicated that adaptations did not moderate the relationship between age-type and perceived age discrimination, leaving hypothesis 6 unsupported. However, exploratory analyses did reveal that age-type did moderate the relationships between perceived age discrimination and adaptations, which I discuss further in the exploratory analyses section.

Part Three: Research Questions

Research Question 1: Was Prototype Matching or Career Timetables Better at Predicting Perceived Age Discrimination?

My first research question was designed to test which of the two most popular fit theories in the age discrimination literature was most capable of predicting perceived age discrimination. The regression model that was used to test hypothesis one found that the career timetables

variable of age composition successfully predicted perceived age discrimination, such that more discrimination was perceived as the ratio of younger to older workers increased. In other words, the degree to which older workers were minorities in their jobs predicted the amount of discrimination they perceived. Conversely, no prototype matching variables successfully predicted perceived age discrimination. Additionally, actual age composition predicted perceived age discrimination significantly better than the prototype matching variables of general age-type ($z = 1.7$, $p = .04$) and physical ability ($z = 1.91$, $p = .02$), but not the prototype matching variables of competence ($z = 1.5$, $p = .07$), adaptability ($z = 1.28$, $p = .10$), warmth ($z = 1.17$, $p = .12$). Given that the career timetables was the only theory to successfully predicted perceived age discrimination, and it did so significantly better than several prototype matching variables, my results indicate that career timetables theory is more capable of predicting age discrimination as perceived by older workers.

Research Question 2: Were Adaptations a Response to Age Discrimination and If So, Which Ones?

From hypothesis 4, we know there was a correlation between perceived discrimination and adaptations, but was perceived discrimination really a primary reason reported for adaptation behaviors and desires? In this section, I will report the frequency with which discrimination was reported as a reason for engaging in adaptation behaviors and desires. The correlations found between perceived age discrimination and specific adaptations will also be reported.

Was perceived age discrimination a primary reason for adaptation behaviors? 26% the older workers who have experienced age discrimination in the workplace reported that

discrimination was a primary reason for their adaptation behaviors. When looking at gender separately, 22% of discriminated men attributed their adaptations to their experiences of discrimination. These older men engaged in all 8 of the youth-oriented adaptation behaviors, as well as emotional withdrawal. In open-ended responses, they emphasized keeping their clothing up to date and enhancing their overall image for the ones in charge of promotions. When looking solely at discriminated women, 29% attributed their adaptations to their experiences of discrimination. These older women engaged in all 8 of the youth-oriented adaptation behaviors, except surgical cosmetic procedures. Additionally, these women reported avoiding certain people, engaging in social support, talking to authorities, maintaining their skills, and emotional withdrawal. In open-ended responses, they emphasized updating their clothing, dressing appropriately, using more youthful terms like "cool" and "to die for," becoming tech savvy to appear hip, acknowledge one's posture, wear makeup, look neat and put together, avoid commenting on "how we used to do it," and maintaining health and fitness.

Was perceived age discrimination a primary reason for adaptation desires? 17% of the older workers who have experienced age discrimination in their workplace reported that discrimination was a primary reason for their adaptation desires. When looking at specific genders, 18% of discriminated men attributed their adaptations to their experiences of discrimination. These older men engaged in all 8 of the youth-oriented adaptation behaviors. In open-ended responses, they emphasized spending more on clothing, coloring hair, purchasing the latest technological devices, and removing older work history from resumes. When looking solely at discriminated women, 14% attributed their adaptations to their experiences of discrimination. These older women engaged in all 8 of the youth-oriented adaptation behaviors,

as well as avoiding those who discriminate and maintaining skills. In open-ended responses, they emphasized wearing more updated and stylish clothing, wearing shoes with higher heals than comfortable, coloring gray hair, and a general change in appearance.

Other reasons for adaptation behaviors? 58% of discriminated older workers attributed their adaptation behaviors to a reason other than discrimination. When focusing solely on males, 44% of men gave reasons other than discrimination for their adaptations. The primary reason was for personal satisfaction, but also to better fit in at work, be more effective in the workplace, and look good for a significant other. When focusing solely on females, 58% of women gave reasons other than discrimination for their adaptations. The primary reason was to feel better about themselves, but also to better fit in and feel as part of the group, be more socially acceptable, stay attractive, avoid feeling old, gain the attention of men, and because "everyone wants to look as young as possible."

Other reasons for adaptation desires? 28% of discriminated older workers attributed their adaptation behaviors to a reason other than discrimination. When focusing solely on males, 18% of men gave reasons other than discrimination for their adaptations. The primary reason was for one's self and to feel good, but also to feel "proud that I am with the times and can fit in," "be respected and seen as cool by my younger peers," and to reduce insurance costs with good health. When focusing solely on females, 32% of women gave reasons other than discrimination for their adaptations. The primary reason was to feel better about themselves, but also to "be a better version of me," for a significant other, to fit in better and not feel left out, and for "Pride. I don't want to look my age."

Which adaptations were most related to perceived age discrimination? Correlations between perceived discrimination and each adaptation behavior and desire were calculated. Results showed that older workers who perceived more age discrimination made greater efforts to appear youthful in the workplace through a wide variety of behaviors (see table 3 and figure 9), including dressing more youthfully ($r = .25$, $p < .01$), using technology in public ($r = .30$, $p < .01$), maintaining health and fitness ($r = .25$, $p < .01$), using store bought beauty products ($r = .27$, $p < .01$), using youth-oriented speech ($r = .22$, $p < .01$), and deemphasizing age on resumes ($r = .18$, $p < .01$). Additionally, they were more likely to engage in general adaptation behaviors like avoiding those who discriminate ($r = .34$, $p < .01$), seeking social support ($r = .24$, $p < .01$), speaking to authorities ($r = .22$, $p < .01$), maintaining skills ($r = .15$, $p = .01$), and withdrawing emotionally ($r = .31$, $p < .01$). The only adaptation behaviors that were not related to perceived age discrimination were cosmetic procedures ($r = .07$, $p = .31$), and surgical cosmetic procedures ($r = .05$, $p = .49$).

The lack of a relationship with the more extreme youth-oriented adaptations is probably due to the fact that so few people engaged in non-surgical and surgical cosmetic procedures. Although few older workers actually had procedures done, a repeated-measures ANOVA revealed that significantly more would get them if they had the time and money, $F(1, 202) = 13.42$, $p < .001$, partial $\eta^2 = .06$. As a result, older workers who perceived more age discrimination had greater desires to engage in all youth-orientation desires (see table 4 and figure 10), including non-surgical ($r = .30$, $p < .01$) and surgical cosmetic procedures ($r = .16$, $p = .02$). All relationships were positive, indicating that older workers' adaptation behaviors and desires increased with the amount of age discrimination that was perceived (see tables 3 and 4).

Research Question 3: Are Adaptation Behaviors Believed to Be Successful in Reducing Age Discrimination and Which Ones?

With so many adaptation behaviors being used in response to discrimination, it was important to know if any of these adaptations were believed to actually work and help older workers avoid age discrimination. Research question 3 asked whether older workers believed adaptation behaviors were successful in avoiding age discrimination and which ones were believed to be the most effective.

To answer research question 3, the entire sample was asked how effective they believed each adaptation behavior to be in helping older workers avoid age discrimination at work. Each of the 8 youth-oriented adaptation behaviors were listed (i.e., health and fitness, youthful dress, youthful speech, deemphasizing age on resumes, store bought products, technology in public, cosmetic procedures, and surgical cosmetic procedures), as well as 5 additional general adaptation behaviors (i.e., social support, avoiding those who discriminate, emotional withdrawal, skill maintenance, and speaking to authorities). Additionally, older workers who reported experiencing or observing age discrimination in their workplace were asked if they believed their adaptation behaviors have helped them avoid age discrimination and to specify the particular behaviors that were effective. The following sections address the perceived effectiveness of adaptation behaviors in general, as well as the perceived effectiveness of each technique.

Are adaptations generally believed to be successful? Within the overall sample, 85% believed that at least one of the youth-oriented adaptation behaviors would help older workers avoid discrimination at work and 88% believed that at least one of the general adaptation

behaviors would help older workers avoid age discrimination at work. Point-biserial correlations revealed that those who perceived age discrimination at work ($r = .17$, $p < .01$) and those who engaged in adaptations themselves ($r = .28$, $p < .001$) were more likely to be believe that adaptation behaviors were effective. Among those who have experienced or observed age discrimination in their workplace, 22% believed that their adaptation behaviors were effective in helping them avoid age discrimination. Considering that the vast majority of older workers believed that at least one adaptation behavior could help older workers avoid age discrimination and over one-fifth of older workers believed their adaptation behaviors have helped them, the answer to research question 3 is that older workers do believe that adaptations can be useful, but only specific ones.

Which adaptations are believed to be successful? The adaptations believed to be useful by more than 25% of the sample included maintaining skills, maintaining health and fitness, speaking to authorities, and seeking social support. The one adaptation behavior that more than half of the sample believed could help older workers avoid age discrimination was maintaining one's skills through efforts like taking classes, reading books, engaging in volunteer work, and using tutorials. Interestingly, it was the general adaptation behaviors that were most believed to help older workers avoid age discrimination, whereas a much smaller portion of the sample believed that efforts to appear youthful could be successful. Similarly, of the older workers who have previously attempted to adapt to age discrimination, the efforts most commonly believed to work were proving one's performance and abilities through extra work efforts and building skills, as well as avoiding the people who act as sources of discrimination. Given the strong endorsement for maintaining one's skills by the entire sample and testimonials showing that

building skills and proving performance could be successful, the answer to research question 3 is that adaptations to change the opinions of others through strong skills and additional efforts were commonly believed to be useful, whereas changing one's appearance to look youthful was not.

Research Question 4: Which Adaptations are More Common and Effective across Old and Young-Typed Jobs

Which adaptations were more common across old and young-typed jobs (4a)?

Considering that older workers are perceived to fit old-typed jobs, but not young-typed jobs (Cleveland & Hollmann, 1990), research question 4a asked whether certain adaptations were more common in old-typed jobs and others were more common in young-typed jobs. As shown in figure 11, the use of adaptation behaviors had several subtle differences across workers in young and old-typed jobs. Specifically, it was slightly more common for workers in old-typed to report deemphasizing age on their resumes, talking to authorities, and emotionally withdrawing, whereas it was slightly more common for workers in young-typed jobs to report using youthful speech, cosmetic procedures, and surgical cosmetic procedures. As one may expect, the adaptation behaviors used by workers in young-typed jobs were more oriented toward appearing youthful and fitting the age-type of the job, as compared to adaptations used in old-typed jobs. However, the differences across old and young-typed jobs were very small (see figure 9), a series of correlations revealed no significant point-biserial or phi correlation coefficients between the use of specific adaptation behaviors and age-type, and there was no significant zero-order correlation between the overall amount of adaptation behaviors used and age-type (see table 1). Therefore, the answer to research question 4a was that adaptation behaviors across old and

young-typed jobs were very similar, with adaptation behaviors involving one's physical appearance being slightly more common in young-typed jobs.

Which adaptations were most effective across old and young-typed jobs (4b)?

What was believed to work by older workers in young-typed jobs? 80% of older workers in young-typed jobs believed that at least one youth-oriented adaptation would help older workers avoid age discrimination and 86% believed that at least one general adaptation would help. The adaptation most commonly believed to be effective by older workers in young-typed jobs was maintaining skills. As shown in figure 13, 65% of older workers in young-typed jobs believed maintaining one's skills would help them reduce age-discrimination. Maintaining health and fitness was the second most supported adaptation behavior with 40% agreeing it could help reduce age discrimination. Next, speaking to authorities was endorsed by 35% of older workers in young-typed jobs, followed by seeking social support at 29%, using store-bought products at 18%, cosmetic procedures at 15%, speaking youthfully at 11%, using technology in public at 11%, deemphasizing age on resumes at 11%, avoiding negative people at (i.e., those who discriminate) 11%, cosmetic surgery at 8%, youthful clothing at 5%, and nobody believed emotional withdrawal would be effective. The general trend of older workers in young-typed jobs appears to be a strong support for the adaptation behaviors that will allow somebody to be a good worker, through strong skills and good health, rather than simply appearing young. Now that I have addressed which adaptations older workers in young-typed jobs believe will help other workers, I will report upon the actual experiences of those who have attempted to avoid discrimination in young-typed jobs.

What has worked: from personal experiences of discrimination in young-typed jobs? In addition to knowing which adaptation behaviors were believed to work in general, it was important to explore the actual experiences of older workers who have attempted to avoid discrimination in young-typed jobs. Results indicated that 22% of women and 13% of men believed their adaptation behaviors helped them reduce the discrimination they were experiencing in young-typed jobs. In open-ended responses, women stressed the effectiveness of avoiding those who discriminate, stopping comments before they happen, embracing change, volunteering for new jobs and training, and staying up to date on current laws. Men on the other hand stressed the importance of ignoring those who discriminate. Across both genders, avoiding those who discriminate emerged as the primary theme, rather than appearing young, which was not mentioned as being effective at all.

What was believed to work by older workers in old-typed jobs? 89% of older workers in old-typed jobs believed that at least one youth-oriented adaptation would help older workers avoid age discrimination and 90% believed that at least one general adaptation would help. The adaptation behaviors that were endorsed by older workers in old-typed jobs were nearly identical to that of older workers in young-typed jobs, in both the order and percentage of people who believed each adaptation would work (see figure 13). The main difference was that far more older workers in old-typed jobs believed that deemphasizing age on one's resume would help workers avoid discrimination. As a result, it appears as though the age-type of one's job did not substantially change one's belief that adaptation behaviors could help older workers in general. To further explore the perceived effectiveness of adaptation behaviors in old-typed jobs, I will

next report the experiences of older workers who themselves attempted to avoid discrimination with adaptation behaviors.

What has worked: from personal experiences of discrimination in young-typed jobs?

When exploring the actual experiences of older workers who have attempted to avoid discrimination in young-typed jobs, 40% of women and 30% of men believed their adaptation behaviors helped them reduce the discrimination they were experiencing in old-typed jobs. In open-ended responses, women stressed socializing mostly with people in their age group, not trying to fit in with those in negative and discriminatory cliques, acting as young as possible for one's age, proving that they can still be active, alert, and capable in their older age, performing tasks beyond the job description, and talking to coworkers and management about their problems. Men stressed ignoring or not acknowledging poor treatment, as well as keeping up to date on industry, social, and popular trends. Evading negativity was again a central theme across both genders, as well as proactively enhancing and proving job performance. Conversely, attempting to appear young, although briefly mentioned, was not a clear theme.

Part Four: Exploratory Analyses

The Interaction of Age-Type and Discrimination When Predicting Adaptation Behaviors

When testing hypothesis 2, it was discovered that the career timetables variable of age composition interacted with perceived age discrimination to predict adaptation behaviors (β = .17, $t(197) = 2.57$, $p = .01$), $\Delta R^2 = .07$, $F(2,197) = 9.84$, $p < .01$. This interaction effect was discovered by adding a block containing interaction terms to the regression model that was used to test hypotheses 2 and 4a. Tests for simple effects (Aiken & West, 1991) indicated that

discrimination had a positive relationship with adaptation behaviors when the job was composed by more younger workers $t(197) = 8.22$, $p < .01$, but no relationship when the job was composed of more older workers $t(197) = 1.21$, *ns* (see figure 2).

The Interaction of Age-Type and Discrimination When Predicting Adaptation Desires

When testing hypothesis 3, several age-type variables interacted with perceived age discrimination to predict adaptation desires, $\Delta R^2 = .11$, $F(7, 192) = 4.49$, $p < .01$. Specifically, the prototype matching variables of adaptability and competence, as well as the career timetables variable of normative age, interacted with perceived age discrimination to predict adaptation desires. These results were discovered by adding a block containing interaction terms to the regression model that was used to test hypotheses 3 and 4b. The specific direction of each interaction is described in the following paragraphs.

First, when interacting with discrimination, the prototype matching variable of adaptability predicted adaptation desires ($\beta = .43$, $t(192) = 3.04$, $p < .01$), such that the relationship between adaptability and adaptation behaviors was significantly positive for older workers in high adaptability jobs $t(192) = 4.35$, $p < .01$, but not older workers in low adaptability jobs $t(192) = -1.75$, *ns.* In other words, older workers had greater adaptation desires when they perceived discrimination in jobs where the feature of adaptability was highly important, but not when they perceived discrimination in jobs where the feature of adaptability lacked importance. Older workers are generally stereotyped to lack adaptability (Marcus et al., 2011) and jobs high in adaptability are viewed as more appropriate for younger workers (Reeves et al., 2013). Therefore, it is logical that older workers would want to adapt more and better fit their jobs when

they experience age discrimination in jobs that contrast with the older worker stereotype of lacking adaptability.

Second, when interacting with discrimination, the prototype matching variable of competence predicted adaptation desires (β = -.49, $t(192)$ = -3.37, $p < .01$), such that the relationship between adaptability and adaptation behaviors was significantly positive for older workers in low competence jobs $t(192) = 5.32$, $p < .01$, but not older workers in high competence jobs $t(192)$ = -1.41, *ns.* In other words, older workers had greater adaptation desires when they perceived discrimination in jobs where the feature of competence lacked importance, but not when they perceived discrimination in jobs where the feature of adaptability was highly important. Although older workers are stereotyped to lack competence (Marcus et al., 2011), jobs wherein competence lacks importance are commonly viewed as more appropriate for younger workers (Reeves et al., 2013). With low competence jobs being viewed as more appropriate for younger workers (e.g., cashier), it is understandable that older workers would have greater desires to adapt when experiencing age discrimination in these jobs.

Lastly, the career timetables variable of normative age also predicted adaptation behaviors when interacting with discrimination (β = .19, $t(192)$ = 3.04, $p < .01$). A test of simple effects showed that youth-oriented adaptation desires increased with discrimination when the normative age was high (i.e., 69 years old), $t(192) = 5.91$, $p < .01$, but not when the normative age was low (i.e., 55 years old), $t(192)$ = .73, *ns*. Older workers in jobs with higher normative ages were expected to have lower adaptation desires. Therefore, the simple slope found at higher levels of normative age was a different direction that suggested by career timetables theory. This can be explained by the fact that unlike general age-type and age composition, jobs with higher

normative ages were more female dominated (e.g., teacher, vocational aide, counselor; $r = .16$, $p = .02$) and women tended to display more adaptation desires ($\beta = .19$, $t(210) = 2.75$, $p < .01$). The interaction effects found in this study suggest that the relationships between age-type variables and adaptations are more complicated than originally hypothesized. Rather than the expected main effects, it has become clear that age-type does not act alone, but interacts with perceived age discrimination when predicting adaptation behaviors and desires.

Differences across Men and Women

Differences in adaptations across men and women. Sex was another variable that was significant in nearly every regression model used for hypothesis testing. Specifically, sex significantly predicted the amount ($\beta = .15$, $t(210) = 2.19$, $p = .03$) and extremeness ($\beta = .15$, $t(210) = 2.23$, $p = .03$) of youth-oriented adaptation behaviors, as well as the amount ($\beta = .19$, $t(210) = 2.75$, $p < .01$) and extremeness ($\beta = .20$, $t(210) = 2.96$, $p < .01$) of youth-oriented adaptation desires. All relationships were positive, indicating that adaptation behaviors and desires were greater and more extreme for women than men. Correlations between sex and specific adaptations showed that women more commonly attempted to appear youthful through the way they dressed, store-bought products, deemphasizing age on resumes, and getting non-surgical cosmetic procedures. Further, women had greater desires to appear youthful at work through the way they dressed, store-bought products, non-surgical cosmetic procedures, and surgical cosmetic procedures.

Differences in the age-type x discrimination interaction across men and women. Further analyses showed general age-type also interacted with discrimination and sex to predict

adaptation desires (β = .17, t(197) = 2.57, p < .01), in a model that predicted over and above all main effects, two-way interactions, and controls ΔR^2 = .07, F(2, 197) = 18.17, p < .01. Specifically, the relationship between perceived age discrimination was the strongest for older women in young-typed jobs and significantly more positive than the same relationship for older women in old-typed jobs, t(197) = -3.99, p < .01 and older men in young-typed jobs, t(197) = 2.61, p = .01 (see figure 8). In other words, older women who perceive age discrimination in young-typed jobs tend to adapt more than older women in young-typed jobs and men in general.

Supervisor Age

Lastly, exploratory analyses were conducted with the supervisor age. Although supervisor age was not technically a measure of occupational age-type, it has been a common variable used to determine one's timetable in career timetables theory. As with the other career timetables variables, interaction terms were created with discrimination and sex and included in a hierarchical multiple regression analysis predicting adaptation behaviors and another predicting adaptation desires. Control variables included sex, vanity, all prototype matching and career timetables variables, and discrimination. Results indicated that supervisor age interacted with discrimination to predict youth-oriented adaptation behaviors (β = .71, t(197) = 4.05, p < .01), over and above all control variables ΔR^2 = .07, F(2,197) = 9.84, p < .01. The same relationship was also found for youth-oriented desires (β = .24, t(192) = 3.87, p < .01), over and above all control variables ΔR^2 = .11, F(7, 192) = 4.49, p < .01. Tests of simple effects showed that the relationship between discrimination and youth-oriented adaptations was significantly positive when the supervisor was 1 standard deviation above the mean age (i.e., 76 years old) for

adaptation behaviors, $t(197) = 3.76$, $p < .01$ and desires, $t(192) = 4.26$, $p < .01$, but not when the supervisor was one standard deviation below the mean (i.e., 37 years old) for adaptation behaviors, $t(197) = .35$, *ns* and desires, $t(192) = .46$, *ns*.

Core Self-Evaluation

Core self-evaluation was originally added to the analyses as a control variable, however, it is worth noting that core self-evaluation was the strongest predictor of perceived age discrimination, explaining 20% of the variance. Specifically, perceived age discrimination was higher in older workers with lower core self-evaluations ($\beta = -.45$, $t(210) = -7.33$, $p < .01$). In fact core self-evaluation explained significantly more variance in perceived discrimination than actual age composition and supervisor age combined ($z = 2.08$, $p = .02$). In other words, one's perception of themselves in situations was a more power predictor than the environmental variables of career timetables.

Vanity

Vanity also played a significant role in predicting adaptation behaviors and desires. Four forms of vanity were used as control variables in the second block of each regression analysis that was conducted in this study. The four forms of vanity measured how much somebody values achievement, how much somebody is concerned about what others think of their achievement, how much somebody values their physical appearance, and how much somebody is concerned about what others think of their physical appearance. As one may expect, one's concern for what others think of their physical appearance predicted adaptation behaviors ($\beta = .29$, $t(209) = 4.37$, *p*

< .01) and desires (β = .25, $t(209) = 3.75$, $p < .01$; see tables 2 and 3). When looking at the relationship between physical concern vanity and individual adaptations, older workers who were more concerned with what others thought of their physical appearance, attempted to appear more youthful at work through the way they dressed, using technology in public, maintaining their health and fitness, using store bought products, undergoing cosmetic procedures, and deemphasizing age on their resumes. They also had greater desires to appear youthful through every adaptation except surgical procedure, which was only approaching significance (i.e., p = .09, two-tailed) (see tables 3-4). Physical concern vanity was also related to sex (r = .20 $p < .01$), such that women were more likely to be concerned with what others thought about their physical appearance. The greater physical concern in women may help explain why women were found to use more youth-oriented adaptation behaviors and have greater youth-oriented adaptation desires.

CHAPTER FIVE: DISCUSSION

This dissertation was dedicated to exploring the perceived age discrimination and adaptation behaviors of older workers across old and young-typed jobs. To explore older worker perceptions and behaviors, I surveyed 227 older workers occupying a wide variety of jobs throughout the country. The results of my exploration extended both prototype matching and career timetables theories, as well as the age discrimination literature in general through six major findings.

First, I found that age discrimination was commonly perceived by older workers, with promotions at the root of the problem. Second, age discrimination was perceived even more in jobs with a relatively young age composition. Third, older workers, especially women, use a wide variety of adaptation behaviors to appear younger at work and would use more if they could. Fourth, age discrimination was a significant predictor of adaptation behaviors and commonly reported as the reason older workers attempt to appear younger at work. Fifth, several measures of occupational age-type from prototype matching and career timetables theories interacted with perceived age discrimination to predict efforts to appear younger at work. Sixth, although older workers made a wide variety of efforts to appear younger at work, they were not viewed as very effective. The adaptation behaviors that were viewed as most effective involved disproving stereotypes through higher job performance and enhanced skills, as well as avoiding sources of discrimination.

In the following section, I elaborate on each of these major findings and how they contribute to prototype matching and career timetables theories. Then I address the limitations of my study. Lastly, I elaborate upon the next steps that are required of researchers to further extend

fit theories and understand the ways older workers can overcome the problem of age discrimination.

Summary of Findings and Theoretical Contributions

Major Finding One: Age Discrimination was Commonly Perceived, Especially when Promotions Were Involved

More than half of the older workers surveyed reported experiencing at least one form of discrimination (i.e., 58%), suggesting that age discrimination was commonly perceived among older workers. Experiences of discrimination were not more common across gender, age, or race, supporting the notion that age discrimination is commonly experienced throughout the entire social category of older workers. Although the frequency of older workers experiencing at least one form of discrimination was high, it was not common for older workers to perceive multiple types of discrimination at work. Instead, older workers more commonly perceived specific types of discrimination, the most common of which was unfairness with promotions.

Over one-fifth of the sample listed that they believe promotions and rewards were influenced by age group membership. Drawing further attention to the problem of unfair promotions, many older workers elaborated upon their experiences despite the fact that they were only asked to mention experiences that were not already covered in the age discrimination measure. This finding is consistent with evidence that older workers are commonly believed to perform worse than younger workers (Cuddy & Fiske, 2002; Gordon & Arvey, 2004; Hedge et al., 2006), respond poorly to training (Cleveland & Shore, 1992; Maurer & Rafuse, 2001), lack the ability to learn new things, and are more likely to leave the company in the near future due to

upcoming retirement (Posthuma & Campion, 2009). Unfortunately older workers are associated with all of these stereotypes despite strong evidence that older workers perform better than younger workers, stay with companies longer than younger workers and respond well to training (Ng & Feldman, 2008; Posthuma & Campion, 2009; Waldman & Avolio, 1986). With statements like "promotions are not wasted on someone with a possible short time left at the company," it is clear that succession planning and stereotypes related to promotions should be a major focus of researchers and practitioners attempting to understand and overcome age discrimination in the workplace.

The finding that such a large percentage of older workers perceive at least one form of discrimination is also a possible indicator of major consequences to older workers and employers. Given that perceived discrimination has repeatedly been associated with health-related consequences (Williams and Mohammed, 2009), the large number of older workers perceiving discrimination at work could mean that a large number of older workers are at risk for a variety of health conditions. According to the biopsychosocial model (Clarke, Anderson, Clark, & Williams, 1999) and the perceived discrimination-health model (Pascoe & Richman, 1999), people who perceive discrimination tend to experience increased stress responses and engage in poor health behaviors, which ultimately lead to a variety of health consequences. Specifically, past research has shown that perceived discrimination is associated with heightened levels of C-reactive proteins (Lewis, Aiello, Leurgans, Kelly, 2010), hypertension (Richman, Pek, Pascoe, & Bauer, 2010), coronary artery calcification (Lewis et al., 2006), increased blood pressure (Guyll, Matthews, & Bromerger, 2001), cardiovascular disease, pelvic inflammatory disease, diabetes (Pascoe & Richman, 2009), poorer psychological wellbeing, poorer perceived health (Garstka,

Schmitt, Branscombe, & Hummer, 2004; Scott, Jackson, & Bergeman, 2011; van den Heuvel & van Santvoort, 2011; Yuan, 2007), and poorer general health (Grosch et al., 2005). With such a large percentage of the fastest growing age group at risk for severe health consequences, the problem of age discrimination is one that cannot be ignored.

The troubling frequency of perceived age discrimination should also be of concern to employers. Workers who perceive discrimination tend to show reduced job satisfaction and organizational commitment (Ensher et al., 2001; Sanchez & Brock, 1996), fewer organizational citizenship behaviors (Ensher et al., 2001) and are more likely to quit their jobs (Schneider et al., 2000). Older workers believing that they have been discriminated is also a costly legal liability, with employers being forced to pay over $600 million in damages last decade (Equal Opportunity Commission, 2011). Older workers (55+) are growing at a rate of 36 times faster than any other age group (U.S. Bureau of Labor Statistics, 2010). With the number of older workers rapidly growing and more than half of them experiencing age discrimination, the productivity and legal costs faced by employers will most likely continue to grow. Given such costly consequences, it would only make sense for employers to invest in the reduction of age discrimination in their organizations and the area of promotions and succession planning would be a strategic place to start.

Major Finding Two: Perceived Age Discrimination Can Be Predicted With Career Timetables, but Not Prototype Matching

A major purpose of my dissertation was to see if age-type predicted older workers' perceptions of age discrimination. As a results, I tested whether prototype matching (hypothesis

1a) and career timetables (hypothesis 1b) approaches to age-type were capable of predicting perceived age discrimination and explored which theory offered a better approach (research question 1). Prototype matching theory offered two approaches to measuring age-type. The first was general age-type, which simply measured whether older workers were perceived as appropriate for certain jobs. The second was prototypicality, which captured the centrality of stereotypically older worker features to certain jobs. Prototype matching and its age-type measures were selected due to their success in laboratory-based experiments. Past studies comparing workers to the general age-type of jobs (Finkelstein et al., 1995; Perry, 1994, Perry et al., 1996) and stereotypical worker features to central job features (Perry & Bourhis, 1998) have resulted in older workers receiving lower ratings of job suitability, recommendations for hire, performance ratings, expected future job performance, and adequacy of background and experience for the job under consideration. Past studies, however, only focused on perceptions of raters in lab-based settings. I used general age-type and prototypicality to test whether prototype matching was capable of predicting age discrimination from the perspective that matters most – that of older workers.

Measures of age-type were also provided by career timetables theory. Career timetables theory states that jobs possess age norms that stem from the composition of older and younger workers in the job (Shore & Goldberg, 2005). Older workers are believed to be a poor fit for the job and experience disadvantages when the normative age of the job is low (Lawrence, 1988; Rosenbaum, 1984) and the job is composed of more younger workers than older workers (Cleveland et al., 1988; Cleveland & Hollmann, 1990). In some situations, older workers were less likely to receive a promotion, expected to perform more poorly in the future, given lower

performance ratings, and received lower recommendations for hire. Such disadvantages exist because older workers are viewed as behind schedule, unable to keep up with their peer group, and lacking ambition when they are in jobs with low normative ages and more dominated by younger workers. Although past studies have showed that career timetables was capable of predicting disadvantages, it was still unclear whether older workers were actually perceiving more discrimination in jobs with lower normative ages and high compositions of younger workers. I therefore, sought to extend career timetables theory to the perceptions of older workers to see if this popular fit theory was capable of predicting age discrimination as it is perceived by older workers.

Although measures from both theories were hypothesized to predict perceived age discrimination, career timetables produced the only significant age-type variable – actual age composition. Specifically, the minority status of older workers predicted the level of discrimination they perceived. As older workers became a greater minority in their jobs, they perceived greater levels of age discrimination. According to career timetables theory, older workers perceive more age discrimination because they are perceived as a poor fit for their jobs. They are occupying jobs that are below their career timetables when they should be in more advanced occupational roles. The more their jobs are below their career timetable, the more likely that they are stereotyped as behind schedule, unable to keep up with their peer group, and lacking ambition. Past studies have found that older workers are more likely to be discriminated in various ways when they exceed the job's career timetable, including receiving fewer promotions. Past studies, however, only dealt with rater perspectives and objective outcomes. My study further extended career timetables theory by showing that it can predict older worker

perceptions of age discrimination. Additionally, my study also demonstrated that career timetables can be a more powerful theory than prototype matching when predicting discrimination as it is perceived by those who are discriminated against.

An additional career timetables variable – supervisor age. Another career timetables variable that was successful in predicting older workers' perceptions of age discrimination was supervisor age. As with normative age and age composition, career timetables states that when the supervisor's age is low, older workers are more likely to be viewed as behind schedule (Lawrence, 1984, 1988; Rosenbaum, 1984). The logic is that older workers must be unable to keep up and lack ambition if younger workers are able to achieve higher positions (Perry, Kulik, & Zhou, 1999; Shore & Goldberg, 2005). Past studies have supported this logic showing that older workers with younger supervisors received lower ratings of performance, potential, and promotability (Perry et al., 1999; Tsui, Porter, & Egan, 2002).

My results were consistent with past research in that older workers with younger supervisors reported experiencing greater amounts of discrimination, particularly in the area of promotability. Given that older workers perceive greater discrimination when they have younger supervisors, it is also possible that older workers are subject to more discrimination-related health consequences like hypertension when they have younger supervisors. With the possibility of greater health consequences, it is important that researchers continue to understand the contexts in which perceived discrimination is most likely, particularly job contexts with a young age composition and young supervisors.

Predictions strengthened by core self-evaluation. Of all the variables included in the regression model that predicted 38% of the variance in perceived age discrimination, core self-

evaluation was the strongest predictor. Core self-evaluation was such a strong predictor of perceived age discrimination that it predicted more variance than age composition and supervisor age combined. Past research has shown that individuals with higher core self-evaluation view themselves as more capable, worthy, and in control of their lives (Judge, Van Vianen, & De Pater, 2004), they have greater satisfaction with their work (Judge & Bono, 2001), and possess more positive affectivity and greater self-efficacy (Kammeyer-Mueller, Judge, & Scott, 2009; Judge, Erez, Bono, & Thoresen, 2002; Judge, Locke, & Durham, 1997). Greater positive affectivity involves more common feelings of cheerfulness, enthusiasm, and energy (Watson & Naragon, 2009) and greater self-efficacy influences a person's "resilience to adversity" and "whether their thought patterns are self-hindering or self-aiding" (Bandura, 1977, p. 3).

Greater feelings of cheerfulness, enthusiasm, energy, resilience to adversity, self-aiding thought patterns, and beliefs of being capable, worthy, and in control help explain why higher levels of core self-evaluation were associated with lower levels of perceived age discrimination. Although core self-evaluation was the strongest predictor of perceived discrimination, career timetables predicted incremental variance in perceived discrimination over and above core self-evaluation. Additionally, they predicted perceived discrimination in very different ways. Career timetables involved situational differences, whereas core self-evaluation involved individual differences. With both variables predicting unique variance through different approaches, future research should continue to consider both variables when attempting to explain perceptions of discrimination across people and situations.

Major Finding Three: Older Workers, Especially Women, Used a Wide Variety of Adaptation Behaviors to Appear Younger at Work and Would Use More If They Could

My study sought to test the relationships between adaptations and age-type (hypotheses 2 and 3), as well as adaptations and discrimination (hypothesis 4). Before I tested my hypotheses, however, I had to systematically explore the various adaptations used by older workers and how commonly they were used. In my explorations, I found that more than half of the sample admitted to making an effort to appear younger at work. A wide variety of efforts were made with some being more popular than others. Maintaining health and fitness was the most popular, with nearly half of the sample (43%) engaging in it. It is not surprising that maintaining health and fitness was the most popular, as it involves benefits that go far beyond appearing younger at work. Additionally, it was rated as the least extreme of all the youth-oriented adaptations. Alternatively, the least popular behavior to appear youthful at work was surgical procedures, with only 2% of the overall sample engaging in it. It is not surprising that surgical procedures was the least popular given that it was considered the most extreme adaptation behavior and requires substantial time and money.

Older workers would adapt more if they could. When older workers were asked if they would get a surgical cosmetic procedure to appear younger at work if time, money, and other resources were not an issue, significantly more said they would. With significantly more older workers saying they would get a surgical procedure if they could, it is clear that the extremeness of surgical procedures is not the only thing keeping older workers from engaging in such behaviors, but perhaps the financial constraints of their situation. In addition to surgical cosmetic procedures and maintaining health and fitness, older workers also reported purchasing

store-bought beauty products, using technology in public, wearing more youthful clothing and accessories, speaking youthfully, deemphasizing age on their resumes, and undergoing non-surgical cosmetic procedures. Once again, when older workers were asked what they would do if their situational constraints were lifted (e.g., time and money), they indicated wanting to engage in significantly more efforts to appear youthful at work than they already have.

Women adapt more than men. When looking across genders, women admitted to using more behaviors and having greater desires to appear more youthful at work. In particular, women were more likely to dress youthfully and use store-bought products (e.g., skin creams). Additionally, women had greater desires to undergo surgical and non-surgical cosmetic procedures to appear youthful at work. There are several possible reasons as to why older women use more adaptation behaviors and have greater adaptation desires. In particular, women are faced with the addition of gender stereotypes and the standards of age and beauty differ across genders. With so many older workers engaging in behaviors to look younger at work, it clear that the pressures of society are influencing older workers' decisions.

The double-jeopardy explanation. One possible source of pressure for older women to adapt is through the addition of female stereotypes that may burden older women, but not older men. According to Barnum, Liden, and Ditomaso (1995), members of more than one stigmatized group are commonly perceived as possessing the negative stereotypes associated with membership of each group. The additive effect of stereotypes associated with more than one disadvantaged group is commonly referred to as "double-jeopardy." Older women are not only burdened with older worker stereotypes like lacking adaptability (Marcus et al., 2011), but they are also burdened with the addition of female stereotypes such as being highly emotional

(Brewer, Dull, & Lui, 1981). The additive effect of membership in multiple disadvantaged groups likely leads to greater degrees of bias (Motowidlo, 1986). Given greater degrees of bias, adaptations may be of more use to older women than older men.

The double-standard explanation. In addition to double-jeopardy, women are also faced with a double-standard, in that the standards associated with aging and appearance are different for women than they are for men. Society places a substantial pressure on women to appear youthful. Pressure to look younger at work exists throughout our society. Career guidance books, websites, and workshops, as well as the popular press (e.g., CNN, The Chicago Tribune, The Wall Street Journal) regularly tell older workers to make themselves appear younger (Lubin, 2001; Madden, 2012; Ryan, 2010). Pressure to appear youthful are even more common for women, as a youthful appearance is especially important for older women (Hargreaves & Tiggemann, 2004; McMullin & Berger, 2006) and attempts to appear more attractive through beauty work is often seen as a requirement of the gender norms our ageist society has set (Bartky, 1998; Gagne and McGaughey, 2002; Morgan, 1991; Nergin, 2002). Exacerbating the drive to appear youthful, discrepancies between one's real and ideal body image is greater for women than men (Muth and Cash, 1997). Signs of aging, however, are not as detrimental to men's physical appearance. In fact, aging can have no, or even a positive, relationship with physical appearance for men (Halliwell & Dittmar, 2003). With attractiveness not acting as such an influence on men's adaptation behaviors, it makes sense that women engaged in significantly more youth-oriented adaptations than men.

The historical explanation. Lastly, exposure and conditioning to discrimination is different throughout the careers of women, as compared to the careers of men. Older women

have been a stigmatized group throughout their entire career. My entire sample was alive when gender discrimination was still legal (e.g., CRA 1964, 1991) in the workplace and it is likely that most were employed when gender discrimination was socially acceptable. Conversely, the vast majority of men in my sample have only recently become a stigmatized group, especially considering that 88% of men in my sample were Caucasian. As members of a stigmatized group throughout their entire lives, older women have had much more experience with workplace discrimination and much more time to learn how to adapt.

Past studies have shown that individuals who have experienced discrimination in the past are more apt to develop strategies to adapt to future discrimination. For instance, past studies have found that minority groups are more likely to turn to their ingroups (Branscombe, Schmitt, & Harvey, 1999; Williams, Spencer, & Jackson, 1999) and seek social support (Lincoln, Chatters, & Taylor, 2003) as a way of adapting to racial discrimination and buffering the psychological consequences. Conversely, workers in majority groups are less likely to adapt and turn to their ingroups when faced with discrimination (Branscombe, Ellemers, Spears, & Doosje, 1999). Additionally, perceived discrimination is likely to be a relatively new experience among older majority group members (Tougas, Lagace, Sablonniere, & Kocum, 2004). Just as African-Americans are more accustomed to discrimination than Caucasians, women are more accustomed to discrimination than men. Considering that women have had more time to learn ways to adapt to discrimination, a youthful appearance is more important to female workers, and women are faced with more stereotypes, it is understandable that older women engaged in more efforts to appear youthful in the workplace.

Major Finding Four: Age Discrimination Was a Significant Predictor and Commonly Reported as the Reason Older Workers Attempt to Appear Younger at Work

Another major purpose of my study was to understand the relationship that perceived age discrimination has with adaptation behaviors. That is why I tested whether perceived age discrimination can predict adaptations (hypothesis 4) and if perceived discrimination is a primary reason for adaptations (research question 2). On the surface, hiding one's age appears to be a good way to fit into a youth-biased workforce. As a result, older workers engaged in more adaptation behaviors and greater adaptation desires when they perceived more discrimination. Additionally, over one-fourth of discriminated workers reported that their adaptations were attempts to help them avoid age discrimination, answering research question 2.

Reports that older workers respond to age discrimination by hiding their age shows that age discrimination is not only related to adaptation behaviors, but it is a major reason. In open ended statements, older workers stated that they responded to discrimination by updating their clothes, speaking youthfully, maintaining health and fitness, and using store-bought products. Moreover, older workers who reported discrimination as the cause of their adaptation behaviors also engaged in all 8 of the youth-oriented adaptation behaviors, including surgical and non-surgical cosmetic procedures, supporting hypothesis 4.

Very few studies have assessed the behaviors older workers made to appear more youthful in the workplace. In an extensive literature search, Clarke and Griffin (2008) was the only other study exploring the reasons why older workers adapt in the workplace. Their study, however, only studied cosmetic procedures and the sample consisted entirely of women. My study was consistent with that of Clarke and Griffin (2008) in that I found age discrimination at

work is a major reason older workers attempt to appear more youthful. My study extended the past research by showing that both genders engage in a wide variety of behaviors to appear youthful and avoid age discrimination, beyond cosmetic procedures. In fact, surgical and non-surgical cosmetic procedures were the two least common adaptation behaviors that older workers used. Many other youth-oriented adaptation behaviors were more common. Another way my study extended the past literature was by exploring whether adaptations were more common in certain types of jobs. The following section will expand upon the various job-related contexts in which older workers use more adaptation behaviors and have greater adaptation desires. Specifically I cover the differences in adaptation behaviors across old and young-typed jobs.

Major Finding Five: Several Measures of Age-Type Interacted with Perceived Age Discrimination to Predict Adaptation Behaviors

Occupational age-type is the idea that some jobs are believed to me more appropriate for older workers and others are believed to be more appropriate for younger workers. Prior studies have demonstrated that older workers face job-related disadvantages when they do no match the age-type of their job. When older workers do not match the age-type of their job, they are viewed as out of place and a poor fit. Given that older workers are viewed as a poor fit when they do not match the age-type of their jobs, it makes intuitive sense that they would make efforts to appear younger and better fit their job's age-type when they perceive age discrimination. I expected that if older workers' jobs were more young-typed, they would attempt to better fit their jobs through attempts to appear more youthful (hypothesis 2) and would have desires to better fit the job through attempts to appear more youthful (hypothesis 3). Although I did not find support for a

main effect of age-type variables on adaptations, I did find that age-type variables interacted with perceived age discrimination to predict adaptation behaviors and desires.

Extending prototype matching theory. Through an extensive literature search, I did not find any studies extending prototype matching theory to adaptation behaviors. However, it makes sense that if older workers perceive discrimination in jobs they do not match, then they would attempt to adapt and better fit their job. A prototype match can take place at two levels. The more broad of the two levels is known as the category level. At the category level, the social category of the worker (i.e., older or younger) is compared to the general age-type of the job (i.e., more appropriate for older or more appropriate for younger workers). At the category level, I found that older women want to adapt more when they perceive discrimination in young-typed jobs. In other words, when older women perceive discrimination in jobs that are viewed as more appropriate for younger workers, they want to make more efforts to appear youthful. This finding was consistent with prototype matching theory, as older women who perceived discrimination in jobs that they poorly matched wanted to make greater efforts to change their appearance in a way that would better match the age-type of the job.

I also found a relationship between a feature-level match and efforts to better fit the job. A feature level match is a match between features important to the job and features stereotypical of older workers (e.g., lacking adaptability). I found that the importance of the stereotypical older worker features of adaptability and competence were associated with a greater adaptation desires. Specifically, older workers who perceived discrimination in jobs requiring high adaptability wanted to adapt more. Older workers are stereotyped to lack adaptability. Therefore, it is logical that they would want to adapt to better fit their job when are stereotyped to be a poor

fit. Driving this relationship was the fact that high adaptability jobs were largely based in the healthcare industry and the adaptation that was most popular was maintaining one's health and fitness. Older workers who were discriminated in high adaptability jobs were adapting more in a way that best fit the types of jobs that they were occupying. For instance, several older healthcare workers in my sample stated that they maintain their fitness to appear capable of tasks like pushing wheelchairs, moving patients from one bed to another, and assisting patients with using the bathroom. By maintaining health and fitness, older workers were choosing an adaptation method that may enable them to appear capable of performing their job tasks into an older age.

The stereotypical older worker feature of competence also interacted with discrimination to predict adaptation desires at the feature level of prototype matching. Specifically, when competence was not important to the job, the relationship between discrimination and adaptation desires was positive, stating that older workers in low competence jobs adapted more in general. However, the relationship between the importance of competence and specific adaptation behaviors told a different story. Older workers in higher competence jobs were only less likely to want to undergo surgical cosmetic procedures, but they were more likely to want to maintain their health and fitness. Jobs high in competence included firefighter and director of technology. Attempts to appear younger through exercise are much more likely to help older workers fit jobs of firefighter than plastic surgery. Other jobs like director of technology are slightly more old-typed, as are most high competence jobs (Reeves et al., 2013). Therefore an extreme procedure to look young like plastic surgery may not help older workers fit the job as well as behaviors that make someone appear healthy and energetic. As a result, it appears that prototype mismatches at

the feature level do lead to greater desires to engage in adaptation behaviors, but only in ways that help older workers fit their specific jobs.

Extending career timetables theory. Career timetables states that the normative age and the age composition of the job determine whether older workers are believed to be behind schedule and unable to keep up with their peer group. Given that older workers in jobs with low normative ages and youthful age compositions are viewed as a poor fit, it makes intuitive sense that older workers would attempt to appear more youthful in youth-based jobs.

In line with career timetables theory, age composition predicted adaptation behaviors, but only when interacting with discrimination. Older workers make greater efforts to appear youthful when they are more of a minority in their jobs and experience more discrimination. Older workers in jobs composed mostly of younger workers will likely be viewed as behind schedule and a poor fit for the job. Therefore, the finding that older workers attempt to appear younger when discriminated in youth-dominated jobs is consistent with career timetables theory.

Normative age also interacted with discrimination when predicting desires to adapt. The relationship found for normative age was that discriminated workers adapted less when the normative age was higher. The average normative, however, was 62, making a job with a young normative age (-1SD) 55 and a job with a high normative age (+1SD) 69. Regardless of the normative age listed, they were still describing older workers. Similarly, the minimum normative age was 42 and the maximum was 73. Additionally, normative age was operationalized as the highest age listed by at least 10% of the sample. Only accounting for responses from 10% of the sample means that the majority of the sample may have listed a much lower number, which was not included in the calculation. Conversely, age composition was calculated with 100% of the

relevant, real-world data from the US Census Bureau. Such different results speak to the varying quality of the two measures and data collection procedures. Real-world data from a highly reliable source produced results that were consistent with past theory and research, whereas data from 10% of a student sample produced the opposite. These results support the superior nature of real-world data and the measure of age composition as opposed to the Lawrence (1988) operationalization of normative age.

Exploration of supervisor Age. Also providing insight into career timetables was the finding that the relationship between perceived discrimination and adaptation desires is greater for older workers who have an older worker as a supervisor than when they had a younger worker as a supervisor. As mentioned above, career timetables states that when older workers have older workers as supervisors, they are viewed as on schedule and a good fit. However, when older workers have a younger worker as a supervisor, they are viewed as a poor fit and experience work-related disadvantages. Although past career timetables studies have addressed disadvantages, they have yet to extend to the behaviors of older workers.

My analyses regarding supervisor age and adaptations were purely exploratory due to the fact that there is little to no literature available to form hypotheses and explain results. A possible explanation for the differences in desires to adapt could be from the differing sources of discrimination that would exist when supervisors are older workers, as compared to situations wherein supervisors are younger workers. I found that the older the supervisor, the less discrimination that is perceived. Given that older workers with older aged supervisors perceived less discrimination, the source of discrimination was likely from someone other than one's supervisor. The results of hypothesized relationships involving age composition had straight

forward contributions to career timetables. The exploratory findings with supervisor age, however, will require additional research assessing various sources of discrimination. To truly understand why older workers adapted to discrimination more when their supervisors were older workers, additional research needs to explore behaviors across various discrimination sources and determine which sources of discrimination are most strongly associated with the desire to appear more youthful in the workplace.

Major Finding Six: Efforts to Appear Youthful were Common, but Efforts to Disprove Stereotypes were believed to Be Most Effective

Research questions 2-4 attempted to understand the adaptations that were most common and believed to be the most effective in helping older workers avoid age discrimination in the workplace. I found that attempts to appear more youthful were rather common among the older workers in my sample. More than a quarter of older adults attempted to look younger at work by the way they dress, using technology in public, and purchasing store-bought beauty products. Many others spoke more youthfully, deemphasized age on their resumes, and underwent non-surgical cosmetic procedures. Some older workers even had surgical cosmetic procedures to appear younger at work. With so many attempts, one may wonder which ones actually help older workers avoid age discrimination in the workplace. The short answer is none of the above. According to the testimonials of discriminated older workers the most effective ways to combat age discrimination involve proving high performance through extra work efforts and skill maintenance, as well as avoiding those who discriminate. In fact, only one person said that acting young has been effective in reducing age discrimination. Across all older workers, the one

adaptation behavior thought to be effective by the majority of my sample was maintaining one's skills. Conversely, no youth-oriented adaptation was believed to be capable of reducing age discrimination by even one-third of my sample.

The finding that youth-oriented adaptations are perceived as far less effective in helping older workers avoid age discrimination, compared to proactive attempts to disprove stereotypes and avoid the sources of age discrimination (e.g., negative coworkers), is rather interesting given the numerous sources promoting a youthful appearance. Career guidance resources consistently encourage older workers to look and act younger with the promise that it will help them avoid stereotypes and discrimination. The idea is that if they do not appear as old, they will not be associated with older worker stereotypes. According to the beliefs and experiences of older workers, however, the best way to overcome stereotypes is to directly disprove them through building skills and showing high job performance. Such extra efforts made by older workers may help explain why older workers perform as good or better than younger workers, despite various age-related declines.

Currently selection, optimization, and compensation (SOC) theory states that older workers are able to maintain a high job performance because they select the skills that are most related to job performance, optimize those skills, and seek resources and aids to compensate for age-related decline (Baltes, 1997; Baltes & Baltes, 1990; Freund & Baltes, 1998, 2002). My findings support the idea that older workers tend to select and optimize important skills. My findings also provided insight into a primary motivator of selection and optimization. Older workers chose to build and maintain their skills more when they experienced age discrimination and they believe that building and maintaining skills is the most effective way to avoid future

discrimination. By showing the value of adaptation behaviors to directly combat age stereotypes over expensive and invasive efforts to disassociate with one's social category, these findings can guide older workers in constructive and effective ways to overcome the discrimination that exists in today's workplace.

Limitations

My study was successful in finding a wide variety of relationships and extending two popular fit theories to older worker perceptions and behaviors. Although many relationships were found, it is possible that several limitations reduced my ability to find more statistical effects and stronger relationships. In particular, restriction of range on the primary dependent variables increased type II error and reduced my power to find statistical effects. The cross-sectional study design limited my ability to truly understand whether adaptations were successful in reducing discrimination, as well as my ability to conclude that age-type led to discrimination and adaptations. Differences in legislation and views of older workers may alter my results across cultures. Lastly, the use of online surveys increased my generalizability by allowing me to sample older workers who live throughout the country rather than local to one specific research site. However, it reduced my generalizability by removing older workers who were not skilled in internet-based technology and who do not join research pools for financial compensation. I will elaborate upon each of these limitations and their possible effects on my results in the sections below.

Restriction of Range

Although the majority of my sample reported experiencing at least one type of discrimination, it was not common for older workers to report high scores on multiple types of discrimination. As a result, the overall discrimination score was low for the vast majority of the sample. With so many low scores on the discrimination measure, the distribution had a strong positive skew and the range was largely restricted to lower scores on the primary dependent variable of discrimination. Range was also restricted to lower scores on the other primary dependent variables of adaptation behaviors and adaptation desires. Although many older workers reported the use of at least one adaptation behavior or desire, it was not common for older workers to report high scores across multiple types of adaptations. As a result, the overall scores for adaptation behaviors and desires were low across most of the sample.

The restriction of range speaks to the quality of the relationship between discrimination and adaptations. The discrimination – adaptations relationships remained significant despite range restriction because the small number of older workers who reported higher amounts of age discrimination were the same older workers who reported greater amounts of adaptation behaviors and desires. Given better variability in the data, it is likely that the relationships would be even stronger due to the associated increase in statistical power. Additionally, restriction of range in all primary dependent variables may explain why several of the proposed age-type variables were not significant predictors. The restriction of range on all hypothesized dependent variables increased the amount of type II error and reduced my ability to find a statistical effect. With better variability in the dependent variable, the ability for the age-type variables to predict discrimination and adaptations would be stronger. Therefore, future studies should consider

stratifying their sampling procedure to include a stronger representation of workers who have experienced a substantial amount of age discrimination.

Study Design

Another limitation of my study was its cross-sectional nature. Although I asked older workers if they believed their adaptations had helped them with the discrimination they perceived, I was not able to show that adaptation behaviors significantly reduced the discrimination that was felt by older workers over time. In order to truly assess whether adaptation behaviors are capable of reducing discrimination across a sample, a longitudinal design would be required. A measure of perceived discrimination would have to be taken at least two times, measuring perceived discrimination before and after the use of adaptations. My measurement of perceived discrimination and adaptations was only able to capture whether older workers use adaptations when they perceived age discrimination, but not whether their perceptions of discrimination reduced over time. A longitudinal study design would have likely increased the ability to detect a relationship when testing hypothesis 6 and assess whether adaptations can reduce perceived discrimination in young-typed better than old-typed jobs. With a longitudinal design, future researchers will be able to explore whether the use of adaptations leads to lower discrimination in young-typed jobs over time.

Culture

Another limitation of my study was the ability for my results to generalize across countries and cultures. Two primary variables that would impact the generalizability of my

results across cultures are the age discrimination legislation enacted by governments and age biases held by societies. Regarding age discrimination legislation, age is allowed to be a factor that is considered when making employment decisions in many countries (Finkelstein & Farrell, 2007). Other countries have more recently enacted laws banning age discrimination in the workplace. For instance, the UK banned age discrimination in the workplace on October 1, 2006. My results should generalize to countries like the UK better than those without age discrimination legislation, as they share a culture that discourages age discrimination. However, the United States has discouraged age discrimination for multiple decades, and therefore, negative views of age discrimination have had more time to become a facet of American culture.

In addition to legislation difference across cultures, the way older adults are viewed also differs. For instance, ageist attitudes in Japan are as strong as or stronger than those in the United States (Nelson, 2002), whereas attitudes toward older adults tend to be more favorable in China (Levy & Langer, 1994). Small differences in the favor of older adults, however, does not mean that age bias and discrimination does not exist across cultures. Cuddy, Norton, and Fiske (2005) found that the stereotype content model (i.e., older workers are viewed as warm and incompetent) was present in both Japan and China. Other researchers have found that age discrimination, although a more recent issue, has a strong presence in China (Zeng, 2007). My results may vary slightly across cultures with different laws and views of older workers, but the general idea that older workers likely adapt when they are believed to be a poor fit remains the same in any of the many cultures that place older workers at a disadvantage in certain jobs.

Use of Online Surveys

The use of Qualtrics Pannels enabled the collection of high quality data of older workers, in a wide variety of jobs, throughout the United States. By sampling older workers across the country, my sample is generalizable to the population of older workers beyond one region or research site. Additionally, Qualtrics Pannels was the only data collection service that was able to guarantee a strong representation of older workers across old and young-typed jobs. The use of online surveys did however restrict my sample to older workers who were capable of using internet-based technology. As a result, older workers who were less computer savvy were not included. By including less computer savvy workers, the adaptation behavior of using technology in public would probably have been less common and older workers who do not commonly use computers may be more likely to occupy less technology-oriented occupations. Additionally, the average income of my sample (i.e., between $40,000 and $50,000) was rather similar to the median household income in the United States (i.e., $50,054; U.S. Census Bureau, 2011), showing that there was not much difference in the socioeconomic status of my sample and that of the population. However, my sample was still limited to older workers who participated in surveys for financial compensation. Therefore, when interpreting results, it is important to remember that the older adults in my sample may have occupied more tech-based jobs than the general population, the frequency of using technology in public is likely inflated, and they are more likely to participate in surveys for financial compensation than the population.

Directions for Future Research

The explorations and conclusions of my study extended prototype matching and career timetables into the areas of perceived discrimination and adaptation behaviors. Now that there is research demonstrating that career timetables can predict perceived discrimination and both theories can predict adaptations, many opportunities are available for future research. First, I believe that a comparison across age and gender would help to understand the perceived experiences and effective adaptation behaviors that are unique to each group. Additionally, I believe the addition of sex-typed jobs would further aid in understanding the specific contexts wherein specific demographic groups perceive the most discrimination and most likely to adapt.

Another useful direction would be evaluating the specific causes of adaptation behaviors. Many older workers indicated that they do not believe "discrimination" was the cause, but they adapt for reasons that are highly related to discrimination. By further understanding the causes of adaptations, we will have greater insight into whether discrimination truly is not the cause for many older workers or if older workers simply have an aversion to admitting that their behaviors are the result of discrimination. Next, an assessment of socioeconomic status would provide greater insight into why desires to adapt are so much greater than behaviors, particularly with the more expensive efforts. Lastly, future research should extend career timetables to employee health. Given that career timetables can predict perceived discrimination and past research has shown that perceived discrimination relates to health consequences, it is possible that career timetables can predict health problems. With health problems being such a critical variable, extending career timetables to health would greatly increase the theory's importance and

usefulness. Each of these directions and their value to future research are elaborated upon in the following sections.

Comparison across Age Groups

My study was limited in that it only included workers over the age of 50. However, there are many important questions that can be answered by including other age groups. First, do younger workers attempt to appear older to avoid age discrimination, are their adaptations more common in old-typed jobs, and which adaptations are the most effective across various types of jobs. Workers under the age of 40 may not be considered a protected class; however, younger workers are still affected by age discrimination and its related consequences. Additionally, including younger workers would allow future researchers to assess adaptation behaviors across age groups to see if certain adaptations are unique to older workers. Lastly, it would allow future researchers to explore the approximate age in which workers begin to use adaptations, whether the onset of adaptation behaviors differs across types of jobs, and whether differing types of adaptations are more effective for middle aged workers and others are more effective for older workers. The inclusion of younger and middle-aged workers in future research will not only provide more insight into the perceived discrimination and adaptation behaviors of younger age groups, but also how discrimination and adaptations are different and unique to older workers, compared to other age groups.

Inclusion of Sex-Typed Jobs and Supervisor Gender

Many relationships found in my dissertation were different for women than they were for men, from basic main effects showing that women adapt more than men to a complex three-way interaction that women had greater desires to adapt than men when experiencing discrimination in young-typed jobs. Age-type, as represented by several prototype matching and career timetables variables, was the central focus of my study. However, multiple studies have also demonstrated that sex-typing also exists in the workplace and can relate to disadvantages for women (e.g., 1993; Cejka & Eagly, 1999; Krefting, Berger, & Wallace, 1978; Oppenheimer, 1968; Shinar, 1975). Given that women use more adaptations, especially when experiencing age discrimination, next steps should include gender discrimination and sex-typed jobs, in addition to age discrimination and age-typed jobs. Next steps should also assess the gender of supervisors. According to the additive or double-jeopardy explanation of worker bias, members of multiple stigmatized groups, like older women, are burdened with stereotypes associated with each group (Barnum, Liden, and Ditomaso (1995). Considering that members of one's ingroup (i.e., same gender) are less likely to hold stereotypes of that particular category (Gaertner & Dovidio, 2000), it is possible that women may not have to overcome as many stereotypes when their supervisors are also women. By including sex-type and supervisor gender, future researchers will be able to better understand the gender-based experiences across more specific types of discrimination and more specific types of jobs, as well as the adaptations specific to older men and women in a wide variety of experiences. With additional understanding of specific demographics in specific situations, insights into the best ways to adapt and overcome discrimination in the workplace will be more precise and possibly more effective.

Socioeconomic Status

The use of adaptation behaviors was common, however, the use of adaptation behaviors would be significantly greater if time, money, and other resources were not an issue. Largely driving the difference in the behaviors older workers have done, compared to behaviors older workers would do, was the desire for cosmetic surgeries. Only 2% of older workers in my sample have undergone a cosmetic surgery, but significantly more would if they had the resources. Considering that cosmetic surgeries are extremely costly and rarely covered by health insurance plans, it is likely that one's financial resources largely determine whether older workers follow through on their desires to get cosmetic surgeries and other expensive cosmetic procedures.

Reasons for Adaptation Behaviors

Although 26% of older workers reported that age discrimination was responsible for their attempts to appear more youthful in the workplace, it is important to note that the majority gave another answer or stated that they had no response. Many of the other answers that were given, such as feeling left out, unattractive, and socially unacceptable, largely elude to the existence of age discrimination. Additionally, numerous older workers, who have experienced age discrimination, took the time to write about their adaptation behaviors, then took the time to write that they have no response to the question about why they engaged in the adaptation behavior. Given that they took just as much time to write that they had no response as it would have taken to give a short answer provokes the idea that many older workers are unwilling to

consider or admit that their behaviors and desires to look younger are a result of the poor treatment they have received.

Future researchers should continue to explore the reasons behind efforts to appear younger at work. Additionally, future research should better understand why older workers are willing spend time writing no response, but unwilling to state a reason for their behaviors. Is it that the information is too sensitive to provide or do older workers not want to even consider the idea that their poor treatment has resulted in costly and time consuming efforts to appear as someone outside their social category? Much discrimination research has been dedicated to understanding the antecedents to discrimination (Finkelstein et al., 1995; Gordon & Arvey, 2004) and its physical and psychological consequences (Pascoe & Richman, 2009), yet little research has been dedicated to the behaviors that result from discrimination (Berger, 2009). My dissertation successfully identified a wide variety of efforts that older workers report to appear younger in the workplace. The next step now is now to truly understand the reasons why behaviors to appear younger exist.

Extending Career Timetables to Older Worker Health

My study found that the minority status of older workers predicts the amount of discrimination they perceive. Specifically, as older workers occupied jobs with higher proportions of younger workers and lower proportions of older workers, the amount of discrimination they perceived was greater. The higher level of perceived discrimination in jobs with a younger age composition is relevant to health, as multiple studies have shown that when people perceive discrimination, they experience mental and physical health consequences.

Higher C-reactive protein levels (Lewis, Aiello, Leurgans, Kelly, 2010), hypertension (Richman, Pek, Pascoe, & Bauer, 2010), coronary artery calcification (Lewis et al., 2006), increased blood pressure (Guyll, Matthews, & Bromerger, 2001), cardiovascular disease, pelvic inflammatory disease, diabetes (Pascoe & Richman, 2009), poorer psychological wellbeing, poorer perceived health (Garstka, Schmitt, Branscombe, & Hummer, 2004; Scott, Jackson, & Bergeman, 2011; van den Heuvel & van Santvoort, 2011; Yuan, 2007), and poorer general health (Grosch et al., 2005) are just a few of the health-related problems associated with perceived discrimination.

If age composition predicts perceived discrimination and perceived discrimination predicts health-related consequences, it is possible that the age composition of one's job may lead to poorer health. Future researchers should use career timetables as a theoretical framework to better understand the types of jobs that may cause poorer health in older adults. Health is a critical variable with a major impact on the lives of all older workers. As a result, extending career timetables to older worker health would be a major theoretical contribution. Understanding the types of jobs wherein older workers are most likely to experience health-related consequences will aid in pinpointing the areas within the workplace that require the most attention and intervention to reduce age discrimination and enhance the wellbeing of our labor force's fastest growing age group.

Reducing Perceived Discrimination through Core Self-Evaluation Interventions

Although core self-evaluation is commonly viewed as a stable trait (Dormann, Fay, Zapf, & Frese, 2006), within the past decade, several researchers have suggested otherwise (Johnson, Rosen, & Levy, 2008; Judge et al., 2003). Additionally, by comparing core self-evaluation to

thoroughly tested personality traits, Hiller and Hambrick (2005) built an empirical argument suggesting that core self-evaluation may be altered through long-term conditioning. As a result, it may be possible to condition older workers' core self-evaluations, allowing older workers to become more resilient to age discrimination in the workplace. Given the strong relationship between core self-evaluation and perceived discrimination, interventions designed to increase the core self-evaluations of older workers may be a valuable tool in reducing the amount of discrimination older workers perceive. Reducing perceived age discrimination should be a primary goal of future researchers, as perceived discrimination is related to a wide variety of health issues (Garstka, Schmitt, Branscombe, & Hummer, 2004; Grosch et al., 2005; Scott, Jackson, & Bergeman, 2011; van den Heuvel & van Santvoort, 2011; Yuan, 2007). Therefore, in addition to attempting to reduce actual age discrimination, future researchers should also explore approaches to helping older workers become more resilient to the age discrimination that currently exists.

Conclusion

The purpose of my dissertation was to understand the differing levels of age discrimination perceived by older workers across old and young-typed jobs and explore the various behaviors older workers use to adapt to their environment. Understanding age discrimination and the ways older workers adapt is timely and important, as older workers are becoming a major part of the American workforce, perceived discrimination has extensive consequences for older workers and employers, and the number of older workers expected to occupy young-typed jobs is rapidly growing. To fulfill the purpose of this study, I surveyed the

perceptions and behaviors of older workers who occupied a wide variety of jobs, across the country. By assessing perceived discrimination and adaptation behaviors across old and young-typed jobs, I was able to extend two popular fit theories – prototype matching and career timetables. Prototype matching and career timetables offer several approaches to measuring age-type and determining the perceived fit that older workers have with their jobs. Past studies have shown that the fit older workers have with the age-type of their jobs is associated with job-related disadvantages like lower recommendations for higher and lower performance ratings. However, in an extensive literature search, no study was found showing that older workers perceive more discrimination and adjust their behaviors to adapt when they do not fit the age-type of their jobs. Therefore, my dissertation explored the relationships between age-type, perceived discrimination, and adaptation behaviors to extend modern fit theories and contribute to the age discrimination literature. In doing so, my study made six major contributions.

First, my study found that older workers commonly perceived age discrimination in the workplace. Older workers have particularly noticed that they are not being considered for promotions and are commonly passed up by younger workers. Not only did more than one-fourth of my sample report discrimination related to promotions, they expressed many powerful statements about their experiences throughout the survey. By pinpointing the type of discrimination that has been especially demoralizing to a large and rapidly growing group of workers, we now have the ability to identify the management functions that require the most intervention. If companies want to avoid costly consequences associated with perceived discrimination, they should focus on their promotion and succession planning procedures.

Interventions to remedy promotion-related age discrimination may also be more effective in certain types of jobs – particularly jobs with a youthful age composition.

Second, I found that age composition predicted the amount of age discrimination that older workers perceived. Specifically, the minority status of older workers predicted the amount of discrimination they perceive. When older workers' jobs were composed of far more younger workers than older workers, they reported greater experiences of age discrimination. Age composition is an approach to measuring age-type through career timetables theory. Therefore, the relationship found between age composition and perceived discrimination contributed to career timetables theory by extending it to older worker perceptions of age discrimination.

My third major finding was that older workers, especially women, used a wide variety of adaptation behaviors to appear more youthful in the workplace. My fourth major finding took the next step by showing that age discrimination was believed to be a primary reason for adaptation behaviors. Not only did perceived discrimination statistically predict adaptation behaviors, but many older workers also stated that their adaptation efforts were an attempt to avoid the age discrimination that they have been experiencing.

My fifth major finding revealed that the amount and types of adaptations differed across various levels of discrimination and age-type. When predicting adaptation behaviors and desires, both prototype matching and career timetables interacted with perceived age discrimination to predict adaptation behaviors and desires. The relationships that were found contributed to both fit theories by extending them to adaptation behaviors. No study has previously attempted to extend these theories to behaviors aimed at appearing more youthful in the workplace. Through my

results, we now know that age-related fit theories interact with perceived discrimination to predict adaptation behavior.

Lastly, I found that of the many adaptation behaviors used by older workers, the ones believed to be the most effective were extra efforts to build skills and show high job performance, as well as avoiding the people who discriminate against older workers. Numerous career guidance resources have encouraged older workers to avoid age-related stereotypes by changing their appearance. However, according to older workers, avoiding stereotypes through one's appearance may not be as effective as directly disproving them through displaying competence and performance. Older workers who experience age discrimination in the future should think twice before spending thousands of dollars on clothing, beauty products, and invasive procedures. If older workers are looking for the most effective ways to avoid age discrimination in the workplace, it was most commonly believed that extra efforts, building and maintaining skills, and avoiding those who discriminate are best choices.

APPENDIX A: MEASURES

Older Workers' Survey

Older Workers' Demographics

What is your sex?

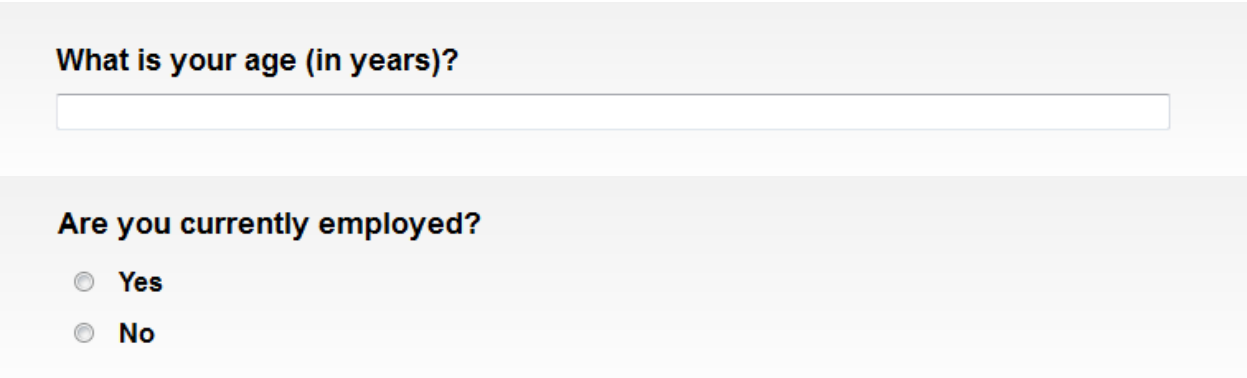
- ○ Male
- ○ Female

What is your race or ethnic background? Please mark all that apply.

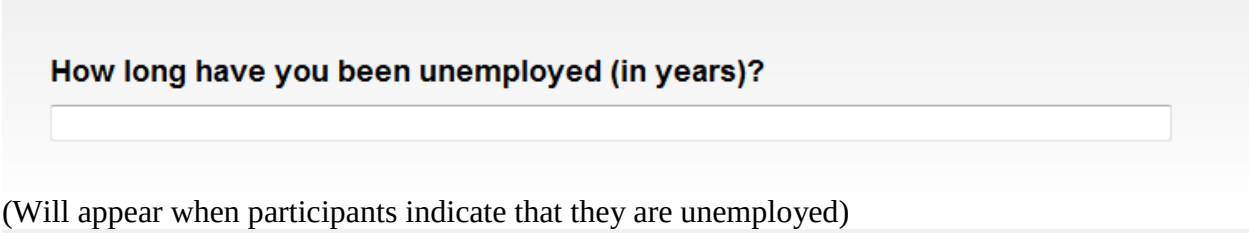
- ☐ White (Non-Hispanic)
- ☐ Black or African American
- ☐ Asian
- ☐ American Indian or Alaska Native
- ☐ Native Hawiian or Other Pacific Islander
- ☐ Hispanic or Latino
- ☐ Other (Please Specify) _____

If you chose more than one race or ethnic group in the previous question, which one do you most identify with?

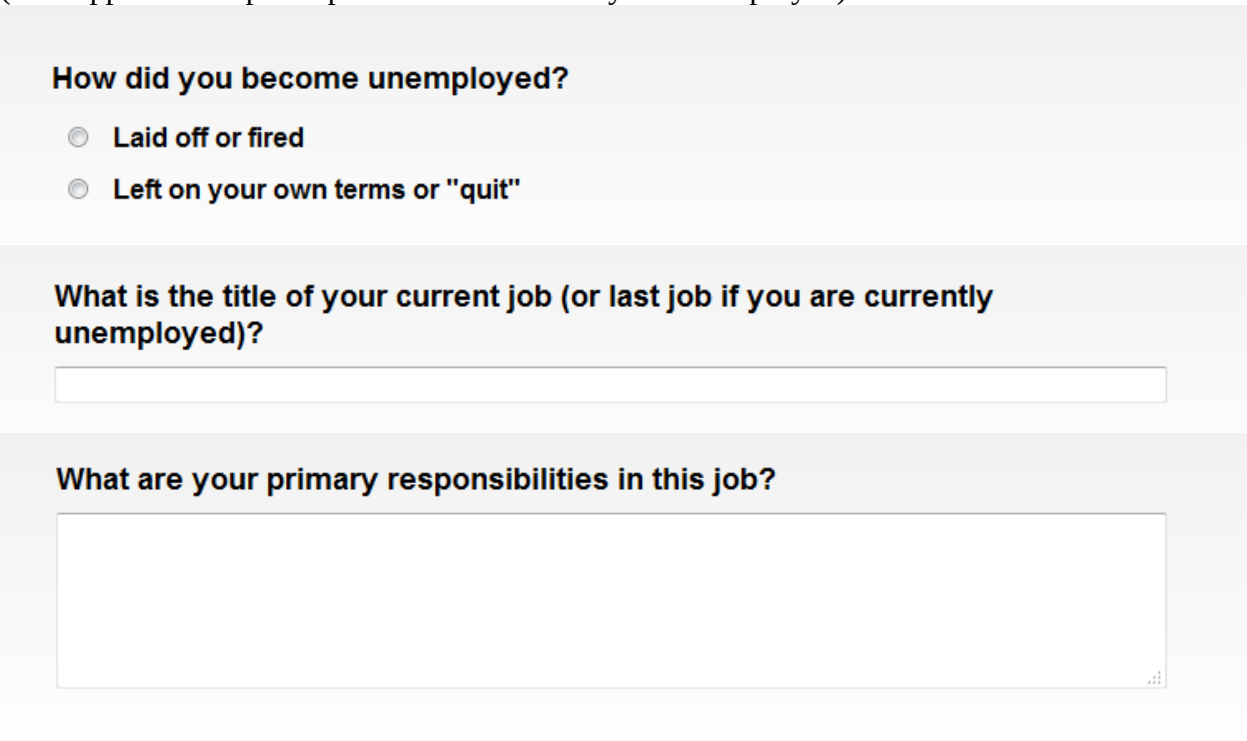
- ☐ White (Non-Hispanic)
- ☐ Black or African American
- ☐ Asian
- ☐ American Indian or Alaska Native
- ☐ Native Hawiian or Other Pacific Islander
- ☐ Hispanic or Latino
- ☐ Other (Please Specify) _____



(Will appear when participants indicate that they are unemployed)



(Will appear when participants indicate that they are unemployed)



What is the industry in which you currently work (or most recently worked if you are currently unemployed)?

Are you paid by the hour (wage) or by the year (salary)? If you are currently unemployed, list your response for your most recent job.

- Hourly (Wage)
- Yearly (Salary)

(Will appear when participants indicate an hourly wage)

In dollars, what is your current hourly wage(or most recent wage if you are currently unemployed)?

(Will appear when participants indicate a yearly salary)

In dollars, what is your current salary (or most recent salary if you are currently unemployed)?

What is the approximate number of employees at your current organization (or most recent organization if you are unemployed)?

What is the approximate age of your current supervisor (or most recent supervisor if you are currently unemployed)?

Please indicate the proportion of older workers (50 and older) compared to younger workers (39 and younger) in your most recent workgroup (or department if you do not have a workgroup).

≥39 Far more workers aged 39 and younger				50≤ Far more workers aged 50 and older
1	2	3	4	5
○	○	○	○	○

Do you have people directly reporting to you in your current job (or most recent job if you are currently unemployed)?

- ○ Yes
- ○ No

Older Workers' Demographics

(Will appearif when participants indicate that they have subordinates)

Of the people who directly report to you, please indicate the proportion of older workers (50 and older) compared to younger workers (39 and younger).

≥39 Far more workers aged 39 and younger				50≤ Far more workers aged 50 and older
1	2	3	4	5
○	○	○	○	○

Workplace Prejudice/Discrimination Inventory

Please indicate the degree to which you agree with the following statements

	Completely Disagree 1	2	3	Neutral 4	5	6	Completely agree 5
I have sometimes been unfairly singled out because of my age group.	○	○	○	○	○	○	○
Prejudice against older workers exists where I work.	○	○	○	○	○	○	○
Where I work all people are treated the same, regardless of their age group.	○	○	○	○	○	○	○
At work I feel socially isolated because of my age group.	○	○	○	○	○	○	○
At work older employees receive fewer opportunities.	○	○	○	○	○	○	○
There is no age discrimination on my present job.	○	○	○	○	○	○	○
Where I work members of some age groups are treated better than members of other age groups.	○	○	○	○	○	○	○
At work people are intolerant of others from older age groups.	○	○	○	○	○	○	○
Supervisors scrutinize the work of members of my age group more than that of members of other age groups.	○	○	○	○	○	○	○
Where I work people of different age groups get along well with each other.	○	○	○	○	○	○	○
At my present job, some people get better treatment because of their age group.	○	○	○	○	○	○	○
There is age discrimination where I work.	○	○	○	○	○	○	○
At work I am treated poorly because of my age group.	○	○	○	○	○	○	○
At my present place of employment, people of other age groups do not tell me some job-related information that they share with members of their own group.	○	○	○	○	○	○	○
Where I work promotions and rewards are not influenced by age group membership.	○	○	○	○	○	○	○

Please list any other problems or challenges you have faced in your job that you believe may have been related to your age.

Adaptations

Below is a list of efforts people commonly make to appear more youthful in the workplace. Please let us know how much of an effort you have made in each of the 8 categories *while in your current job*, from 1 (not at all) to 7 (very much).

For each of the 8 categories, please also list any specific efforts that you have made, while in your current job.

	Not At All 1	2	3	Somewhat 4	5	6	Very Much 7	Please list any specific efforts you have made to appear more youthful while in your current job, relevant to each category.
How much have you changed the way you dress to appear more youthful at work? *Examples: Update your clothes or shoes, purchase contemporary eye-wear (e.g., sunglasses, reading glasses)*	○	○	○	○	○	○	○	
How much have you used modern technology in public (e.g. smartphones and tablets) to appear more youthful at work?	○	○	○	○	○	○	○	
How much have you maintained your health and fitness to appear more youthful at work? *Examples: Exercising regularly, eating nutritiously, maintaining a healthy weight, avoiding excess (i.e., alcohol, caffeine)*	○	○	○	○	○	○	○	
How much have you enhanced your physical appearance with store-bought products to appear more youthful at work? *Examples: Change your hair (e.g., dying hair, updating style, wearing a hair piece), reduce/hide wrinkles with creams, exfoliating products, or make-up, undergoing skin toning treatments or facials*	○	○	○	○	○	○	○	

	Not At All 1	2	3	Somewhat 4	5	6	Very Much 7	**Please list any specific efforts you have made to appear more youthful while in your current job, relevant to each category.**
How much have you used non-surgical cosmetic procedures to appear more youthful at work? *Examples: Teeth whitening, chemical peels, botox, injectable fillers, microdermabrasion, photofacial, scierotherapy, laser hair removal, collagen injections, laser resurfacing, laser scar or wrinkle removal, hair transplant or regaining procedure*	○	○	○	○	○	○	○	
How much have you used surgical cosmetic procedures to appear more youthful at work? *Examples: Face, neck, eye, or brow lift, nose resculpting, liposuction, abdominoplasty, any form of implants or reconstruction (calf, breast, etc.)*	○	○	○	○	○	○	○	
How much have you changed the way you speak to appear more youthful at work? *Examples: Use more youth-oriented language, discuss physically active sports or social groups, emphasize a high energy lifestyle, use modern buzzwords, talk about skills rather than your years of experience, reframe or avoid discussions about age*	○	○	○	○	○	○	○	
How much have you changed your resume to appear more youthful at work? *Examples: Removing older work experience, only present recent job history, removing dates, highlighting skills rather than jobs and years of experience*	○	○	○	○	○	○	○	

Many people attempt to appear more youthful because they are experiencing discrimination at work. Of the efforts that you listed above, which ones were in response to the age discrimination you were experiencing *in your current job*? If any of the efforts you mentioned above were an attempt to avoid age discrimination in your current job, please re-list them here.

Examples of age discrimination are: being singled out, socially isolated, treated differently, scrutinized by supervisors, not given job-related information, receive fewer opportunities, promotions, or rewards because of your age.

Age discrimination may have only been partially responsible or not responsible at all for the efforts you listed above.

Please list any other reason as to why you have made efforts to appear more youthful.

There are many other possible responses to age discrimination in the workplace, in addition to changing one's physical appearance. Please list any other specific responses you have had to the age discrimination you have experienced *in your current job.* If you have none, please write *none.*
Examples of other possible responses:

- **Emotional withdrawal (indulging in junkfood, drinking alcohol, using medications for anxiety of depression, using illegal drugs (responses are completely anonymous))**
- **Avoiding certain people at work**
- **Seeking social support (from family, friends, coworkers, social groups, religion, etc.)**
- **Talking to authorities (management, HR, filing a discrimination claim or lawsuit)**
- **Maintaining skills (reading books, taking classes, etc.)**
- **If you have none, please write *none.***

Of all the responses to age discrimination that you have listed, which ones have worked for you. In other words, please list any efforts that have helped you avoid age discrimination *in your current job*? If you have none, please write *none.*

Examples of age discrimination are: being singled out, socially isolated, treated differently, scrutinized by supervisors, not given job-related information, receive fewer opportunities, promotions, or rewards because of your age.

What would you do if time, money and other resources were not an issue?

Many efforts that people make to appear youthful in the workplace require time, money, and other resources that may not be available to you. Please let us know how much of an effort you would make, in each of the 6 following categories, *if time, money, and other resources were not an issue*. Then, please list the specific efforts you would make *in your current job*.

	Not At All 1	2	3	Somewhat 4	5	6	Very Much 7	Please list any specific efforts you *would* make to appear more youthful while in your current job, relevant to each category.
How much *would you* change the way you dress to appear more youthful at work? *Examples: Update your clothes or shoes, purchase contemporary eye-wear (e.g., sunglasses, reading glasses)*	○	○	○	○	○	○	○	
How much *would you* use modern technology in public (e.g. smartphones and tablets) to appear more youthful at work?	○	○	○	○	○	○	○	
How much *would you* maintain your health and fitness to appear more youthful at work? *Examples: Exercising regularly, eating nutritiously, maintaining a healthy weight, avoiding excess (i.e., alcohol, caffeine)*	○	○	○	○	○	○	○	
	Not At All 1	**2**	**3**	**Somewhat 4**	**5**	**6**	**Very Much 7**	**Please list any specific efforts you *would* make to appear more youthful while in your current job, relevant to each category.**
How much *would you* enhance your physical appearance with store-bought products to appear more youthful at work? *Examples: Change your hair (e.g., dying hair, updating style, wearing a hair piece), reduce/hide wrinkles with creams, exfoliating products, or make-up, undergoing skin toning treatments or facials*	○	○	○	○	○	○	○	
How much *would you* use non-surgical cosmetic procedures to appear more youthful at work? *Examples: Teeth whitening, chemical peels, botox, injectable fillers, microdermabrasion, photofacial, scierotherapy, laser hair removal, collagen injections, laser resurfacing, laser scar or wrinkle removal, hair transplant or regaining procedure*	○	○	○	○	○	○	○	
How much *would you* use surgical cosmetic procedures to appear more youthful at work? *Examples: Face, neck, eye, or brow lift, nose resculpting, liposuction, abdominoplasty, any form of implants or reconstruction (calf, breast, etc.)*	○	○	○	○	○	○	○	

What would you do if you were seeking a new job or promotion?

Some efforts that people make to appear youthful in the workplace require a specific situation like seeking a new job or promotion. Please let us know how much of an effort you would make, in each of the 2 following categories, *if you were currently seeking a new job or promotion*. Then, please list the specific efforts you would make *in your current job*.

	Not At All 1	2	3	Somewhat 4	5	6	Very Much 7	Please list any specific efforts you *would* make to appear more youthful while in your current job, relevant to each category.
How much *would you* change the way you speak to appear more youthful at work? *Examples: Use more youth-oriented language, discuss physically active sports or social groups, emphasize a high energy lifestyle, use modern buzzwords, talk about skills rather than your years of experience, reframe or avoid discussions about age*	○	○	○	○	○	○	○	
How much *would you* change your resume to appear more youthful at work? *Examples: Removing older work experience, only present recent job history, removing dates, highlighting skills rather than jobs and years of experience*	○	○	○	○	○	○	○	

Many people would like to appear more youthful because they are experiencing discrimination at work. Of the efforts that you listed above, which ones would be in response to the age discrimination you are experiencing *in your current job*? If any of the efforts you mentioned above would be an attempt to avoid age discrimination in your current job, please re-list them here. If you have none, please write *none*.

Examples of age discrimination are: being singled out, socially isolated, treated differently, scrutinized by supervisors, not given job-related information, receive fewer opportunities, promotions, or rewards because of your age.

Age discrimination may have only been partially responsible or not responsible at all for the efforts you listed above.

Please list any other reason as to why you are willing to make efforts to appear more youthful. If you have none, please write *none*.

There are many other possible responses to age discrimination in the workplace, in addition to changing one's physical appearance. Please list any other specific responses you would have in response to the age discrimination you have experienced *in your current job* *if time, money, and resources were not an issue.*

Examples of other possible responses:

- **Emotional withdrawal (indulging in junkfood, drinking alcohol, using medications for anxiety of depression, using illegal drugs (responses are completely anonymous))**
- **Avoiding certain people at work**
- **Seeking social support (from family, friends, coworkers, social groups, religion, etc.)**
- **Talking to authorities (management, HR, filing a discrimination claim or lawsuit)**
- **Maintaining skills (reading books, taking classes, etc.)**
- **If you have none, please write *none***

We would like to know how effective you believe the following efforts can be in reducing age discrimination across all older workers. Please tell us how effective each effort can be by indicating how much you agree with the following statements.

Examples of age discrimination are: being singled out, socially isolated, treated differently, scrutinized by supervisors, not given job-related information, receive fewer opportunities, promotions, or rewards because of your age.

	Disagree Very Much 1	2	3	Neutral 4	5	6	Agree Very Much 7
Older workers can avoid age discrimination by dressing more youthful. *Examples: Update your clothes or shoes, purchase contemporary eye-wear (e.g., sunglasses, reading glasses)*	○	○	○	○	○	○	○
Older workers can avoid age discrimination by using modern technology in public (e.g. smartphones & tablets).	○	○	○	○	○	○	○
Older workers can avoid age discrimination by maintaining their health and fitness. *Examples: Exercising regularly, eating nutritiously, maintaining a healthy weight, avoiding excess (i.e., alcohol, caffeine)*	○	○	○	○	○	○	○
Older workers can avoid age discrimination by enhancing their physical appearance with store-bought products. *Change your hair (e.g., eying hair, updating style, wearing a hair piece), reduce/hide wrinkles with creams, exfoliating products, or make-up, undergoing skin toning treatments or facials*	○	○	○	○	○	○	○
Older workers can avoid age discrimination with non-surgical cosmetic procedures. *Examples: Teeth whitening, chemical peels, botox, injectable fillers, microdermabrasion, photofacial, scierotherapy, laser hair removal, collagen injections, laser resurfacing, laser scar or wrinkle removal, hair transplant or regaining procedure*	○	○	○	○	○	○	○

	Disagree Very Much 1	2	3	Neutral 4	5	6	Agree Very Much 7
Older workers can avoid age discrimination with surgical cosmetic procedures. *Examples: Face, neck, eye, or brow lift, nose resculpting, liposuction, abdominoplasty, any form of implants or reconstruction (calf, breast, etc.)*	○	○	○	○	○	○	○
Older workers can avoid age discrimination by changing the way they speak. *Examples: Use more youth-oriented language, discuss physically active sports or social groups, emphasize a high energy lifestyle, use modern buzzwords, talk about skills rather than your years of experience, reframe or avoid discussions about age*	○	○	○	○	○	○	○
Older workers can avoid age discrimination by changing their resume. *Examples: Removing older work experience, only present recent job history, removing dates, highlighting skills rather than jobs and years of experience*	○	○	○	○	○	○	○
Older workers can avoid age discrimination by withdrawing emotionally. *Examples: Indulging in junkfood, drinking alcohol, using medications for anxiety of depression, using illegal drugs (responses are completely anonymous)*	○	○	○	○	○	○	○
Older workers can avoid age discrimination by avoiding certain people.	○	○	○	○	○	○	○
	Disagree Very Much 1	2	3	Neutral 4	5	6	Agree Very Much 7
Older workers can avoid age discrimination by seeking social support. *Examples: Support from family, friends, coworkers, social groups, religion, etc.*	○	○	○	○	○	○	○
Older workers can avoid age discrimination by speaking to authorities. *Examples: Talking to management, HR, Filing a discrimination claim or lawsuit*	○	○	○	○	○	○	○
Older workers can avoid age discrimination by maintaining their skills. *Examples: Taking classes, reading books and other materials, using tutorials, engaging in volunteer work*	○	○	○	○	○	○	○
Please select "5" in order to continue past this page.	○	○	○	○	○	○	○

Attention Filter

Recent research on decision making shows that choices are affected by context. Differences in how people feel, their previous knowledge and experience, and their environment can affect choices. To help us understand how people make decisions, we are interested in information about you. Specifically, we are interested in whether you actually take the time to read the directions; if not, some results may not tell us very much about how you are feeling and instead check only the "none of the above" option as your answer.

Please check all the words that describe how you are currently feeling.

○ Interested	○ Hostile	○ Nervous
○ Distressed	○ Enthusiastic	○ Determined
○ Excited	○ Proud	○ Attentive
○ Upset	○ Irritable	○ Jittery
○ Strong	○ Alert	○ Active
○ Guilty	○ Ashamed	○ Afraid
○ Scared	○ Inspired	○ None of the above

Core self-evaluation

Instructions: Below are several statements about you with which you may agree or disagree. Using the response scale below, indicate your agreement or disagreement with each item by placing the appropriate number on the line preceding that item.

	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
I am confident I get the success I deserve in life.	○	○	○	○	○
Sometimes I feel depressed.	○	○	○	○	○
When I try, I generally succeed.	○	○	○	○	○
Sometimes when I fail I feel worthless.	○	○	○	○	○
I complete tasks successfully.	○	○	○	○	○
Sometimes, I do not feel in control of my work.	○	○	○	○	○
Overall, I am satisfied with myself.	○	○	○	○	○
I am filled with doubts about my competence.	○	○	○	○	○
I determine what will happen in my life.	○	○	○	○	○
I do not feel in control of my success in my career.	○	○	○	○	○
I am capable of coping with most of my problems.	○	○	○	○	○
There are times when things look pretty bleak and hopeless to me.	○	○	○	○	○

Vanity

	Strongly Agree 1	2	3	Neutral 4	5	6	Strongly Disagree 7
The way I look is extremely important to me.	○	○	○	○	○	○	○
I am very concerned about my appearance.	○	○	○	○	○	○	○
I would feel embarrassed if I was around people and did not look my best.	○	○	○	○	○	○	○
Looking my best is worth the effort.	○	○	○	○	○	○	○
It is important that I always look good.	○	○	○	○	○	○	○
People notice how attractive I am.	○	○	○	○	○	○	○
My looks are very appealing to others.	○	○	○	○	○	○	○
People are envious of my good looks.	○	○	○	○	○	○	○
I am a very good-looking individual.	○	○	○	○	○	○	○
My body is sexually appealing.	○	○	○	○	○	○	○
I have the type of body that people want to look at.	○	○	○	○	○	○	○
Professional achievements are an obsession with me.	○	○	○	○	○	○	○
I want others to look up to me because of my accomplishments.	○	○	○	○	○	○	○
I am more concerned with professional success than most people I know.	○	○	○	○	○	○	○
Achieving greater success than my peers is important to me.	○	○	○	○	○	○	○
I want my achievements to be recognized by others.	○	○	○	○	○	○	○

In a professional sense, I am a very successful person.	○	○	○	○	○	○	○
My achievements are highly regarded by others.	○	○	○	○	○	○	○
I am an accomplished person.	○	○	○	○	○	○	○
I am a good example of professional success.	○	○	○	○	○	○	○
Others wish they were as successful as me.	○	○	○	○	○	○	○

Age-Type Survey

Prototypicality

Questions 1-25
Please identify the extent to which you agree that the features mentioned below are necessary to be successful in the occupation of: *Computer Systems Analyst*

Here is a short description of what the job involves: Use IT tools to help enterprises of all sizes achieve their goals. They may design and develop new computer systems by choosing and configuring hardware and software, or they may devise ways to apply existing systems' resources to additional

	Disagree very much 1	2	3	4	5	Agree very much 6
1 Competence	○	○	○	○	○	○
2 High drive for achievement	○	○	○	○	○	○
3 Capable	○	○	○	○	○	○
4 High degree of performance	○	○	○	○	○	○
5 Productive	○	○	○	○	○	○
6 Skillful in job	○	○	○	○	○	○
7 Suitable for training	○	○	○	○	○	○
	Disagree very much 1	2	3	4	5	Agree very much 6
8 Potential for development	○	○	○	○	○	○
9 Fast learning	○	○	○	○	○	○
10 Flexible	○	○	○	○	○	○
11 Ability to learn new things	○	○	○	○	○	○
12 Responsive to training	○	○	○	○	○	○
13 Warm-heartedness	○	○	○	○	○	○
14 Warm personality	○	○	○	○	○	○

	Disagree very much 1	2	3	4	5	Agree very much 6
15 Likability	○	○	○	○	○	○
16 Cold personality	○	○	○	○	○	○
17 Kindness	○	○	○	○	○	○
18 Friendliness	○	○	○	○	○	○
19 Strong	○	○	○	○	○	○
20 Ability to endure physical labor for extended periods of time	○	○	○	○	○	○
21 Energetic	○	○	○	○	○	○
	Disagree very much 1	2	3	4	5	Agree very much 6
22 Ability to see well	○	○	○	○	○	○
23 Accuracy in physical movement	○	○	○	○	○	○
24 Ability to hear well	○	○	○	○	○	○
25 Ability to learn new things	○	○	○	○	○	○

Age Composition

Question 26
You may have seen people who do this job or have an idea of the kinds of people who do this job.
We are interested in understanding perceptions about the age of people in this job.

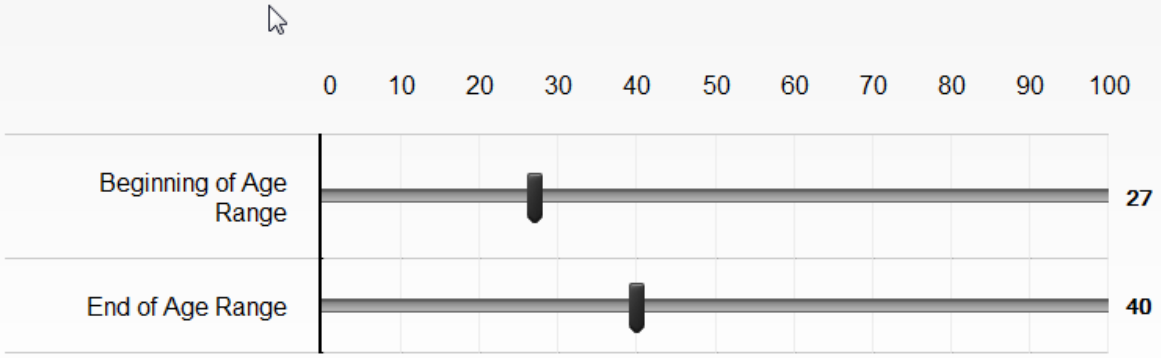
Using the 5-point scale below, rate the proportion of workers 50 years of age or older relative to workers 39 years of age or younger in the job of:
Computer Systems Analyst

≥39				50≤
Far more workers age 39 and younger	2	3	4	Far more workers age 50 and over
1				5
○	○	○	○	○

Normative age group

Question 27
Think of the typical group of workers that you would see in the job of:
Computer Systems Analyst

Please indicate the youngest and oldest workers you expect to see in a typical group of workers



General age-type

Question 28

Please select the number indicating the degree to which *Computer Systems Analyst* is typically a younger person's job or an older person's job.

	Younger worker's job 1	2	3	4	5	6	7	8	Older worker's job 9
Computer Systems Analysts and Scientists: Use IT tools to help enterprises of all sizes achieve their goals. They may design and develop new computer systems by choosing and configuring hardware and software, or they may devise ways to apply existing systems' resources to additional tasks.	○	○	○	○	○	○	○	○	○

Question 29

Please select the number indicating the degree to which *Computer Systems Analyst* is more appropriate for younger or older workers.

	Highly more appropriate for younger workers 1	2	3	4	5	6	7	8	Highly more appropriate for older workers 9
Computer Systems Analysts and Scientists: Use IT tools to help enterprises of all sizes achieve their goals. They may design and develop new computer systems by choosing and configuring hardware and software, or they may devise ways to apply existing systems' resources to additional tasks.	○	○	○	○	○	○	○	○	○

Adaptation Extremeness Survey

Adaptation extremeness

Older workers commonly make efforts to appear more youthful in the workplace. Some older workers are willing to make more extreme efforts than others. Below is a list of efforts older workers have made. Please identify how extreme you believe each effort to be.

	Not extreme at alll 1	2	3	4	5	6	Very extreme 7
Take classes to maintain skills	○	○	○	○	○	○	○
Removing older skills on a resume	○	○	○	○	○	○	○
Discuss physically active sports to appear energetic	○	○	○	○	○	○	○
Wear a toupee	○	○	○	○	○	○	○
Botox	○	○	○	○	○	○	○
Face-lift	○	○	○	○	○	○	○

*Items will include every adaptation behaviors indicated by the older worker sample (example items shown above)

APPENDIX B: TABLES AND FIGURES

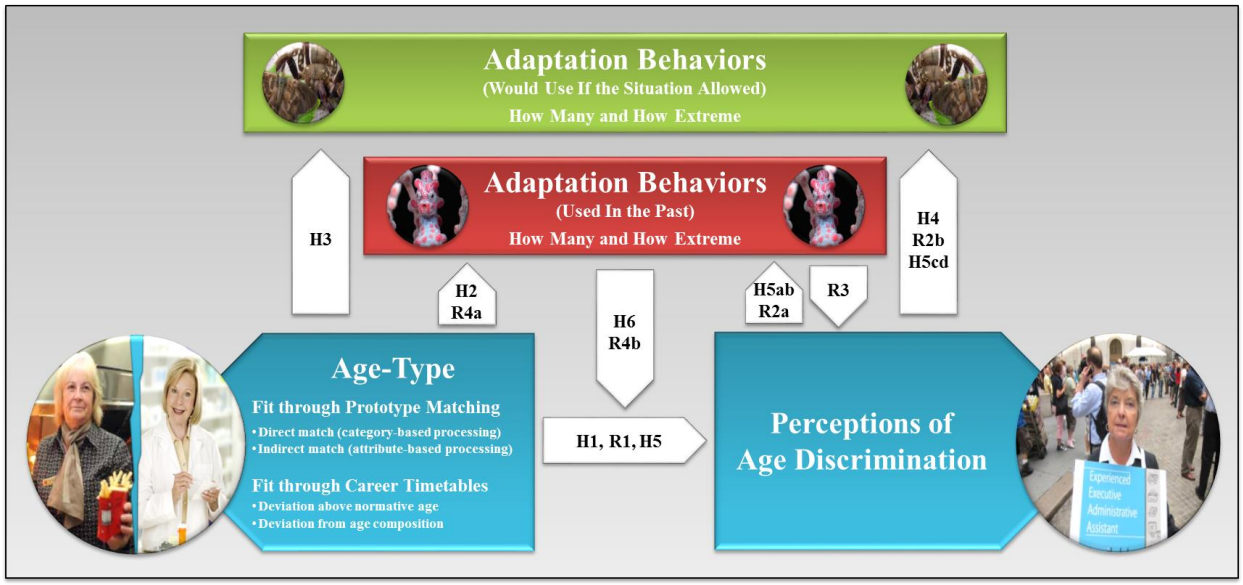


Figure 1: Hypothesized Relationships

Table 1: Descriptive Statistics and Zero-Order Correlations

	M	*SD*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) Perceived Discrimination	36.00	19.24	-														
(2) General Age-Type	4.89	.81	-.02	-													
(3) Competence	5.19	.33	.00	.16*	-												
(4) Adaptability	4.98	.36	.02	.00	.89**	-											
(5) Warmth	4.55	.71	.03	-.07	.30**	.44**	-										
(6) Physical Ability	4.17	.57	-.04	-.31**	.09	.03	-.09	-									
(7) Normative Age	62.06	6.77	.00	.31**	-.08	-.10	.12	-.29**	-								
(8) Actual Age Composition	1.48	.78	.14*	-.39**	.02	.11	.05	.16*	-.17*	-							
(9) Perceived Age Composition	2.66	.51	-.01	.93**	.11	-.04	-.08	-.308**	.37**	-.38**	-						
(10) Supervisor Age	50.58	10.38	-.18**	.18**	.05	-.02	-.06	-.10	-.02	-.02	.18*	-					
(11) Youth-Oriented Adaptation Behaviors (Amount)	11.31	6.07	.31**	.03	-.03	.03	.08	-.08	.08	.02	.06	.01	-				
(12) General Adaptation Behaviors (Amount)	.11	.42	.46**	.07	.04	.08	.21**	-.10	.08	.01	.07	-.05	.34**	-			
(13) Youth-Oriented Adaptation Desires (Amount)	9.31	6.29	.31**	-.02	.03	.10	.22**	-.10	.03	.06	.01	.04	.68**	.31**	-		
(14) General Adaptation Desires (Amount)	.05	.23	.22**	.03	.07	.11	.11	-.06	-.02	-.05	.00	.08	.16*	.40**	.21**	-	
(15) Youth-Oriented Adaptation Behaviors (Extremeness)	11.94	22.98	.31**	.03	-.05	.01	.07	-.09	.08	.02	.05	.01	.99**	.34**	.67**	.16*	-
(16) General Adaptation Behaviors (Extremeness)	.38	1.42	.47**	.08	.06	.09	.20**	-.08	.08	.00	.09	-.07	.32**	.98*	.27**	.34**	.31**

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

	M	*SD*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(17) Youth-Oriented Adaptation Desires (Extremeness)	16.50	30.18	.33**	-.01	.02	.09	.23**	-.10	.07	.02	.02	.04	.71**	.33**	.97**	.20**	.70**
(18) General Adaptation Desires (Extremeness)	.14	.74	.24**	.03	.06	.09	.09	-.04	-.05	-.06	.00	.04	.11	.35**	.140*	.96**	.11
(19) Believe Youth-Oriented Adaptations Work	22.14	11.03	.18**	.140*	.01	.07	.13*	-.14*	.02	.02	.14*	.10	.39**	.25**	.37**	.10	.38**
(20) Believe General Adaptations Work	15.46	6.14	.08	.05	.03	.06	.01	-.07	-.04	.11	.05	.02	.23**	.16*	.23**	-.02	.22**
(21) Sex	1.58	.49	.05	-.05	.01	.12	.37**	-.30**	.163*	.01	-.05	.04	.18**	.17*	.18**	.10	.18**
(22) Age	57.17	5.79	.00	-.05	.09	.11	.12	-.05	.05	-.01	-.02	-.05	-.01	.06	-.02	-.01	-.02
(23) Race	.90	.30	-.07	.10	.04	-.01	.10	.06	.01	-.02	.07	-.05	-.04	.02	-.08	.07	-.04
(24) Core Self-Evaluations	3.87	.62	-.39**	.03	.03	.03	-.05	.00	.03	-.03	.03	.03	-.14*	-.32**	-.19**	-.20**	-.14*
(25) Vanity (Physical Concern)	4.10	1.42	.09	-.01	-.04	.00	.01	-.13*	.03	-.01	.00	.03	.25**	.17**	.27**	.12	.24**
(26) Vanity (Physical Value)	3.13	1.22	.00	.08	-.12	-.07	-.05	-.09	.02	-.04	.10	.04	.18**	-.01	.14*	-.08	.18**
(27) Vanity (Achievement Concern)	3.40	1.26	.14*	.07	.07	.05	.00	.00	-.06	.00	.11	.04	.22**	.08	.19**	.08	.21**
(28) Vanity (Achievement Value)	4.39	1.27	-.14*	.21**	.22**	.20**	.08	-.11	.02	-.10	.19*	.09	.10	-.04	.05	-.08	.09
(29) Employment Status	1.43	.50	.06	-.20**	-.06	.00	.14*	-.01	.00	.23**	-.17**	-.12	.03	.14*	.03	-.01	.04
(30) Income	5.03	2.86	-.06	.38**	.35**	.29**	-.13	-.04	.05	-.24**	.3**	.15*	-.03	-.07	-.03	-.03	-.04
(31) Company Size	5.92	2.82	.03	-.05	.11	.164*	-.04	-.01	.11	-.04	-.08	-.18**	-.01	-.05	-.04	-.04	-.01

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

	M	*SD*	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
(17) Youth-Oriented Adaptation Desires (Extremeness)	16.50	30.18	.32**	-													
(18) General Adaptation Desires (Extremeness)	.14	.74	.31**	.14*	-												
(19) Believe Youth-Oriented Adaptations Work	22.14	11.03	.23**	.38**	.07	-											
(20) Believe General Adaptations Work	15.46	6.14	.13	.23**	-.04	.66**	-										
(21) Sex	1.58	.49	.14*	.19**	.08	.20**	.19*	-									
(22) Age	57.17	5.79	.10	-.02	.00	-.08	-.08	.01	-								
(23) Race	.90	.30	.02	-.06	.06	.00	-.04	.01	.04	-							
(24) Core Self-Evaluations	3.87	.62	-.32**	-.22**	-.21**	-.19**	-.11	-.13*	.07	-.05	-						
(25) Vanity (Physical Concern)	4.10	1.42	.18**	.28**	.09	.25**	.17**	.16**	-.07	-.07	.00	-					
(26) Vanity (Physical Value)	3.13	1.22	.00	.14*	-.08	.20**	.13*	.06	-.12*	-.15*	.23**	.52**	-				
(27) Vanity (Achievement Concern)	3.40	1.26	.08	.17**	.07	.17**	.18**	-.06	.03	-.03	.02	.31**	.33**	-			
(28) Vanity (Achievement Value)	4.39	1.27	-.04	.03	-.08	.03	.08	-.05	.09	.02	.51**	.16**	.38**	.52**	-		
(29) Employment Status	1.43	.50	.15*	.03	-.02	.01	.02	.08	.39**	.00	-.06	.01	-.05	-.15*	-.12*	-	
(30) Income	5.03	2.86	-.06	-.03	-.05	-.07	-.09	-.18**	.01	-.01	.14*	-.05	-.04	.17*	.31**	-.30**	-
(31) Company Size	5.92	2.82	-.07	-.05	-.05	-.11	-.12*	-.08	.01	.03	.06	-.09	-.12*	-.01	.00	-.13*	.30**

Note: An average company size of 5.92 indicates participants had an average of 100-249 employees in their organization. An average income of 5.03 indicates participants' had an average personal income of $40,000-$50,000. *$p < .05$, **$p < .01$

Table 2: Summary of Hierarchical Regression Analysis for Variables Predicting Perceived Age Discrimination (N = 212)

Variable	*B*	*SE B*	β
Step 1			
Core Self-Evaluation	-14.29	1.95	-.45 ***
Step 2			
General Age-Type	.80	3.88	.03
Perceived Age Composition	1.99	6.25	.05
Normative age	.00	.20	.00
Competence	-3.31	8.44	-.06
Adaptability	6.04	8.20	.11
Warmth	-1.58	1.90	-.06
Phyical Ability	-1.24	2.29	-.04
Age Composition	4.66	1.63	.19 **
Supervisor Age	-.42	.11	-.23 ***
Step 3			
Youth-Oriented Adaptation Behaviors (Amount)	-.59	.55	-.66
Youth-Oriented Adaptation Behaviors (Extremeness)	3.08	2.03	.92
Step 4			
General Age-Type*Adaptation Behaviors (Amt)	-.25	.80	-.06
Perceived Age Composition*Adaptation Behaviors (Amt)	.55	1.36	.08
Normative age*Adaptation Behaviors (Amt)	.01	.07	.01
Competence*Adaptation Behaviors (Amt)	.10	2.08	.01
Adaptability*Adaptation Behaviors (Amt)	-.52	2.14	-.04
Warmth*Adaptation Behaviors (Amt)	.16	.47	.03
Phyical Ability*Adaptation Behaviors (Amt)	-.06	.51	-.01
Age Composition*Adaptation Behaviors (Amt)	.46	.29	.10
Step 5			
General Age-Type*Adaptation Behaviors (Ext)	2.39	2.20	2.07
Perceived Age Composition*Adaptation Behaviors (Ext)	.39	.98	.31
Normative age*Adaptation Behaviors (Ext)	-5.03	3.61	-2.71
Competence*Adaptation Behaviors (Ext)	.19	.13	.86
Adaptability*Adaptation Behaviors (Ext)	-1.35	5.44	-.39
Warmth*Adaptation Behaviors (Ext)	.41	6.11	.11
Phyical Ability*Adaptation Behaviors (Ext)	-.02	1.20	-.01
Age Composition*Adaptation Behaviors (Ext)	-.25	1.46	-.13

Note. $R^2 = .20$*** for step 1; $\Delta R^2 = .08$** for step 2; $\Delta R^2 = .07$*** for step 3; $\Delta R^2 = .01$ for step 4; $\Delta R^2 = .02$ for step 5.

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

Table 3: Summary of Hierarchical Regression Analyses for Variables Predicting Youth-Oriented Adaptation Behaviors (*N* = 212)

		Amount			Extremeness		
Variable		*B*	*SE B*	β	*B*	*SE B*	β
Step 1							
	Sex	1.73	.79	.15 *	6.57	2.95	.15 *
Step 2							
	Vanity: Physical Concern	1.23	.28	.29 ***	4.36	1.05	.28 ***
Step 3							
	General Age-Type	-.69	1.27	-.10	-1.12	4.74	-.04
	Perceived Age Composition	2.23	2.04	.19	5.81	7.63	.13
	Normative age	.04	.06	.04	.16	.24	.05
	Competence	-6.19	2.76	-.35 *	-25.06	10.33	-.38 *
	Adaptability	5.40	2.68	.33 *	21.33	10.01	.35 *
	Warmth	.61	.66	.08	1.87	2.45	.06
	Phyical Ability	.63	.78	.06	2.54	2.90	.07
	Age Composition	-.01	.53	.00	-.01	1.99	.00
	Supervisor Age	.01	.04	.02	.05	.14	.03
Step 4							
	Perceived Discrimination	.08	.02	.28 ***	.30	.07	.27 ***
Step 5							
	Age Composition*Discrimination	.06	.02	.17 *	.21	.08	.17 *
	Supervisor Age*Discrimination	.01	.00	.71 ***	.03	.01	.76 ***

Note.

Amount: R^2 = .02* for step 1; ΔR^2 = .08*** for step 2; ΔR^2 = .04 for step 3; ΔR^2 = .07*** for step 4; ΔR^2 = .07*** for step 5.

Extremeness: R^2 = .02* for step 1; ΔR^2 = .07*** for step 2; ΔR^2 = .04 for step 3; ΔR^2 = .07*** for step 4; ΔR^2 = .08*** for step 5.

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

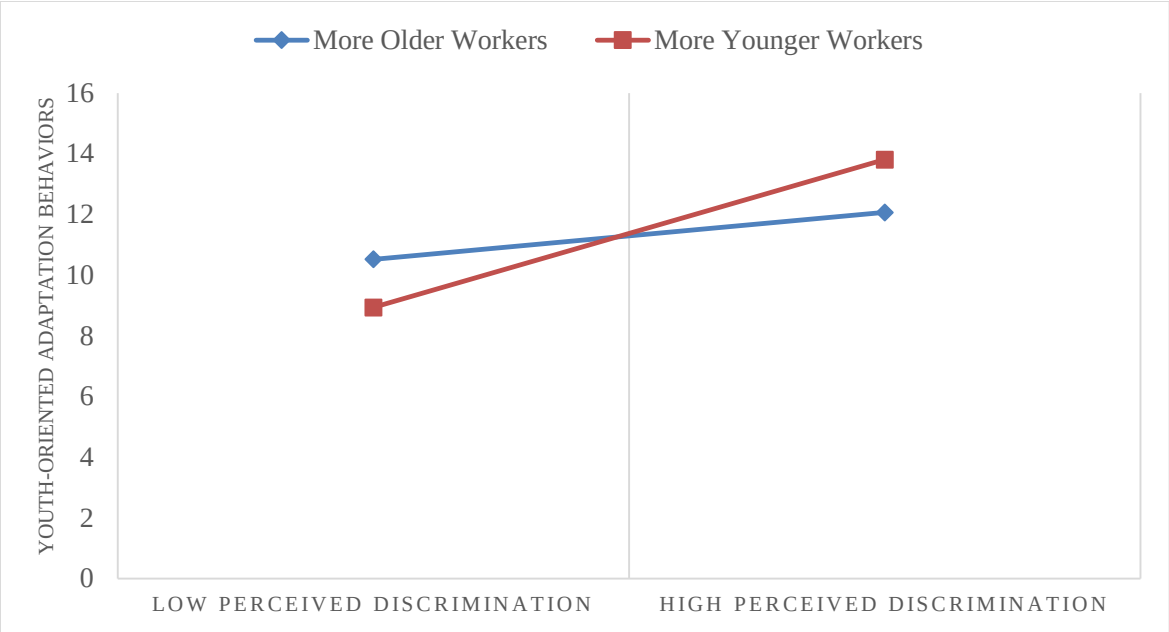


Figure 2: Two-Way Interaction of Age Composition x Perceived Age Discrimination Predicting Youth-Oriented Adaptation Behaviors

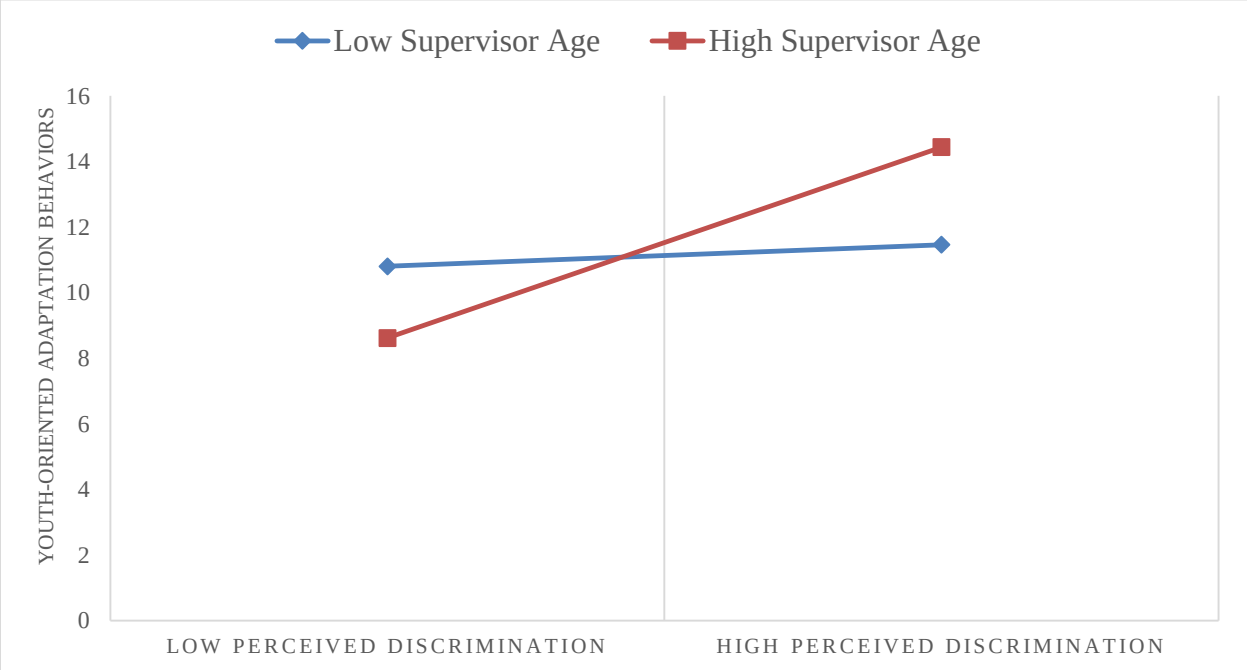


Figure 3: Two-Way Interaction of Supervisor Age x Perceived Age Discrimination Predicting Youth-Oriented Adaptation Behaviors

Table 4: Summary of Hierarchical Regression Analyses for Variables Predicting Youth-Oriented Adaptation Desires (*N* = 212)

	Amount			Extremeness		
Variable	*B*	*SE B*	β	*B*	*SE B*	β
Step 1						
Sex	2.33	.85	.19 **	11.69	3.95	.20 **
Step 2						
Vanity: Physical Concern	1.14	.30	.25 ***	5.43	1.42	.26 ***
Step 3						
General Age-Type	-1.88	1.35	-.24	-6.42	6.28	-.18
Perceived Age Composition	2.75	2.18	.22	8.97	10.10	.15
Normative age	.03	.07	.03	.33	.32	.07
Competence	-4.57	2.95	-.24	-25.20	13.68	-.28
Adaptability	4.08	2.85	.23	22.64	13.26	.27
Warmth	1.47	.70	.17 *	7.01	3.25	.18 *
Phyical Ability	.05	.83	.00	1.55	3.84	.03
Age Composition	.21	.57	.03	-.46	2.64	-.01
Supervisor Age	.04	.04	.07	.21	.18	.07
Step 4						
Perceived Discrimination	.09	.02	.27 ***	.46	.10	.31 ***
Step 5						
Competence*Discrimination	-.52	.16	-.49 **	-2.76	.70	-.55 ***
Adaptability*Discrimination	.49	.14	.50 **	2.56	.64	.56 ***
NormativeAge*Discrimination	.01	.00	.19 **	.05	.01	.20 **
Supervisor Age*Discrimination	.01	.00	.60 **	.03	.01	.64 ***
General Age-Type*Discrimination	-.03	.03	-.07	-.05	.12	-.03
Sex*Discrimination	-.01	.04	-.02	-.12	.20	-.04
Gen. Age-Type*Sex	-1.26	.95	-.08	-7.23	4.31	-.10
Step 6						
Gen. Age-Type*Discrimination*Sex	-.19	.05	-.24 ***	-.87	.22	-.24 ***

Note.

Amount: R^2 = .04** for step 1; ΔR^2 = .06*** for step 2; ΔR^2 = .06 for step 3; ΔR^2 = .07*** for step 4; ΔR^2 = .11*** for step 5; ΔR^2 = .05*** for step 6.

Extremeness: R^2 = .04** for step 1; ΔR^2 = .06*** for step 2; ΔR^2 = .07 for step 3; ΔR^2 = .09*** for step 4; ΔR^2 = .12*** for step 5; ΔR^2 = .05*** for step 6.

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

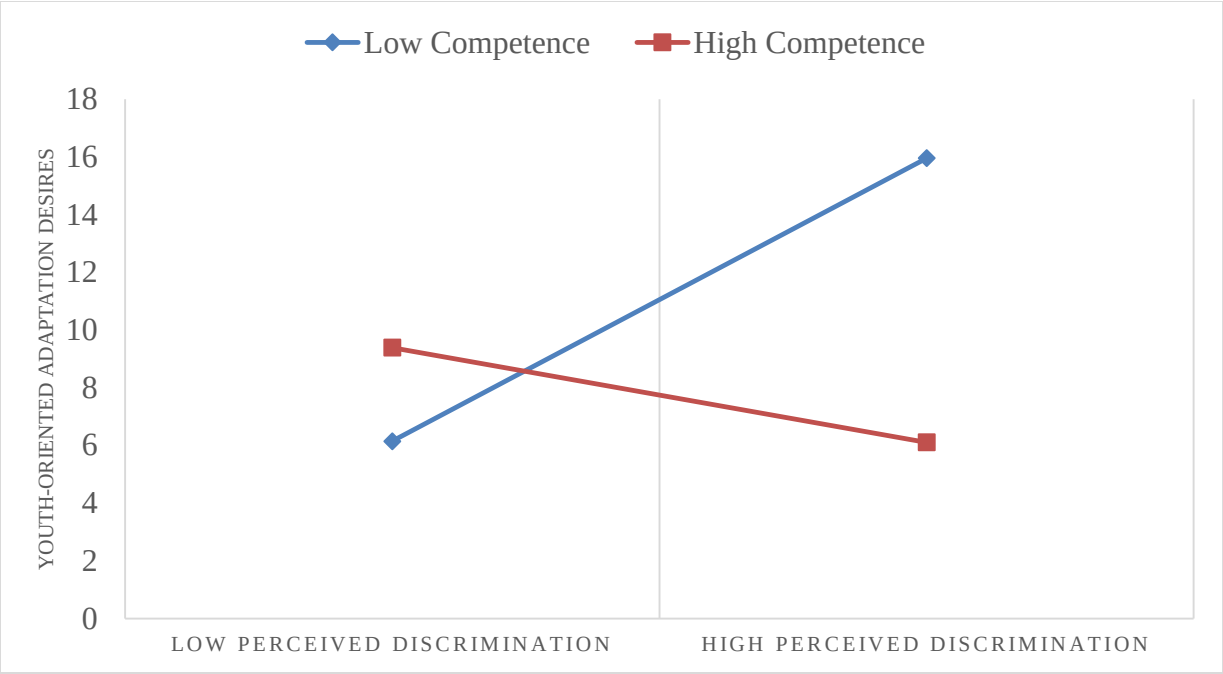


Figure 4: Two-Way Interaction of Competence x Perceived Age Discrimination Predicting Youth-Oriented Adaptation Desires.

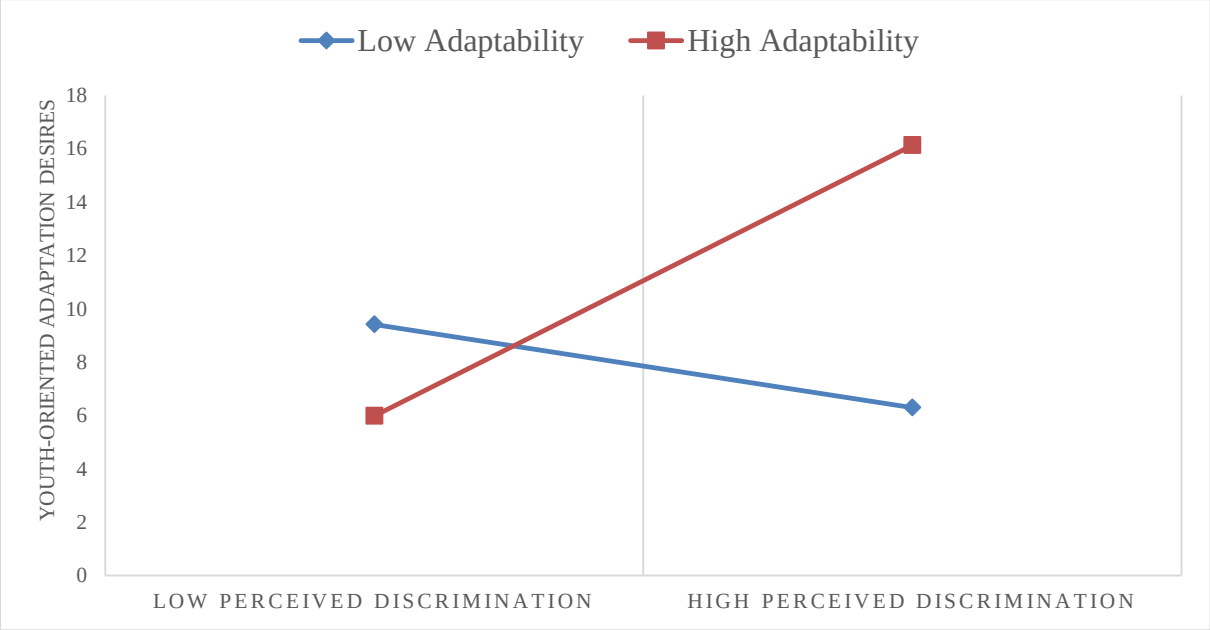


Figure 5: Two-Way Interaction of Adaptability x Perceived Age Discrimination Predicting Youth-Oriented Adaptation Desires

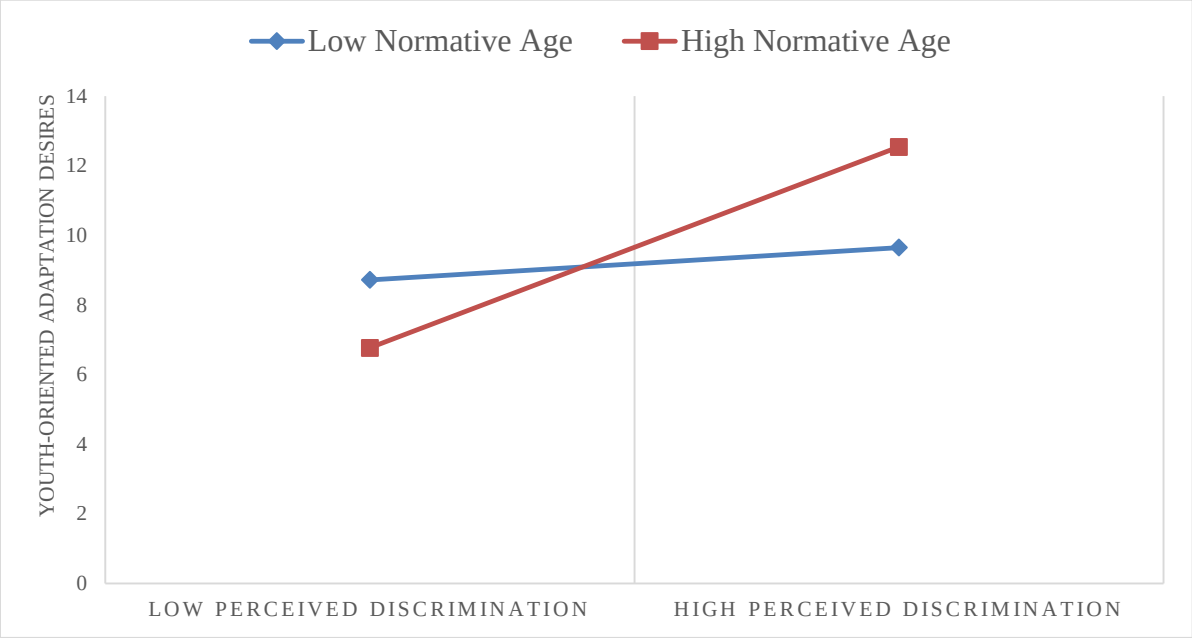


Figure 6: Two-Way Interaction of Normative Age x Perceived Age Discrimination Predicting Youth-Oriented Adaptation Desires

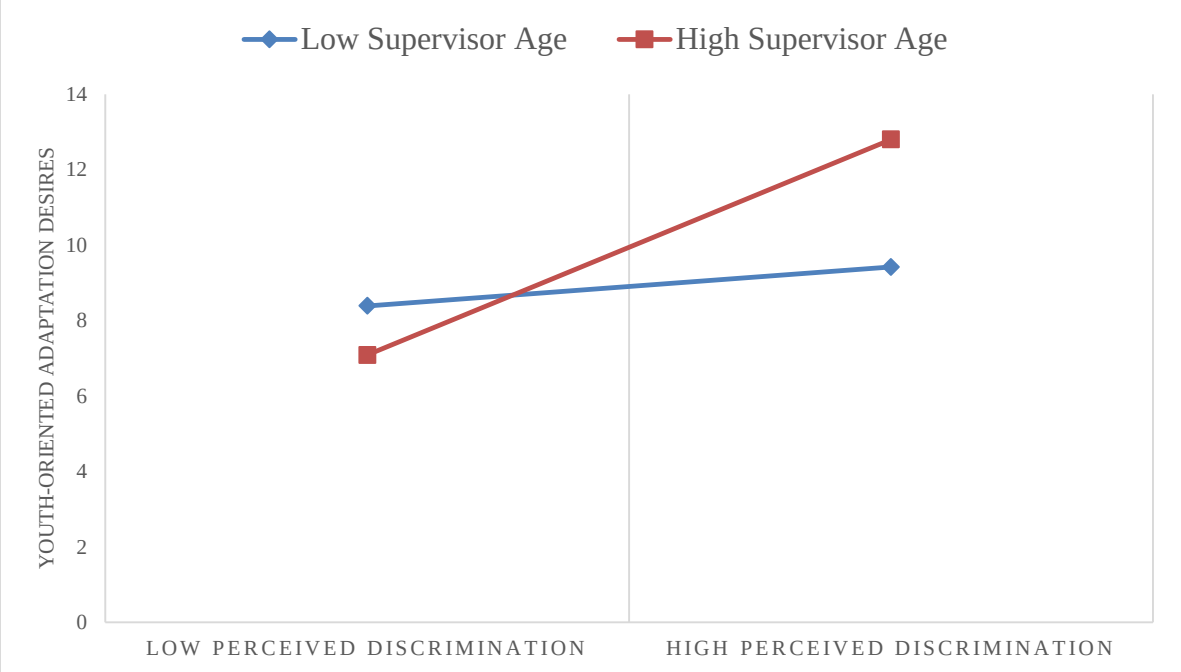


Figure 7: Two-Way Interaction of Supervisor Age x Perceived Age Discrimination Predicting Youth-Oriented Adaptation Desires

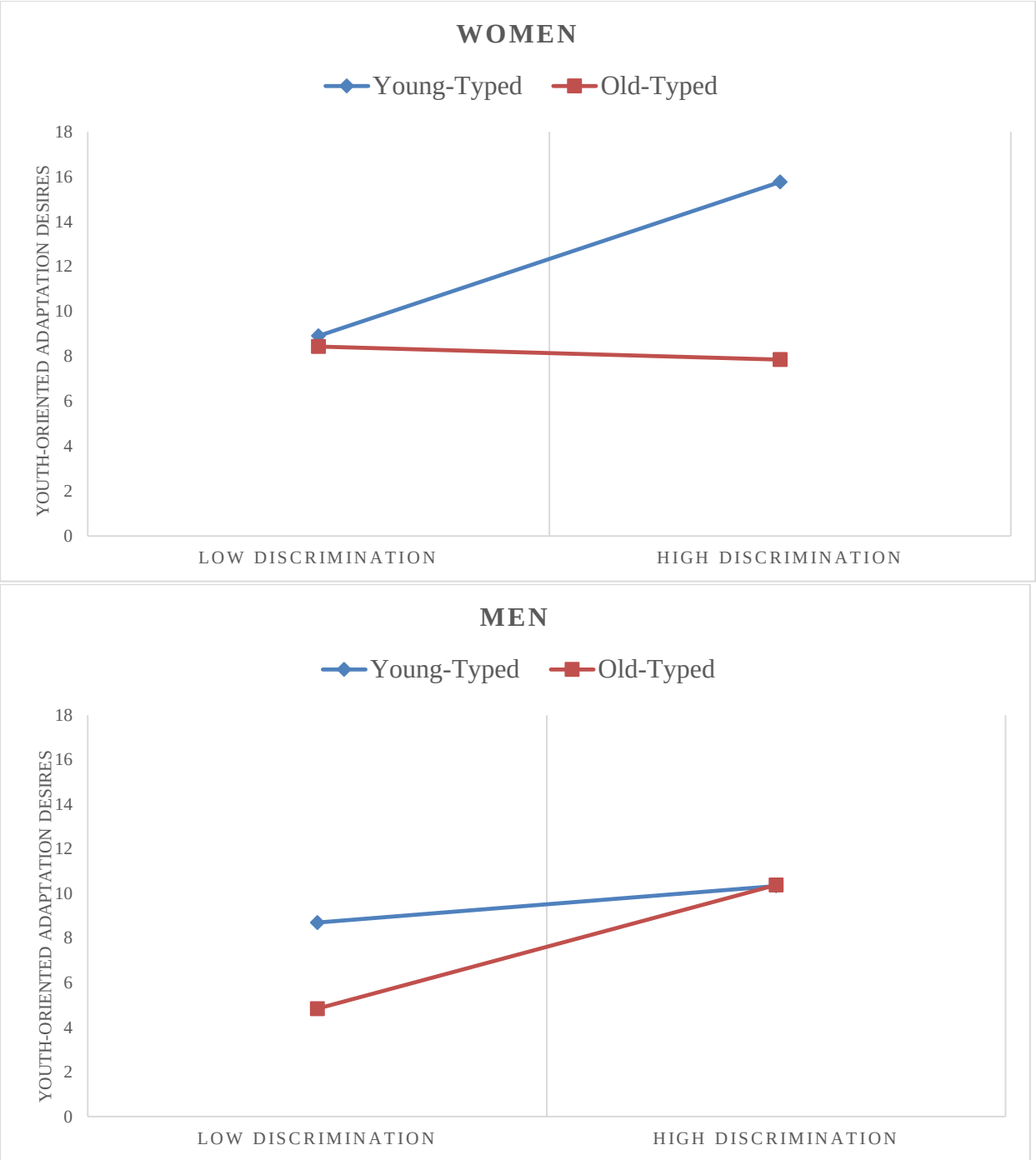


Figure 8: Three-Way Interaction of Age Composition x Perceived Age Discrimination x Sex Predicting Youth-Oriented Adaptation Desires

Table 5: Demographic Characteristics of sample (N = 227)

Variable		*n*(%)
Sex		
Males	122	(42.1)
Females	168	(57.1)
Age		
50-59	6	(2.64)
60-69	61	(26.9)
70-79	160	(70.5)
Race		
Caucasian	202	(89.0)
Hispanic	5	(2.2)
African American	7	(3.1)
Asian	3	(1.3)
Native American or Alaskan	7	(3.1)
Other	3	(1.3)
Employment Status		
Employed - Full-Time	165	(56.9)
Employed - Part-Time	53	(18.3)
Unemployed - Between Jobs (Less Than 1 yr)	10	(3.4)
Unemployed - Retired (less Than 1 yr)	62	(21.4)
Supervisor Age		
Less than 30	3	(1.2)
30-39	45	(17.9)
40-49	77	(30.6)
50-59	85	(33.7)
60-69	38	(15.1)
70-79	4	(1.6)

Variable	*n*(%)
Industry	
Forestry, fishing, hunting, or agricultural	2 (0.7)
Utilities	3 (1.0)
Construction	5 (1.7)
Manufacturing	18 (6.2)
Wholesale trade	3 (1.0)
Retail trade	20 (6.9)
Transformation or warehousing	15 (5.2)
Information	7 (2.4)
Finance or insurance	10 (3.4)
Real estate or rental and leasing	6 (2.1)
Professional, scientific or technical services	22 (7.6)
Management of companies or enterprises	4 (1.4)
Admin, support, waste management or remediation services	2 (0.7)
Educational services	42 (14.5)
Health care or social assistance	33 (11.4)
Arts, entertainment or recreation	3 (1.0)
Accommodation or food services	11 (3.8)
Other services (except public administration)	63 (21.8)
Unclassified establishments	21 (7.2)
Income	
$0 - $9,999	19 (6.6)
$10,000 - $19,999	43 (41.8)
$20,000 - $29,999	38 (13.1)
$30,000 - $39,999	40 (13.8)
$40,000 - $49,999	33 (11.4)
$50,000 - $59,999	43 (14.8)
$60,000 - $69,999	26 (9)
$70,000 - $79,999	15 (5.2)
$80,000 - $89,999	11 (3.8)
$90,000 - $99,999	8 (2.8)
$100,000 - $109,999	6 (2.1)
$110,000 - $119,999	1 (0.3)
$120,000 - $129,999	5 (1.7)
$150,000 - $159,999	2 (0.7)

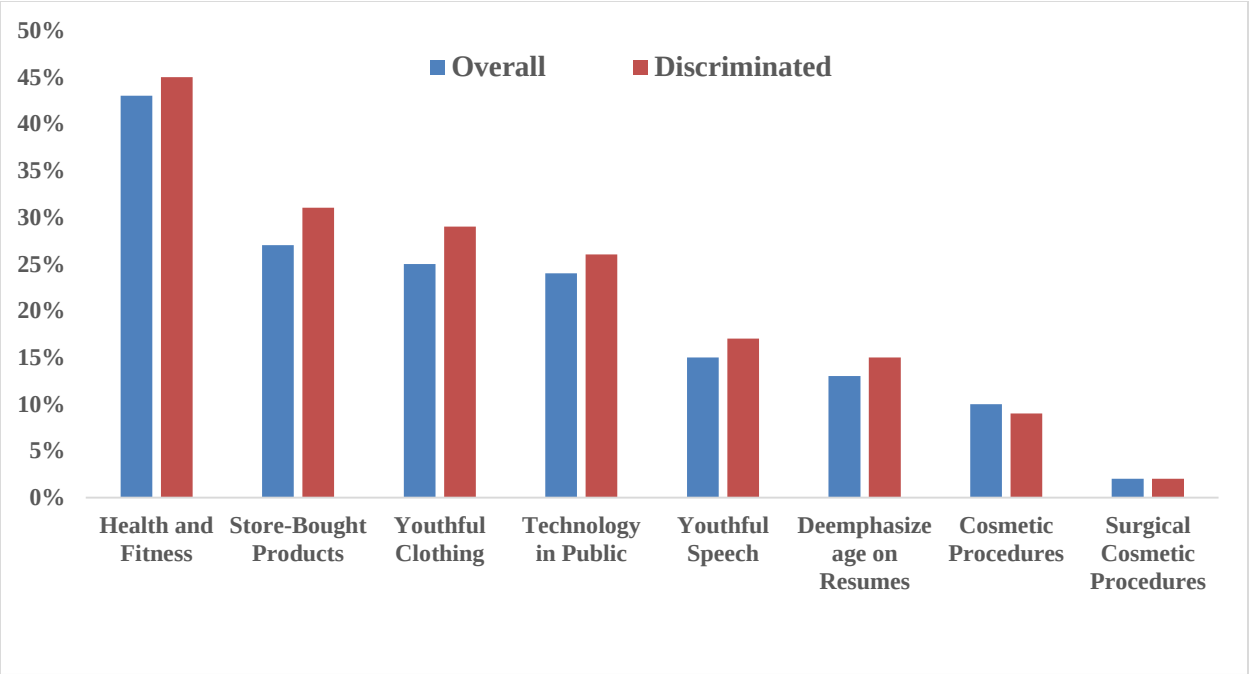


Figure 9: Percent of Older Workers in Sample Who Have Engaged in Each Adaptation Behavior

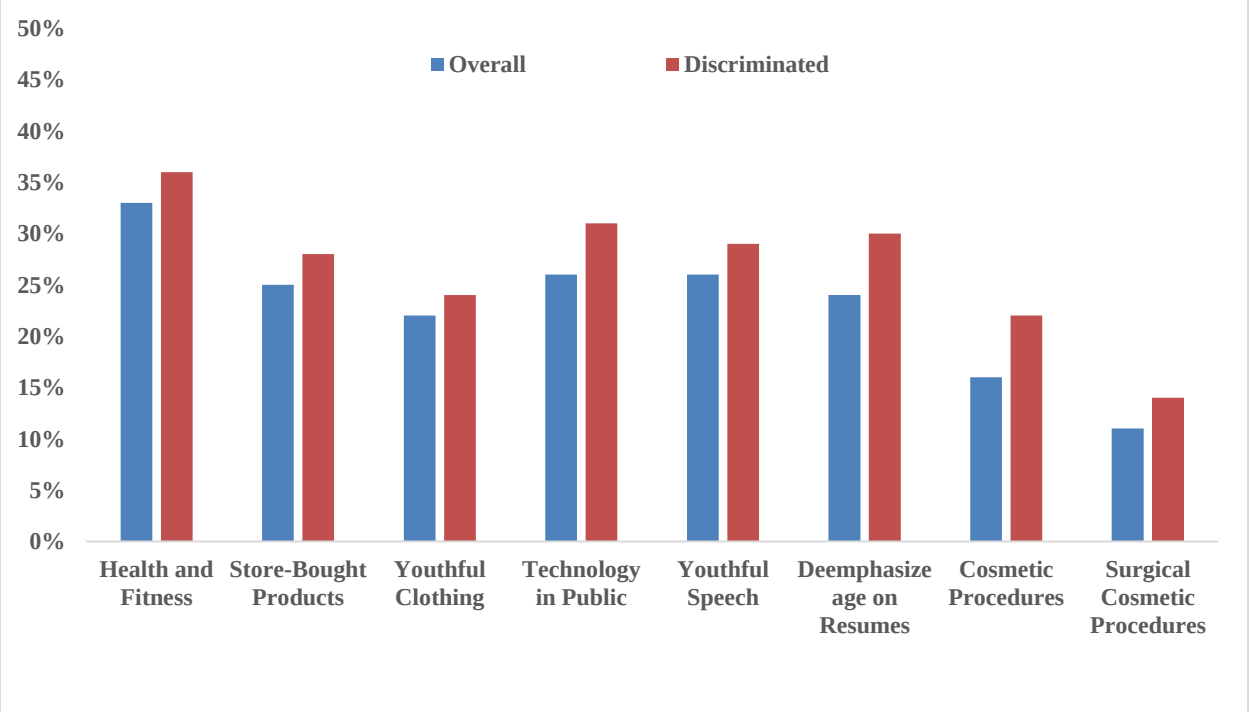


Figure 10: Percent of Older Workers in Sample Who Wanted to Engage in Each Adaptation Behavior (i.e., Adaptation Desires)

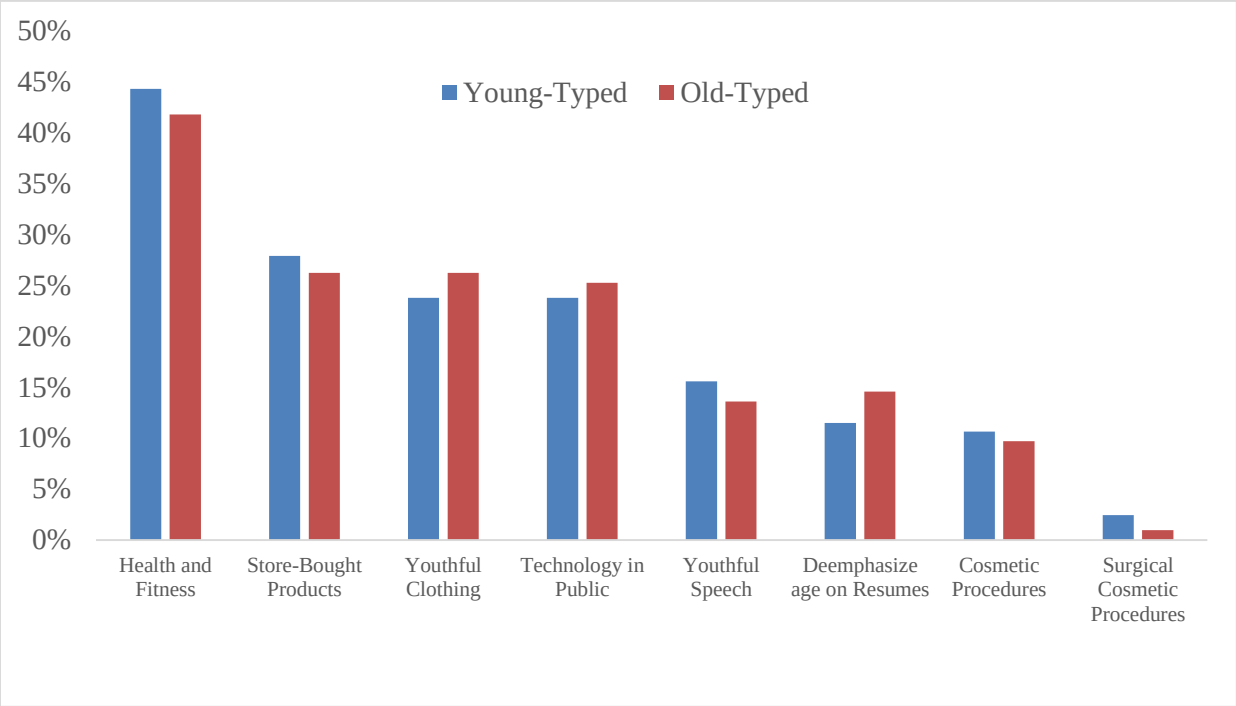


Figure 11: Percent of Older Workers across Old and Young-Typed Jobs Who Engaged in Each Adaptation Behavior

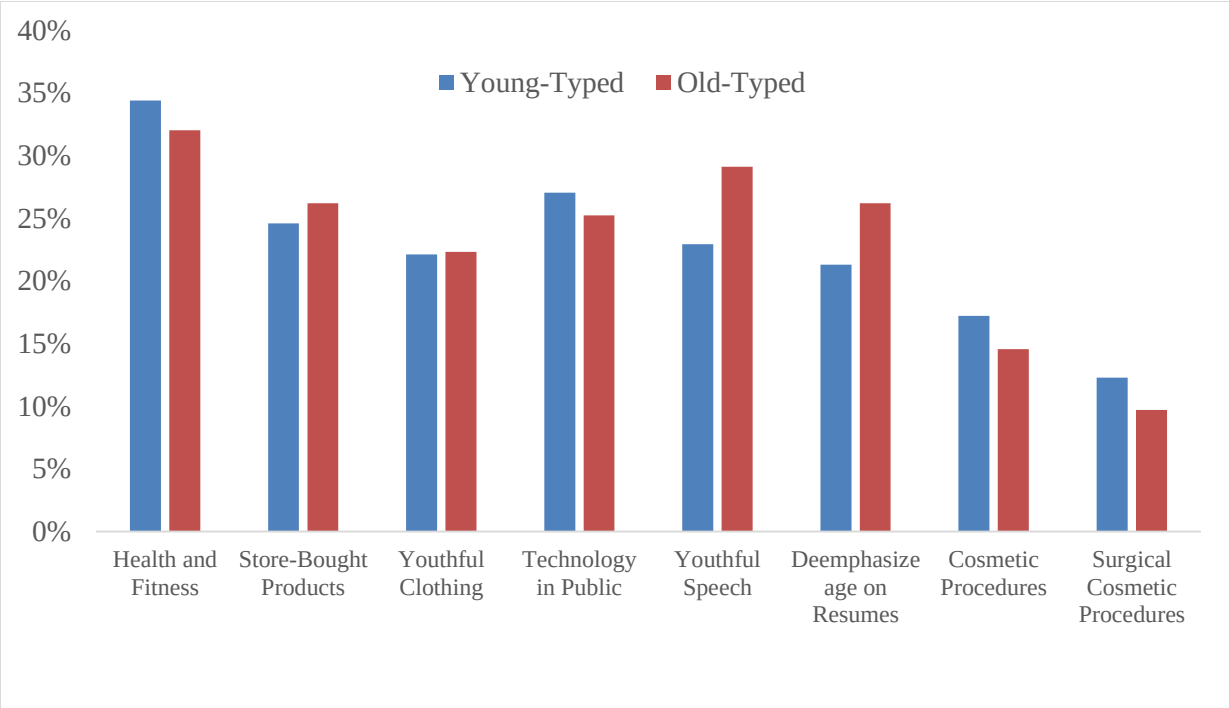


Figure 12: Percent of Older Workers across Old and Young-Typed Jobs Who Wanted to Engage in Each Adaptation Behavior

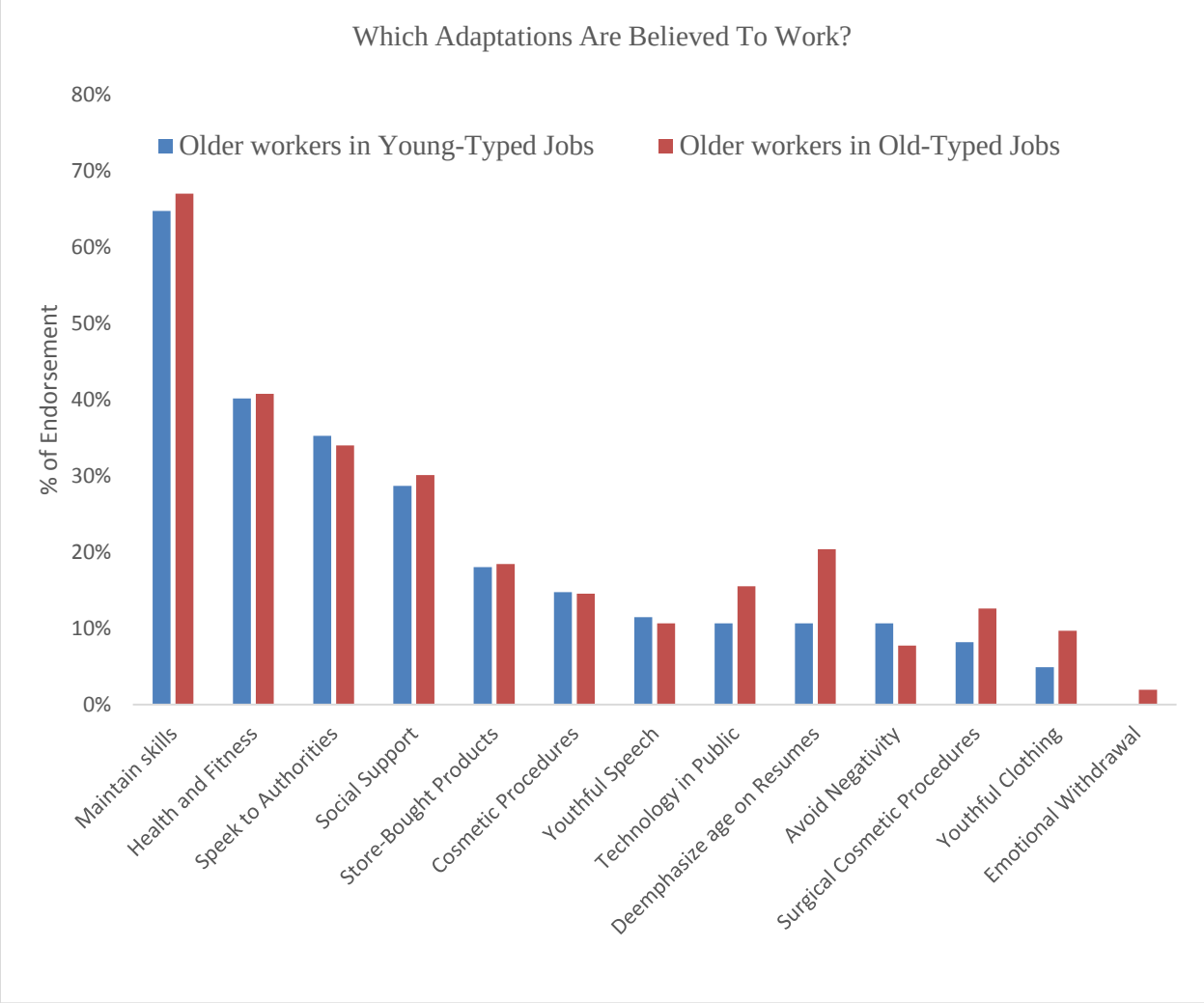


Figure 13: Percent of Older Workers in Sample Who Believed Each Adaptation Behavior Would Help Older Workers Avoid Age Discrimination at Work

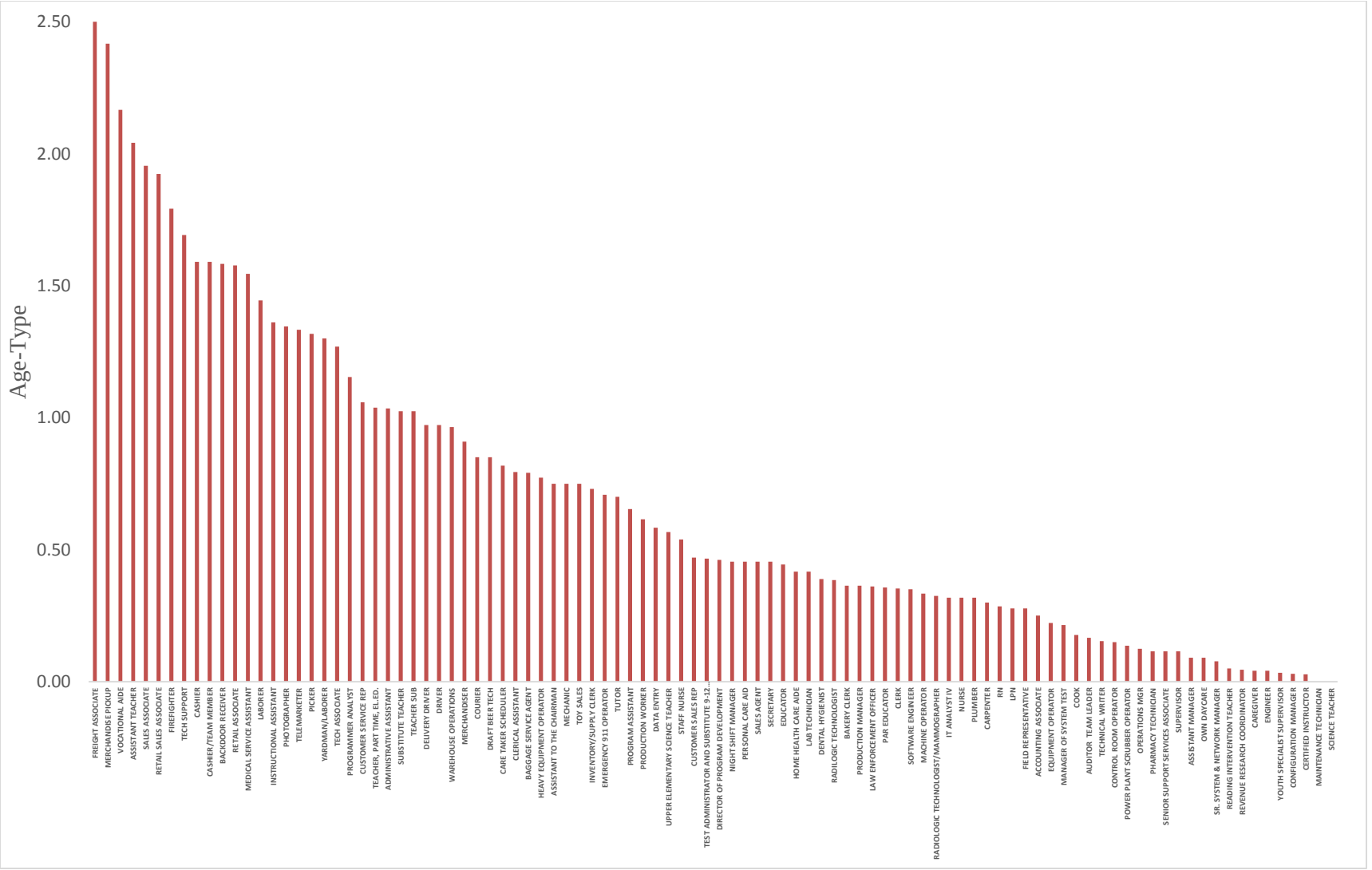


Figure 14: Jobs from Strongly Young-Typed to Age Neutral

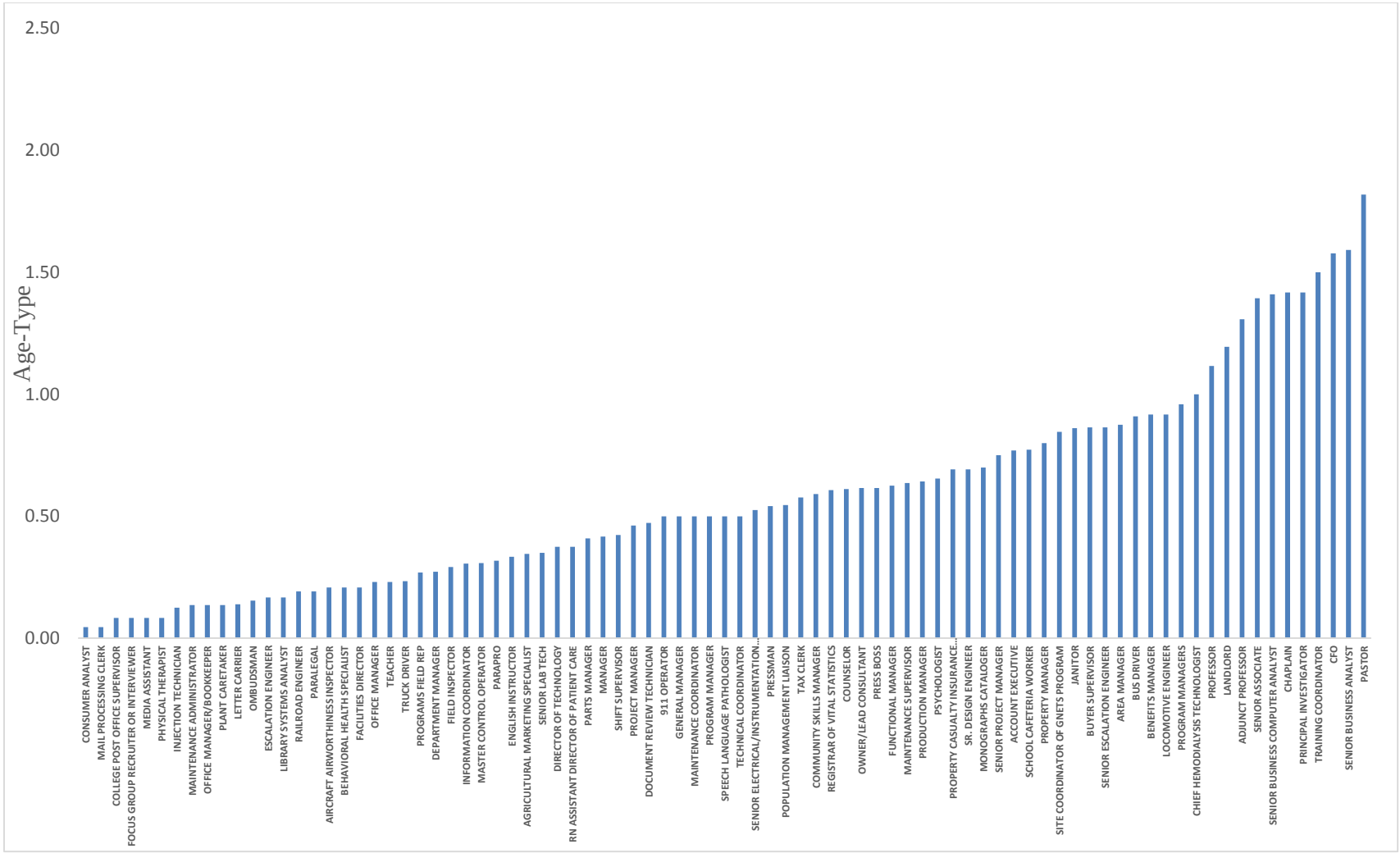


Figure 15: Jobs from Age Neutral to Strongly Old-Typed

Table 6: Hypotheses and Research Questions

Hypotheses and Research Questions	Result	Explanation
Hypothesis 1a: *The prototype matching approach (direct and indirect) to assessing an older worker's fit with the job is expected to predict significant variance in perceived age discrimination; specifically older workers will perceive more age discrimination as they deviate from the person-in-job prototype.*	*Not Supported*	No relationship was found between prototype matching approaches to age-type and perceived age-discrimination
Hypothesis 1b: *The career timetables approach to assessing an older worker's fit with the job is expected to predict significant variance in perceived age discrimination; specifically older workers will perceive more discrimination as they deviate above the normative age of workers in the job.*	Supported	Age composition predicted perceived discrimination, such perceived age discrimination increased with the ratio of younger to older workers in their jobs.
Hypothesis 2*: Older workers will engage in a greater number (2a) and more extreme (2b) adaptation behaviors when their jobs are more young-typed.*	Not Supported	Although age-type did not have a main effect on adaptation behaviors, it moderated the relationship between age discrimination and adaptation behaviors (both amount and extremeness).

Hypotheses and Research Questions	Result	Explanation
Hypothesis 3: *Older workers are expected to be more willing to engage in a greater number (3a) and more extreme (3b) adaptation behaviors (if the situation allowed) when their jobs are more young-typed.*	Not Supported	Although age-type did not have a main effect on adaptation desires it moderated the relationship between age discrimination and adaptation desires (both amount and extremeness).
Hypothesis 4: *Older workers are expected to engage in more adaptation behaviors (4a) and be willing to engage in more adaptation behaviors if the situation allowed (4b) when they perceive more discrimination.*	Supported	As older workers perceived more age discrimination, they engaged in more adaptation behaviors and greater adaptation desires.
Hypothesis 5ab: *Perceived discrimination is expected to mediate the relationship between age-type and the number of adaptation behaviors used (5a), as well as the extremeness of adaptation behaviors used (5b) by older workers.*	Not Supported	Perceived age discrimination did not mediate the relationship between age-type and adaptation behaviors.
Hypothesis 5cd: *Perceived discrimination is expected to mediate the relationship between age-type and the number of adaptation behaviors used (5c), as well as the extremeness of adaptation behaviors used (5d), by older workers if the situation allowed.*	Not Supported	Perceived age discrimination did not mediate the relationship between age-type and adaptation desires.

Hypotheses and Research Questions	Result	Explanation
Hypothesis 6: *The quantity (6a) and extremeness (6b) of adaptation behaviors used is expected to moderate the relationship between age-type and perceived discrimination, such that the relationship between age-type and perceived discrimination will not be as strong for older workers who adapt more, as compared to older workers who adapt less.*	Not Supported	The use of adaptation behaviors did not moderate the relationship between age-type and perceived age discrimination.
Research Question 1: *When predicting the perceived age discrimination of an older worker in a particular job, which is the best approach – prototype matching or career timetables?*	Career timetables	Age composition (a career timetables) approach to age-type successfully predicted perceived age discrimination, whereas no prototype matching variable was significant.

Hypotheses and Research Questions	Result	Explanation
Research Question 2: *Do older workers use (2a) and do older workers want to use (2b) adaptation behaviors in response to age discrimination and which behaviors are most commonly used in response to age discrimination?*	Nearly all youth-oriented adaptations were related to perceived age discrimination, but older workers primarily emphasized general adaptations (rather than youth-oriented adaptations) when asked which efforts were in response to age discrimination.	Discrimination was related to greater behaviors of maintaining health and fitness, using store bought products, purchasing modern clothing, using technology in public, speaking youthfully, and deemphasing age on resumes. Discrimination was also related to increased desires to engage in the behaviors mentioned above, as well as surgical and nonsurgical cosmetic procedures. Open-ended responses stated that older workers respond to age discrimination by keeping clothing up to date, avoiding those who discriminate, seeking social support, speaking to authorities, maintaining skills, and withdrawing emotionally.
Research Question 3: *Do older workers believe adaptation behaviors are successful in reducing age discrimination and which behaviors are believed to be the most effective?*	Somewhat	22% of discriminated older workers believed their adaptation behaviors helped them avoid age discrimination at work.
Research Question 4: *Which adaptation behaviors are more common (4a) and effective (4b) in young-typed jobs and which adaptation behaviors are more common and effective in old-typed jobs?*	Similar across old and young-typed jobs	Age-type was not related to increases uses of any adaptation behaviors and the belief of which adaptations are most effective was consistent across old and young-typed jobs. Primarily involving proving one's abilities through extra efforts and avoiding those who discriminate.

APPENDIX C: IRB APPROVAL FORM

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Approval of Exempt Human Research

From: **UCF Institutional Review Board #1**
FWA00000351, IRB00001138

To: **Michael Reeves** and Co-PI: **Barbara Fritzsche**

Date: **June 12, 2013**

Dear Researcher:

On 6/12/2013, the IRB approved the following modification of human participant research that is exempt from regulation:

Type of Review:	Exempt Determination
Modification Type:	Revision to Phase II survey instrument
Project Title:	Work Challenges and Adaptation Efforts
Investigator:	Michael Reeves
IRB Number:	SBE-13-09359
Funding Agency:	
Grant Title:	
Research ID:	N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Patria Davis on 06/12/2013 04:56:50 PM EDT

IRB Coordinator

REFERENCES

Abele, A. E., & Wiese, B. S. (2008). The nomological network of self-management strategies and career success. *Journal of Occupational and Organizational Psychology, 81,* 733–749. doi: 10.1348/096317907X256726

Abraham, J. D., & Hansson, R. O. (1995). Successful aging at work: An applied study of selection, optimization, and compensation through impression management. *Journal of Gerontology, 50,* 94-103. doi: 10.1093/geronb/50B.2.P94

Abrams, R.A., Pratt, J., and Chasteen, A.L. (1998). Aging and movement: Variability of force pulses for saccadic eye movements. *Psychology and Aging, 13*(3), 387-395. doi: 10.1037/0882-7974.13.3.387

Ackerman, P. L. (1994). Intelligence, attention, and learning: Maximal and typical performance. In D. K. Detterman (Ed.), *Current topics in human intelligence. Vol. 4: Theories of intelligence* (pp. 1-27).

Age Discrimination in Employment Act of 1967, 29 U.S.C. § 621-633a (1994). doi: 10.4135/9781412952675

Ali, H., Davies, R. D. (2003). The effects of age, sex, and tenure on the job performance of rubber tapers. *Journal of Occupational and Organizational Psychology, 76,* 381-391. doi: 10.1348/096317903769647238

Arnold, H. J., Feldman, D. C. (1982). A multivariate analysis of the determinants of job turnover. *Journal of Applied Psychology, 67,* 350-360. doi: 10.1037/0021-9010.67.3.350

Allport, G. W. (1954/1979). *The nature of prejudice (25th anniversary ed.).* Cambridge, MA: Perseus.

Ashbaugh, D. L., & Fay, C. H. (1987). The threshold for aging in the workplace. *Research on Aging, 9,* 417-427. doi: 10.1177/0164027587093005

Atchison, D.A. (1995). Accommodation and presbyopia. *Ophthalmic and Physiological Optics, 15,* 255-272. doi:10.1046/j.1475-1313.1995.9500020e.x

Avolio, B. J., & Barrett, G. V. (1987). Effects of age stereotyping in a simulated interview. *Psychology and Aging, 2,* 56-63. doi: 10.1037/0882-7974.2.1.56

Avolio, B. J., & Waldman, D. A. (1994). Variations in cognitive, perceptual, and psychomotor abilities across the working life span: Examining the effects of race, sex, experience, education, and occupational type. *Psychology and Aging,* 9, 430-442. doi: 10.1037/0882-7974.9.3.430

Avolio, B. J., Waldman, D. A., & McDaniel, M. A. (1990). Age and work performance in the nonmanagerial jobs: The effects of experience and occupational type. *Academy of Management Journal, 32,* 407-422. doi: 10.2307/256331

Baddeley, A. (1992). Working Memory. *Science,255,* 556-559. doi: 10.1093/brain/114.6.2521

Bajor, J. K., & Baltes, B. B. (2003). The relationship between selection, optimization with compensation, conscientiousness, motivation, and performance. *Journal of Vocational Behavior, 63,* 347–367. doi: 10.1016/S0001-8791(02)00035-0

Baltes, B. B., & Dickson, M. W. (2001). Using life-span models in industrial– organizational psychology: The theory of selective optimization with compensation. *Applied Developmental Science, 5,* 51–62. doi: 10.1207/S1532480XADS0501_5

Baltes, P. B. (1997). On the incomplete architecture of human ontogeny: Selection, optimization, and compensation as foundation of development theory. *American Psychologist, 52,* 366-

380. doi:10.1037/0003-066X.52.4.366

Baltes, P. B., & Baltes, M. M. (1990). Psychological perspectives on successful aging: The model of selective optimization with compensation. In P. B. Baltes & M. M. Baltes (Eds.), *Successful aging: Perspectives from the behavioral sciences* (pp. 1-33). Cambridge, UK: Cambridge University Press. doi:10.1017/CB09780511665684.003

Bandura, A. (1977). Self-efficacy: The exercise of control. New York:

Barefoot, J. C., Beckham, J. C., Haney, T. L., Siegler, I. C., & Lipkus, I. M. (1993). Age differences in hostility among middle-aged and older adults. *Psychology and Aging, 8,* 3–9. doi: 10.1037/0882-7974.8.1.3

Barnum, P., Liden, R. C., & DiTomaso, N. (1995). Double jeopardy for women and minorities: Pay differences with age. *Academy of Management Journal, 38,* 863-880.

Bartky, S. L. (1998) Foucault, femininity and the modernization n of patriarchal l power, In: R. Weitz (Ed.) *The Politics of Women's Bodies: sexuality, appearance and behavior.* New York: Oxford University Press.

Bass, B. M., Cascio, W. F., & O'Connor, E. J. (1974). Magnitude estimations of expressions of frequency and amount. *Journal of Applied Psychology, 59*, 313-320. doi: 10.1037/h0036653

Baron, R. M., & Kenny, D. A. (1986). Moderator-mediator variables distinction in social psychological research: Conceptual, strategic, and statistical consideration. *Journal of Personality and Social Psychology, 51*, 1173-1182. doi:10.1037/0022-3514.51.6.1173

Beier, M. E., & Ackerman, P. L. (2012). Time in personnel selection. In N. Schmidt (Ed.). *The Oxford handbook of personnel assessment and selection (*pp. 721-739). New York, NY: Oxford University Press, Inc. doi: 10.1093/oxfordhb/9780199732579.013.0031

Bennett, G. G., Wolin, K. Y., Robinson, E. L., Fowler, S., & Edwards, C. L. (2005). Racial/ethnic harassment and tobacco use among African American young adults. *American Journal of Public Health, 95*, 238-240. doi:10.2105/AJPH.2004.037812

Berger, E. D. (2009). Managing age discrimination: An examination of the behaviors used when seeking employment. *The Gerontologist, 3*, 317-332. doi: 10.1093/geront/gnp031

Bors, D. A., & Forrin, B. (1995). Age, speed of information processing, recall, and fluid intelligence. *Intelligence, 20*, 229–248. doi: 10.1016/0160-2896(95)90009-8

Botox: Cost and prices. Retrieved January 18, 2013, from http://www.realself.com/botox/cost.

Botwinick, J. (1984). *Aging and behavior: A comprehensive integration of research findings* (3rd ed.). New York: Springer.

Bradford, H. (2012, March 23). Discrimination costs businesses $64 billion every year. The Huffington Post. Retrieved from http://www.huffingtonpost.com/2012/03/23/workplace-discrimination-costs-businesses-cap_n_1373835.html

Breckler, S. J. (1984). Empirical validation of affect, behavior, and cognition as distinct components of attitudes. *Journal of Personality and Social Psychology, 47*, 1191-1205. doi:10.1037/0022-3514.47.6.1191

Brewer, M, Dull, V., & Lui, L. (1981). Perceptions of the elderly: Stereotypes as prototypes. *Journal of Personality and Social Psychology, 41*, 656-670.

Brooks, L. (1978). Nonanalytic concept formation and memory for instances. In E. Rosch & B.

B. Lloyd (Eds.), *Cognition and Categorization*. Hillsdale, NJ.: Erlbaum.

Bromley, D. B. (1991). Aspects of written language production over adult life. *Psychology and Aging, 6,* 296–308. doi: 10.1037/0882-7974.6.2.296

Bunce, D. J., Barrowclough, A., & Morris, I. (1996). The moderating influence of physical fitness on age gradients in vigilance and serial choice responding tasks. *Psychology and Aging, 11,* 671–682. doi: 10.1037/0882-7974.11.4.671

Butler, R. N. (1969). Age-ism: Another form of bigotry. *The Gerontologist, 9,* 243-246. doi: 10.1093/geront/9.4_Part_1.243

Butler, R. N. (1980). Ageism: A foreword. *Journal of Social Issues, 2,* 8-11. doi: 10.1111/j.1540-4560.1980.tb02018.x

Cantor, N., & Mischel, W. (1979). Prototypes in person perception. In L. Berkowitz (Ed.), *Advances in experimental social psychology*, Vol. 12. (pp. 3–52). New York: Academic Press. doi: 10.1016/S0065-2601(08)60258-0

Cantor, N., Mischel, W., & Schwartz, J.C. (1982). A prototype analysis of psychological situations. *Cognitive Psychology, 14,* 45-77. doi: 10.1016/0010-0285(82)90004-4

Carroll, J. B. (1993). *Human cognitive abilities: A survey of factor-analytic studies.* New York: Cambridge University Press. doi: 10.1017/CB09780511571312

Carstensen LL. (1991). Selectivity theory: Social activity in life-span context. *Annual Review of Gerontology and Geriatrics, 11,* 195–217.

Cattell, R. B. (1941). Some theoretical issues in adult intelligence testing. *Psychological Bulletin, 38,* 592.

Cattell, R. B. (1943). The measurement of adult intelligence. *Psychological Bulletin, 3,* 153-193.

doi: 10.1037/h0059973

Cattell, R. B. (1963). Theory of fluid and crystallized intelligence: A critical experiment. *Journal of Educational Psychology, 54*, 1-22. doi: 10.1037/h0046743

Cattell, R.B. (1971). *Abilities: Their structure, growth, and action.* Boston: Houghton Mifflin.

Cejka, M. A., Eagly, A. H. (1999). Gender-stereotypic images of occupations correspond to the sex segregation of employment. *Personality and Social Psychology Bulletin, 24*, 413-423. doi: 10.1177/0146167299025004002

Cerella, J. (1990). Aging and information processing rate. In J. E.Birren & K. W.Schaie (Eds.), *Handbook of the psychology of aging* (3rd ed.) pp. 201–221. San Diego, CA: Academic Press.

Chapman, L. J., & Chapman, J. P. (1967). Genesis of popular but erroneous diagnostic observations. *Journal of Abnormal Psychology, 72*, 193-204. doi: 10.1037/h0024670

Chapman, B. P., & Hayslip, B. (2006). Emotional intelligence in young and middle adulthood: Cross-sectional analysis of latent structure and means. *Psychology and Aging, 21*, 411–418. doi: 10.1037/0882-7974.21.2.411

Charness, N. (1987). Component processes in bridge bidding and novel problem-solving tasks. *Canadian Journal of Psychology, 41*, 223–243. doi: 10.1037/h0084151

Charness, N. Holley, P., Feddon, J., & Jastrzembski, T. (2004). Light pen use and practice minimize age and hand performance differences in pointing tasks. *Human Factors, 46*, 373-384. doi: 10.1518/hfes.46.3.373.50396

Charness, N., Kelley, C. L., Bosman, E. A., & Mottram, M. (2001). Word processing training and retraining: Effects of old age, experience, and interface. *Psychology and aging, 16*,

110-127 doi: 10.1037/0882-7974.16.1.110

Chasteen, A. L., Schwarz, N., & Park, D. C. (2002). The activation of aging stereotypes in younger and older adults. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 57*, 540-547. doi: 10.1093/geronb/57.6.P540

Cherry, K. E., Park, D. C., Frieske, D. A., & Smith, A. D. (1996). Verbal and pictorial elaborations enhance memory in younger and older adults. *Aging, Neuropsychology, and Cognition, 3*, 15-29. doi: 10.1080/13825589608256609

Chen M, Bargh JA. (1999). Consequences of automatic evaluation: Immediate behavioral predispositions to approach or avoid the stimulus. *Personality and Social Psychology Bulletin*, *25*, 215–224. doi: 10.1177/0146167299025002007

Clark, R., Anderson, N. B., Clark, V. R., & Williams, D. R. (1999). Racism as a stressor for African Americans: a biopsychosocial model. American Psychologists, 54, 805-816. doi: 10.1037/0003-066X.54.10.80

Clark, L. H., & Griffin, M. (2008). Visible and invisible aging: Beauty work as a response to ageism. *Aging & Society*, *28*, 653-674. doi: 10.1017/S0144686X07007003

Clark, R., Anderson, N. B., Clark, V. R., & Williams, D. R. (1999). Racism as a stressor for African Americans: A biopsychosocial model. *American Psychologist, 54*, 805–816.

Cleveland, J. N., & Hollmann, G. (1990). The effects of the age-type of tasks and incumbent age composition on job perceptions. *Journal of Vocational Behavior, 36*, 181-194. doi: 10.1016/0001-8791(90)90026-X

Cleveland, J. N., & Hollmann, G. (1991). Context and discrimination in personnel decisions: Direct and mediated approaches. In J. R. Meindl, R. L. Cardy, & S. M. Puffer (Eds.).

Advances in information processing in organizations, Vol. 4. (pp. 223-238). Greenwich, CT: JAI Press.

Cleveland, J. N., Montgomery, L., & Festa, R. M. (1984). *Group composition and job perceptions: Impact on decisions about suitability of applicants for group membership.* Unpublished manuscript, Department of Psychology, Baruch College, City of New York.

Cleveland, J. N., & Shore, L.M. (1992). Self- and supervisory perspectives on age and work attitudes and performance. *Journal of Applied Psychology, 77,* 469-484. doi: 10.1037/0021-9010.77.4.469

Cleveland, J. N., & Smith, L. A. (1989). The effects of job title and task composition on job and incumbent perceptions. *Journal of Applied Social Psychology, 19,* 744-757 doi: 10.1111/j.1559-1816.1989.tb01256.x.

Cleveland, J. N., Festa, R. M., & Montgomery, L. (1988). Applicant pool composition and job perceptions: Impact on decisions regarding an older applicant. *Journal of Vocational Behavior 32,* 112-125. doi: 10.1016/0001-8791(88)90009-7

Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences.* Hillsdale, NJ: Erlbaum.

Connor, C. L., Walsh, P., Litzelman, D.K., & Alvarez, M.G. (1978). Evaluation of job applicants: The effects of age vs. success. *Journal of Gerontology, 33,* 246-252 doi: 10.1093/geronj/33.2.246.

Craft. J. A., D., S. I., Shkop, Y. M., & Benecki, T. J. (1979). Simulated management perceptions, hiring decisions and age. *Aging and Work, 2,* 95-102.

Crew, J. C. (1984). Age stereotypes as a function of race. *Academy of Management Journal, 27,*

431-435. doi: 10.2307/255934

Crook, T. H., & West, R. L. (1990). Name recall performance across the adult life-span. *British Journal of Psychology, 81,* 335–349. doi: 10.1111/j.2044-8295.1990.tb02365

Cuddy, A. J. C., & Fiske, S. T. (2002). Doddering but dear: Process, content, and function in stereotyping of older persons. In T. D. Nelson (Ed.), *Ageism: Stereotyping and prejudice toward older persons* (pp. 3-26). Cambridge: MIT Press.

Cuddy, A. J. C., Norton, M. I., & Fiske, S. T. (2002). Doddering but dear: Process, context, and function in stereotyping of older persons. In T.D. Nelson (Ed.), *Ageism* (pp. 4-26). Cambridge, MA: MIT Press.

Cunningham, W. R., Clayton, V., Overton, W. (1975). Fluid and crystallized intelligence in young adulthood and old age. *The Journal of Gerontology, 78,* 1116-1122. doi: 10.1093/geronj/30.1.53

DeCastro, A. B., Gee, G. C., & Takeuchi, D. T. (2008). Job-related stress and chronic health conditions among Filipino immigrants. *Journal of Immigrant Minority Health, 10,* 551-558. doi: 10.1007/s10903-008-9138-2.

Dickler, J. (2011, April 4). Plastic surgery rebounds as job seekers try to look younger. *CNN Money*. Retrieved from http://money.cnn.com.

Dipboye, R. L. (1985). Some neglected variables in research on discrimination in appraisals. *Academy of Management Review, 10,* 116-127. doi: 10.2307/258218

Dipboye, R. L., Fritzsche, B., & Dhanani, L. Y. (in press). Discrimination in the

workplace and employee health. In Cooper, C., Burke, R. J. (Eds.), The Fulfilling Workplace: The Organization's Role in Achieving Individual and Organizational Health. Surrey, U.K., Gower.

Dipboye, R. L., & Halverson, S. K. (2004). *Subtle (and not so subtle) discrimination in organizations.* In R. W. Griffin & A. M. O'Leary-Kelly (Eds.), *The dark side of organizational behavior* (pp. 131-158). San Francisco, CA: Jossey-Bass.

Dormann, C., Fay, D., Zapf, D., Frese, M., 2006. A state-trait analysis of job satisfaction: on the effect of core self-evaluations. Applied Psychology: An International Review 55, 27–51.

Dovidio, J. F., Gaertner, S. L. (1998). On the nature of contemporary prejudice: The causes, consequences, and challenges of aversive racism. In J. Eberhardt & S. T. Fiske (Eds.), *Confronting racism: The problem and the response* (pp. 3-32). Newbury Park, CA: Sage.

Dovidio, J. F., Gaertner, S. L., Kawakami, K., & Hodson, G. (2002). Why can't we call just get along? Interpersonal biases and interracial distrust. *Cultural Diversity & Ethnic Minority Psychology, 8,* 88-102.

Eagly, A. H., & Chaiken, S. (1998). Attitude structure and function. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., Vol. 1, pp. 269-322). New York, NY: McGraw-Hill.

Ebner NC, Freund AM, Baltes PB. (2006). Developmental changes in personal goal orientation from young to late adulthood: From striving for gains to maintenance and prevention of losses. *Psychology and Aging, 21,* 664–678. doi: 10.1037/0882-7974.21.4.664

Enelow, W. S., & Boldt, A. G. (2006). *No-nonsense resumes: The essential guide to creating attention-grabbing resumes that get interviews & job offers.* Franklin Lakes: New Jersey: The Career Press, Inc.

Ensher, E. A., Grant-Vallone, E. J., & Donaldson, S. I. (2001). Effects of perceived discrimination on job satisfaction, organizational commitment, organizational citizenship behavior, and grievances. *Human Resource Development Quarterly, 12*(1), 53-72. doi:10.1002/1532-1096(200101/02)12:1<53::AID-HRDQ5>3.0.CO;2-G

Fastenau, P. S., Denburg, N. L., & Abeles, N. (1996). Age differences in retrieval: Further support for the resource-reduction hypothesis. *Psychology and Aging*, *11*, 140–146. doi: 10.1037/0882-7974.11.1.140

Feldman, J. M., & Lynch, J. G. (1988). Self-generated validity and other effects of measurement on belief, attitude, intention, and behavior. *Journal of Applied Psychology, 73*, 421-435. doi: 10.1037/0021-9010.73.3.421

Ferris, G. R., Judge, T. A., Chachere, J. G., & Liden, R. C. (1991). The age context of performance evaluation decisions. *Psychology and Aging, 6,* 616-622. doi: 10.1037/0882-7974.6.4.616

Finkelstein, L. M., Burke, M. J. (1998). Age stereotyping at work: The role of rater and contextual factors on evaluations of job applicants. *The Journal of General Psychology, 125*, 317-345. doi: 10.1080/00221309809595341

Finkelstein, L. M., Burke, M. J., & Raju, N. S. (1995). Age discrimination in simulated employment contexts: An integrative analysis. *Journal of Applied Psychology*, *80*, 652-663. doi: 10.1037/0021-9010.80.6.652

Finkelstein, L. M., & Farrell, S. K. (2007). An expanded view of age bias in the workplace. In K. S. Shultz, & Adams, G. A. (Eds.), *Aging and work in the 21st century* (pp. 7-23). Mahwah, NJ: Lawrence Erlbaum Associates.

Finkelstein, L. M., Higgins, K. D., & Clancy, M. (2000). Justifications for ratings of older and younger job applicants: An exploratory content analysis. *Experimental Aging Research, 26*, 263-283.

Fiske, S. T. (1998). Stereotyping, prejudice, and discrimination. In Gilbert, D. T., Fiske, S. T., & Gardner, L.: *The handbook of social psychology* (pp. 357-411). Boston, MA: Mc-Graw Hill. doi: 10.1017/CB09780511753725.004

Fiske, S. T. (2004). Stereotyping, prejudice, and discrimination: Social biases. In Fiske, S. T.: *Social beings: A core motives approach to social psychology* (pp. 397-457). New Jersey: Wiley.

Fiske, S. T., Cuddy, A. J., & Glick, P. (2007). Universal dimensions of social cognition: Warmth and competence. *Trends in Cognitive Sciences, 11*, 77-83. doi: 10.1016/j.tics.2006.11.005

Fiske, S. T., & Pavelchak, M. A. (1986). Category-based versus piecemeal-based affective responses: Developments in schema-triggered affect. In R. M. Sorrentino & E. T. Higgins (Eds.), *Handbook of motivation and cognition: Foundations if social behavior* (pp. 167-203). New York, NY: Guilford Press.

Fiske, S. T. & Neuberg, S. L. (1990). A continuum of impression formation, from category-based to individuating processes: Influences of information and motivation on attention and interpretation. *Advances in Experimental Social Psychology, 23*, 1-74. doi: 10.1016/S0065-2601(08)60317-2

Fiske, S. T., Neuberg, S. L., Beattie, A. E., & Milberg, S. J. (1987). Category-based and attribute-based reactinos to others: Some informal conditions of stereotyping and individuating processes. *Journal of Experimental Social Psychology, 23,* 399-427. doi: 10.1016/0022-1031(87)90038-2

Foos, P.W. (1995). Working memory resource allocation by young, middle-aged, and old adults. *Experimental Aging Research, 21,* 239-250. doi: 10.1080/03610739508253983

Freund, A. M. (2006). Age-differential motivational consequences of optimization versus compensation focus in younger and older adults. *Psychology and Aging, 21,* 240–252. doi: 10.1037/0882-7974.21.2.240

Freund, A. M., & Baltes, P. B. (1998). Selection, optimization, and compensation as strategies of life management: Correlations with subjective indicators of successful aging. *Psychology and Aging, 13,* 531–543. doi: 10.1037/0882-7974.13.4.531

Freund, A. M., & Baltes, P. B. (2002). Life management strategies of selection, optimization, and compensation: Measurement by self-report and construct validity. *Journal of Personality and Social Psychology, 82,* 642–662. doi: 10.1037/0022-3514.82.4.642

Gagne, P. and McGaughey, D. (2002) 'Designing Women – Cultural Hegemony and the Exercise of Power Among Women Who Have Undergone Elective Mammoplasty'. *Gender and Society, 16,* 814-838.

Gaertner, S. L., & Dovidio, J. F. (2000). *Reducing intergroup bias: The common in-group identity model.* Philadelphia, PA: Psychology Press. doi:

Garstka, T. A., Schmitt, M. T., Branscombe, N. R., & Hummert, M. L. (2004). How young and older adults differ in their responses to perceived age discrimination. *Psychology and*

Aging, 19, 326-335. doi: 10.1037/0882-7974.19.2.326

Geyer, G. (2006). Cosmetic surgery for boomer men: Why not? *50plus Online Magazine.* Retrieved from http://www.letlifein.com/articles/cosmetic-surgery-for-boomer-men-why-not-2/Gordon, R. A., & Arvey, R. D. (2004). Age bias in laboratory field settings: A meta-Analytic investigation. *Journal of Applied Social Psychology, 34*, 468-492.

Gibson, K. J., Zerbe, W. J., & Franken, R. E. (1993). The influence of rater and ratee age on judgments of work-related attributes. *The Journal of Psychology, 127*, 271-280. doi: 10.1080/00223980.1993.9915561

Goff, M., & Ackerman, P. L. (1992). Personality – intelligence relations: Assessing typical intellectual engagement. *Journal of Educational Psychology, 84*, 537-552. doi: 10.1037/0022-0663.84.4.537

Goldberg, C. (2007). Diversity issues for an aging workforce. In Shultz, K. S., & Adams, G. A (Eds.), *Aging and work in the 21st century* (pp. 51-71). Mahwah, NJ: Lawrence Erlbaum Associates.

Goldberg, C. B., Finlekstein, L. M., Perry, E. L., & Konrad, A. M. (2004). Job and industry fit: The effects and gender matches on career progress outcomes. *Journal of organizational behavior, 25*, 807-829. doi: 10.1002/job.269

Grosch, J. W. Roberts, R. K., & Grubb, P. L. (2005). *Age discrimination in the workplace: National trends and health outcomes.* Paper presented at the annual meeting of the American Public Health Association: Philadelphia, PA.

Guyla, A. J. (1995). Ear disorders. In W. B. Abrams, M. H. Beers, & R. Berkow (Eds.). *The Merck Manual of Geriatrics* (pp. 1315-1342). Whitehouse Station, NJ: Merck Research

Labratories.

Guyll, M., Matthews, K. A., & Bromberger, J. T. (2001). Discrimination and unfair treatment: Relationship to cardiovascular reactivity among African American and European American women. Health Psychology, 20, 315-325. doi: 10.1037/0278-6133.20.5.315

Haefner, J. R. (1977). Race, age, sex, and competence as factors in employer selection of the disadvantaged. *Journal of Applied Psychology, 62,* 199-202. doi: 10.1037/0021-9010.62.2.199

Halliwell, E., & Dittmar, H. (2003). A qualitative investigation of women's and men's body image concerns and their attitudes toward aging. *Sex Roles, 49,* 675–684.

Hargreaves, D., & Tiggemann, M. (2002). The effect of television commercials on mood and body dissatisfaction: The role of appearance-schema activation. *Journal of Social and Clinical Psychology, 21*, 328–349.

Harris, J. R. & Liebert, R. M. (1991). *The child: A contemporary view of development* (3rd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Harrison, D. A., Newman, D. A., & Roth, P. L. (2006). How important are job attitudes? Meta-analytic comparisons of integrative behavioral outcomes and time sequences. *Academy of Management Journal, 49,* 305-325. doi: 10.5465/AMJ.2006.20786077

Hazen Paper Co. V. Biggins, 81 U.S. 539-540 (1996).

Hedge, J. W., Borman, W. C., & Lammlein, S. E. (2006). *The aging workforce: Realities, myths, and implications for organizations*. Washington, D.C.: American Psychological Association (APA). doi: 10.1037/11325-000

Heron, A., & Chown, S. (1967). *Age and function*. Boston: Little, Brown.

Hiller, N., & Hambrick, D. C. (2005). Conceptualizing executive hubris: The role of (hyper-) core self-evaluations in strategic decision making. *Strategic Management Journal, 26*, 297-319.

Hofstetter, H. W. (1965). A longitudinal study of amplitude changes in presbyopia. *American Journal of Optometry, 42*, 3-8. doi: 10.1097/00006324-196501000-00002

Holland, C. A. (2001). Older drivers: A review. Road Safety Research Report No. 25. U.K.: Department for Transport.

Hooper, F. H., Hooper, J. O., & Colbert, K. C. (1984). *Personality and memory correlates of cognitive functioning*. Basel, Switzerland: Karger.

Horn, J. L. (1978). Human ability systems. In P. B. Baltes (ed.), *Life-span development and behavior* (Vol. I). New York: Academic Press.

Horn, J. L. (1989). Cognitive diversity: A framework of learning. In P. L. Ackerman, R. J. Sternberg, & R. Glaser (Eds.), *Learning and individual differences* (pp. 61-116). New York: Freeman.

Horn, J. L., & Cattell, R. B. (1966). Refinement and test of the theory of fluid and crystalized general intelligences. *Journal of Educational Psychology, 57*, 253-270. doi: 10.1037/h0023816

Horn, J. L., & Cattell, R. B. (1967). Age differences in fluid and crystallized intelligence. *Acta Psychologica, 26,* 107-129. doi: 10.1016/0001-6918(67)90011-X

How to write a resume. Retrieved May 7, 2012, from http://www.how-to-write-a-resume.com/.

Inzlicht, M., McKay, L., & Aronson, J. (2006). Stigma as ego depletion: How being the target of prejudice affects self-control. *Psychological Science, 17*, 262-269.

doi: 10.1111/j.1467-9280.2006.01695.x

Issacowitz DM,Wadlinger HA, Goren D,Wilson HR. (2006). Selective preference in visual fixation away from negative images in old age? An eye-tracking study. *Psychology and Aging, 21*, 40–48. doi: 10.1037/0882-7974.21.1.40

Isaacs, K. Eight ways to age-proof your resume. Retrieved from http://resumepower.com/age-proof-your-resume.html

James, K., Lovato, C., & Crompanzano, R. (1994). Correlational and known group comparison validation of a workplace prejudice/discrimination inventory. *Journal of Applied Social Psychology, 24*, 1573-1592. doi: 10.1111/j.1559-1816.1994.tb01563.x

Johnson, R. W., Kawachi, J., & Lewis, E. K. (2009). "Older workers on the move: Recareering in later life." Washington, DC: AARP.

Johnson, R. E., Rosen, C. C., & Levy, P. E. (2008). Getting to the core of core self-evaluation: A review and recommendations. *Journal of Organizational Behavior, 29*, 391-413.

Judge, T. A., Bono, J. E., & Thorensen, C. J. (2003). The core self-evaluation scale: Development of a measure, *Personnel Psychology, 56*, 303-331. doi: 10.1111/j.1744-6570.2003.tb00152.x

Judge, T. A., Erez, A., Bono, J. E., & Thoresen, C. J. (2002). Are measures of self-esteem, neuroticism, locus of control, and generalized self-efficacy indicators of a common core construct? Journal of Personality and Social Psychology, 83, 693–710.

Judge, T. A., Locke, E. A., & Durham, C. C. (1997). The dispositional causes of job satisfaction: A core evaluations approach. Research in Organizational Behavior, 19, 151–188.

Judge T. A., Van Vianen AEM, DePater IE. (2004). Emotional stability, core-evaluations, and job outcomes. Human Performance, 17, 325–346.

Kammeyer-Mueller, J.D., Judge, T., & Scott, B.A. (2009). The role of core self-evaluations in the coping process. *Journal of Applied Psychology, 94*, 177 – 195.

Kanfer, R. & Ackerman, P. L. (2004). Aging, adult development and work motivation. *Academy of Management Review, 29*, 440-458. doi: 10.2307/20159053

Kanfer, R., Crosby, J. V., & Brandt, D. M. (1988). Investigating behavioral antecedents of turnover at three job levels. *Journal of Applied Psychology, 73*, 331–335. doi: 10.1037/0021-9010.73.2.331

Katheryn, V. How old does your resume make you look? Retrieved from http://financialhighway.com/how-old-does-your-resume-make-you-look/.

Kaufman, A. S., Reynolds, C. R., & McLean, J. E. (1989). Age and WAIS–R intelligence in a national sample of adults in the 20-to-74-year age range: A cross-sectional analysis with educational level controlled. *Intelligence*, *13*, 235–253. doi: 10.1016/0160-2896(89)90020-2

Kaufman, A. S. (1990). *Assessing adolescent and adult intelligence.* Boston: Allyn & Bacon. doi: 10.1207/s15374424jccp2203_6

Ketcham, C.J., Seidler, R.D., Van Gemmert, A.W., and Stelmach, G.E. (2002). Age-related kinematic differences as influenced by task difficulty, target size, and movement amplitude. *Journals of Gerontology: Psychological Sciences and Social Sciences, 57*(1), P54-64. doi: 10.1093/geronb/57.1.P54

Ketcham, C.J., & Stelmach, G.E. (2002). Motor control of older adults. In D.J. Ekerdt, R.A.

Applebaum, K.C. Holden, S.G. Post, K. Rockwood, R. Schulz, R.L. Sprott, and P. Uhlenberg (Eds.), *Encyclopedia of aging*. New York: Macmillan Reference USA.

Khalil, T. M., Abdel-Moty, E., Diaz, E. L., Steele-Rosomoff, R. & Rosomoff, H. L. (1994). Effacy of physical restoration in the elderly. *Experimental Aging Research*, *20*, 189-199. doi: 10.1080/03610739408253965

Kirasic, K. C., Allen, G. L., Dobson, S. H., & Binder, K. S. (1996). Aging, cognitive resources, and declarative learning. *Psychology and Aging*, *11*, 658–670. doi: 10.1037/0882-7974.11.4.658

Kite, M. E., & Johnson, B. T. (1988). Attitudes toward older and younger adults: A meta-analysis. *Psychology and Aging*, *3*, 233-244. doi: 10.1037/0882-7974.3.3.233

Kite, M. E., & Stockdale, G. D., Whitley Jr., B. E., Johnson, B. T. (2005). Attitudes toward younger and older adults: An updated meta-analytic review. *Journal of Social Issues*, *61*, 241-266. doi: 10.1111/j.1540-4560.2005.00404.x

Kline, D., & Schieber, F. (1985). Vision and aging. In J. E. Birren & K. W. Schaie (Eds.), Handbook of the Psychology of Aging (2nd ed., pp.296-331). New York: Van Nostrand Reinhold.

Kline, D. W., & Scialfa, C. T. (1997). Sensory and perceptual functioning: Basic research and human factors implications. In A. D. Fisk and W. A. Rogers (Eds.), Handbook of Human Factors and the Older Adult. San Diego, CA: Academic Press.

Kogan, N., & Shelton, F. C. (1960). Differential cue value of age and occupation in impression formation. *Psychological Reports*, *7*, 203-216. doi: 10.2466/PR0.7.6.203-216

Koss, E., Haxby, J. V., DeCarli, C., Shapiro, M. B., Friedland, R. P., & Rapoport, S. I. (1991).

Patterns of performance preservation and loss in healthy aging. *Developmental Neuropsychology, 7*, 99–113. doi: 10.1080/87565649109540479

Krings, F., Sczensy, S., Kluge, A. (2011). Stereotypical inferences as mediators of age discrimination: The role of competence and warmth. *British Journal of Management, 22*, 187-201. doi: 10.1111/j.1467-8551.2010.00721.x

Krefting, L. A., Berger, P. K., & Wallace, M. J. (1978). The contribution of sex distribution job content, and occupational classification to job sextyping: Two studies. *Journal of Vocational Behavior, 13*, 181-191.

Laux, L. (1995). Aging behaviors. In J. Weimer (Ed.), Research Behaviors in Human Engineering. Englewood Cliffs, NJ: Prentice Hall.

Landrine, H., & Klonoff, E. A. (1996). The Schedule of Racist Events: A measure of racial discrimination and a study of its negative physical and mental health consequences. *Journal of Black Psychology*, *22*, 144-168. doi: 10.1177/00957984960222002

Lawrence, B. S. (1984). Age grading: The implicit organizational timetable. *Journal of Occupational Behavior, 5*, 23-35. doi: 10.1002/job.4030050104

Lawrence, B. S. (1988). New wrinkles in the theory of age: Demography, norms, and performance ratings. *Academy of Management Journal*, *31*, 309-337. doi: 10.2307/256550

Levin, W. C. (1988). Age stereotyping: College student evaluations. *Research on Aging, 10*, 134-148. doi: 10.1177/0164027588101007

Lavine H, Thomsen CJ, Zanna MP, Borgida E. (1998). On the primacy of affect in the determination of attitudes and behavior: The moderating role of affective-cognitive ambivalence. *Journal of Experimental Social Psychology, 34*, 398–421. doi: 10.1006/jesp.1998.1357

Levy, B., & Langer, E. (1994). Aging free from negative stereotypes: Successful memory in China among the American deaf. *Journal of Personality and Social Psychology, 66*, 989-997.

Lewis, T. T., Aiello, A. E., Leurgans, S., Kelly, J. & Barnes, L. L. (2010). Self-reported experiences of everyday discrimination are associated with elevated C-reactive protein levels in older African-American adults. *Brain, Behavior, and Immunity, 24*, 438-443. doi: 10.1016/j.bbi.2009.11.011

Lewis, T. T., Everson-Rose, S. A., Powell, L. H., Matthews, K. A., Brown, C., Karavolos, K., Sutton-Tyrell, K., Jacobs, E., & Wesley, D. (2006) Chronic exposure to everyday discrimination and coronary artery calcification in African-American women: The swan heart study. *Psychosomatic Medicine, 68*, 362-368. doi: 10.1097/ 01.psy.0000221360.94700.16

Lexell, J. (1993). What is the cause of the ageing atrophy? Assessment of the fiber type composition in whole human muscles. In G.E. Stelmach and V. Homberg (Eds.), *Sensorimotor impairment in the elderly* (pp. 143-153). North Holland, Amsterdam: Elsevier Science. doi: 10.1007/978-94-011-1976-4_10

Liao, M., Jagacinski, R. I., & Greenberg, N. (1997). Quantifying the performance limitations of older and younger adults in a target acquisition task. *Journal of Experimental*

Psychology: Human Perception and Performance, 23, 1644-1664. doi: 10.1037/0096-1523.23.6.1644

Lord, R. G., Foti, R. J., & De Vader, C. L. (1984). A test of leadership categorization theory: Internal structure, information processing, and leadership perceptions. *Organizational Behavior and Human Performance, 34*, 343-378. doi: 10.1016/0030-5073(84)90043-6

Lord, R. G., Foti, R. J., & Phillips, J. S. (1982). A theory of leadership categorization. In J. G. Hunt, U. Sekaran, & C. Schreisheim (Eds.) *Leadership: Beyond establishment views.* Carbondale, IL: Southern Illinois Univ. Pres. doi: 10.1016/0030-5073(84)90043-6

Lord, S.R., Rogers, M.W., Howland, A., and Fitzpatrick, R. (1999). Lateral stability, sensorimotor function and falls in older people. *Journal of the American Geriatrics Society, 47*(9), 1077-1081.

Lubin, J. S. (2001). Four Tips for making an interviewer see a more youthful you. *The Wall Street Journal, 238*, p. B1.

Lyon, R., & Pollard, D. (1997). Perceptions of the older employee: is anything really changing? *Personnel Review, 26*, 245-257. doi: 10.1108/00483489710172051

Madden, K. (2012, January 10). Your guide to job searching after 50. *Chicago Tribune.* Retrieved from http://www.chicagotribune.com

Marcus, J., Fritzsche, B., & Le, H. (2011). *Development & validation of the WAS scale: Measuring Work-related Age-based Stereotypes.* Poster session presented at the 26th annual meeting of the Society for Industrial and Organizational Psychology: Chicago, IL.

Martin, J. K., Tuch, S. A., & Roman, P. M. (2003). Problem drinking patterns among African Americans: The impacts of reports of discrimination, perceptions of prejudice, and "risky" coping strategies. *Journal of Health and Social Behavior, 44*, 408-425. doi: 10.2307/1519787

Mather M, Carstensen LL. (2003). Aging and attentional biases for emotional faces. *Psychological Science, 14*, 409–415. doi: 10.1111/1467-9280.01455

Mather M, Johnson MK. (2000). Choice-supportive source monitoring: Do your decisions seem better to us as we age? *Psychology and Aging, 15*, 596-606. doi: 10.1037/0882-7974.15.4.596

Mather M, Knight M. (2005). Goal-directed memory: The role of cognitive control in older adults' emotional memory. *Psychology and Aging, 20*, 554–570. doi: 10.1037/0882-7974.20.4.554

Maurer TJ, Rafuse NE. (2001). Learning, not litigating: Managing employee development and avoiding claims of age discrimination. A*cademy of Management Executive, 15*, 110–121. doi: 10.5465/AME.2001.5898395

McEvoy, G. M., & Cascio, W. F. (1989). Cumulative evidence of the relation between employee age and job performance. *Journal of Applied Psychology, 74*, 11-17. doi: 10.1037/0021-9010.74.1.11

McKinney, A. (1999). *Resumes and cover letters for managers.* Feyetteville, NC: PREP Publishing.

McMullin, J. A., & Berger, E. D. (2006). Gendered ageism/age(ed) sexism: The case of unemployed older workers. In T.M. Calasanti & K.F. Slevin (Eds.) *Age Matters: Re-aligning feminist thinking* (pp. 201-223). New York: Springer.

McMullin, J., A., & Marshall, V. W. (2001). Ageism, and relations, and garment industry work in Montreal. *Gerontologist, 41,* 111-122. doi: 10.1093/geront/41.1.111

McSwan, K. L. (2000). The impact of sexism on older women's mental and physical health (Doctoral dissertation, Loma Linda University, 2000). *Dissertation Abstracts International, 61*, 3323.

Medin, D. L., & Schaffer, M. M. (1978). Context theory of classification learning, *Psychological Review, 85,* 207-238. doi: 10.1037/0033-295X.85.3.207

Metter, E. J., Lynch, N., Conwit, R., Lindle, R., Tobin, J., & Hurley, B. (1999). Muscle quality and age: cross-sectional and longitudinal comparisons. *Journal of Gerontology Series A: Biological Sciences and Medical Sciences, 54,* 207-218. doi: 10.1093/gerona/54.5.B207

Morgan, K. P. (1991). Women and the knife: Cosmetic surgery and the colonization of women's bodies. *Hypatia, 6,* 25–53.

Morrell, R. W., & Echt, K. V. (1996). *Designing written instruction for older adults learning to use computers.* In: A.D. Fisk and W.A. Rogers (Eds.), Handbook of Human Factors and the Older Adult. San Diego, CA: Academic Press.

Motowidlo, S. (1986). Information processing in personnel decisions. In K. M. Rowland & G. R. Ferris (Eds.), *Research in Personnel and Human Resources Management: Vol. 4* (pp. 1-44). Greenwich, CT: JAI Press.

Muise, A., & Desmarais, S. (2010). Women's perceptions and use of "anti-aging" products. *Sex*

Roles, 63, 126-137. doi: 10.1007/s11199-010-9791-5

Muth, J.L., & Cash, T.F. (1997). Body-image attitudes: What difference does gender make? *Journal of Applied Social Psychology, 27,* 1438–1452.

Nelson, T. D. (2002). *Ageism: Stereotyping and prejudice against older persons.* Cambridge, MA: MIT Press.

Ng, T. W. H., & Feldman, D. C. (2008). The relationship of age to ten dimensions of job performance. *Journal of Applied Psychology, 93*, 392-423. doi: 10.1037/0021-9010.93.2.392

Ng. T. H., & Feldman, D. C. (2010). The relationships of age with job attitudes: A meta-analysis, *Personnel Psychology, 63*, 677-718. doi: 10.1111/j.1744-6570.2010.01184.x

Negrin, L. (2002). Cosmetic surgery and the eclipse of identity. *Body and Society, 8,* 21–42.

Niedenthal, P. M., Cantor, N., & Kihlstrom, J. C. (1985). Prototype matching: A strategy for social decision making. *Journal of Personality and Social Psychology, 48*, 575-584. doi: 10.1037/0022-3514.48.3.575

Nyberg, A. (2010). Retaining your high performers: Moderators of the performance-job satisfaction-voluntary turnover relationship. *Journal of Applied Psychology, 95*, 440–453. doi:10.1037/a0018869

Okun, M. A., Barr, A., & Herzog, A. R. (1998). Motivation to volunteer by older adults: A test of competing measurement models. *Psychology and Aging, 13*, 608–621 doi: 10.1037/0882-7974.13.4.608

Oppenheimer, V. K. (1968). The sex-labeling of jobs. *Industrial Relations, 8*, 219-234.

Ostroff, C., & Atwater, L. E. (2003). Does whom you work with matter? Effects of referent

group gender and age composition on managers' compensation. *Journal of Applied Psychology, 88,* 725-740. doi: 10.1037/0021-9010.88.4.725

Owsley, C., Ball, K., McGwin, G. Sloane, M. E., Roenker, D. L., While, M. F., Overley, T. E. (1998). Visual processing impairment and risk of motor vehicle crash among older adults, *The Journal of the American Medical Association, 279,* 183-1088. doi:10.1001/jama.279.14.1083.

Owsley, C., Stalvey, B., Wells, J., & Sloane, M.E. (1999). Older drivers and cataract: Driving habits and crash risk. *Journal of Gerontology: Medical Sciences, 54A,* M203-M211. doi: 10.1093/gerona/54.4.M203

Pavalko, E. K., Mossakowski, K. N., Hamilton, V. J. (2003). Does perceived discrimination affect health? Longitudinal relationships between work discrimination and women's physical and emotional health. *Journal of Health and Social Behavior, 4*, 18-33. doi: 10.2307/1519813

Park, D. C., Smith, A. D., Lautenschlager, G., Earles, J., Frieske, D., Zwahr, M., & Gaines, C. (1996). Mediators of long-term memory performance across the life span. *Psychology and Aging*, *11*, 621–637. doi: 10.1037/0882-7974.11.4.621

Park, D. C., Smith, A. D., Morrell, R. W., Pulglisi, J. T., & Dudley, W. N. (1990). Effects of contextual integration on recall of pictures in older adults. *Journal of Geronology: Psychological Sciences, 45*, 52-58. doi: 10.1093/geronj/45.2.P52

Park, D. C., & Swartz, N. (2000). *Cognitive aging: A primer.* Philadelphia, PA: Taylor & Francis.

Parsons, D., & Mayne, L. (2001). Ageism and work in the EU: A comparative review of corporate innovation and practice. *Ageism in work and employment*, 237-254.

Pascoe, E. A., & Richman, L. S. (2009). Perceived discrimination and health: A meta-analytic review. *Psychological Bulletin, 135,* 531-554. doi: 10.1037/a0016059

Perlmutter, M., & Nyquist, L. (1990). Relationships between self-reported physical and mental health and intelligence performance across adulthood. *Journals of Gerontology: Psychological Sciences*, *45*, P145–P155. doi: 10.1093/geronj/45.4.P145

Perry, E. L. (1994). A prototype matching approach to understanding the role of applicant gender and age in the evaluation of job applicants. *Journal of Applied Social Psychology, 24,* 1433-1473. doi: 10.1111/j.1559-1816.1994.tb01558.x

Perry, E. L., & Bourhis, A. C. (1998). A closer look at the role of applicant age in selection decisions *Journal of Applied Social Psychology, 28,* 16-30. doi: 10.1111/j.1559-1816.1998.tb01340.x

Perry, E. L., & Finkelstein, L. M. (1999). Toward a broader view of age-discrimination in employment-related decisions: A joint consideration of organizational factors and cognitive processes. *Human Resource Management Review, 9,* 21-49. doi: 10.1016/S1053-4822(99)00010-8

Perry, E. L., Kulik, C. T., & Bourhis, A. C. (1996). Moderating effects of personal and contextual factors in age discrimination. *Journal of Applied Psychology, 81*, 628-647. doi: 10.1037/0021-9010.81.6.628

Perry, E. L., Kulik, C. T., & Zhou, J. (1999). A closer look at the effects of subordinate–supervisor age differences. *Journal of Organizational Behavior, 20,* 341–357.

Perry, E. L., & Varney, T. L. (1978). College students' attitudes toward workers' competence and age. *Psychological Reports, 42*, 1319-1322. doi: 10.2466/pr0.1978.42.3c.1319

Petrella, R.J., Lattanzio, P.J., and Nelson, M.G. (1997). Effect of age and activity on knee joint proprioception. *American Journal of Physical Medicine and Rehabilitation, 76*(3), 235-241. doi: 10.1097/00002060-199705000-00015

Pettigrew, T. F. (1979). The ultimate attribution error: Extending Allport‟s cognitive analysis of prejudice. *Personality & Social Psychology Bulletin, 5,* 461-476. doi: 10.1177/014616727900500407

Pettigrew, T. F., & Martin, J. (1987). Shaping the organizational context for Black American inclusion. *Journal of Social Issues, 43*, 41-78. doi: 10.1111/j.1540-4560.1987.tb02330.x

Posthuma, R. A., & Campion, M. A. (2009). Age stereotypes in the workplace: Common stereotypes, moderators, and future research directions. *Journal of Management, 35*, 158-188. doi: 10.1177/0149206308318617

Ragins, B. R., & Cornwell, J. M. (2001). Pink triangles: Antecedents and consequences of perceived workplace discrimination against gay and lesbian employees. *Journal of Applied Psychology, 86,* 1244-1261. doi: 10.1037/0021-9010.86.6.1244

Randle, N. W. (2011). Can Generalized Self-Efficacy Overcome the Effects of Workplace Weight Discrimination?. *Journal of Applied Social Psychology*, *42*(3), 751-775. doi: 10.1111/j.1559-1816.2011.00814.x

Raza, S. M., & Carpenter, B. N. (1987). A model of hiring decisions in real employment interviews. *Journal of Applied Psychology, 72*, 596–603. doi: 10.1037/0021-9010.72.4.596

Reeves, M. D., Fritzsche, B. A., Smith, N. A., Marcus, J. A., O'Steen, M., Dhanani, L. Y. (2013, April). *One Shade too Grey: Occupational Age Stereotypes and Legal Outcomes*. Poster to be presented at the Society for Industrial and Organizational Society Conference, Houston, TX.

Rhodes, S. R. (1983). Age-related differences in work attitdes and behavior: A review and conceptual analysis. *Psychological Bulletin, 93*, 328-367. doi: 10.1037/0033-2909.93.2.328

Richman, L. S., Bennett, G. G., Pek, J., Siegler, I., & Williams Jr, R. B. (2007). Discrimination, dispositions, and cardiovascular responses to stress. *Health Psychology*, *26*(6), 675. doi: 10.1037/0278-6133.26.6.675

Richman, L. S., Pek, J., Pascoe, E., & Bauer, D. J. (2010). The effects of perceived discrimination on ambulatory blood pressure and affective responses to interpersonal stress modeled over 24 hours. *Health Psychology*, *29*, 403-411. doi: 10.1037/a0019045

Riordan, C. M. (2000). Relational demography within groups: Past developments, contradictions, and new directions. doi: 10.1016/S0742-7301(00)19005-X

Robertson-Tchabo, E. A., & Arenberg, D. (1976). Age differences in cognition in healthy educated men: A factor analysis of experimental measures. *Experimental Aging Research, 2,* 75–89. doi: 10.1080/03610737608257980

Romano, C. (1994). Older and wiser may not help in job hunt. *Management Review, 83*, 6.

Roos, M.R., Rice, C.L., and Vandervoort, A.A. (1997). Age-related changes in motor unit function. *Muscle and Nerve*, *20*(6), 679-690. doi: 10.1002/(SICI)1097-4598(199706)20:6<679::AID-MUS4>3.3.CO;2-L

Roos, M.R., Rice, C.L., Connelly, D.M., and Vandervoort, A.A. (1999). Quadriceps muscle strength, contractile properties, and motor unit firing rates in young and old men. *Muscle and Nerve, 22*(8), 1094-1103. doi: 10.1002/(SICI)1097-4598(199908)22:8<1094::AID-MUS14>3.3.CO;2-7

Rosch, E. (1975). Cognitive representations of semantic categories. *Journal of Experimental Psychology: General,* 104, 192-233. doi: doi.org/10.1037/0096-3445.104.3.192

Rosch, E. (1987). *Principles of categorization.* In E. Rosch & B. B. Lloyds (Eds.) *Cognition and categorization.* Hillsdale, NJ: Erlbaum.

Rosch, E., Mervis, C. B., Gray, W. D., Johnson, D. W., & Boyes-Braem, P. (1976). Basic objects in natural categories. *Cognitive Psychology, 8,* 382-439. doi: 10.1016/0010-0285(76)90013-X

Roscigno, V. J., Mong, S., Byron, R., & Tester, G. (2007). Age discrimination, social closure and employment. *Social Forces, 86*(1), 313-334. doi: 10.1353/sof.2007.0109

Rosen, A. D., & Ablaza, V. J. (2006, June). Public eye…What your patients are reading in the popular press. *Cosmetic Surgery Times,* p. 34.

Rosen, B., & Jerdee, T. H. (1976a). The nature of job-related age stereotypes. *Journal of Applied Psychology, 61,* 180-183. doi: 10.1037/0021-9010.61.2.180

Rosen, B., & Jerdee, T. H. (1976b). The influence of age stereotypes on managerial decisions. *Journal of Applied Psychology, 61,* 428-432. doi: 10.1037/0021-9010.61.4.428

Rosen, B., & Jerdee, T. H. (1977). The influence of age stereotypes on managerial decisions. *Journal of Applied Psychology, 61,* 428-432. doi: 10.1037/0021-9010.61.4.428

Rosen, B., & Jerdee, T. H. (1988). Managing older workers' careers. *Research in Personnel and*

Human Resource Management, 6, 37-74.

Rosen, B., Jerdee, T. H., & Lunn, R. O. (1981). Effects of performance appraisals format, age, and performance level of retirement decisions. *Journal of Applied Psychology, 144*, 335-362. doi: 10.1037/0021-9010.66.4.515

Rosenbaum, J. E. 1984. *Career mobility in a corporate hierarchy.* San Francisco, CA: Academic Press.

Rosenfield, S. (1999) Gender and mental health: Do women have ,pre psychopathology, men more, or both the same (and why?). In A. V. Horwitz & T. L. Scheid (Eds.), *A Handbook for the Study of Mental Health: Social Context, Theories, and Systems.* (pp. 348-360). Cambridge University Press.

Rupp, D. E., Vodanovich, S. J., Credé, M. (2006). Age bias in the workplace: The impact of ageism and causal attributions. *Journal of Applied Psychology, 36*, 1337-1364.

Ryan, R. (2010, April 21). Look younger for your job search? *CNN Living*. Retrieved from http://www.CNN.com

Salthouse, T. A. (1982). *Adult cognition: An experimental psychology of human aging*, New York: Springer-Verlag. doi: 10.1007/978-1-4613-9484-6

Salthouse, T. A. (1985). Speed of behavior and its implications for cognition. In J. E.Birren & K. W.Schaie (Eds.), *Handbook of the psychology of aging* (2nd ed., (pp. 400–426). New York: Van Nostrand Reinhold.

Salthouse, T. A. (1991). Mediation of adult age differences in cognition by reductions in working memory and speed of processing. *Psychological Science*, *2*, 179–183. doi: 10.1111/j.1467-9280.1991.tb00127.x

Salthouse, T. A. (1991). Theoretical perspectives on cognitive aging. Hillsdale, NJ: Erlbaum.

Salthouse, T. A. (1992). Influence of processing speed on adult age differences in working memory. *Acta Psychologica, 79*, 155–170. doi: 10.1016/0001-6918(92)90030-H

Salthouse, T. A. (1993). Speed mediation of adult age differences in cognition. *Developmental Psychology, 29*, 722–738. doi: 10.1037/0012-1649.29.4.722

Salthouse, T. A. (1996). The processing-speed theory of adult age differences in cognition. *Psychological Review, 103*, 403–428. doi: 10.1037/0033-295X.103.3.403

Salthouse, T. A., & Mitchell, D. R. D. (1990). Effects of age and naturally occurring experience on spatial visualization performance. *Developmental Psychology*, *26*, 845–854. doi: 10.1037/0012-1649.26.5.845

Sanchez, J. L., & Brock, P. (1996). Outcomes of perceived discrimination among Hispanic employees: Is diversity management a luxury or a necessity? *Academy of Management Journal, 39*, 704-719. doi: 10.230/256660

Schieber, F. (2006). Vision and aging. In J. E. Birren & K. W. Schaie (Eds.), *Handbook of the Psychology of Aging* (pp. 129-161). San Diego, CA: Academic Press. doi: 10.1016/B978-012101264-9/50010-0

Schmidt, F. L., & Hunter, J. E. (1998). The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years of research findings. *Psychological Bulletin, 124*, 262-274. doi: 10.1037/0033-2909.124.2.262

Schneider, K. T., Hitlan, R. T., & Radhakrishnan, P. (2000). An examination of the nature and correlates of ethnic harassment: Experiences in multiple contexts. *Journal of Applied Psychology, 85*, 3-12. doi: 10.1037//0021-9010.85.1.3

Scott, S. B., Jackson, B. R., & Bergeman, C. S. (2011). What contributes to perceived stress in later life? A recursive partitioning approach. *Psychology and Aging, 26*, 830-843. doi: 10.1037/a0023180

Sellers, R. M., & Shelton, J. N. (2003). The role of racial identity in perceived racial discrimination. *Journal of Personality and Social psychology, 84*, 1079-1092. doi: 10.1037/0022-3514.84.5.1079

Shaie, K. W. (1996). *Intellectual development in adulthood: The Seattle longitudinal study*. New York: Cambridge University Press.

Shimamura, A. P., Berry, J. M., & Mangels, J. A., Rusting, C. L., and Jurica, P. J. (1995) Memory and cognitive abilities in university professors: Evidence for successful aging. *Psychological Science, 6*, 271-277. doi: 10.1111/j.1467-9280.1995.tb00510.x

Shinar, E. H. (1975). Sexual stereotypes of occupations. *Journal of Vocational Behavior, 7*, 99-110.

Shore, L. M., & Goldberg, C. B. (2005). Age discrimination in the workplace. In R. L. Dipboye & A. Colella (Eds.), *Discrimination at work: The psychological and organizational bases* (pp. 281-304). Mahwah, NJ: Lawrence.

Shore, L. M., Cleveland, J. N., & Goldberg, C. (2003). Work attitudes and decisions as a function of manager age and employee age. *Journal of Applied Psychology, 88*, 529-537. doi: 10.1037/0021-9010.88.3.529

Shore, L. M., & Goldberg, C. B. (2004). Age discrimination in the workplace. In R. L. Dipboye & A. Colella (Eds.), *Discrimination at work* (pp. 203-226). Mahwah, NJ: Lawrence Erlbaum Associates.

Shrout, P. E., & Fleiss, J. L. (1979). Intraclass correlations: uses in assessing rater reliability. *Psychological bulletin*, *86*(2), 420. doi: 10.1037//0033-2909.86.2.420

Shute, N. (1997). A STUDY FOR THE AGES. *US News & World Report*, *122*(22), 66-74.

Siu, O., Spector, P. E., Cooper, G. L., & Donald, I. (2001). Age differences in coping and locus of control: A study of managerial success in Hong Kong. *Psychology and Aging*, *16*, 707–710. doi: 10.1037/0882-7974.16.4.707

Smith, N. A. (2011). The cost of discrimination: Job age-type and legal outcomes. (Unpublished thesis). University of Central Florida, Orlando, FL.

Smith, M. W., Sharit, J., Czaja, S. J. (1999) Aging, motor control, and the performance of computer mouse tasks. *Human Factors, 41*, 389-396. doi: 10.1518/001872099779611102

Smither, J. A., Mouloua, M. *An overview of age-related changes in functional capabilities.* Unpublished manuscript, University of Central Florida, Orlando, FL.

Stelmach, G.E., and Sirica, A. (1986). Aging and proprioception. *Age, 9*, 99-103. doi:1 0.1007/BF02432281

Stelmach, G.E., and Worringham, C.J. (1985). Sensorimotor deficits related to postural stability: Implications for falling in the elderly [Review]. *Clinics in Geriatric Medicine, 1*, 679-694.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). New York: Harper Collins.

Tajfel, H. (1970). Experiments in intergroup discrimination. *Scientific American, 223*, 96-102.

Tajfel, H. (1974). Social identity and intergroup behavior. *Social Science Information, 13*, 65-93.

Tajfel, H., Billing, M., & Flament, C. (1971). Social categorization and intergroup behavior. *European Journal of Psychology*, *10*, 1, 149-178.

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worschel (Eds.), *The social psychology of intergroup relations* (pp. 33-47). Monterey, CA: Brooks.

Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worschel & W. G. Austin (Eds.), *Psychology of intergroup relations* (pp. 7-24). Monterey, CA: Brooks.

Tamkin, A. S., & Jacobsen, R. (1984). Age-related norms for the Hooper Visual Organization Test. *Journal of Clinical Psychology*, *40*, 1459–1463. doi: 10.1002/1097-4679(198411)40:6<1459::AID-JCLP2270400633>3.0.CO;2-3

Tanner, K. (2006). *Never order barbecue in Maine: Proven career strategies from people who've been there, done that.* Nashville, TN: Thomas Nelson, Inc.

Taylor, P., & Walker, A. (1998). Employers and older workers: Attitudes and employment practices. *Aging and Society, 18*, 641-658. doi: 10.1017/S0144686X98007119

Tedeschi, G., Di Costanzo, A., Allocca, S., Quattrone, A., Casucci, G., Russo, L., and Bonavita, V. (1989). Age-dependent changes in visually guided saccadic eye movements. *Functional Neurology*, *4*(4), 363-367.

Tett, R. B., Burnett, S. D. (2003). A personality trait-based interactionist model of job performance. *Journal of Applied Psychology, 88*, 500-517. doi: 10.1037/0021-9010.88.3.500

Tsui A.S., Porter L.W., Egan T.D. (2002). When both similarities and dissimilarities matter: Extending the concept of relational demography. *Human Relations, 55,* 899–929.

U.S. Bureau of Labor Statistics (2009). *Labor force statistics from the current population survey.* Retrieved June 13, 2012, from http://www.bls.gov/cps/cps_aa2009.htm.

U.S. Bureau of Labor Statistics (2011). *Labor force statistics from the current population survey.* Retrieved June 17, 2012, from http://www.bls.gov/cps/cpsaat31.htm.

U.S. Census Bureau. (2000). *Census 2000 EEO Data Tool.* Retrieved April 12, 2011, from http://www.census.gov/eeo2000/.

U.S. Department of Labor, Report to the congress on age discrimination in employment under section 715 of the Civil Rights Act of 1964 (1965).

U.S. Equal Employment Opportunity Commission. (2011). *Age discrimination in employment act (includes concurrent charges with Title VII, ADA and EPA)* [Data file]. Retrieved from http://www.eeoc.gov/eeoc/statistics/enforcement/adea.cfm

van der Heuvel, W. J., & van Santvoort, M. M. (2011). Experienced discrimination amongst European old citizens. *European Journal of Aging, 8*, 291-299. doi: 10.1007/s10433-011-0206-4

Van der Linden, M., Bredart, S., & Breeten, A. (1994). Age-related differences in updating working memory. *British Journal of Psychology, 85,* 145-152. doi: 10.1111/j.2044-8295.1994.tb02514.x

Vollmer, D. J. (2005). *Employment strategies of workers over the age of 50.* (Doctoral dissertation). Retrieved from ProQuest (3194297)

Vrugt, A. & Schabracq, M. (1996). Stereotypes with respect to elderly employees: The

contribution of attribute information and representativeness. *Journal of Community and Applied Social Psychology, 6*, 287-292. doi: 10.1002/(SICI)1099-1298(199610)6:4<287::AID-CASP376>3.0.CO;2-S

Vygotsky, L. S. (1965). *Thought and language*. Cambridge Massachusetts: MIT Press.

Waldman, D. A., & Avolio, B. J. (1993). Aging and work performance in perspective: Contextual and development considerations. *Research in Personnel and Human Resource Management, 11*, 133-162.

Walker, J. H. Real-world variability, reasonableness judgment, and memory representations for concepts. *Journal of Verbal Learning and Verbal Behavior, 14*, 241-252. doi: 10.1016/S0022-5371(75)80067-3

Walker, N., Millians, I., & Worden, A. (1996). Mouse accelerations and performance of older computer users. In *Proceedings of the Human Factors and Ergonomics Society 40th Annual Meeting* (pp. 151-154). Santa Monica, CA: Human Factors and Ergonomics Society. doi: 10.1177/154193129604000310

Walker, N., Philbin, D.A., and Fisk, A.D. (1997). Age-related differences in movement control: Adjusting submovement structure to optimize performance. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 52*(1), P40-P52. doi: 10.1093/geronb/52B.1.P40

Wang, J., & Kaufman, A. S. (1993). Changes in fluid and crystallized intelligence across the 20- to 90- year age range on the K-Bit. *Journal of Psychoeducational Assessment, 11*, 29-37. doi: 10.1177/073428299301100104

Warabi, T., Kase, M., and Kato, T. (1984). Effect of aging on the accuracy of visually guided

saccadic eye movement. *Annals of Neurology, 16*(4), 449-454. doi: 10.1002/ana.410160405

Watson, D., & Naragon, K. (2009). Positive Affectivity: The disposition to experience positive emotional states. In C. R., Snyder & S. J. Lopez (Eds.). *The Oxford Handbook of Positive Psychology* (2nd ed.) pp. 207-215. New York: Oxford University Press.

Weiner, Y., & Schneiderman, M. L. (1974). Use of job information as a criterion in employment decisions of interviewers. *Journal of Applied Psychology, 59*, 699-704. doi: 10.1037/h0037502

Weiss, E. M., & Maurer, T. J. (2004). Age discrimination in personnel decision: A re-examination. *Journal of Applied Social Psychology, 34*, 1551-1562. doi: 10.1111/j.1559-1816.2004.tb02786.x

Welford, A.T. (1977). Motor performance. In J.E. Birren and K.W. Schaie (Eds.), *Handbook for the psychology of aging*. New York: Van Nostrand Reinhold. doi: 10.1080/00140136008930484

Williams, D. R., & Mohammed, S. A. (2009). Discrimination and racial disparities in health: Evidence and needed research. *Journal of Behavioral Medicine, 32*(1), 20-47. doi:10.1007/s10865-008-9185-0

Williams, K. Y., & O'Reilly, C. A. (1998). Demography and diversity in organizations: A review of 40 years of research. *Research in Organizational Behavior, 20*, 77-140.

Worden, A., Walker, N., Bharat, K., & Hudson, S. (1997). Making computers easier for older adults to use: Area cursors and sticky icons. *Proceedings of CHI '97,*266-271. doi: 10.1145/258549.258724

Yamada, H., Masude, T., & Okada, M. (2002). Age-related EMG variables dueing maximum voluntary contraction. *Perceptual and Motor Skills, 95*, 10-14. doi: 10.2466/PMS.95.5.10-14

Yen, I. H., Ragland, D. R., Grenier, B. A., & Fisher, J. M. (1999). Workplace discrimination and alcohol consumption: Findings from the San Francisco Muni Health and Safety Study. *Ethnicity & Disease, 9*, 70-80.

Yeung, D. Y., & Fung, H. H. (2009). Aging and work: How do SOC strategies contribute to job performance across adulthood? *Psychology and Aging, 24*, 927-940. doi: 10.1037/a0017531

Yoshikawa, H., Wilson, P. D., Chae, D. H., & Cheng, J. (2004). Do family and friendship networks protect against the influence of discrimination on mental health and HIV risk among Asian and Pacific Islander gay men? *AIDS Education and Prevention, 16*, 84-100. doi: 10.1521/aeap.16.1.84.27719

You're older? So sell your wisdom. (2007, February 18). *Blumberg BusinessWeek.* Retrieved from http://www.businessweek.com/stories/2007-02-18/youre-older-so-sell-your-wisdom

Yuan, A. S. (2007). Perceived age discrimination and mental health. *Social Forces, 86*, 291-311. doi: 10.1353/sof.2007.0113

Zeng, X. (2007). Enforcing equal opportunities in China. *Journal of Labor and Employment, 285*, 991-1025.