

THESIS

SUCCESSFUL AGING AT WORK AND AGE-RELATED CONTEXTUAL INFORMATION  
INFLUENCE SIMULATED PERFORMANCE APPRAISAL DECISIONS

Submitted by

Madison E. Hanscom

Department of Psychology

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Fort Collins, Colorado

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Master's Committee:

Advisor: Jeanette Cleveland

Gwenith Fisher

Kevin Murphy

Lynn Shore

Lorann Stallones

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## ABSTRACT

### SUCCESSFUL AGING AT WORK AND AGE-RELATED CONTEXTUAL INFORMATION INFLUENCE SIMULATED PERFORMANCE APPRAISAL DECISIONS

As the age of the workforce increases, it is important to understand that information other than objective job performance influences the performance evaluation process and decisions. Performance information is used as a basis for multiple organizational decisions, thus it is critical to understand how alternative age concepts may influence these important work outcomes. Much research has been conducted using chronological age to examine these linkages although few studies have incorporated more recent measures of aging perceptions. Using a within subjects 2 x 3 x 2 experimental vignette methodology across three samples, the present study examined the influence of successful aging at work (successful and not successful), the age type of the job (young type of job, age neutral, and old), and performance pattern (younger or older) on performance ratings, promotion and layoff decisions, recommendations for upgrade training, bonus money administration, and organizational resource investments. Results showed significant main effects for successful aging at work on performance-based outcomes. Less consistent relationships were found with job type and performance pattern. These results are discussed in relation to previous research on age-performance relationships, theoretical support, as well as implications for future research.

## TABLE OF CONTENTS

|   |    |
|---|----|
| ABSTRACT.....                           | ii |
| INTRODUCTION.....                       | 1  |
| METHOD AND RESULTS FOR PILOT PHASE..... | 16 |
| METHOD FOR MAIN STUDY.....              | 21 |
| RESULTS.....                            | 26 |
| DISCUSSION.....                         | 29 |
| REFERENCES.....                         | 41 |
| APPENDICES.....                         | 49 |

## **Introduction**

### **Successful Aging at Work and Age-Related Contextual Information Influence Simulated Performance Appraisal Decisions**

By 2016 the age group comprised of 55 to 65 year old workers in the US is projected to increase by 37% (U.S. Bureau of Labor Statistics, 2008). People live longer, obtain higher levels of education, remain in the workforce longer and retire later (National Institute on Aging, 2016). In addition, multiple generations work together. As the demographic composition of the workforce population continues to become more diverse (e.g., Eurostat, 2016), it is important to have greater understanding of the challenges that age diversity may bring to psychosocial variables at work (e.g., Macdonald & Levy, 2016) and human resource practices in the workplace (e.g., Boehm & Kunze, 2015). One such challenge is how alternative conceptualizations and perceptions of age may influence assessments of work performance and performance-based organizational decisions (Zacher & Steinvik, 2016).

The purpose of the present study is to examine how simulated performance appraisal ratings and personnel decisions are influenced by whether or not an employee is perceived to be successfully aging at work or unsuccessfully aging at work. In addition, the age-type of the job (i.e., older job or younger job) and age-related performance patterns (i.e., a stereotypically young or old way of performing at work) were considered in conjunction with successful aging at work to illustrate the influence of each on overall performance ratings and personnel decisions (i.e., financial bonus, organizational resources allotted, recommendations for upgrade training, lay off and promotional decisions). It would be useful for managers to know if successful aging characteristics are relevant information utilized in performance relevant decision-making.

## **An Alternative to Chronological Age: Successful Aging at Work**

Although chronological age is a crucial measurement and reference tool, it may not provide information that other constructs of age provide based upon alternative perspectives or views of an older worker. The consideration of perceptual age measures may provide us with more information to predict work criteria than chronological age alone (e.g., Cleveland & Shore, 1992; Kaliterna, Larsen, & Brkljacic, 2002). There are many alternative measures of age can be used to predict evaluative decisions at work. Among the perceptual constructs of age (e.g., subjective age, biological age, relative age, awareness of age-related change) that have recently received research attention is ‘successful aging’. Very broadly speaking, a person is aging successfully when they are maximizing positive or desired outcomes and minimizing negative (undesired) outcomes (Baltes, 1997). Sabia et al. (2012) examined antecedents of successful aging (their definition was the absence of physical disability, chronic disease, and mental or cognitive health issues at age 60 or older) and found that the individuals who were physically active, more educated, do not smoke cigarettes, drink moderately (compared to none or heavy drinking), and consume fruits and vegetables daily have greater odds for aging successfully later in life (16 years later). Gender was not related to successful aging in this study.

Before discussing the more context-specific concept of successful aging at work, it is first useful to understand the broader construct of successful aging. Although other less-formal descriptions of successful aging emerged earlier, gerontological theories of successful aging began to emerge in the early 1960s (e.g., Havighurst, 1961) and developed throughout the next several decades (e.g., Neugarten, 1972). In 1984, Rowe and Kahn (along with several other scientists) led the MacArthur Network on Successful Aging, which produced clarifying research, and they ultimately proposed their widely used successful aging definition. This includes three

components: “low probability of disease and disease-related disability, high cognitive and physical functional capacity, and active engagement with life” and when they overlap, successful aging is achieved (p. 433, Rowe & Kahn, 1997).

During this time, Baltes and Baltes (1990; Baltes, 1997) conceptualized successful aging using a 3-part model that states that a person who is successfully aging is someone who copes with age-related losses by employing SOC (Selection Optimization, and Compensation) strategies. The 3-part SOC theory encompasses the gain/loss relationship for successful aging. First, there is the strategic *selection* of focusing one’s resources and adapting in terms of contexts, outcomes and goal structures. It is important because it directs a person’s behavior based on their hierarchy of goals, which is necessary because one’s resources are often limited; therefore it is crucial to focus on what is most primary. There are multiple selection types (e.g., elective and loss-based). *Optimization* is when the individual enhances their skills and abilities that help them reach their goals (e.g., practicing difficult tasks). *Compensation* occurs when an individual is faced with age-related loss and they use alternative means to reach goals and/or maintain functioning (e.g., ask for help).

More recently, Pruchno, Wilson-Genderson, and Cartwright (2010) found support for a two-factor model of successful aging comprised of an objective (i.e., ample functional abilities, little or no pain, few chronic diseases) and subjective (e.g., perceptions such as how successful their aging experience is, life satisfaction) component. Cosco, Prina, Perales, Stephan, and Brayne (2013) more recently completed a systematic review of the successful aging literature across disciplines to build consensus on a definition, but this proved to be difficult. From the 105 papers that fit their review, the definitions ranged from having a single construct or five constructs within successful aging. They most commonly found papers to have a single

construct within their operational definition of successful aging, which was a physiological component. The second most commonly used component of successful aging used was well-being. This highlights a common theme in the research today. Many researchers (inside and outside of the disciplines of gerontology and psychology) use successful aging as a blanket term to indicate desirable outcomes, and there is not necessarily consensus on a single definition.

In the work context, employees are identified as successfully aging *at work* when they are experiencing growth or maintenance in their health, motivation, and work ability presently and in the future (e.g., Kooij, 2015b). The contribution of successful aging at work is potentially significant because we are concerned with retaining older employees as long as possible (Zacher, 2015a), particularly if they are maintaining high levels of functioning and well being. This is beneficial both for the individual and the organization in a variety of ways. Research shows that employees who are high in successful aging at work have greater intentions to remain with their organization (Cheung & Wu, 2013) and benefit from other positive work outcomes (e.g., Moghimi, Zacher, Scheibe, & Van Yperen, 2016; Müller et al., 2013). Yet research using the construct is limited. As people remain in the workforce longer, it is imperative to consider the implications associated with this construct and its linkages to important human resource decisions including performance assessment and salary recommendations. Research has yet to examine the relationship between those who are successfully aging at work and employment-related decisions. In the present study, this relationship is examined to explore successful aging at work from the “other” perspective, to determine whether or not this is considered to be relevant information to decision makers in a performance evaluation setting.

Human resource practices such as performance appraisal can be affected by perceptions of age (Bal, Reiss, Rudolph, & Baltes, 2011), and managers can hold negative views about older



workers (Kooij, 2015c). Performance appraisal is often used for processes directly related to the development and career progression of an individual, such as promotional and reward decisions (Frame et al., 2010), thus the importance is clear. Demographic bias in performance appraisal occurs when membership in a social category (e.g., age, race) that is unrelated to actual performance on the job influences the outcome (Roberson, Galvin, and Charles, 2007).

Researchers have identified ways in which age can influence perceptions involved with human resource decisions. Additionally, it is important to acknowledge that age biases may be mitigated by specific contextual factors. One such context factors is the job or occupation that a person holds. Similar to how people hold stereotypes pertaining to the ages of people, there are stereotypes associated with the type of job a person works. The age-type of a job is the perception that people hold regarding whether the job is typically more appropriate for older, middle-aged, or younger workers (Goldberg, Finkelstein, Perry, & Konrad, 2004). People typically assume that an old-type job typically is comprised of older individuals, and so on. The age-type of job has been shown to influence performance evaluations, where older workers are rated lower than younger workers when they occupy young-typed jobs (Cleveland & Landy, 1983).

### **Successful Aging at Work**

While there have been several decades of research focusing on general successful aging, the more specific conceptualization of successful aging at work is fairly novel. Like the general construct of successful aging, successful aging at work researchers typically agree that there are both subjective and objective components to the definition (e.g., Kooij, 2015a; Zacher, 2015a). There also is consensus that in order to be aging successfully at work, a person maintains or experiences positive change in the outcome of interest over time whereas a decline would be

unsuccessful aging at work. For instance, if a person increasingly suffers from chronic health issues as they age and this interferes with their work, it is an example of unsuccessfully aging. On the other hand, if a person continues throughout their career without an accumulation of health problems, this maintenance of good health would represent successful aging at work. Because this is a more recent construct, consensus on a definition is still building. To move forward with this conceptualization, Kooij (2015a, 2015b) and Zacher (2015a, 2015b) both have been working together to communicate the most precise definition of successful aging at work. Although their definitions are somewhat distinct in certain aspects, they have integrated where they agree, all while considering the past literature, in order to move research forward.

Kooij (2015a) proposed her successful aging at work definition from a sustainability perspective: one is successfully aging at work when health, motivation, and work ability are maintained presently and into the future. Kooij uses the person-environment (P-E) fit perspective to conceptualize this adaptation between the constantly changing worker and work environment. On the other hand, Zacher (2015a) proposed a definition of successful aging at work which includes four components: (1) *criteria for successful aging at work* – the subjective and objective criteria that are important to employees and organizations, (2) *temporal pattern information* – how are they comparing to their peers and their past self, (3) *explanatory mechanisms* – consider the person and contextual-related factors that may be changing with age regardless, and (4) *facilitating and constraining factors* – person and context moderators, such as social support, that may not be related to employee age but they still influence work outcomes.

Zacher (2015b) and Kooij (2015b) worked to integrate and compare definitions, and emphasized that much research is still needed in this area. According to both the Kooij and Zacher definitions, *unsuccessful* aging would be the decline of the relevant outcomes (e.g.,

decline in work ability). It is also agreed between the construct definitions that the active role of the aging worker is typically a determinant in successful aging at work. In other words, this could be the employee implementing Selection, Optimization, and Compensation (SOC) strategies at or in relation to work, job crafting, goal directed behavior to change themselves and/or the environment, proactive fit and career behaviors, and so on (Zacher, 2015b). For the purpose of the present study, the outcomes of successful aging at work and how to determine if a worker is successfully aging (not the determinants, antecedents, or moderating processes) are examined; therefore I will be utilizing the definition that a person is aging successfully at work when they are experiencing growth or maintenance in their health, motivation, and work ability now and in the future (e.g., Kooij, 2015b). This definition still closely aligns with the Zacher (2015a) definition, yet it is more realistic for depicting a successfully aging worker in a performance appraisal scenario.

Consistent with the lack of consensus on the conceptual definition for successful aging at work, there is little consensus on the measurement of successful aging broadly (e.g., Pruchno, Wilson-Genderson, & Cartwright, 2010), or successful aging at work specifically (e.g., Zacher, 2015b). Robson, Hansson, Abalos, and Booth (2006) developed an item pool to “reflect the diverse contexts and the performance, motivational, and well-being issues likely to be important to older individuals in the workforce” and asked older workers to rate these in importance for successful aging at work (p. 163). They factor analyzed the results, obtaining 5 themes: (1) adaptability and health, (2) continued focus on goals, (3) personal security, (4) occupational growth, and (5) positive relationships. However, this has not been accepted as a standard for measurement, rather, more of a starting point to understand the perceptions associated with successful aging at work. These factors are based upon what older workers reported to be

important, not necessarily aligning with the construct definition. Further, it is unclear if these are intended to be antecedents or an actual measure of successful aging at work. Although successful aging at work may be measured by how workers employ SOC strategies (e.g., Abraham & Hansson, 1995; Müller, Heiden, Weigl, Glaser & Angerer, 2013), additional research on successful aging at work is still needed (e.g., Truxillo, Cadiz, & Hammer, 2015).

### **Successful Aging at Work Within a Performance Appraisal Context**

Evaluative work outcomes such as performance appraisal have the potential to be affected by perceptions of age (Bal, Reiss, Rudolph, & Baltes, 2011), and managers can often hold false negative stereotypes about older workers (Posthuma & Campion, 2009). Performance appraisal is often used for processes directly related to the development and career progression of an individual, such as promotional and reward decisions (Frame et al., 2010). Demographic bias in performance appraisal occurs when membership in a social category (e.g., age, race) that is unrelated to actual performance on the job is influencing the outcome (Roberson, Galvin, and Charles, 2007). Gordon and Arvey (2004) conducted a meta analysis to examine the overall relationships with age bias in important workplace decisions such as performance appraisal, and found that the overall effect size was .11; thus there are generally more positive evaluations for younger workers than older workers, but it is a somewhat small effect. Bal, Reiss, Rudolph, and Baltes (2011) conducted a more recent meta analysis with more rigorous methods, demonstrating that age has a medium negative effect on general evaluations ( $r = -.24$ ,  $d = -.49$ ).

Shore, Cleveland, and Goldberg (2003) illustrated that when the ratee or employee is a younger person, they are more likely to be rated as having higher performance by a younger rater or manager and lower by an older manager; whereas if the employee is older they are more likely to be rated higher by an older manager and lower by a younger manager. Additional research

has shown that when the subordinate is older than the manager, more often they will be rated lower on performance measures than when the employee is younger than the manager (Tsui, Porter, & Egan, 2002).

The chronological age of the ratee, rater, and rater-ratee pairs have the potential to influence performance appraisal outcomes. However, it is not clear whether or not alternative age measures will show linkages with performance appraisal outcomes. There is evidence to suggest that successful aging will influence performance-based ratings. In a recent meta analysis by Moghimi, Zacher, Scheibe, and Van Yperen (2016), SOC strategy use was shown to have a positive relationship with both self reported and non-self reported job performance. Additionally, employees who are successfully aging at work show greater intentions to remain in their organization (Cheung & Wu, 2013) and are more likely to form collaborative relationships with others at work (Killian, 2005). Müller et al. (2013) showed that nurses who display SOC strategies at work are more likely to benefit from favorable outcomes such as work ability and well-being. There has also been research showing that SOC strategies contribute to other outcomes directly related to job performance. For example, Yeung and Fung (2009) illustrated that older Chinese sales workers who used SOC strategies were better maintaining their job performance. Robson, Hansson, Abalos, and Booth (2006) investigated whether or not their measure of successful aging (self-perceptions of successful aging) was related to self-reported behaviors that were defined to influence their performance on the job as they were growing older (i.e., career planning, updating job skills, control amount of work, adjust job to what you want to do, and adjust job to what you can do). Their measure for successful aging was related to all but one (i.e., control amount of work) of the five behaviors they isolated to reflect variables that would impact job performance.

Based on this, it seems reasonable to hypothesize that a person who is aging successfully at work is maintaining or increasing in their job performance; however this is not a component of the definition for successful aging at work. In the present study, we are interested in examining decision-maker perceptions of successful aging at work and how these might influence performance ratings rather than the employee's self-perceptions of their own aging.

The lack of fit model (also referred to as the stereotype fit model) indicates that people automatically have expectations for how someone will perform on the job (e.g., Heilman, 1983). In other words, decision makers attribute characteristics to the ratee that match with their stereotypes of what they believe would be a similar person to the ratee, and bias occurs when the stereotype of the employee does not match with the object of comparison (Dipboye, 1985). In the present context this might be that a person who is successfully aging at work is typically healthy and productive, thus will be expected (trigger expectations) to perform better than the employee who is not aging successfully at work. Lack of fit perceptions occur when the individual's attributes and abilities are not aligning with the requirements or expectations of the job or task (Heilman, 1983). Thus in the present context, there would be a lack of fit when a person is unsuccessfully aging and performing well at work; therefore, raters will be likely to rate people who are not successfully aging at work lower and give them less favorable employment decisions than those who are successful.

Biased perceptions such as stereotypes can be a major barrier to advancement within organizations. Younger individuals often are preferred for hiring decisions and are seen as more trainable (Richardson, Webb, Webber, & Smith, 2013). Older workers are seen to have lower interpersonal skills and generally have fewer ratings for advancement (Bal, Reiss, Rudolph, & Baltes, 2011). As employee age increases, it becomes more likely for raters to suggest

retirement, and less likely for them to suggest promotion when holding performance constant (Rosen, Jerdee, & Lunn, 1981). However, this pattern becomes weaker when the employee is performing at a very high level. This suggests that other variables influence the rater's perception of promotability and termination decisions other than age. Based on this principle and the lack of fit model, it is hypothesized in the present study that when a person is successfully aging at work, this will positively influence the relationships related to performance ratings and employability decisions (e.g., bonus administration and promotions).

**HYPOTHESIS 1:** Employees who are successfully aging at work will receive H1a.) higher overall performance ratings, H1b.) higher financial bonuses, H1c.) more organizational resources, H1d.) higher recommendations for upgrade training, H1e.) lower recommendations for being laid-off, and H1f.) higher promotion recommendations than those who are not successfully aging at work.

### **Context Considerations: Age-Type of Jobs and Successful Aging at Work**

When studying age biases in performance ratings and other employment outcomes, it is necessary to consider the job context. Throughout different domains of life, a person can feel older or younger than their chronological age due to how they feel and how they are treated relative to their surroundings (Miche, Brothers, Diehl, & Wahl, 2015). Thus, the same person might be considered “old” in a certain type of job and “young” in another, or “young” in their job and “old” at a party with their friends. Context is often neglected in the age discrimination literature (e.g., Bowen & Staudinger, 2012) and it has been shown to influence performance ratings (Ellington & Wilson, 2017). In the present study, context will be examined as the age-type of job. Concurrent with the past literature, the age-type of a job is the perception that people hold regarding whether the job is typically more appropriate for older, middle-aged, or

younger workers. For example, lower-level food service jobs and technical are more likely to be associated with having younger incumbents (e.g., Goldberg, Finkelstein, Perry, & Konrad, 2004); thus are young-typed jobs. Perry, Kulik, & Bourhis, (1996) examined age-typed jobs in a selection evaluation context and found old applicants received lower evaluations for young-typed jobs than did the young applicants. There was no difference in the evaluation of the older and younger applicants for the old-typed job. Other studies have not found differences in work outcomes between a person's age and the age type of job (e.g., Goldberg, Finkelstein, Perry, & Konrad, 2004).

Discrimination and biased perceptions can be more likely when the age of the worker does not match the age of the job (Perry & Finkelstein, 1999). Relational demography proposes that when an employee is demographically dissimilar from others in a job or group, there is a misfit in the eyes of the evaluator, and this leads to lower performance evaluations (Tsui & O'Reilly, 1989). Using this theoretical guidance for the present study, it could be assumed that a person who is successfully aging at work in a young-typed job represents a similar, comfortable fit for a rater; thus they are likely to receive the highest performance ratings and employment decisions. On the other hand, those who are unsuccessfully aging in a young-typed job represent a dissimilar match in the eyes of the rater, leading to less favorable performance ratings and employment decisions.

There is additional support for these predictions. The career timetables perspective states that there are clear norms in which working individuals fall on the career trajectory, and this is highly corresponding with age and being "on time" with their peer group (Lawrence, 1988). There are also norms that are consequent of the composition of older or younger workers in the job, thus overlapping with the age-type of job variable presented in the current study. The theory



supports that those who are ahead of the norm would be most likely to receive higher performance ratings, whereas those who are inconsistent with the norm (behind schedule) are less likely to receive promotions and more likely to receive lower performance ratings (Lawrence, 1988).

To extend this to the current study, it is hypothesized that people who are successfully aging at work are considered to be “ahead of schedule” or “on time”, thus will outperform the unsuccessful agers who are “behind schedule”. These relationships are expected to be stronger when the age-type of the context is taken into account. For instance, there will be a lack of fit for someone unsuccessfully aging in a young-typed job; therefore, they will be rated the lowest and will be the least likely to have recommendations for positive employment outcomes (e.g., promotion). In order to acknowledge the relevant theory (that bias should occur when the worker and the job do not match) in conjunction with the findings in regard to the age-type of job examined by past researchers (that these relationships are stronger in young jobs than old jobs), we hypothesize the following:

**HYPOTHESIS 2:** Employees who are in younger types of jobs will receive H2a.) higher overall performance ratings, H2b.) higher financial bonuses, H2c.) more organizational resources, H2d.) higher recommendations for upgrade training, H2e.) lower recommendations for being laid-off, and H2f.) higher promotion recommendations than those who are working in older types of jobs.

**HYPOTHESIS 3:** There will be an interaction between age-type of job and successful aging at work, such that larger differences in ratings and decision outcomes will exist between employees who are successfully aging at work and not successfully aging at work in younger age-typed jobs than older or age-neutral jobs.

## **Performance Patterns and Successful Aging at Work**

Meta-analytic research has found that there are not meaningful differences in job performance across age groups (e.g., Ng & Feldman, 2008); yet biased and negative perceptions of older workers persist. Additionally, there are certain characteristics that older workers are perceived to typically have at work. Within the present study, the age-related performance patterns communicate this information within the evaluation form.

Posthuma and Campion (2008) identified common age-related perceptions, which include negative work-related stereotypes typically associated with older workers. Older workers perceived as less motivated, lower performing, harder to train, less flexible, more resistant to change, and less productive than younger workers. On the other hand, there are more positive characteristics associated with older workers as well. These characteristics suggest that older workers are viewed as more stable, dependable, honest, committed to the job, and less likely to miss work or turnover quickly than younger workers (Posthuma & Campion, 2008). Clearly, not all aspects of work perceptions are negative, though there is a general tendency for attitudes toward older workers to be more negative than toward younger workers (Kite, Stockdale, Whitley, & Johnson, 2005).

Age-related performance patterns can be developed by indicating that a person is performing or behaving highly on aspects of performance that are typically associated with a younger or an older worker. Cleveland and Landy (1983) notably manipulated performance patterns (i.e., typifying the performance of what usually is expected from an older worker or younger worker) and found an interaction between that and job type. When the performance pattern was inconsistent with the age-type of the job, employees received lower ratings than when it was consistent. In addition, participants with young performance patterns working in

young jobs were more likely to receive more bonus money over those behaving with older patterns of performance. There were stronger differences in ratings for those in younger types of jobs, thus we hypothesize a similar pattern in Hypothesis 5.

Cleveland and Landy (1983) found partial support for the ratee age by performance pattern interaction. When the amount of reward money distributed was the dependent variable, for those displaying a young performance pattern, awards decreased as age increased. For those with an older performance pattern, as chronological age increased so did the amount of rewards. However, no age by performance pattern interactions were found for ratings of overall performance or promotion recommendations. As we know from previous findings (e.g., Cleveland & Shore, 1992), alternative age measures (e.g., relative age) can provide information beyond that provided by chronological age; therefore the examination of successful aging at work within this context is important.

As discussed previously, the stereotype-fit framework (Dipboye, 1985) posits that bias occurs when there is a lack of fit when the stereotype of the person is not matching with the stereotype of the job or perceived requirements of the job. This theory supports the notion that when a person is acting in a way that reinforces stereotypical behavior, they are likely to be judged more favorably. This has been shown with stereotype-reinforcing behaviors in minorities (e.g., Luksyte, Waite, Avery, & Roy, 2013), but has not yet been used in the current context of successful aging. For instance, in the current study, employees who are aging successfully at work and are displaying a young task performance pattern are reinforcing the observers' expectations; and thus will receive higher ratings and more positive employment decision outcomes than those who are performing inconsistently (with older performance patterns). Conversely, employees who are unsuccessfully aging and demonstrating a young task

performance pattern will be rated lower because there is a lack of fit with the expected stereotypes.

**HYPOTHESIS 4:** Employees who have younger performance patterns will receive H4a.) higher overall performance ratings, H4b.) higher financial bonuses, H4c.) more organizational resources, H4d.) higher recommendations for upgrade training, H4e.) lower recommendations for being laid-off, and H4f.) higher promotion recommendations than those who are performing with older performance patterns.

**HYPOTHESIS 5:** There will be an interaction between performance pattern and the age-type of job, such that larger differences in ratings and decision outcomes between younger and older task performance patterns will exist for employees in the younger age-typed jobs than for employees in the old-typed and neutral jobs.

**HYPOTHESIS 6:** There will be an interaction between performance pattern and successful aging at work, such that the employees who are successfully aging at work with **young performance patterns** will receive higher ratings and more positive decision outcomes than the employees who are successfully aging at work with **old performance patterns**.

In addition, employees who are unsuccessfully aging at work with **older performance patterns** will receive higher ratings and more positive decision outcomes than the employees who are unsuccessfully aging at work with **younger performance patterns**.

## **Method and Results for the Pilot Test Phase: Part 1**

The present research was a two-phase study. In phase 1, the pilot study, stimulus materials were developed for (a) the successful aging at work description items, (b) the age-type of jobs, and the (c) gender-type of jobs (to ensure neutrality). During this phase, participants rated the extent to which the items reflected successful or unsuccessful aging as defined in the literature and the extent to which jobs were linked with older and younger perceptions as well as perceptions of masculinity and femininity.

In phase two a 2x3x2 (successful aging at work x age-type of job x performance pattern) repeated measures MANOVA was utilized to answer the Hypotheses. The second part of the study was designed to test each of the research hypotheses using a performance assessment simulation (paper people) informed by Part 1, the pilot test of the stimulus materials. More specifically, the purpose was to determine if an employee who is successfully aging at work would elicit higher performance ratings, bonus money, promotional and training opportunities, and fewer recommendations for lay-offs than a person who is not successfully aging at work. Interactions with age-type of job and performance patterns were also examined.

### **Phase 1: Development of Stimulus Materials**

**Participants.** Thirty-two working individuals participated in the pilot test to test the independent variables used in the main study. A total of 12 participants were removed because they either did not finish answering the survey, or failed more than one attention check items. The remaining 20 participant ages ranged from 19 – 76 ( $M= 31.80$ ,  $SD = 17.85$ ) and were mostly female (women 80%, men 20%). The majority of the sample worked more than 20 hours a week (85%) and two participants were retired. The majority of the sample also had supervisory

experience (65%). The survey was administered online and took approximately 20 minutes to complete.

**Successful aging at work.** To determine if the hypothetical employee was successfully or unsuccessfully aging at work, the participants given 48 short statements that were intended to be examples of informal supervisory notes about employees. The participants were given the instructions:

“The following are 48 short (1-2 sentences) examples of informal supervisory notes on the behaviors of employees at work. The supervisor wrote these notes after recent one-on-one meetings with each employee. All information was provided voluntarily by employees about their work behaviors. For each example, please indicate the extent to which you believe the item reflects successful or unsuccessful aging at work using the scale of 1 (unsuccessfully aging at work) to 7 (successfully aging at work).  
*(Note: Successful aging at work is occurring when an employee experiences growth or maintenance in his/her health, motivation, and work ability.)*”

These descriptions were developed by the author to closely align with the successful aging at work construct definition, which again is the maintenance or growth in an employee’s health, work ability, and motivation (e.g., Kooij, 2015a). Each statement targeted the employee’s health, work ability, *or* motivation. There is also the temporal aspect of the definition, which indicates that one is successfully aging only if they are maintaining or increasing in the dimensions, and this temporal aspect is captured within the manager notes section as well. For instance, language of decline (e.g., “has gotten worse” or “has been decreasing”) would be used to represent unsuccessful aging in certain circumstances. The statements were written from the point of view of the manager, who was reporting what the hypothetical employee told them during “a recent, informal feedback meeting”. Please see Appendix A for the full list of successful aging descriptions and the instructions as they appeared in the pilot test.

A total of six successful aging at work (each made up of three items) and six unsuccessful aging at work employee descriptions were retained (each made up of three items: one for health, one for motivation, one for workability). The successful aging items that met these criteria for the full study are in Appendix B. In order to determine which manager descriptions would be used in Part 2, a graph was produced depicting a distribution of responses from subjects. For instance, if the distribution was normally distributed around the middle scale value or if was flat, it was not used. If it clearly clustered nearer to a 6 or 7 scale value reflecting successful aging at work or towards a 1 to 3 reflecting not successful aging at work, the item was retained. Further each item had to pass a second criteria for retention: items were only retained if 70% or more of the sample classified the item as successfully or unsuccessfully aging at work past the midpoint (neutral value) as defined by scoring from the 7-point Likert scale (this was calculated using frequency distributions).

**Age-type of job.** A two-step process was used to determine the age type of the jobs selected for the present research. First, the researchers utilized O\*NET to select an initial set of job titles and second, each job title was rated by the pilot participants. This 2-step process is described below. Using the 2012 public data from the Occupational Employment Statistics webpage through the Bureau of Labor Statistics (BLS; United States Department of Labor). Occupations were first selected for further review if they possessed a specified salary range (\$20,000-\$32,000 yearly salary) in order to control for prestige and salary that can often be associated with age-type of job (e.g., Cleveland & Hollmann, 1990). Next, the author grouped the jobs into 3 groups based upon the median age of those working in the occupation. Young jobs were considered to be those in the age range of 18 to 33, middle-aged jobs were those in the age range of 39 to 47, and older jobs ranged in age from 48 to the maximum age (which was

about 60 years of age). The average number of jobs in each age category (young, middle-aged, and old) was 56. From these three groups of about 56 jobs each, 10-13 jobs were selected from each age category that had more common or familiar titles (e.g., 'life guard' is an easier occupation to recognize than a 'brazing worker'). This resulted in a total of 39 jobs to be pilot tested.

Next, as previously indicated, the pilot participants rated both the age type of each job as well as the gender types. Following the procedure used by Cleveland and Hollman (1990), participants were asked to assess the age group associated with each job. Instructions specifically were, "please indicate below the degree to which the following jobs are typically a younger person's job or an older person's job" and the response options were 1 (younger person's job) to 7 (older person's job). The midpoint response was "middle-aged." Please see Appendix C for the complete list of all job titles that were pilot tested, and Appendix D for those that made it to Part 2 of the study. Those jobs that were clearly distributed toward "younger" or "older" and that had more than 70% of the sample answer that it was classified this way were retained. Four old-typed jobs and four young-typed jobs were retained for the purposes of the main study.

Age-neutral typed jobs were also pilot tested in Part 1 of the study using the prompt, "Please indicate the degree to which you believe the following jobs are generally viewed as younger, older, or age- neutral. If you believe the job is age-neutral, this means that the job is associated with all ages, and there are both older and younger people working about equally in the job. If the job is NOT age-neutral, please indicate if you perceive it is comprised of more older workers or younger workers." These jobs were selected differently than the previous age-typed jobs because the focus and midpoint was specifically "age-neutral" whereas the midpoint of last item was "middle-aged". The jobs selected for the age-neutral pilot testing were jobs with



flatter age distributions as indicated by the BLS data, whereas the distributions for the previous jobs were more narrowly clustered around an age group. All age-neutral jobs that were pilot tested can be found in Appendix E. Jobs were selected to be used in Part 2 of the study if the participants rated them in the pattern of a normal distribution surrounding the midpoint, rather than leaning left (toward a younger type of job) or right (toward an older type of job). In addition, more than 40% of the sample had selected the midpoint, or 70% of the sample had rated the job within one point of the neutral midpoint. Appendix D also contains the jobs selected for Part 2.

**Gender-type of job.** Pilot subjects also rated the gender type of the job to insure that jobs did not vary significantly by gender. Participants were instructed to rate the extent to which each job was typically viewed as masculine or feminine on a scale of 1 (masculine) to 5 (feminine). Scale distributions were examined to ensure that the jobs were more highly clustered around the mid point (neither masculine nor feminine) in order to be selected. Three jobs were not ideally distributed, they leaned slightly feminine or masculine, but they had to be used because all other jobs held a gender bias. These were a sewing machine operator and Licensed Professional Nurse (LPN; slightly female) and bus driver (slightly male).

**Performance pattern development.** There are patterns of performance associated with older workers and younger workers. For instance, research suggests that younger individuals are more likely to be perceived as technologically competent than their older counterparts (e.g., Posthuma & Campion, 2009). In order to assess perceptions of performance patterns that can be associated with certain age groups, a standardized set of performance dimensions were identified. These dimensions were consistent with each job and remained constant among conditions in the main study. The performance dimensions were developed using the

Occupational Information Network (O\*NET) summary information for each of the jobs selected from the BLS data from the age-type of job section. According to their website, O\*Net is “the nation’s primary source of occupational information” and a “comprehensive database of worker competencies, job requirements, resources, and more” (onetonline.org). Like the BLS information, O\*NET is also sponsored by the US Department of Labor, thus the job titles correspond with good alignment between the two sources. Each occupation in O\*NET includes a summary report which outlines the knowledge, skills, and abilities. The summary report for each of the 39 jobs was downloaded and compared in a spreadsheet. For the purposes of this study, the characteristics with the most overlap with the other 39 jobs were retained to be considered as the performance dimensions. This included those such as active listening, integrity, attention to detail, dependability, and cooperation.

Additionally, when selecting the performance pattern dimensions, the age-based performance perception literature was used. For instance, Posthuma and Campion (2009) summarized common findings in age stereotyping research, and this was used to determine if a high or low score on a particular dimension should be stereotypically representative of an older or younger worker. The performance dimensions that were selected can be found in Appendix F, which is an example form of a vignette from the main study.

## **Method for the Main Study: Part 2**

A 2x3x2 (successful aging at work x age-type of job x performance pattern) repeated measures MANOVA was utilized to answer the Hypotheses. Each participant was exposed to every condition in an experimental vignette method. There are both disadvantages and advantages associated with a repeated measures (or within groups) design. Carryover effects are a source of concern when performing this methodology. This is when the presentation of early stimuli in the study impacts the participants' responses to later stimuli. In the current study, counterbalancing (altering the presentation of the variables across participants) was implemented in order to prevent this phenomenon. There are also advantages to using a within subjects design. For instance, because participant responses are not being compared across groups, this removes error in the form of individual differences. In addition, a within groups design has more power than a between groups design (Murphy, Myors, & Wolach, 2014). Aguinis and Bradley (2014) further illustrate the advantages to an experimental vignette approach: it allows for greater control and allows us the ability to bypass ethical and legal dilemmas that would be associated with completing the study traditionally.

### **Participants**

Three samples were utilized for the second part of the study. A power analysis was conducted to determine the minimum number for the sample size. Using G\*Power, with a power level of .80, an alpha of .01, and effect size of  $F = 0.20$  yielding a recommended sample size of 49 subjects, for a repeated measures, 2x3x2 repeated measures MANOVA (thus with 7 groups) and 6 dependent variable measurements. Past literature indicates that generally, demographic cues on performance appraisal have a smaller effect (De Meuse, 1987). Thus, the smaller effect

size and conservative alpha were chosen. In addition, the correlation among repeated measures value in the power analysis was entered to be slightly larger than usual (0.50) because it is suspected that the dependent variables will be correlated. Each sample exceeded the number of participants needed as indicated by the power analysis. Four simple attention checks items were randomly included throughout the main study, and participants were not included if they failed these items.

**MTURK Sample:** The first sample was recruited from Amazon's Mechanical Turk system (MTurk; [www.mturk.com](http://www.mturk.com)). MTurk data has been shown to better reflect the general population than undergraduate samples and it meets psychometric standards of published research (e.g., Buhrmester, Kwang, & Gosling, 2011). There were several criteria for participation in the present MTURK survey. The participants were required to (1) be 18 years of age or older, (2) not be self employed, (3) have worked a job outside of MTURK, (3) have experience as a manager or a supervisor in the workplace, (4) have personal experience in making performance evaluation decisions, and (5) work more than 30 hours a week. These participants were selected using a screening survey. A total of 107 workers were invited to participate in the main survey after completing the screening survey, and this resulted in useable data from 100 participants. The data from seven participants was removed because they did not pass the attention check items. The participants were compensated \$2.00 for their completion of the study, which took about 25 minutes to complete on average. The majority of the participants had managerial experience (95%) and the majority had also had experiences making performance-based decisions about employees (95%). The sample mainly was working individuals holding jobs outside of MTURK (92%), while 5 people only worked for MTURK (5%) and 3 were retired. These individuals represented both genders fairly equally (women –

50%, men – 49%, other – 1%) and were primarily white (77%) and black (11%). The most common educational degree attained was a 4-year degree (46%) followed by some college (22%). The average age was 36.87 ( $SD = 11.46$ ; ages ranged from 20 to 66).

**Convenience Sample of Working Adults:** The second sample was a working sample of adults recruited by Masters level students at a Midwestern university ( $n = 92$ ). Participants were required to be 18 years or older and work more than 30 hours on an average week. There were no additional screening criteria. Out of 142 workers who participated, 92 people fully and correctly completed the study and were used for this study. The data from thirty-four participants was removed because they did not complete the survey (e.g., it was common for a participant to stop half way through). Additional data from 16 participants was removed because they failed attention check item(s). The participant ages ranged from 20 – 73 ( $M = 39.96$ ,  $SD = 14.16$ ). Forty of the participants were female (43.5%), and 52 were male (56.5%). Race composition of sample was mostly white (91.3%) followed by Asian (3.3%), Black (2.2%), and other (3.3%). A majority of this sample was employed (92.4%). Four people were not employed (4.3%), and three people were retired (3.3%). Education levels ranged from high school graduates to a doctoral degree. A majority of the sample completed a four-year degree (43.5%). Most of the participants have had managerial experience (81.5%) and have had experience making decisions about employees (80.4%).

**College Student Sample:** The third sample included 300 college students, leaving us with 229 participants with useable data (71 students failed the attention check items). The average age was 18.78 ( $SD = 1.39$ ; ages ranged from 18 to 28) and there were 184 females (80.3%), 44 males (19.2%), and one student chose not to disclose gender. They were predominantly white (85.2%), followed by other (6.6%), Asian (3.9%), and black (3.5%). Many

of the students were currently employed (40.2%) at the time of the survey, 32.3% indicated that they have had experience making decisions about employees, and 21% of the students indicated that they have worked in a managerial or supervisory role.

### **Data Cleaning**

Data cleaning procedures were the same for each of the samples. I utilized data cleaning procedures as described by Huang, Curran, Keeney, Poposki, and DeShon (2012), that participants can be expected to sometimes not answer honestly or be careless; therefore, it can be helpful to omit data if they do not adhere to certain guidelines (i.e., response time approach, response frequency, response invariance, and item checks.) Four attention checks (item checks) were randomly included throughout Part 2 of the study. MTURK participants were told that if they failed these, their data was unusable (thus they would not be compensated for their time). Only 7 participants (of 107) failed one of these items. Within the working adult sample, 16 participants did not answer these correctly, thus they were removed. Seventy-one participants failed the attention check items in the college student sample. Once the data from these participants were removed from each sample, there were not issues with response time approach (i.e., no participant responded in an unreasonably fast amount of time compared to the rest of the sample), response frequency (i.e., once participants who did not make it through the whole survey [quit halfway through] there were no participants with missing data), or response invariance (i.e., there were no remaining participants who answered with little to no variance in their responses, such as putting the same answer for every item), thus the remainder of the participants were retained.

## Procedure

The participants in Part 2 of the study were asked to complete an online survey. Each participant acted as a rater who was responsible for evaluating the performance of 12 employees (paper people). Once they consented to voluntary participation, they answered demographic questions and moved to the first ratee (or employee). Before rating any employees they received the following instructions:

“In most organizations, managers provide performance evaluations of their employees. The following study includes 12 performance evaluation forms (that have already been filled out by the employees’ managers.) Using this information, you will be asked to answer about 6 items about each of the 12 employees.”

For each employee they were presented with a performance evaluation form (filled out by a hypothetical manager) with numerical ratings, a “manager notes” section below it with qualitative (successful aging at work) feedback, and questions regarding the form for the participant to answer. Please see Appendix F for an example of a full evaluation form.

Quantitatively, the scores on the performance dimensions added up to the same number (44) on the evaluation form, which is a mean overall score of 5.5 for each participant, although different values were circled for each participant to reflect different age-related patterns of performance as informed by the pilot test.

The “manager notes” section was also supported by the pilot test and contained information from the manager about whether or not the employee was aging successfully at work. This was in bullet point form and included a description for the participants that read, “Employee X’s manager wrote these notes after a recent, informal feedback meeting.” The age-type of the job was also manipulated and informed by pilot testing. Each employee was either successfully or unsuccessfully aging in an older or younger age-typed job. Each employee was an older worker, thus the ages ranged from 56 to 59 years of age (this was generated randomly).

At the end of the evaluation form for each of the eight employees, the participants were prompted to answer six questions regarding each of the dependent variables (i.e., overall performance rating, recommendation for upgrade training, organizational resources, recommendation for promotion, bonus decision, and lay-off decision).



## Results for the Main Study

The hypotheses were tested using a 2x3x2 within groups MANOVA for each sample separately. Preliminary analyses were conducted and verified that there were response differences between the samples on the overall performance ratings dependent variable on all samples,  $F(24, 814) = 2.45, p < .001, \eta^2 = .067$ . Therefore, we proceeded to analyze the three samples separately. In addition, in order to examine whether or not significant response differences existed based on the participants' age, we conducted a correlation analysis and determined that there is *not* a relationship between the chronological age of the participant and how they rated the employees. As a result we did not control for the age of the participant in the study. See Table 1 for the means and standard deviations for the dependent variable responses by sample. Tables 2-4 provide the dependent variable means and standard deviations for each independent variable (i.e., successful aging, performance pattern, age type of job) by sample. Overall the dependent variables were highly correlated. Please see Tables 5-7 for intercorrelation matrices of the dependent variables for each sample.

### **Hypothesis 1: Main Effect for Successful Aging at Work**

The results indicated a significant multivariate relationship for successful aging at work on the combined dependent variables for each sample (Please see Table 8 for  $F$  statements for multivariate and univariate effects). Between 58% - 68% ( $\eta^2$  varied across the samples) of the variance in the decision outcomes was explained by whether or not the person was depicted to be successfully aging at work. Univariate effects were used to determine the relationships between successful aging at work and each decision outcome separately, and each found significant support across all three samples. Thus the employees who were portrayed as successfully aging

at work benefitted from significantly higher performance ratings, higher financial bonuses, greater organizational resources, higher recommendations for upgrade training, lower recommendations for layoffs, and higher likelihood for promotion than those who were described as unsuccessfully aging at work. Because it is the most conservative test, Greenhouse-Geisser values were used for interpreting the univariate tests.

### **Hypotheses 2 and 3: Main Effect and Interaction for Age-Type of Job**

The results for the main effect of the age-type of job manipulation were overall non-significant, thus **Hypothesis 2** was not generally supported. Though it is important to note that this multivariate relationship was significant in one of the samples: the sample of working adults,  $F(12, 80) = 2.00, p = .034, \eta^2 = .231$ . However, once univariate effects were examined for this hypothesis in this sample, only the promotion recommendation outcome was significant and the result was not in the expected direction. Thus results were not supportive overall of Hypothesis 2. Results were similar for **Hypothesis 3**: the interaction between age-type of job and successful aging at work did not result in significant multivariate relationships for two of the samples (working adults and MTURK), but it did result in a significant relationship for the student sample in this case,  $F(12, 217) = 2.09, p = .02, \eta^2 = .10$ . Upon examining the univariate relationships within this sample, only two performance decision outcome variables reached significance for this sample (overall performance ratings and bonus money administration). Hypothesis 3 was not supported.

### **Hypothesis 4: Main Effect for Performance Pattern**

The examination of the performance pattern manipulation was significant across each of the three samples, such that there was significant multivariate support for the older performance patterns resulting in more favorable outcomes than the younger performance patterns. Upon

examination of the univariate tests, this held true for each decision outcome within the working adult and student samples, and all but two of the outcome variables (training and promotions) were significant for the MTURK sample as shown in Table 9. Interestingly, this resulted in the opposite direction that we predicted, thus **Hypothesis 4** was partially supported. This is considered further in the discussion.

### **Hypothesis 5: Interaction Between Performance Pattern and Age-Type of Job**

There was a significant interaction between performance pattern and the age-type of job, with larger variance in decision outcomes between younger and older performance patterns in the *younger* jobs than the neutral or older jobs. Although it was expected that the young performance pattern would elicit the more positive outcomes, results to the contrary showed that there were more favorable ratings given to the older pattern of performance. Table 10 shows the multivariate and univariate values for each of the samples. All samples supported the multivariate effect for an interaction in this direction. The univariate results for each of the six performance outcome decisions were significant in the working adult and student sample, but only two outcomes were significant in the MTURK sample (layoff and promotion decisions). Therefore, in the old and neutral jobs, the participants did not rate the employees differently between the performance patterns. Though in the young jobs, employees with a characteristically old performance pattern received positive outcomes (like higher promotion and lower layoff recommendations) than those with a young performance pattern.

### **Hypothesis 6: Interaction between Successful Aging at work and Performance Pattern**

Across each sample, there was not a significant interaction between successful aging at work and performance pattern, thus **Hypothesis 6** was not supported. Although we predicted that these variables might interact, the main effect for successfully aging employees remained strong

such that those who were successfully aging at work significantly received more positive outcomes comprehensively, regardless of whether or not the performance pattern was characteristically younger or older.

## Discussion

The impact of decision-making based on performance appraisal was examined by manipulating whether or not the employee/ratee was successfully aging at work, the way in which they performed the job (through task-based performance patterns), and the age-type of job they worked. Strong support was found for Hypothesis 1, that there is a main effect indicating employees who demonstrated behaviors consistent with successful aging at work were rated higher in performance and other desirable outcomes than those who are not successfully aging. In fact, across all three samples, this was the strongest manipulation on the performance decision outcomes (i.e., higher performance ratings and financial bonuses, more organizational resources, higher recommendations for upgrade training and promotions, and lower recommendations for layoffs). This is a strong effect regardless of the age-type of job and whether the employee performs consistently with stereotypes associated with young or old workers (performance pattern). Overall I conclude that it is possible that managers use successful aging characteristics as information in performance relevant decision-making.

Hypothesis 2 (age type of job main effect) was not supported. Raters did not administer decision outcomes differently to those working young, age-neutral, or older types of jobs. Similarly, Hypothesis 3 (interaction between successful aging at work and age-type of job) was not fully supported. This finding was unexpected, because the importance of the context in which performance appraisal occurs has been emphasized in the literature (e.g., Ellington & Wilson, 2017). However, it could be likely that the description of the context in the present study was not adequate. Although job titles have been a successful indication of the age-type of job context in past research (e.g., Cleveland & Landy, 1983), it is possible that job titles are no longer giving

enough relevant information in today's world. The context surrounding and the context within organizations are always changing. For instance, there have been wide economic shifts in the past decade in the United States, thus the age composition within jobs has changed dramatically. It is more common to find older individuals taking lower paid (and as a consequence, "younger-typed" jobs). This impacts work relationships (such as age composition in manager-subordinate relationships) and age perceptions at work (such as relative age, how old or young a person feels in comparison to their workgroup or organization). Additional information should be used in future research to better represent the context for a more thorough examination.

Hypothesis 4 and Hypothesis 5 were partially supported, because older performance patterns resulted in more favorable outcomes than the younger performance patterns; happening in the opposite direction than hypothesized. This unexpected finding could be due to the performance dimension content or the jobs selected for the study. We used different performance dimensions than in past studies with a similar design, because we included dimensions that were based on the more recent stereotypes literature. For instance, in 1983, Cleveland and Landy conducted a review of the stereotypes literature and determined that a stereotypically old performance pattern would involve the employee scoring *low* on technical competence, self-development skills, interpersonal skills, problem solving, and attention to detail. When we conducted a review on this literature 33 years later, perceptions had shifted slightly for some of these dimensions. For instance, communication skills are seen to be higher in older workers (e.g., McGregor & Gray, 2002) and older workers are now seen to have greater attention to detail (Fraser, McKenna, Turpin, Allen, & Liddle, 2009). Many of these perceptions have remained the same however. For example, older workers are still seen to have lower perceived technological competence (Gingart, Helmes, & Speelman, 2013) and younger people are perceived to be have

greater problem solving skills (Weiss & Maurer, 2004), self-development skills (Gibson, Zerbe, & Franken, 1993), and adaptability (Posthuma & Campion, 2009).

Furthermore, perceptions, attitudes, and stereotypes are complex, and a person's age can interact with other variables to intensify or mitigate these perceptions and attitudes. For instance, when gender and age intersect, older women have reported higher levels of experienced work-related barriers than older men (Duncan & Loretto, 2004). Older people are also seen and evaluated differently across life domains, such as work vs. family life, further showing the complexities of these relationships (Kornadt & Rothermund, 2011).

Performance appraisal is based on components that can be measured formally and objectively, but additional information has been shown to influence evaluative decisions (e.g., the conscientiousness of the rater; Kmicinska, Zaniboni, Truxillo, Fraccaroli, & Wang, 2016). Researchers support that both external factors (e.g., structure, values, and technology; Perry & Finkelstein, 1999) and individual factors (e.g., the race of the ratee; Luksyte, Waite, Avery, & Roy, 2013) can influence rater's decision-making processes related to performance appraisal and other employment-related decisions. The present study adds to this knowledge, demonstrating that information about an employee's successful aging at work is utilized by raters as well as ratings of employee task performance in making organizational decisions such as training, promotional recommendations, and so on.

Although there is a theoretical basis supporting the notion that a person who fits the job will receive higher ratings, this was not found in the present study. The stereotype fit framework (i.e., the lack of fit model; Heilman, 1983) assumes that people automatically have expectations for how someone will perform on the job based on their characteristics (in this case, this characteristic is successful aging at work), and when these expectations are not met, there is poor

fit and lower evaluations occur. Further, relational demography (Tsui & O'Reilly, 1989). states that there is a perceived lack of fit when an employee is demographically dissimilar from others in the job. For instance, there is a perceived lack of fit or a lack of a cognitive match when the employee is demographically dissimilar from others in the job (in the present study as an example: someone who is unsuccessfully aging at work in a young type of job).

Generally these interactions were not supported in the present study examining the case of successful aging at work and the performance (performance pattern) and the context (age-type of job). The matching process theory was not supported as it was in earlier literature in the 80s and 90s with chronological age (e.g., Lawrence, 1988; Perry, Kulik, & Bourhis, 1996). However, it is important to note that this is not the first instance in which this theory was not supported. Cleveland and Landy in 1983 did not find support for the age type of job by chronological age interaction on overall performance ratings, award money administration, or promotion ratings. Further research in the past has only found partial support (e.g., Perry, Kulik, & Bourhis, 1996). Additionally, a more recent examination of this matching theory with age and age-type of job was also not supported. Goldberg, Finkelstein, Perry, and Konrad (2004) did not find an interaction between age and the age-type of job (on salary, number of promotions, and management level). Thus, when an employee was presumably a bad match, such as an old employee in a young job, this did not result in less favorable outcomes.

Therefore, the fit theories received very mixed or little support in the present research. However, additional research is needed to further determine whether this theory adequately describes person-context biases in organizational decisions or whether better measurement of the constructs is needed. For instance as previously discussed, there is a possibility that the context is not appropriately being captured with the job title alone because there are a rich array of



contextual factors to encapsulate. Contextual factors exist past the job title, such as relationships with coworkers and relative age to work group (i.e., how old does the person feel when being compared to coworkers), supervisor-employee dyads, the industry in which the person works, and much more.

### **Strengths and Limitations**

A limitation within the present study is that decision makers' actual expectations for each employee vignette was not directly assessed. The lack of fit models posit that raters will have specific expectation about employees performance based upon the fit between specific person-context characteristics. Given the current design, the central process mechanisms in the lack of fit model were not known. In the future, additional data should be collected to measure what the rater would expect to happen in each scenario.

An additional limitation is that the age stereotype of the job did not interact with either successful aging at work nor performance pattern as it was hypothesized. This result may be due in part to either (a) differences in the salience of manipulations of successful aging at work, performance pattern, and age-type of job or (b) differences in the content of the jobs and performance pattern dimension used in the current study from previous studies. Although there are advantages of the experimental vignette methodology (Aguinis & Bradley, 2014), there are disadvantages to using simulations including difficulty in scaling the variable manipulations to ensure equivalent salience to participants. For instance, in this study, it is possible that the manipulation of the age type of the job information was less strong than the manipulation of the successful/unsuccessful aging at work manipulation. Upon closer examination of the pilot test data results, the statements written to depict successful aging at work showed greater consensus among the participants (e.g., smaller standard deviations in responding and overall means that

were closer to the extreme ends of the response scales) than did the ratings of the age-type of job titles. In addition, the distributions for the age-type of jobs were generally more flat than the distributions of responses were for the successful aging statements. Thus it is possible that the successful aging manipulations were clearer and stronger to participants than the manipulations of age type of job and performance pattern.

A limitation occurred in the procedural methods of the pilot-testing phase. When the participants were given instructions for the successful aging at work statement, they were given the definition of successful aging at work. This definition includes the word “work ability”, and the participants were not given further elaboration. It is unlikely that a typical person is familiar with this terminology, and in future research this definition should be provided for the reader.

The majority of performance appraisal processes include both the numerical ratings of employees as well as the narrative comments (or words) about the person’s performance. The latter has been noted to be an under researched topic (Brutus, 2010), though researchers have shown that raters pay attention to narrative comments more than numerical ratings (Ferstl & Bruskiwicz, 2000). Narrative comments have the potential to add richer detail than numerical ratings (David, 2013); therefore, it is possible that the salience of the successful aging at work information was due to the mode that information was presented (i.e., narrative vs. numbers).

In addition to the thorough examination of narrative comments including successful aging at work information, there were several other strengths within the present study. The ability to examine the results with three unique samples (each of large number for the present design) was a useful contribution because this allows further generalization to greater populations for greater external validity. In addition, the experimental vignette methodology

(experimental within-person design) offered an empirical strength to implement manipulations that otherwise could not be used.

Finally, because the present study examined successful aging at work from the other perspective, this offers a unique assessment of the topic. Kooij (2015) and Zacher's (2015) model both offer information on how employees might successfully age at work and who are these employees. The present study contributes to the aging literature by extending past the influences and processes of successful aging at work to examine the direct consequences of this in the workplace through performance ratings and decision outcomes. This also adds to the performance appraisal literature by more fully examining the potential impacts for discriminatory practices that determinant certain groups of older workers.

### **Practical Implications and Future Research**

The findings from this study suggest that (1) employees who display behaviors consistent with successful aging at work may benefit from information in the form of higher performance ratings and work outcomes and (2) managers appear to use successful aging at work information in performance appraisal decision-making situations. To elaborate on the first point from the ratee perspective, this is a particularly important implication for employees who are *not* aging successfully at work, because they are most likely to fall victim to possibly discriminatory actions such as a lost promotion. Organizations may be able to assist employees to age successfully at work. Organizations and employees may be able to work together to develop deliberate strategies and provide resources. For example, job crafting has been shown to help older employees to age successfully at work (Kooij, Tims, & Kanfer, 2015). Other studies have suggested that job design can play a role in the successful aging of employees (see for example,

Sanders & McCready, 2010). In addition, interventions and programs can be developed in future research to guide employees and organizations in the successful aging process.

This also has implications from the rater perspective. If raters have the potential to be influenced by successful aging at work information, this might be problematic if it leads to group differences that are not related to job performance. The purpose of the Age Discrimination in Employment Act (ADEA) is to protect older workers by ensuring HR decisions are being made with job performance information, not age. In this case, decisions were influenced by successful aging at work information, which is a difficult conceptualization in the legal context because it has not been validated as being predictive of job performance, and the relationship with chronological age varies depending on the definition. Additional research and clarification is needed regarding legal implications. In order to avoid instances of discrimination, raters can be provided with training. Frame of Reference (FOR) training has been used successfully in developing rating accuracy (Athey & McIntyre, 1987). This method standardizes the process and criteria by which raters assess employee performance, and a component of this in the present context could be recognizing when the successful aging at work information characteristics are unrelated to performance. There are further strategies that can be used to reduce rater bias, such as supplementing as much performance information as possible during a rating session, reducing the cognitive load of the rater, and increasing the accountability of the rater to be accurate (see for example, Gordon & Arvey, 2004).

This area of research holds opportunities for future research. We state above that there could be possible solutions for helping employees achieve successful aging at work and assist raters to engage in less biased decision-making; however, these components must be researched in conjunction with successful aging at work more thoroughly. For instance, interventions to

facilitate successful aging at work and the resulting implications on job performance and how this further might influence decisions based on performance evaluation could be a useful topic of research.

For methodological reasons, researchers could determine an experiment in which variable salience is equated or is highly comparable to an applied performance appraisal scenario. In addition, additional studies should be conducted to better identify this phenomenon in workplaces and measure the moderators that might be involved. In the present study, the employees were all gender neutral and older adults. Future research would be needed to examine if there are additional differences in this effect by gender or chronological age of the employee/ratee. Finally, the relationship between successful aging at work and job performance needs to be examined in a systematic way. Age alone is not a useful predictor of job performance (e.g., Ng & Feldman, 2008); however, there is potential for successful aging at work to be a more meaningful predictor.

Table 1  
*Means and Standard Deviations for the Dependent Variables by Sample*

|                             | Student Sample |           |          | Working Sample |           |          | MTURK Sample |           |          | Combined Samples |           |          |
|-----------------------------|----------------|-----------|----------|----------------|-----------|----------|--------------|-----------|----------|------------------|-----------|----------|
|                             | <i>M</i>       | <i>SD</i> | <i>N</i> | <i>M</i>       | <i>SD</i> | <i>N</i> | <i>M</i>     | <i>SD</i> | <i>N</i> | <i>M</i>         | <i>SD</i> | <i>N</i> |
| Overall Performance Ratings | 4.83           | 0.64      | 229      | 5.10           | 0.51      | 92       | 4.99         | 0.61      | 100      | 4.92             | 0.62      | 421      |
| Financial Bonus             | 3.84           | 0.75      | 229      | 4.16           | 0.76      | 92       | 4.00         | 0.86      | 100      | 3.95             | 0.79      | 421      |
| Organizational Resources    | 4.21           | 0.67      | 229      | 4.13           | 0.71      | 92       | 4.12         | 0.74      | 100      | 4.17             | 0.70      | 421      |
| Upgrade Training            | 4.45           | 0.68      | 229      | 4.41           | 0.80      | 92       | 4.31         | 0.87      | 100      | 4.41             | 0.75      | 421      |
| Layoff Recommendation       | 3.50           | 0.67      | 229      | 3.48           | 0.65      | 92       | 3.53         | 0.74      | 100      | 3.50             | 0.68      | 421      |
| Promotion Recommendation    | 3.86           | 0.69      | 229      | 3.82           | 0.75      | 92       | 3.73         | 0.84      | 100      | 3.82             | 0.74      | 421      |

Table 2  
*Descriptive Statistics for the Dependent Variables by Successful Aging at Work (SAAW)*

| Dependent Variable          | MTURK Sample |           |          |           | Working Sample |           |          |           | Student Sample |           |          |           |
|-----------------------------|--------------|-----------|----------|-----------|----------------|-----------|----------|-----------|----------------|-----------|----------|-----------|
|                             | SAAW         |           | Not SAAW |           | SAAW           |           | Not SAAW |           | SAAW           |           | Not SAAW |           |
|                             | <i>M</i>     | <i>SE</i> | <i>M</i> | <i>SE</i> | <i>M</i>       | <i>SE</i> | <i>M</i> | <i>SE</i> | <i>M</i>       | <i>SE</i> | <i>M</i> | <i>SE</i> |
| Overall Performance Ratings | 5.32         | 0.06      | 4.65     | 0.08      | 5.27           | 0.05      | 4.93     | 0.07      | 5.28           | 0.04      | 4.37     | 0.06      |
| Financial Bonus             | 4.30         | 0.09      | 3.70     | 0.10      | 4.34           | 0.08      | 3.98     | 0.09      | 4.22           | 0.05      | 3.45     | 0.06      |
| Organizational Resources    | 5.00         | 0.08      | 3.24     | 0.12      | 4.84           | 0.08      | 3.42     | 0.12      | 4.99           | 0.05      | 3.42     | 0.07      |
| Upgrade Training            | 5.22         | 0.09      | 3.39     | 0.13      | 5.16           | 0.09      | 3.66     | 0.13      | 5.31           | 0.05      | 3.59     | 0.08      |
| Layoff Recommendation       | 2.65         | 0.10      | 4.40     | 0.10      | 2.93           | 0.09      | 4.04     | 0.11      | 2.63           | 0.06      | 4.36     | 0.07      |
| Promotion Recommendation    | 4.66         | 0.10      | 2.80     | 0.11      | 4.46           | 0.09      | 3.18     | 0.12      | 4.81           | 0.06      | 2.92     | 0.07      |

Table 3

*Descriptive Statistics for the Dependent Variables by Age-Type of Job*

| Dependent Variable          | MTURK Sample |           |          |           |          |           | Working Sample |           |          |           |          |           | Student Sample |           |          |           |          |           |
|-----------------------------|--------------|-----------|----------|-----------|----------|-----------|----------------|-----------|----------|-----------|----------|-----------|----------------|-----------|----------|-----------|----------|-----------|
|                             | Younger      |           | Neutral  |           | Older    |           | Younger        |           | Neutral  |           | Older    |           | Younger        |           | Neutral  |           | Older    |           |
|                             | <i>M</i>     | <i>SE</i> | <i>M</i> | <i>SE</i> | <i>M</i> | <i>SE</i> | <i>M</i>       | <i>SE</i> | <i>M</i> | <i>SE</i> | <i>M</i> | <i>SE</i> | <i>M</i>       | <i>SE</i> | <i>M</i> | <i>SE</i> | <i>M</i> | <i>SE</i> |
| Overall Performance Ratings | 5.01         | 0.06      | 5.00     | 0.07      | 4.95     | 0.07      | 5.09           | 0.06      | 5.07     | 0.06      | 5.15     | 0.06      | 4.82           | 0.05      | 4.84     | 0.05      | 4.82     | 0.05      |
| Financial Bonus             | 4.03         | 0.09      | 4.03     | 0.09      | 3.95     | 0.09      | 4.16           | 0.09      | 4.15     | 0.09      | 4.17     | 0.08      | 3.83           | 0.05      | 3.86     | 0.05      | 3.82     | 0.05      |
| Organizational Resources    | 4.16         | 0.09      | 4.18     | 0.09      | 4.02     | 0.09      | 4.22           | 0.09      | 4.10     | 0.10      | 4.07     | 0.09      | 4.24           | 0.05      | 4.20     | 0.05      | 4.18     | 0.06      |
| Upgrade Training            | 4.39         | 0.10      | 4.30     | 0.09      | 4.23     | 0.10      | 4.50           | 0.10      | 4.39     | 0.10      | 4.34     | 0.10      | 4.47           | 0.05      | 4.45     | 0.05      | 4.43     | 0.06      |
| Layoff Recommendation       | 3.48         | 0.09      | 3.50     | 0.08      | 3.61     | 0.09      | 3.49           | 0.08      | 3.57     | 0.09      | 3.40     | 0.08      | 3.43           | 0.05      | 3.56     | 0.06      | 3.51     | 0.05      |
| Promotion Recommendation    | 3.85         | 0.09      | 3.71     | 0.10      | 3.63     | 0.10      | 3.95           | 0.09      | 3.72     | 0.10      | 3.79     | 0.09      | 3.94           | 0.05      | 3.84     | 0.06      | 3.81     | 0.06      |

Table 4

*Descriptive Statistics for the Dependent Variables by Performance Pattern (PP)*

| Dependent Variable          | MTURK Sample |           |          |           | Working Sample |           |          |           | Student Sample |           |          |           |
|-----------------------------|--------------|-----------|----------|-----------|----------------|-----------|----------|-----------|----------------|-----------|----------|-----------|
|                             | Young PP     |           | Old PP   |           | Young PP       |           | Old PP   |           | Young PP       |           | Old PP   |           |
|                             | <i>M</i>     | <i>SE</i> | <i>M</i> | <i>SE</i> | <i>M</i>       | <i>SE</i> | <i>M</i> | <i>SE</i> | <i>M</i>       | <i>SE</i> | <i>M</i> | <i>SE</i> |
| Overall Performance Ratings | 4.91         | 0.07      | 5.07     | 0.06      | 4.91           | 0.06      | 5.29     | 0.06      | 4.71           | 0.05      | 4.94     | 0.04      |
| Financial Bonus             | 3.89         | 0.09      | 4.12     | 0.09      | 3.92           | 0.09      | 4.40     | 0.08      | 3.69           | 0.05      | 3.99     | 0.05      |
| Organizational Resources    | 4.00         | 0.08      | 4.24     | 0.09      | 3.88           | 0.09      | 4.38     | 0.09      | 4.08           | 0.05      | 4.34     | 0.05      |
| Upgrade Training            | 4.28         | 0.09      | 4.33     | 0.10      | 4.26           | 0.10      | 4.56     | 0.10      | 4.37           | 0.05      | 4.53     | 0.05      |
| Layoff Recommendation       | 3.69         | 0.09      | 3.37     | 0.09      | 3.79           | 0.09      | 3.18     | 0.08      | 3.66           | 0.05      | 3.34     | 0.05      |
| Promotion Recommendation    | 3.66         | 0.09      | 3.80     | 0.10      | 3.59           | 0.11      | 4.05     | 0.09      | 3.72           | 0.05      | 4.01     | 0.05      |

Table 5

*Intercorrelation Matrix of Dependent Variables for MTURK Sample*

|                    | 1     | 2     | 3     | 4     | 5     | 6 |
|--------------------|-------|-------|-------|-------|-------|---|
| 1. Overall Ratings | 1     |       |       |       |       |   |
| 2. Bonus           | 0.57  | 1     |       |       |       |   |
| 3. Resources       | 0.50  | 0.45  | 1     |       |       |   |
| 4. Training        | 0.50  | 0.41  | 0.82  | 1     |       |   |
| 5. Layoff          | -0.55 | -0.49 | -0.72 | -0.70 | 1     |   |
| 6. Promote         | 0.50  | 0.42  | 0.79  | 0.81  | -0.71 | 1 |

*Note.* All coefficients are significant at  $p < .01$

Table 6

*Intercorrelation Matrix of Dependent Variables for the Working Sample*

|                    | 1     | 2     | 3     | 4     | 5     | 6 |
|--------------------|-------|-------|-------|-------|-------|---|
| 1. Overall Ratings | 1     |       |       |       |       |   |
| 2. Bonus           | 0.65  | 1     |       |       |       |   |
| 3. Resources       | 0.57  | 0.52  | 1     |       |       |   |
| 4. Training        | 0.49  | 0.41  | 0.72  | 1     |       |   |
| 5. Layoff          | -0.60 | -0.54 | -0.68 | -0.64 | 1     |   |
| 6. Promote         | 0.59  | 0.54  | 0.74  | 0.73  | -0.73 | 1 |

*Note.* All coefficients are significant at  $p < .01$



Table 7  
*Intercorrelation Matrix of Dependent Variables for the Student Sample*

|                    | 1     | 2     | 3     | 4     | 5     | 6 |
|--------------------|-------|-------|-------|-------|-------|---|
| 1. Overall Ratings | 1     |       |       |       |       |   |
| 2. Bonus           | 0.57  | 1     |       |       |       |   |
| 3. Resources       | 0.44  | 0.41  | 1     |       |       |   |
| 4. Training        | 0.42  | 0.38  | 0.80  | 1     |       |   |
| 5. Layoff          | -0.50 | -0.50 | -0.71 | -0.68 | 1     |   |
| 6. Promote         | 0.49  | 0.41  | 0.77  | 0.73  | -0.71 | 1 |

Note. All coefficients are significant at  $p < .01$

Table 8  
*Multivariate and Univariate Analysis Results for SAAW Main Effects (Hypothesis 1)*

|                | <u>Multivariate</u> |          | <u>Univariate</u> |          | <u>Univariate</u> |          | <u>Univariate</u> |          | <u>Univariate</u> |          | <u>Univariate</u> |          | <u>Univariate</u> |          |
|----------------|---------------------|----------|-------------------|----------|-------------------|----------|-------------------|----------|-------------------|----------|-------------------|----------|-------------------|----------|
|                |                     |          | Perform. Ratings  |          | Bonus             |          | Resources         |          | Training          |          | Layoff            |          | Promotion         |          |
|                | <i>F</i>            | $\eta^2$ | <i>F</i>          | $\eta^2$ | <i>F</i>          | $\eta^2$ | <i>F</i>          | $\eta^2$ | <i>F</i>          | $\eta^2$ | <i>F</i>          | $\eta^2$ | <i>F</i>          | $\eta^2$ |
| MTURK Sample   | 33.65***            | 0.682    | 75.91***          | 0.004    | 81.72***          | 0.005    | 175.11***         | 0.041    | 152.66***         | 0.04     | 180.59***         | 0.054    | 191.75***         | 0.054    |
| Working Sample | 20.47***            | 0.588    | 33.89***          | 0.0011   | 33.59***          | 0.0018   | 111.83***         | 0.026    | 114.09***         | 0.026    | 63.416***         | 0.023    | 83.19***          | 0.026    |
| Student Sample | 77.96***            | 0.677    | 210.03***         | 0.0086   | 194.99***         | 0.0096   | 347.29***         | 0.0319   | 360.04***         | 0.032    | 386.68***         | 0.0539   | 447.79***         | 0.0537   |

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

Note. Univariate eta-squared values were calculated by dividing the sum of squares by the sum of squares total

Table 9

*Multivariate and Univariate Analysis Results for Performance Pattern Main Effect (Hypothesis 4)*

|                | <u>Multivariate</u> |          | <u>Univariate</u> |          | <u>Univariate</u> |          | <u>Univariate</u> |          | <u>Univariate</u> |          | <u>Univariate</u> |          | <u>Univariate</u> |          |
|----------------|---------------------|----------|-------------------|----------|-------------------|----------|-------------------|----------|-------------------|----------|-------------------|----------|-------------------|----------|
|                |                     |          | Perform. Ratings  |          | Bonus             |          | Resources         |          | Training          |          | Layoff            |          | Promotion         |          |
|                | <i>F</i>            | $\eta^2$ | <i>F</i>          | $\eta^2$ | <i>F</i>          | $\eta^2$ | <i>F</i>          | $\eta^2$ | <i>F</i>          | $\eta^2$ | <i>F</i>          | $\eta^2$ | <i>F</i>          | $\eta^2$ |
| MTURK Sample   | 4.35**              | 0.217    | 12.60**           | 0.0003   | 15.29***          | 0.0007   | 8.76**            | 0.0002   | 0.52              | <.0001   | 14.20***          | 0.019    | 2.88              | 0.0004   |
| Working Sample | 10.69***            | 0.427    | 46.51***          | 0.0014   | 45.46***          | 0.0033   | 22.56***          | 0.0036   | 7.71**            | 0.0011   | 31.53***          | 0.0073   | 14.91***          | 0.0035   |
| Student Sample | 10.58***            | 0.222    | 47.56***          | 0.0006   | 60.77***          | 0.0015   | 23.13***          | 0.0009   | 8.74**            | 0.0003   | 36.03***          | 0.002    | 27.46***          | 0.0013   |

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

Note. Univariate eta-squared values were calculated by dividing the sum of squares by the sum of squares total

Table 10

*Multivariate and Univariate Analysis Results for Performance Pattern \* Age-Type Job Interaction (Hypothesis 5)*

|                | <u>Multivariate</u> |          | <u>Univariate</u> |          | <u>Univariate</u> |          | <u>Univariate</u> |          | <u>Univariate</u> |          | <u>Univariate</u> |          | <u>Univariate</u> |          |
|----------------|---------------------|----------|-------------------|----------|-------------------|----------|-------------------|----------|-------------------|----------|-------------------|----------|-------------------|----------|
|                |                     |          | Perform. Ratings  |          | Bonus             |          | Resources         |          | Training          |          | Layoff            |          | Promotion         |          |
|                | <i>F</i>            | $\eta^2$ | <i>F</i>          | $\eta^2$ | <i>F</i>          | $\eta^2$ | <i>F</i>          | $\eta^2$ | <i>F</i>          | $\eta^2$ | <i>F</i>          | $\eta^2$ | <i>F</i>          | $\eta^2$ |
| MTURK Sample   | 2.38*               | 0.245    | 1.24              | <.0001   | 0.84              | <.0001   | 2.55              | 0.0003   | 2.95              | 0.0003   | 5.66*             | 0.0009   | 3.16*             | 0.0004   |
| Working Sample | 2.78**              | 0.294    | 8.26***           | 0.0002   | 6.57**            | 0.0003   | 9.89***           | 0.0017   | 5.54**            | 0.0007   | 8.51***           | 0.0016   | 10.50***          | 0.0019   |
| Student Sample | 3.03**              | 0.144    | 5.39**            | <.0001   | 9.98***           | 0.0002   | 3.79*             | 0.0002   | 3.59*             | 0.0001   | 2.81              | 0.0002   | 7.89***           | 0.0005   |

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

Note. Univariate eta-squared values were calculated by dividing the sum of squares by the sum of squares total

## References

- Abraham, J. D., & Hansson, R. O. (1995). Successful aging at work: An applied study of selection, optimization, and compensation through impression management. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 50, 4-103.
- Aguinis, H., & Bradley, K. J. (2014). Best practice recommendations for designing and implementing experimental vignette methodology studies. *Organizational Research Methods*, 17, 351-371.
- Athey, T. R., & McIntyre, R. M. (1987). Effect of rater training on rater accuracy: Levels-of-processing theory and social facilitation theory perspectives. *Journal of Applied Psychology*, 72, 567.
- Bal, A. C., Reiss, A. E., Rudolph, C. W., & Baltes, B. B. (2011). Examining positive and negative perceptions of older workers: A meta-analysis. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 66, 687-698.
- Baltes, P. B. (1997). On the incomplete architecture of human ontogeny: Selection, optimization, and compensation as foundation of developmental theory. *American Psychologist*, 52, 366.
- Baltes, P. B., & Baltes, M. M. (1990). Psychological perspectives on successful aging: The model of selective optimization with compensation. *Successful aging: Perspectives from the behavioral sciences*, 1, 1-34.
- Boehm, S. A., & Kunze, F. (2015). Age diversity and age climate in the workplace. *Aging Workers and the Employee-Employer Relationship* (pp. 33-55). Switzerland: Springer International Publishing.

- Bowen, C. E., & Staudinger, U. M. (2012). Relationship between age and promotion orientation depends on perceived older worker stereotypes. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 68, 59-63.
- Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's mechanical turk a new source of inexpensive, yet high-quality, data?. *Perspectives on Psychological Science*, 6, 3-5.
- Brutus, S. (2010). Words versus numbers: A theoretical exploration of giving and receiving narrative comments in performance appraisal. *Human Resource Management Review*, 20, 144-157.
- Cheung, F., & Wu, A. M. (2013). Older workers' successful aging and intention to stay. *Journal of Managerial Psychology*, 28, 645-660.
- 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.
- Cleveland, J. N., & Landy, F. J. (1983). The effects of person and job stereotypes on two personnel decisions. *Journal of Applied Psychology*, 68, 609.
- Cleveland, J. N., & Landy, F. J. (1987). Age perceptions of jobs-convergence of two questionnaires. *Psychological Reports*, 60, 1075-1081.
- Cleveland, J. N., & Shore, L. M. (1992). Self-and supervisory perspectives on age and work attitudes and performance. *Journal of Applied Psychology*, 77, 469.
- Cosco, T. D., Prina, A. M., Perales, J., Stephan, B. C., & Brayne, C. (2014). Operational definitions of successful aging: A systematic review. *International Psychogeriatrics*, 26, 373-381.
- David, E. M. (2013). Examining the role of narrative performance appraisal comments on performance. *Human Performance*, 26, 430-450.

- De Meuse, K. P. (1987). A review of the effects of non-verbal cues on the performance appraisal process. *Journal of Occupational Psychology*, *60*, 207-226.
- Duncan, C., & Loretto, W. (2004). Never the right age? Gender and age-based discrimination in employment. *Gender, Work & Organization*, *11*, 95-115.
- Dipboye, R. L. (1985). Some neglected variables in research on discrimination in appraisals. *Academy of Management Review*, *10*, 116-127.
- Ellington, J. K., Dierdorff, E. C., & Rubin, R. S. (2014). Decelerating the diminishing returns of citizenship on task performance: The role of social context and interpersonal skill. *Journal of Applied Psychology*, *99*, 748.
- Eurostat. 2016. *Employment statistics*, accessed on April 9, 2016.  
[http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/E](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/E)
- Ferstl, K. L., & Bruskiwicz, K. T. (2000). *Self-other agreement and cognitive reactions to multirater feedback*. Paper presented at the 15th annual conference of the Society of Industrial and Organizational Psychology, New Orleans, LA.
- Frame, M. C., Roberto, K. J., Schwab, A. E., & Harris, C. T. (2010). What is important on the job? Differences across gender, perspective, and job level. *Journal of Applied Social Psychology*, *40*, 36-56.
- Fraser, L., McKenna, K., Turpin, M., Allen, S., & Liddle, J. (2009). Older workers: An exploration of the benefits, barriers and adaptations for older people in the workforce. *Work*, *33*, 261-272.
- 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.

- Goldberg, C. B., Finkelstein, L. M., Perry, E. L., & Konrad, A. M. (2004). Job and industry fit: The effects of age and gender matches on career progress outcomes. *Journal of Organizational Behavior, 25*, 807-829.
- Gordon, R. A., & Arvey, R. D. (2004). Age bias in laboratory and field settings: A meta-analytic investigation. *Journal of Applied Social Psychology, 34*, 468-492.
- Gringart, E., Helmes, E., & Speelman, C. (2013). Development of a measure of stereotypical attitudes towards older workers. *Australian Psychologist, 48*, 110-118.
- Havighurst, R. J. (1961). Successful aging. *The Gerontologist, 1*, 8-13.
- Heilman, M. E. (1983). Sex bias in work settings: The lack of fit model. *Research in Organizational Behavior, 5*, 269-298.
- Huang, J. L., Curran, P. G., Keeney, J., Poposki, E. M., & DeShon, R. P. (2012). Detecting and deterring insufficient effort responding to surveys. *Journal of Business and Psychology, 27*, 99-114.
- Kaliterna, L., Larsen, Z. P., & Brkljacic, T. (2002). Chronological and subjective age in relation to work demands: Survey of Croatian workers. *Experimental Aging Research, 28*, 39-49.
- Killian, J. H. (2005). *Collaborative relationships and successful aging at work* (Unpublished doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3161354)
- Kite, M. E., Stockdale, G. D., Whitley, B. E., & Johnson, B. T. (2005). Attitudes toward younger and older adults: An updated meta-analytic review. *Journal of Social Issues, 61*, 241-266.

- Kmicinska, M., Zaniboni, S., Truxillo, D. M., Fraccaroli, F., & Wang, M. (2016). Effects of rater conscientiousness on evaluations of task and contextual performance of older and younger co-workers. *European Journal of Work and Organizational Psychology*, 1-15.
- Kooij, D. T. (2015a). Successful aging at work: The active role of employees. *Work, Aging and Retirement*, 1, 309-319.
- Kooij, D. T. (2015b). Clarifying and discussing successful aging at work and the active role of employees. *Work, Aging and Retirement*, 1, 334-339.
- Kooij, D. (2015c). Human Resource Management and Aging. *Encyclopedia of Geropsychology*.
- Kooij, D. T., Tims, M., & Kanfer, R. (2015). Successful aging at work: The role of job crafting. *Aging Workers and the Employee-Employer Relationship* (pp. 145-161). Switzerland: Springer International Publishing.
- Kornadt, A. E., & Rothermund, K. (2011). Contexts of aging: Assessing evaluative age stereotypes in different life domains. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 66, 547-556.
- Lawrence, B. S. (1988). New wrinkles in the theory of age: Demography, norms, and performance ratings. *Academy of Management Journal*, 31, 309-337.
- Lawrence, B. S. (1996). Organizational age norms: Why is it so hard to know one when you see one? *The Gerontologist*, 36, 209-220.
- Luksyte, A., Waite, E., Avery, D. R., & Roy, R. (2013). Held to a different standard: Racial differences in the impact of lateness on advancement opportunity. *Journal of Occupational and Organizational Psychology*, 86, 142-165.
- Macdonald, J. L., & Levy, S. R. (2016). Ageism in the workplace: The role of psychosocial factors in predicting job satisfaction, commitment, and engagement. *Journal of Social*

- Issues*, 72, 169-190.
- McGregor, J., & Gray, L. (2002). Stereotypes and older workers: The New Zealand experience. *Social Policy Journal of New Zealand*, 163-177.
- Miche, M., Brothers, A., Diehl, M., & Wahl, H. W. (2015). The role of subjective aging within the changing ecologies of aging: perspectives for research and practice. *Annual Review of Gerontology and Geriatrics*, 35, 211-245.
- Moghimi, D., Zacher, H., Scheibe, S., & Van Yperen, N. W. (2016). The selection, optimization, and compensation model in the work context: A systematic review and meta-analysis of two decades of research. *Journal of Organizational Behavior*, 38, 247-275.
- Müller, A., Heiden, B., Weigl, M., Glaser, J., & Angerer, P. (2013). Successful aging strategies in nursing: The example of selective optimization with compensation. *Age-differentiated Work Systems* (pp. 175-199). Berlin: Springer Berlin Heidelberg Publishing.
- Murphy, K. R., Myors, B., & Wolach, A. (2014). *Statistical power analysis: A simple and general model for traditional and modern hypothesis tests*. New York: Routledge.
- National Institute on Aging (2016). Living Long & Well in the 21st Century: Strategic Directions for Research on Aging. Retrieved April 9, 2016, from <https://www.nia.nih.gov/about/living-long-well-21st-century-strategic-directions-research-aging/introduction>
- Neugarten, B. (1972). Personality and the aging process. *The Gerontologist*, 12, 9-15.
- Ng, T. W., & Feldman, D. C. (2008). The relationship of age to ten dimensions of job performance. *Journal of Applied Psychology*, 93, 392.



- Perry, E. (1997). A cognitive approach to understanding discrimination: A closer look at applicant gender and age. *Research in Personnel and Human Resources Management*, 15, 175-240.
- 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, 1670-1697.
- 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.
- 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.
- Posthuma, R. A., & Campion, M. A. (2009). Age stereotypes in the workplace: Common stereotypes, moderators, and future research directions. *Journal of Management*, 35, 159-187.
- Pruchno, R. A., Wilson-Genderson, M., & Cartwright, F. (2010). A two-factor model of successful aging. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 65, 671-679.
- Richardson, B., Webb, J., Webber, L., & Smith, K. (2013). Age discrimination in the evaluation of job applicants. *Journal of Applied Social Psychology*, 43, 35-44.
- Roberson, L., Galvin, B. M., & Charles, A. C. (2007). When group identities matter: Bias in performance appraisal. *The Academy of Management Annals*, 1, 617-650.
- Robson, S. M., Hansson, R. O., Abalos, A., & Booth, M. (2006). Successful aging criteria for aging well in the workplace. *Journal of Career Development*, 33, 156-177.

- Rosen, B., Jerdee, T. H., & Lunn, R. O. (1981). Effects of performance appraisal format, age, and performance level on retirement decisions. *Journal of Applied Psychology, 66*, 515.
- Rowe, J. W., & Kahn, R. L. (1987). Human aging: Usual and successful. *Science, 237*, 143-149.
- Rowe, J. W., & Kahn, R. L. (1997). Successful aging. *The Gerontologist, 37*, 433-440.
- Sabia, S., Singh-Manoux, A., Hagger-Johnson, G., Cambois, E., Brunner, E. J., & Kivimaki, M. (2012). Influence of individual and combined healthy behaviours on successful aging. *Canadian Medical Association Journal, 184*, 1985-1992.
- Sanders, M. J., & McCready, J. W. (2010). Does work contribute to successful aging outcomes in older workers? *The International Journal of Aging and Human Development, 71*, 209-229.
- Shore, L. M., Cleveland, J. N., & Goldberg, C. B. (2003). Work attitudes and decisions as a function of manager age and employee age. *Journal of Applied Psychology, 88*, 529.
- Truxillo, D. M., Cadiz, D. M., & Hammer, L. B. (2015). Supporting the aging workforce: A review and recommendations for workplace intervention research. *Annu. Rev. Organ. Psychol. Organ. Behav., 2*, 351-381.
- Tsui, A. S., & O'reilly, C. A. (1989). Beyond simple demographic effects: The importance of relational demography in superior-subordinate dyads. *Academy of Management Journal, 32*, 402-423.
- 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. (2008). *Older workers*. Retrieved from [http://www.bls.gov/spotlight/2008/older\\_workers](http://www.bls.gov/spotlight/2008/older_workers)
- U.S. Department of Labor, Bureau of Labor Statistics (2016). Retrieved from

[http://data.bls.gov/PDQ/servlet/SurveyOutputServlet?series\\_id=LNU02000097](http://data.bls.gov/PDQ/servlet/SurveyOutputServlet?series_id=LNU02000097)

- Weiss, E. M., & Maurer, T. J. (2004). Age discrimination in personnel decisions: A reexamination. *Journal of Applied Social Psychology, 34*, 1551-1562.
- 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.
- Zacher, H. (2015a). Successful aging at work. *Work, Aging and Retirement, 1*, 4-25.
- Zacher, H. (2015b). The importance of a precise definition, comprehensive model, and critical discussion of successful aging at work. *Work, Aging and Retirement, 1*, 320-333.
- Zacher, H., & Steinvik, H. R. (2016). Workplace age discrimination. *The Encyclopedia of Adulthood and Aging*.

## Appendix A

### Successful Aging at Work (SAAW) Items for Pilot Testing and Instructions Items Sorted by Health, Motivation, and Work Ability

The following are 48 short (1-2 sentences) examples of informal supervisory notes on the behaviors of employees at work. The supervisor wrote these notes after recent one-on-one meetings with each employee. All information was provided voluntarily by employees about their work behaviors. For each example, please indicate the extent to which you believe the item reflects successful or unsuccessful aging at work using the scale of 1 (unsuccessfully aging at work) to 7 (successfully aging at work).

*(Note: Successful aging at work is occurring when an employee experiences growth or maintenance in his/her health, motivation, and work ability.)*

#### Item Wording and Numbering as in the Pilot Test

| Health     | SAAW  | Not SAAW   |
|------------|---|--|
|            | <p>Employee 9 told me that he/she has fewer physical health ailments that interfere with work than in the past.</p> <p>Employee 21 said, “I have more energy to complete my job than I used to.”</p> <p>Employee 28 made it clear to me that he/she feels a high level of social support at work.</p> <p>Employee 30 said that as he/she has gotten older, things have gotten better with his/her health than they thought it would.</p> <p>Employee 42 says much less about pain and discomfort than he/she has in past years.</p> <p>Employee 43 shared with me that he/she is getting more sleep than he/she used to, and this has influenced job performance.</p> | <p>Employee 4 says he/she has less energy to complete the job than in the past.</p> <p>Employee 7 shared with me, “I am sleeping fewer hours than I used to, and this is influencing my ability to perform the job.”</p> <p>Employee 22 told me that he/she is steadily missing more time from work due to health reasons.</p> <p>Employee 11 told me that his/her ability to remember work-related information has been decreasing.</p> <p>Employee 32 told me he/she has more physical health ailments that interfere with the job than in years past.</p> <p>Employee 47 said that as he/she has gotten older, things have gotten worse with his/her health than he/she expected.</p> |
| Motivation | <p><b>SAAW</b> From what I was told, Employee 10 continues to seek out activities and learning opportunities that will help him/her improve at work.</p> <p>Employee 25 told me he/she continues to set realistic career goals.</p> <p>Employee 27 told me that his/her overall motivation at work has been growing over the past two years.</p> <p>Employee 37’s interest in keeping up with current affairs at work is growing</p>  |  |

|                     |  |
|---------------------|--|
|                     | <p>Employee 39 told me that his/her ability to remember work-related information is increasing</p> <p>Employee 40 told me that he/she feels generally more connected his/her work than during the past several years.</p> <p>Employee 41 conveyed that he/she has been developing a greater interest in the job over the past several years</p> <p>Employee 44 mentioned to me that he/she is more willing to put in extra effort for the job than the past.</p> <p><b>Not SAAW</b> Employee 6 said to me, "I have become generally less connected to my work compared to my previous years working for this company."</p> <p>Employee 14 told me "I have less interest in keeping up with current events and activities at work than I used to."</p> <p>Employee 48 told me he/she is experiencing a shift away from feeling engaged with the job over the past several years.</p> <p>Employee 13 mentioned to me that he/she feels less willing to put in extra effort for this job than in the past.</p> <p>From what he/she told me, Employee 19 is less often defining himself/herself by his/her work.</p> <p>Employee 31 told me that his/her overall motivation at work has been declining over the past two years.</p> <p>From what I was told, Employee 34 is not continuing to spend time on activities and seek out learning opportunities that will help him/her improve at work like he/she did in the past.</p> <p>Employee 8 informed me that he/she thinks that his/her career goals are becoming less realistic.</p> |
| <b>Work Ability</b> | <p><b>SAAW</b> Employee 3 expressed in our meeting that his/her ability to perform this job has been decreasing throughout the years.</p> <p>Employee 15 told me: "As I have been getting older, I've started to have a difficult time balancing my strengths with the demands of the job."</p> <p>Employee 20 mentioned to me that it is becoming increasingly more difficult to meet the physical, mental, and interpersonal demands of this job.</p> <p>Employee 26 told me that certain tasks on the job are beginning to be more difficult to perform with age.</p> <p>Employee 29 told me his/her current ability to work is more challenging than it was in the past.</p> <p>Employee 18 told me he/she does not feel that he/she will be able to perform the current job two years from now.</p> <p>Employee 12 told me, "It seems that my current ability to meet the mental demands of my work is a challenge."</p> <p><b>Not SAAW</b> Employee 1 said, "I effectively balance my abilities with the demands of this job."</p> <p>Employee 16 mentioned to me in our meeting: "As I get older, I am more able to meet the physical, mental, and interpersonal demands of this job."</p> <p>Employee 23 said to me, "Compared to my colleagues, I'm continuing to balance my strengths well with the demands of the job."</p> <p>Employee 35 told me, "I expect to be able to perform my current job two years from now."</p> <p>Employee 36 told me that he/she feels that his/her current ability to work is</p>            |

higher than it has been in the past.  
From what Employee 46 described in our meeting, he/she believes his/her current ability to meet the mental demands of the work continues to be excellent.

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## Appendix B

Successful Aging at Work (SAAW) Items for the Main Study  
Sorted by performance evaluation form letter as it appeared in the main study, each group of items contain a health, motivation, and workability item (in that order)

|          |  |
|----------|--|
| SAAW     | <p>Employee A told me that he/she has fewer physical health ailments that interfere with work than in the past.<br/>From what I was told, Employee A continues to seek out activities and learning opportunities that will help him/her improve at work.<br/>Employee A said, “I effectively balance my abilities with the demands of this job.”</p> <p>Employee B said, “I have more energy to complete my job than I used to.”<br/>Employee B told me he/she continues to set realistic career goals.<br/>Employee B mentioned to me in our meeting: “As I get older, I am more able to meet the physical, mental, and interpersonal demands of this job.”</p> <p>Employee C made it clear to me that he/she feels a high level of social support at work.<br/>Employee C told me that his/her overall motivation at work has been growing over the past two years.<br/>Employee C said to me, “Compared to my colleagues, I’m continuing to balance my strengths well with the demands of the job.”</p> <p>Employee D said that as he/she has gotten older, things have gotten better with his/her health than they thought it would.<br/>Employee D’s interest in keeping up with current affairs at work is growing<br/>Employee D told me, “I expect to be able to perform my current job two years from now.”</p> <p>Employee E says much less about pain and discomfort than he/she has in past years.<br/>Employee E told me that his/her ability to remember work-related information is increasing<br/>Employee E told me that he/she feels that his/her current ability to work is higher than it has been in the past.</p> <p>Employee F shared with me that he/she is getting more sleep than he/she used to, and this has influenced job performance.<br/>Employee F told me that he/she feels generally more connected his/her work than during the past several years.<br/>From what Employee F described in our meeting, he/she believes his/her current ability to meet the mental demands of the work continues to be excellent.</p> |
| Not SAAW | <p>Employee G says he/she has less energy to complete the job than in the past.<br/>Employee G said to me, “I have become generally less connected to my work compared to my previous years working for this company.”<br/>Employee G expressed in our meeting that his/her ability to perform this job has been decreasing throughout the years.</p>  |

Employee H shared with me, "I am sleeping fewer hours than I used to, and this is influencing my ability to perform the job."

Employee H told me "I have less interest in keeping up with current events and activities at work than I used to."

Employee H told me: "As I have been getting older, I've started to have a difficult time balancing my strengths with the demands of the job."

Employee I told me that he/she is steadily missing more time from work due to health reasons. Employee I told me he/she is experiencing a shift away from feeling engaged with the job over the past several years.

Employee I mentioned to me that it is becoming increasingly more difficult to meet the physical, mental, and interpersonal demands of this job.

Employee J told me that his/her ability to remember work-related information has been decreasing.

Employee J mentioned to me that he/she feels less willing to put in extra effort for this job than in the past.

Employee J told me that certain tasks on the job are beginning to be more difficult to perform with age.

Employee K told me he/she has more physical health ailments that interfere with the job than in years past.

From what he/she told me, Employee K is less often defining himself/herself by his/her work.

Employee K told me his/her current ability to work is more challenging than it was in the past.

Employee L said that as he/she has gotten older, things have gotten worse with his/her health than he/she expected.

Employee L told me that his/her overall motivation at work has been declining over the past two years.

Employee L told me he/she does not feel that he/she will be able to perform the current job two years from now.



## Appendix C

### Age-Type of Job Titles Used for Pilot Testing

1. Taxi drivers and chauffeurs
2. Cashiers
3. Bus drivers
4. Tellers
5. Painters, construction, and maintenance
6. Medical assistants
7. Hairdressers, hairstylists, and cosmetologists
8. Brick masons, block masons, and stonemasons
9. Graders and sorters, agricultural products
10. Hotel, motel, and resort desk clerks
11. Medical, dental, and ophthalmic laboratory technicians
12. Library assistants
13. Motor vehicle operators, all other
14. Security guards and gaming surveillance officers
15. Lifeguards and other recreational, and all other protective service workers
16. Carpenters
17. Cutting, punching, and press machine setters, operators, and tenders, metal and plastic
18. Nursing, psychiatric, and home health aides
19. Bartenders
20. Telemarketers
21. Office clerks, general
22. Tailors, dressmakers, and sewers
23. Mail clerks and mail machine operators, except postal service
24. Packaging and filling machine operators and tenders
25. Sewing machine operators
26. Cooks
27. Parking lot attendants
28. Medical transcriptionists
29. Waiters and waitresses
30. Massage therapists
31. Crossing guards
32. Models, demonstrators, and product promoters
33. Baggage porters, bellhops, and concierges
34. File clerks

## Appendix D

### Age-Type of Job Titles Used for the Main Study

| Form Letter | Job Title                        | Age-Type    | Successfully Aging at Work | Performance Pattern |
|-------------|----------------------------------|-------------|----------------------------|---------------------|
| Employee A  | Cashier                          | Young       | SAAW                       | Young               |
| Employee B  | Waiter/waitress                  | Young       | SAAW                       | Old                 |
| Employee C  | Bus driver                       | Old         | SAAW                       | Young               |
| Employee D  | Sewing machine operator          | Old         | SAAW                       | Old                 |
| Employee E  | Food service manager             | Age-Neutral | SAAW                       | Young               |
| Employee F  | Office clerk                     | Age-Neutral | SAAW                       | Old                 |
| Employee G  | Lifeguard                        | Young       | Not SAAW                   | Young               |
| Employee H  | Bartender                        | Young       | Not SAAW                   | Old                 |
| Employee I  | Tailor/sewer                     | Old         | Not SAAW                   | Young               |
| Employee J  | Crossing Guard                   | Old         | Not SAAW                   | Old                 |
| Employee K  | Customer Service Representative. | Age-Neutral | Not SAAW                   | Young               |
| Employee L  | Licensed Professional Nurse      | Age-Neutral | Not SAAW                   | Old                 |

## Appendix E

### Age-Neutral Type of Job Titles Used for Pilot Testing

1. Childcare Worker
2. Office Clerk
3. Preschool Teacher
4. Receptionist
5. Customer Service Representative
6. Retail Salesperson
7. Teacher Assistant
8. Waiter/Waitress
9. Grounds Maintenance Worker
10. Food Service Manager
11. Personal care aid
12. Licensed Practical Nurse
13. Kindergarten Teacher
14. Stock clerk

## Appendix F

### Example of a Performance Evaluation Form (Paper Person)

**Employee J** (58 Years Old)

**Job Title:** Crossing Guard

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| <b>Dependable</b> – reliable, fulfills obligations, and is loyal to the organization  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <b>Adaptable</b> – is a flexible and quick learner  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <b>Communication Skills</b> – engages with others knowledgeably; they are articulate and present information effectively when necessary | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <b>Technological Competence</b> – effectively uses technology and stays up to date where necessary                                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <b>Problem Solving</b> –generates new and creative idea; uses a sound and logical approach to define, analyze, and solve problems       | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <b>Professionalism</b> – displays responsible behavior at work, maintaining professional appearance and attitude                        | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <b>Attention to Detail</b> – completes routine, daily activities accurately and follows procedure accurately                            | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <b>Performing General Physical Activities</b> – capable of completing the physical demands required for the job                         | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**Evaluation Categories:** (1) Always Falls Below What is Required (2) Often Falls Below Requirements (3) Sometimes Falls Below Requirements (4) Meets Requirements (5) Sometimes Exceeds Requirements (6) Often Exceeds Requirements (7) Always Exceeds Requirements

**Manager Notes:**

*Employee J's manager wrote these notes after a recent, informal feedback meeting.*

- Employee J told me that his/her ability to remember work-related information has been decreasing.
- Employee J mentioned to me that he/she feels less willing to put in extra effort for this job than in the past.
- Employee J told me that certain tasks on the job are beginning to be more difficult to perform with age.

1. On a scale of 1 (poor) to 7 (excellent), how would you rate this employee's overall level of performance? \_\_\_\_\_

2. In this company, employees that are performing on an average level usually receive a bonus of \$225 at the end of the year. How much money would you suggest to be rewarded to this employee?

- (1) \$0
- (2) \$75
- (3) \$150
- (4) \$225
- (5) \$300
- (6) \$375
- (7) \$450

3. How likely would you be to invest organizational resources in this person if resources were scarce?

- 1. Extremely unlikely
- 2. Moderately unlikely
- 3. Slightly unlikely
- 4. Neither likely nor unlikely
- 5. Slightly likely
- 6. Moderately likely
- 7. Extremely likely

4. Your company has an opening for an upgrade training class. The training is for umbrella policies and will increase the level of the employee responsibilities on the job. This individual would like to go to the training and wants you to recommend them. How likely are you to recommend them for further training?

- 1. Extremely unlikely
- 2. Moderately unlikely
- 3. Slightly unlikely
- 4. Neither likely nor unlikely
- 5. Slightly likely
- 6. Moderately likely
- 7. Extremely likely

5. Your company is talking about downsizing. Your company has asked you to evaluate each of your employees and made recommendations for lay-offs. How likely are you to recommend terminating this employee?

1. Extremely unlikely
2. Moderately unlikely
3. Slightly unlikely
4. Neither likely nor unlikely
5. Slightly likely
6. Moderately likely
7. Extremely likely

6. How likely is it that you would recommend promoting this individual to a higher job position?

1. Extremely unlikely
2. Moderately unlikely
3. Slightly unlikely
4. Neither likely nor unlikely
5. Slightly likely
6. Moderately likely
7. Extremely likely