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The aging workforce is becoming a more important topic of discussion among employers and policymakers every day. The vast majority of members of today's workforce who are over the age of 50 do not expect to stop working until well after the historically "appropriate" age of retirement—drastically altering the demographics of the workforce. Whether these persons are choosing to continue to work in order to receive more money and benefits, learn new things, or stay active, there are many consequences that come with these older workers remaining in the workforce. To investigate these implications, the following research has been compiled on the physiological effects, functional decline, and biases associated with aging and employment.

Physiological Effects of Aging

Decrease in Brain Volume and Dopamine System

As one ages, cognitive changes occur as part of the process healthy aging. Over time, the dopamine system in the prefrontal cortex of the brain begins to break down causing decreased cognitive control. Many studies have shown that the cognitive decline in older adults is similar to that decline which is experienced by patients with lesions in the prefrontal cortex: concluding that this is the main area of the brain affected by aging. Brain imaging studies have also confirmed this theory, showing that there is a generalized decrease in brain volume, particularly in the prefrontal cortex, after the age of 60 (Braver, 2001).

The volume decline in the prefrontal cortex has been found to be related to a decreased density of neurotransmitters as well as neuronal shrinkage and decreased synaptic

density. The most prominent neurotransmitter declines in the brain are found in the dopamine system within the prefrontal cortex. A correlation has been found in postmortem studies between age and fewer dopamine receptors in this area of the brain. The decreases in the dopamine system affect both the excitatory and inhibitory aspects of the neurological system (Braver, 2001).

Decreased Cognition Due to Slowed Processing Speed

As humans age, the dopamine system in the prefrontal cortex begins to dysfunction, causing decreased cognitive control (Braver, 2001). Declines in “episodic memory, working memory, inhibition, attention, and ‘executive’ function” are all very common, with episodic memory declines being the most prominent. Inhibitory functioning, the act of repressing unnecessary information, as well as attention control have also been found to decline with age. Decreased functioning occurs over time in both understanding context as well as maintaining information (Braver, 2001).

Some researchers argue that the decline in cognition with age experienced by many people is more attributed to the decline in processing speed of the dopamine system than to the decrease in brain volume. Speed of information processing in the brain decreases with age and leads to a significant decline in psychomotor speed, executive performance, and increased variance in performance (Keys, 2000).

Changed Brain Frequency with Error and Vision

Brain frequencies associated with errors can be measured in hertz by monitoring the hemisphere of the brain opposite of the side of the body associated with the error. In one study measuring the brain frequencies related to errors, there was no difference in the rate of errors committed by younger and older adults; although, reaction times were longer in older

adults. Analysis of the brain frequencies, though, indicated that the older adults did have both qualitative and quantitative differences in error processing (Kolev, 2005).

It was concluded that there is a reduction and delay in error-specific signals from the frontomedial areas of the brain in older adults. This decline can result in a decreased quality of work and increased variability associated with a lower awareness of errors. These altered brain frequencies are representative of an underlying suppression of frontomedial brain structures, including and surrounding the prefrontal cortex, which restrains performance, movement, and monitoring of one's own behaviors and actions (Kolev, 2005).

Another study noted varying brain frequencies with age and their effects on visual processing. The largest age-related visual decline occurred when there was a need for a division of attention between two different types of tasks. While there was age-related slowing of visual processing, redundancy of tasks did decrease the time needed to process multiple images or tasks in older adults (Bucur, 2005). Aside from normal aging changes, the likelihood of contracting a pathologic ailment increases when one ages as well. This may greatly affect an older person's ability to perform at a high level, whether in a cognitive role or when performing a physical task (Wegman, 2004).

Age-Related Changes in Performance

Decreased Performance

All of these physiological changes that occur through the aging process correlate to a decreased level of performance. This age-related decline has been tested in numerous studies examining different tasks performed by both younger and older adults. Many studies have shown that age-related functional decline is independent of any other variables.

It was not unique to or increased in any sex or educational level, but rather affects all members of the aging population (Allamanno, 1987).

Functional changes in older persons were amplified when comparing compensatory mechanisms for behavior with those of younger persons. One such experiment compared cognitive and sensorimotor performance simultaneously during dual-task testing. When asked to memorize while walking, older adults experienced the largest functional decline in the cognitive aspect of the task. Older participants needed to focus more on the motor aspect of walking to perform successfully, leading to a decline in their ability to memorize as much as the younger persons and increasing their perceived difficulty of both tasks. Also, when given the option to use either a hand-rail or a memory aid when the walking and memorization tasks were made more difficult, the older adults chose the hand rail as a walking aid, further decreasing their ability to memorize as well as the younger participants (Li, 2001).

Cognitive declines with age were evident in many studies that examined the changes in memory between different age groups. One study found that older adults may have decreased working temporal memory along with the previously proven decrease in long-term temporal memory. In this experiment, older adults performed more poorly than young adults when testing temporal memory, mainly due to deficits in associative memory and order information. They had trouble maintaining information, but did not have a significant difference in item recognition when compared to younger adults. When asked to use associative memory or remember order information, though, they again performed poorly. These results all suggest that older adults are not as capable as younger adults to create new associations between pieces of information or recall order information (Hartman, 2005).

The visual cognitive function of adults also becomes compromised with increased age. Although older adults have not shown to have decreased item selection ability, another study concluded that older adults require increased search and recognition time. For both older and younger adults, external location cues helped to reduce this increased time needed to find and recognize items. Both contextual cues, as well as the location cues, helped to expedite middle-aged participants' search times. Those members of both age groups who were considered "experts" with certain items had decreased search times than other participants, however, irregardless of external cues (Hoyer, 2003).

Another study also concluded that older adults required longer estimation time to solve a computational problem and had decreased accuracy, particularly when the question was harder or the strategy used to complete the task was more complex. When participants were offered strategies that could be used for problem solving, both younger and older adults were aided by them. Older adults, though, seemingly chose estimation strategies less effectively as they were not as successful with their use. Both age groups were flexible enough to be willing to change their strategy choice, though (Lemaire, 2004).

In a manual task study of selecting items using a computer mouse or a pen light, older adults performed more slowly than younger participants. While this study again proves that older adults have slower performance, it does indicate that older adults are extremely adaptable as they became just as efficient with the use of the pen light, an unfamiliar tool, as they were with the mouse after only 30 minutes of use (Jastrzembski, 2005).

Executive Functioning

Most tasks associated with the prefrontal cortex are related to contextual thought and executive functioning, including social and sexual behavior control. Perhaps the greatest area of functional decline with older adults, related to the decrease in volume in the prefrontal cortex, is in fact in the domain of executive function. Many studies have been performed to determine the effects that aging has on the executive functions of adults such as restraining and delaying responses, setting goals, planning, organizing, and flexibility. One study designed to test “planning, inhibition, and abstraction of logical rules” determined that the processing speed of older adults was slower, causing their overall performance to be poorer than that of younger participants. The older adults’ performance was similar to that of younger patients with frontal lobe deficiencies, again identifying the correlation between the prefrontal cortex and executive functioning (Andres, 2000).

Another study went so far as to suggest that the decline in executive functioning is the underlying cause of all functional decline experienced with aging. Thirty tasks were tested and the greatest deficiency in older adults was experienced in executive functioning. Once the frequencies associated with completing these tasks were accounted for, the discrepancy between the performance of older and younger adults was much smaller. The researchers concluded that isolating executive functioning is very difficult and therefore challenging to get definitive answers, but emphasized that the individuality of participants greatly affects how they perform on such tasks (Salthouse, 2003).

Increased Errors with Age

Along with cognitive decline, research has shown that the number of errors committed by older persons is higher than younger persons performing the same tasks.

Many of the studies discussed above that displayed poorer performance and slower processing speed, also discuss the implications of increased errors committed by older participants: including those studies done by Andres, Keys, and Lemaire. Another study designed to investigate older adults' decision making found that with increased task complexity, aging effects were more profound with all "comprehension and consistency tasks". It was concluded that the aging effects were also very individual and could often be accounted for by external variables, such as social, health, cognitive skills, and attitude (Finucane, 2005).

Increased Variability with Age and Task

Along with increased errors, older adults had increased variability in their performance results than their younger counterparts. Charness and Mireles tried to simulate the aging effects that occur within the brain to see if preexisting knowledge was a protective agent in the aging process. Through this study, some simulated older models had increased variability in outcomes when aging was due to decay and noise. Prior structured knowledge was protective against lower performance due to age, perhaps amplifying the variance between those with and without pre-existing knowledge (Mireles, 2002).

As with performance disparities, increased variability among older participants is amplified in studies that focus on executive functioning. A common measure of executive function, the Wisconsin Card Sorting Test, was used to interpret the effects on variability. It was found that older adults had significantly higher variability and larger standard deviations in all measures, with the highest variability occurring in the oldest group of participants. It is thought that the decreased performance by older adults on the Wisconsin

Card Sorting Test is attributable to their decrease in working memory capacity that occurs with age (Rhodes, 2004).

An additional study found that the tasks requiring the least amount of executive function had the smallest age-related variability differences. Those tasks that required more complex executive functioning had greater age discrepancy in performance variability, with more frequent and larger performance fluctuations in the older participants. Older adults were also more likely to become diverted from their goal demonstrating their decline in the executive function of goal-directed action (West, 2002).

A 1998 study was conducted to find age-related variability differences in multiple tasks ranging from psychomotor to cognitive, such as finger tapping and time estimation. Variability was increased in older participants in tasks that had negligible differences in performance between age groups. Variability differences in age groups were also amplified when the task being investigated was more demanding. It was concluded that while variability increases with age in some tasks, it is not a phenomenon that can be generally expected with all tasks (Shammi, 1998).

The individuality of all study participants makes the generalized application of any study results difficult. Hess argues that the decreased memory and poorer performance associated with older adults need to be understood in the context of the individual completing a specific task. It has been found that considerations such as health, lifestyle, and experience can all have a great impact on the performance of individual persons and (Hess, 2005).

Protective Buffers to Aging Effects

Extrinsic Factors

According to some, the effects of the aging process have been overestimated as they really depend on individual people. Rowe draws a distinction from usual aging by describing “successful aging” as using extrinsic factors in a positive way to enhance one’s health and abilities. Decreased carbohydrate metabolism, osteoporosis, loss of autonomy, decreased social support, and psychosocial factors can all cause an increase in functional decline. By preventing these health and psychosocial declines, one can “successfully” age and experience a smaller decrease in function. These individual variables should be studied to determine the amplitude of their effects on the aging process (Rowe, 1985).

Pre-existing resources can also slow the effects of aging one’s function. Those persons above the median, in terms of cognitive and social resources, were found to be the group with the lowest negative age effects in age differential testing. It is argued that these persons have the greatest opportunity to delay their functional decline by most frequently using executive functioning in terms of selection, optimization, and compensation. Those in the “resource poor” group exhibited the largest age differences and the greatest number of negative age trends (Baltes, 1997). Pre-existing levels can also decrease the functional variability that occurs with age, as one study indicated that those persons with higher levels of underlying intelligence had lower levels of inconsistency in performance (Ram, 2005).

Adults who remain productive into their late adulthood will experience the least functional decline. A 1995 study concluded that those who had the highest level of baseline functioning to begin with had the least decline in productivity, while those who were lower functioning had a great decline in productivity. Also, participants with risk factors such as

hospitalization became much less productive, while protective factors such as marriage and high level of mastery were preventative against productivity decline (Glass, 1995).

Just as a high functional baseline can be protective against age-related declines, previous knowledge in a topic area can aid in memory recall and decrease the age effects of declining working memory. A study investigating the recall of grocery prices found that although younger adults did exhibit better memory recall, both older and younger adults could identify appropriate price ranges for items. This exhibited that older adults can have memory equal to that of younger adults when they have prior knowledge and are familiar with the way in which they need to apply their knowledge. In this case, identifying the grocery items was familiar for them, so there was not a new task involved to complicate the findings (Castel, 2005). The Mireles and Charness study, discussed earlier for demonstrating increased variance in the older population, also concluded that those persons who had a structured previous knowledge of chess were more likely to have increased memory recall and a longer memory span (Mireles, 2002).

Instructive Cues

Aside from pre-existing knowledge, social conditions, or health factors, the effects of aging can be minimized by increased training and instructive clues for older adults. One study examined the effects of training on word recall and concluded that training resulted in increased word recall between pre- and post-tests. Training did have a diminishing return on the increase in results of older adults and with increasingly more training, younger adults outpaced the improvements of their older counterparts. Although the training may not have been as effective for the older adults, it was helpful and did improve their memory function (Kliegl, 1989).

Training also improved older adults' functioning when attempting dual-task performance. As discussed earlier in the study that required memorizing and walking, there are great age differences in performing two tasks simultaneously. Even when the tasks require very similar motor responses, though, both older and younger adults' performance can be improved by training on how to perform the task more efficiently. The type of training performed was irrelevant to the improvements experienced and the benefits were equal across all age groups showing that depending on the task, older adults' improvements with training can be equal to that of younger adults (Bherer, 2005).

Aside from repeated practice and additional training improving functional results, instructive cues to guide one's performance can be very beneficial as well. One study examines the effects of adding illustrations to instructions for assembly tasks on age-related performance variability. It was concluded that the illustrated text instructions improved performance results for both younger and older adults in the construction of their assembled objects more so than text or illustrated instructions alone. While younger adults still performed at a higher level than older adults, the additional instruction helped decrease the errors made by older adults. On more challenging tasks, there was a lower age-related difference in performance than there was with those easier tasks performed without additional illustrative cues (Morrell, 1993).

Biases Towards Older Workers

Opinions of All Older Adults

All age groups have stereotypes associated with them which can affect the way they are perceived and treated in a work environment. It usually varies between individuals as to the level at which these stereotypes are applied to different age groups. One study

attempted to capture an idea of the typical extent that stereotypes are applied by presenting participants with descriptive words to determine which age groups they were applied to. The study concluded that both older and younger adults were very likely to apply stereotypes such as “wise, sentimental, senile, and bitter” to older adults and stereotypes such as “energetic, flexible, rebellious, and disrespectful” to younger populations (Chasteen, 2002).

While participants did stereotype older persons, there was no evidence of them being prejudice toward the older population. Also, both younger and older participants were quicker to apply a positive “aging stereotype” to older persons than they were to apply a negative one. This indicates that in general, while older persons do have stereotypes associated with them, they are viewed in a positive light by all age groups (Chasteen, 2002). It is proposed that the acting on stereotypes towards older workers is actually something done subconsciously and is not truly meant as discrimination (Rix, 1995).

Compared to younger adults, though, older adults are associated with fewer positive stereotypes. Study participants were shown photographs of persons of various ages and asked to pair their facial cues with an appropriate stereotype based on their perceived age. As expected, older persons and those with neutral facial expressions were labeled with more negative stereotypes than those who appeared to be younger based on looks and facial expression. As the ages of the persons in the photos increased, or the facial features most similar to those of an older person were more pronounced, the number of associated positive stereotypes directly decreased. The greatest negative associations occurred when the person was over the age of 70. Stereotyping only varied between participants when labeling

pictures of “old-old” adults indicating that the stereotypes are similar across all age groups (Hummert, 1997).

A different study indicated that such stereotyping described in the previous experiment is more likely to occur when no contextual information is given about the persons in the photographs, or those being labeled. Without any contextual information, participants rated younger workers as being more qualified and more likely to develop in a job than older workers; however, they more often labeled older workers as being more stable. When participants were provided with traits of older subjects that made them appear more appropriate for a job, they were more likely to view the subject positively. It also concluded that older persons were more likely to have a negative stereotype applied to them when the labeler was simultaneously evaluating a younger person and that younger participants were more likely to rely on age stereotypes than older participants were (Finkelstein, 1995).

The stereotypes applied to older persons are often very similar and can be grouped into a few categories. One study asked half of its participants to compile a list of traits that they would associate with older persons. These stereotypes included physical characteristics, health, personality, social characteristics, and emotions. The list that was generated was extensive and included characteristics that were opposite from one another. So, the second group of participants was asked to create groups of the traits that they believed could all be found in the same older adult and they ranged from “the perfect grandparent” to the “severely impaired”. This study indicated that while there are certain clusters that stereotypes can be classified in, the actual stereotypes are numerous and diverse—not easily applied generally (Schmidt, 1986).

Opinions of Older Workers

As exhibited in the Finkelstein study, all age stereotypes cross the lines of employment and often occur as employees or employers holding biases towards older workers. The Finkelstein study indicates that since older persons are less likely to be viewed as capable for a job, they will have trouble finding employment. It also concludes that both older and younger adults share similar stereotypes towards older workers, so both older and younger managers would have to look past their preconceived notions of older adults, and rely on contextual information when considering them for employment (Finkelstein, 1995).

Another study also looked at contextual information's effect on the application of stereotypes. Participants were given written descriptions about older employees' attributes such as age, college education, comfort with varying tasks, and social status. Once the information was presented, the participants were less likely to apply the stereotypes that they had labeled the older employees with before they were given any additional information. When they were given information that was inconsistent with the stereotype they had given to older employees, they were no longer likely to apply it showing that coworkers of older workers are not likely to hold negative biases towards them if they know background information about them (Vrugt, 1996).

Finkelstein completed a follow-up to his 1995 study further examining the application of stereotypes by different age groups on older workers. The research concluded that older workers were viewed as having less economic value, particularly when being evaluated by older participants themselves: indicating that older adults may actually be more likely to hold age stereotypes or feel pressure to view workers as they feel the rest of their

peers do. By being viewed as having less economic benefit and lower interpersonal skills, older adults are less likely to be interviewed or hired for a position over a younger candidate (Finkelstein, 1998).

Most older workers, while may not be viewed as the most productive, are seen by many as excellent employees. Their loyalty to their employer is often viewed as much higher than that of younger workers and they are seen as being committed to quality. Older workers are also seen as being reliable and having good attendance. All of these positive qualities, though, seem to be taking a backseat to the negative biases that many employees and supervisors hold towards older workers (DYG, 1995).

Ageism in the Workplace

When older employees currently in the workforce were asked if they had ever experienced such age tensions, a significant proportion indicated that they had actually directly experienced ageism in their employment. Most older workers also favored legislation that would fight against age discrimination for all ages in hiring and employment practices (Loretto, 2000). Anti-discrimination policies are important because they have been found to increase workers' and managers' positive attitudes towards older workers (Chiu, 2001).

“Once in the external labor market, their capacity to compete successfully against younger applicants for jobs—on the basis of technical skill and relevant experience—is weak.” This was the conclusion drawn about the fate of older workers after surveying MBA students on their opinions of having older adults as employees. Those surveyed saw older workers as less likely to be technically competent or open to organizational change. While it can be hoped that as younger managers age and become familiar with older workers, they

will weaken these biases; however, as pointed out in this study, there will forever be a new generation of young managers coming into the workforce with the same stereotypes to keep the prejudice alive in the workplace (Lyon, 1997).

Studies have also found that the ageism against older employees is not unique to only younger managers. A 1986 study determined that all supervisors were more likely to hold negative biases towards older workers, compared to hourly employees. While there was some age differentiation between the opinions of hourly workers, with the older ones having a more positive opinion of their peers, all age groups of supervisors had negative biases towards their older subordinates (Bird, 1986).

One of the biggest stereotypes that older workers are labeled with is being less adaptable to change. This stereotype is one held by persons worldwide, even in older adults themselves. One study in New Zealand of adults all over the age of 55 found that adaptability is the greatest negative stereotype of older workers. They are thought to be more resistant to change and technology, especially the use of computers (McGregor, 2002).

This bias of older adults as being less adaptable has been found to effect supervisors' attitudes toward the training and retention of their older employees and workers' willingness to work alongside their older peers (Chiu, 2001). The effect of such biases on the treatment of older workers depends on who they are being compared to. A survey of undergraduates found that increasingly favorable opinions were given about older persons when they were not being simultaneously compared to a younger person. Given the alternative of a younger worker, study participants were not favorable of the older workers: determining that if older workers are consistently compared to younger workers, they will more likely be viewed as inferior (Lee, 1985).

The biases that supervisors have towards older workers play a role in their opinions of when their employees should retire. Henkens found that most stereotypes held about older workers fall into three main categories of productivity, reliability, and adaptability. Consistent with previous findings, it was concluded that those managers who had more frequent contact with older employees had fewer negative stereotypes about them; however biases towards older workers such as adaptability were not affected by the amount of contact a manager had with employees. Perhaps due to these opinions, managers were not found to be urgently supporting later retirement (Henkens, 2003).

What people deem as the “appropriate” age for retirement was investigated by surveying all age groups on their opinions based on the perceived demands of various occupations. Participants based on what they believed were the physical demands of the jobs, not on the cognitive or social demands of the tasks, to make their decisions. The study found that the younger the study participant, the lower age they recommended for retirement (Joulain, 2001).

Once older workers do enter retirement, they continue to be associated with negative stereotypes. When looking for post-retirement employment, employers have been found to see older workers as lacking the appropriate skills and the ability to be trained appropriately. Stereotypes such as these cause older workers to be trapped in lesser demanding jobs with lower wages and opportunities (Taylor, 1994).

Individuality of Workers

Despite all of the negative biases held against older employees, there is not irrefutable evidence that they actually perform poorly once in the job setting. One study even found that age and job performance were unrelated, irregardless of how the

performance was measured or the type of job that was being performed. While the relationship of very young workers and performance was found to be positive, the relationship of older workers and performance was not found to be negative (McEvoy, 1989).

This emphasizes that older workers cannot be generalized as less adaptable, having less economic value, or being less productive. The individuality of the older workforce is really what is necessary to consider. While the effects of each individual are understandably very difficult to capture as each worker is unique, it is imperative that older workers are not over generalized. As shown through the studies where older workers are viewed more positively when employees and supervisors are in more frequent contact with them, it is necessary to get to know the individual personality of older workers before they can be judged.

Sara Rix of the AARP believes that there may be a phenomenon with the older workforce similar to a “healthy worker effect” where only the best workers are the ones that remain in the workforce. Perhaps those older workers who truly are less willing to train and adapt to new technology exit the workforce before they are required to adapt to advancements in their workplace. Those older workers who continue to work into their post-retirement years are more likely to have a healthier physical condition if they are still able to reliably come to work and perform up to par. They are therefore most likely more determined to keep up with their health and in turn may be more flexible and comfortable with change in the workplace.

As shown through the studies discussed earlier, showing the benefits of training for older workers’ performance, older employees are capable of learning new tasks. As long as

they are willing to embark on a new task and are given the appropriate training and aides, they can a very beneficial impact. Particularly in today's work environment, where new technologies are always being implemented, training is needed on a very frequent basis. Therefore, the argument that younger workers are more economically valuable because they will continue to provide returns on the company's investment of training for years after the older worker is gone is irrelevant as all age groups will need similar training more frequently to stay up to date.

Implications for Employers

Combating Decline in Function

Employers should really focus on keeping their older employees as productive and feeling as comfortable in their workplace as possible by offering extensive training options. Continuous training should be made available to keep all workers up to date on new technologies or advancements in their respective work practices. Diverse areas of training should also be offered to keep older employees interested in their work and able to learn new aspects of their jobs.

A major complaint of training offered by employers currently is that workers do not have the time or the opportunity to take advantage of the programs available. Managers should set aside designated times for employees to attend training sessions so that workers can go to them without feeling as though they are falling behind in their everyday tasks. Employers could also set up incentive programs to encourage both older and younger workers to attend training sessions when they otherwise may not choose to do so.

The benefit of having instructive cues in the workplace is evident through all of the research discussed on the protective buffers to the effects of aging on work. Employers

should use this to their advantage by making instructive cues available in prominent communal areas in the workplace, such as an assembly line floor, so they can have the greatest impact. Both text and illustrative instructions should be used as they have been shown to have the greatest effect on productivity improvement. Employers should also emphasize the use of cues with more executive functioning such as matching up appropriate parts or deciding between two processes to complete a task.

Maximizing Potential of Workers

In order to ensure that employers can make their employees the most effective, they need to guard against the application of stereotypes within their workplace. The first step to ensure this is to be aware of their own personal biases so they can be aware of those held by others. Employers should enact anti-age discrimination policies to make older employees more comfortable and establish a healthy working environment. They should also rid of any mandatory retirement ages that remain, end any strategies to push out older workers, and destroy any culture of believing it is necessary to retire at a certain age.

Employers can also do their part to try and maximize the health of their employees. Occupational health centers can be erected within office buildings where employees can go for routine physicals that they might not otherwise receive or receive therapy for any chronic illness or injury that may have otherwise caused them to stop working. Employers can maximize the health of their employees by providing an incentive system for those who maintain regular exams and good health indicators. With the advisement of occupational health specialists, ergonomic adjustments can be made in the workplace to ensure safety and again help older workers to be more productive in their jobs (Wegman, 2004).

The list of other things employers can do to maximize the impact of older workers is endless, as is that of other things that should be considered in the study of older persons. One of these considerations is the effect of gender in the stereotyping of older workers. Rix addresses these potential concerns when discussing an updated study examining the stereotypes towards older women in the workforce (Rix, 1995). The Hummert study, where study participants applied stereotypes to photos varying in age and facial expression, also evokes the issue of gender differences in biases. Photos of older women were paired with fewer positive stereotypes by participants of all ages, than those of older men (Hummert, 1997).

There will forever be other considerations such as this effect of gender that both older workers and their employers need to consider. With a better understanding of research, such as that which is presented here, more persons involved in the employment of older workers can become aware of the stereotypes that exist and work to combat them while trying to maximize the potential impact of older workers.

Resources

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