SELECTION, OPTIMIZATION, AND COMPENSATION (SOC) STRATEGIES AND PERCEIVED WORK ABILITY: THE ROLES OF PERCEIVED HEALTH AND JOB CONTROL

by

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ABSTRACT

JONATHAN R. FLINCHUM. Selection, optimization, and compensation (SOC) strategies and perceived work ability: The roles of perceived health and job control. (Under the direction of DR. ALYSSA MCGONAGLE)

Perceived work ability (PWA) represents an employee's perceptions of their ability to continue working in their current job given their personal resources and the characteristics of their job, and relates to many positive organizational outcomes (e.g., increased well-being, decreased absenteeism). Using the model of selection, optimization and compensation (SOC) as a theoretical framework, the current study investigated two potential moderators of the relationship between SOC strategy use and perceived work ability—general health status (personal resource) and perceived job control (contextual resource). Two interactions were hypothesized: a) a two-way interaction where the SOC-PWA relationship would be strongest for those with lower perceptions of health, regardless of age, and b) a three-way interaction where the SOC-PWA relationship would be strongest for those with lower perceptions of health and higher perceptions of job control, regardless of age. It was hypothesized that SOC strategy use, general health status, and perceived job control would predict PWA directly as well. A two-wave MTurk sample (N = 466) was used to test this model. Both general health status and perceived job control predicted PWA, while SOC strategy use did not. Both hypothesized interactions were not significant, though age was a significant predictor of PWA in the final regression model. Supplemental analyses were conducted to further investigate results including the inclusion of overall job demands as an additional control variable. Limitations such as sampling and measurement issues are discussed as well as what future studies should consider when studying the SOC-PWA relationship.

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CHAPTER 1: INTRODUCTION

Perceived work ability (PWA) is construct that reflects the degree to which employees perceive they are able to continue working in their current jobs, given the job characteristics (including demands and resources) and their personal resources including health (Ilmarinen, Gould, Järvikoski, & Järvisalo, 2008; McGonagle, Fisher, Barnes-Farrell, & Grosch, 2015). Empirical evidence shows that higher levels of PWA have been associated with many positive organizational outcomes such as greater levels of employee well-being and productivity as well as decreased sick leave, absenteeism, early retirement, and disability leave (Ahlstrom, Grimby-Ekman, Hagberg, & Dellve, 2010; Alavinia, van den Berg, van Duivenbooden, Elders, & Burdorf, 2009; Feldt, Hyvonen, Makikangas, Kinnunen, & Kokko, 2009; Ilmarinen, 2009; McGonagle et al., 2015; Tuomi, Huuhtanen, Nykyri, & Ilmarinen, 2001). Learning what predicts PWA is important for informing ways to maintain (or bolster) PWA levels in employees.

One predictor of PWA that has been investigated is the model of selection, optimization, and compensation (SOC) and its related action regulation strategies. This theoretical model involves strategies that direct goal-based behavior to help people with limited resources who are in highly demanding situations optimally allocate their resources to maintain (or enhance) their current functioning (Zacher, Hacker, & Frese, 2016). Following this model, PWA can be seen as one's perceived functioning specific to the work context, wherein it seems intuitive that using SOC strategies would benefit workers' PWA. However, the limited research (e.g., only four independent samples in a recent meta-analysis) on this relationship is inconclusive regarding the direct relationship between SOC strategy use and PWA (see Moghimi, Zacher, Scheibe, & Van Yperen,

2017), with some researchers finding support for a positive relationship (e.g., Müller et al., 2013; Riedel, Müller, & Ebener, 2015) and others not finding support (e.g., von Bonsdorff et al., 2014; Weigl, Müller, Hornung, Zacher, & Angerer, 2013). It is possible that the inconsistent relationship between SOC and PWA is due to factors that moderate the relationship. One study has supported this idea, finding that the age of nurses may influence the relationship between SOC strategies and PWA; only older nurses who showed higher use of SOC strategies had higher levels of PWA as compared to younger nurses (Müller et al., 2013). However, more research is needed to investigate other potential moderating variables, as such moderators could provide ways for organizations to support vulnerable employees (see Müller, Heiden, Herbig, Poppe, & Angerer, 2015).

When choosing additional potential moderating variables of the SOC-PWA relationship, one needs to consider the main assumption of the SOC model which emphasizes the importance of its action regulation strategies for those with limited resources in demanding situations (Young, B. B. Baltes, & Pratt, 2007). Health is positively related to PWA levels (e.g., McGonagle et al., 2015) and can be understood as a limitation on one's personal resources if one perceives themselves as unhealthy. Additionally, job control has been argued to be a contextual resource necessary for SOC strategies to be implemented in the workplace (Müller et al., 2013). Specifically, SOC strategies may not be implemented at work when workers lack an adequate level of job control to implement them. Following these ideas, the current study further examined boundary conditions under which SOC strategy use relates to PWA by testing general health status and perceived job control as moderators, along with their joint effects (see Figure 1). Using the SOC model as a theoretical framework, it was hypothesized that

SOC strategy use would be most strongly (positively) related to PWA levels for those who have lower perceptions of general health and higher perceptions of job control, regardless of age. Age was used as a control variable in an effort to disentangle the influences of age and perceived health on PWA (since health tends to decline with age), addressing inconsistencies in the literature regarding the age-PWA relationship (see McGonagle et al., 2015). Specifically, the current study looked to understand the influence of perceived health on PWA as well as the joint influence of perceived health and job control on PWA *beyond the influence of age*.

CHAPTER 2: HYPOTHESIS DEVELOPMENT

2.1 Work Ability

Research on work ability started in Finland in the 1980s and attempted to answer the questions of "how long workers and employees [were] able to work and to what extent being able to work [depended] on the work content and job demands" (Ilmarinen, 2009, p. 1). This line of research was used to better understand the antecedents of early retirement and early workforce exit, which were pressing societal issues at the time (see Ilmarinen et al., 1991a, 1991b). Research on work ability was framed in relation to the stress-strain concept (specific to the interaction of one's resources and demands) but was initially based off investigating these societal issues inductively rather than being grounded in theory. Results from these initial studies indicated that low levels of work ability predicted early workforce exit and retirement after a four-year follow-up (Ilmarinen et al., 1991b).

Since its inception, research has uncovered several other variables related to work ability. A pivotal study conducted by Feldt and colleagues (2009) using longitudinal data over a 10-year period found that younger age, higher perceptions of job control, a more supportive organizational climate, higher organizational commitment, and a higher management position were all related to better development of work ability over time. Other antecedents relating to higher levels of work ability include: functional capacity, individual health factors, job characteristics, and job type (Ilmarinen et al., 2008; Ilmarinen, Tuomi, & Klockars, 1997; Koskinen, Martelin, Sainio, & Gould, 2008; van den Berg, Elders, de Zwart, & Burdorf, 2009).

Work ability has also been found to be a predictor of many organizational outcomes, positively relating to employee health, well-being, and productivity (Ahlstrom et al., 2010; Tuomi et al., 2001) and negatively relating to absenteeism, disability leave, sick leave, and withdrawal (Ahlstrom et al., 2010; Alavinia et al., 2009; Ilmarinen, 2009; McGonagle et al., 2015). Feldt and colleagues (2009) found the mean retirement age of employees was highest (61.3 years) for workers categorized as having the highest ratings of work ability and lowest (55.4 years) for those with the lowest ratings of work ability. Added to this, researchers have found that higher levels of work ability are related to more active and meaningful retirement years, highlighting work ability's role not only during one's work life but even after exiting the workforce (Tuomi et al., 2001). These studies underscore the complexity of factors relating to work ability, which research is still pushing forward in understanding.

2.2 Perceived Work Ability (PWA)

A recent advancement in the work ability literature is with PWA, which is a worker's subjective perception of their work ability. Researchers began to question the factor structure of Tuomi and colleagues' (1998) original measure of work ability, the 60-item Work Ability Index (WAI), arguing it could encompass more than one factor (Radkiewicz, Widerszal-Bazyl, & NEXT-Study Group, 2005). Later psychometric research on the WAI found that a two-factor model fit better than a one-factor model, with factors labeled as 'objective, health-related work ability' and 'subjective, non-health-related work ability' (Martus, Jakob, Rose, Seibt, & Freude, 2010). While the WAI encompasses both 'objective' and 'subjective' factors, measures of PWA focus solely on the latter—ignoring objective, health-based items such as participants' number

of physician-diagnosed diseases. In this way, PWA measures focus solely on employees' *subjective perceptions* of their work ability based on the demands they face: defined as physical, mental, and interpersonal/social demands. *Physical demands* refer to any demand of a job related to the worker's body (e.g., the ability to type on a keyboard); *mental demands* refer to any demand of a job dealing with a worker's mental state and/or ability (e.g., the ability to think logically for a project); and *interpersonal/social demands* refer to any demand of a job related to interacting with other people at work (e.g., the ability to present ideas to others; Barnes-Farrell et al., 2004; Ilmarinen et al., 2008).

PWA has been argued to be a more practical construct to study as compared to work ability because it avoids asking about private health information on chronic diseases and can also be measured using just four items (McGonagle et al., 2015). PWA has also been shown to be related to many of the same constructs as work ability. Regarding outcomes, PWA has been found to be a predictor of decreased disability leave, later retirement, and decreased sick leave among other outcomes (Ahlstrom et al., 2010; Sell et al., 2009; von Bonsdorff et al., 2011). Many similar antecedents of work ability have also been uncovered when using the PWA scale, spanning both personal characteristics and aspects of the working environment. McGonagle and colleagues (2015) outlined this idea in their proposed model of PWA highlighting three encompassing antecedents: job demands (e.g., physical demands), job resources (e.g., supervisor support), and personal resources (e.g., employee health status[1]). The authors found that personal resources, such

[1] It is important to note that health is reflected in the original measure of work ability (i.e., the WAI), which asks respondents questions specifically about their health such as their number of physician-diagnosed diseases (see Tuomi et al., 1998). Though this is only a small portion of the WAI, it could inflate work ability's relationship with health. This is not true for measures of PWA, which solely focus on employees' perceptions of their work ability in relation to the demands they face. Despite this shift in measurement and conceptualization, research has found that health strongly relates to PWA levels (McGonagle et al., 2015).

as health and sense of control, were more strongly related to PWA than job resources and job demands for workers in various occupations; yet for workers in physically demanding jobs, physical demands were also very important predictors of PWA.

Research on PWA continues to expand, and one possible predictor of PWA needing further investigation is selection, optimization, and compensation (SOC) strategy use. There have only been a few studies investigating this relationship, which have shown some support for the existence of a positive association between SOC strategy use and PWA levels (e.g., Müller et al., 2013; Riedel et al., 2015). Researchers have also developed SOC interventions for employees (see Müller et al., 2015), which could be used by organizations to support employee PWA levels if this relationship is supported by future studies. However, the limited amount of research surrounding the SOC-PWA relationship leaves many to question its true nature, which the current study attempted to address.

2.3 The Selection, Optimization, and Compensation (SOC) Model

Originally created in the lifespan and developmental psychology literatures, the SOC model is a metatheory of development involving action regulation strategies that promote successful development for those in situations characterized by high demands and few resources (B.B. Baltes & Rudolph, 2013; P.B. Baltes, 1987; P.B. Baltes, 1997; P.B. Baltes & M.M. Baltes, 1990; P.B. Baltes, M.M. Baltes, Freund, and Lang, 1999; Moghimi et al., 2017). Most researchers examine how individuals use SOC strategies related to action regulation, emphasizing the use of goals to promote one's functioning specific to the dynamic interaction between people and their environment (Freund & P.

B. Baltes, 2000). In this way, development coincides with adaptation, which the SOC model and its action regulation strategies promote.

There are three main components of SOC: demands, resources, and goals. *Demands* can be understood as anything required to function in a person's respective environment such as the cognitive demands of one's job. *Resources* come from the person themselves (personal resources; e.g., time; energy) or their environment (contextual resources; e.g., instrumental support) that can help meet those demands. In this way, resources are finite for each individual and are broadly defined: acting as personal or environmental characteristics aiding in a person's interaction with their environment (Baltes & Dickson, 2001). *Goals* are objectives people intentionally create and work towards within their environment (e.g., finishing a project) that are: defined by/influenced by one's demands, achieved by one's resources meeting those demands, and result in one's level of functioning (e.g., successfully completing the project; Baltes & Dickson, 2001).

The SOC model assumes people are active agents in their development such that they encounter many demands and pursue several goals that must be met by their resources. However, a person may not have enough resources to meet all of their demands and/or to achieve all of their goals. In this way, SOC's action regulation strategies help individuals adapt to this imbalance by directing goal-based behavior and optimally allocating limited resources to meet demands. This is done in an effort to maintain (or enhance) the individual's current level of functioning, with the goal of achieving a positive balance of functional gains over functional losses (P.B. Baltes, 1997;

Zacher et al., 2016).[2] Take the example of an employee who has multiple, on-going work assignments (i.e., high demands) who was recently diagnosed with a chronic health condition (i.e., limited resources). By using SOC strategies, the employee could help optimally allocate their limited resources (stemming from their diagnosis) to meet their demands, and thus maintain their current level of functioning in their respective environment.

Action regulation strategies. There are four action regulation strategies that make up the SOC model: elective selection, loss-based selection, optimization, and compensation (P.B. Baltes & M.M. Baltes, 1990; Freund & P. B. Baltes, 2000; Moghimi et al., 2017).

Elective selection refers to people intentionally establishing and committing to goals to reach a desired outcome (Freund & P. B. Baltes, 2000; Moghimi et al., 2017). This strategy organizes individual behavior by directing people toward these specified goals, which are prioritized over other goals based upon factors such as importance, urgency, or preference. An example of elective selection can be seen in an employee who decides to take on a new project working with international clients where they have to travel monthly because the project is lucrative and important to them.

[2] There are several other theories examining the interaction between resources and demands. One is conservation of resources (COR) theory, which argues that people are motivated to maintain their current resources as well as pursue new resources in the presence of stressful scenarios (e.g., the threat of lost resources; Hobfoll, 1989). There are a few key differences between theories like COR and SOC. First, SOC does not solely focus on resources. Goal selection is an important part of SOC's action regulation strategies not accounted for in theories like COR. Second, SOC is used specifically for people in situations characterized by high demands and few resources. The current study investigated boundary conditions for when SOC strategy use would be most effective for those in this type of situation. Third, the current study used SOC strategy use as its main predictor. While other theories like COR could have been used to frame the current study, the SOC model was most appropriate for these reasons.

Loss-based selection involves a person changing aspects of their current goals based upon declines in resources rather than by their own choice like in elective selection (Freund & P. B. Baltes, 2000; Moghimi et al., 2017). This can involve a person re-establishing, changing priorities in, and/or letting go of current goals that are now unattainable, and/or selecting new goals that can be met with their available resources. This strategy is used when a person cannot compensate for lost resources. An example of loss-based selection can be seen in an employee who decides to stop being a part of the international project previously mentioned to take on a different project because they were recently diagnosed with a chronic health condition (i.e., lost resources) that limits their ability to travel.

Optimization involves people maximizing the functional gains they can have within their goals by optimally allocating their available resources such as time, energy, and knowledge to meet the demands of their selected goals (Freund & P. B. Baltes, 2000; Moghimi et al., 2017). This is a deliberate strategy, where resources can be additionally acquired and/or refined to attain goals with the intention of enhancing one's functioning. Those who embody this action regulation strategy find ways to effectively do so such as by modeling successful others, being persistent in achieving their goal(s), and/or practicing the skills necessary to allocate resources. An example of optimization stemming from the previous example is an employee on the international project team who uses their time and energy to learn the cultural norms of their international clients in order to work more effectively with them, thus making it easier for the person to reach their goal of successfully completing the project.

Lastly, *compensation* refers to someone facing a loss in previously held resources finding new or substitutive resources to meet the demands of one's goals (Freund & P. B. Baltes, 2000; Moghimi et al., 2017). This final strategy, in comparison to optimization, is used to maintain current functioning rather than to enhance it. Compensation also contrasts loss-based selection as it does not focus on changing one's goals, but rather focuses on adapting one's resources when experiencing a loss of resources. An example of compensation using the previous example is the employee with the chronic health condition using Skype or other means to continue working with the international clients instead of having to physically be there. In this way, the employee may still be able to meet their goal of completing the international project by supplementing lost resources due to their new diagnosis.

Simply put, the SOC model involves people figuring out a) which goals to allocate their available resources to, either proactively (elective selection) or based upon losses in resources (loss-based selection), b) how to optimally allocate resources to meet the demands of their goals to enhance current functioning (optimization), and c) how to compensate for lost resources to meet the demands of their goals to maintain current functioning (compensation). In this way, selection involves establishing and committing to goals, while optimization and compensation involve the establishment and allocation of one's resources to meet the demands to reach these goals.

2.4 SOC Strategies and PWA

Though the SOC model was initially created in the lifespan and developmental psychology literatures more generally, researchers later began to stress its potential use specific to the workplace (B.B. Baltes & Dickson, 2001; Truxillo, Cadiz, & Hammer,

2015). Moghimi and colleagues (2017) recently published the first SOC meta-analysis outlining a variety of factors related to SOC strategies in the work context categorized by: person antecedents, contextual antecedents, job performance outcomes, occupational well-being outcomes, and other work-related outcomes. Results from this study indicate positive relationships between SOC strategies and job autonomy, job performance (both self-reported and non-self-reported), job satisfaction, and job engagement. SOC strategies were also positively related to age; however, the relationship was very weak. Limited to no support was found for the relationships between SOC strategies and job tenure, job demands, and job strain.

While the authors examined many antecedents and outcomes of SOC, they retained only those having five or more independent samples for their meta-analysis. PWA did not meet this criterion as an outcome variable (i.e., it only had four independent samples). Their (non-meta analytic) review of the four SOC-PWA studies revealed mixed results—two studies found significant positive relationships (Müller et al., 2013; Riedel et al., 2015) while the other two studies found non-significant relationships (von Bonsdorff et al., 2014; Weigl et al., 2013). Additional studies not fitting the inclusion criteria of this meta-analysis did not find support for the SOC-PWA relationship either (Ihle et al., 2015; Müller et al., 2015; von Bonsdorff et al., 2016). However, as previously mentioned, one of these non-significant SOC-PWA studies found evidence for moderation: in a sample of nurses, the positive relationship between SOC strategy use and PWA was moderated by age such that it was stronger for relatively older nurses than relatively younger nurses (Müller et al., 2013). These overall inconclusive results warrant further investigation of the SOC-PWA relationship.

It is important to note that SOC has been extensively applied in relation to development and more specifically to aging (e.g., Abraham & Hansson, 1995; Bal & De Lange, 2015; Kooij & Van De Voorde, 2011; Truxillo, Rineer, Cadiz, Zaniboni, & Fraccaroli, 2012; Wiese et al., 2000; Zaniboni, Truxillo, & Fraccaroli, 2013). Early work on this model emphasized SOC's importance for older individuals, as aging is accompanied by constraints to functioning that affect one's ability to function in their respective environment (e.g., declines in health; Freund & P.B. Baltes, 1998). Some research supports this, demonstrating how SOC strategy use relates to more successful aging (e.g., greater perceptions of well-being, decreased feelings of loneliness) by adapting to these declines in resources (Freund & P.B. Baltes, 1998). Several studies have added to this idea, finding an interaction between one's age, their personal resources, and their use of SOC strategies on work outcomes such as occupational well-being (e.g., Demerouti et al., 2014; Venz & Sonnentag, 2015; Yeung & Fung, 2009; Zacher & Frese, 2011). Following the primary assumption of SOC, results from these studies highlight the importance of SOC strategy use for older individuals and individuals with lower levels of personal resources as these strategies should benefit them more.

Aging has also been studied in relation to PWA levels. Reflecting a similar resource depletion perspective, some studies have found a negative relationship between aging and PWA (e.g., Müller et al., 2013; van den Berg et al., 2009; von Bonsdorff et al., 2014; von Bonsdorff et al., 2016; Weigl et al., 2013); yet the relationship of aging with PWA is generally weak (*r*-values ranging from -.13 to -.38 in these studies). Additionally, other studies have found non-significant age-PWA relationships (e.g., McGonagle et al., 2015; $r = .07$), which has made some authors question the

mechanism(s) behind the negative relationship between aging and PWA such that it could be largely due to specific age-related factors like declines in health (Ilmarinen, 2009).

The relationship between age and PWA appears to be complex since aging is associated with both resource losses and gains. In terms of resource losses, aging is associated with the loss of key personal resources including health (e.g., Ferraro, 2006). On the other hand, a meta-analysis (k = 802) conducted by Ng and Feldman (2010) found that age was positively related to resources such as perceptions of job control, interpersonal trust, and perceived organizational support. Given the current focus on SOC, which is applied to preserve functioning in the face of resource *loss*, the current study examined the roles of perceived health and aging separately, with a focus on perceived health and using age as a control. In this way, the effects of perceived health (resource loss) may be isolated from other effects of aging—including those associated with resource gains. Following this and further investigating the SOC-PWA relationship as an exploratory research question, it was first hypothesized that:

H1: SOC strategy use positively relates to PWA after controlling for age.

2.5 General Health Status

While the direct predictive value of age for PWA is questionable, health is a personal resource strongly related to work ability and PWA solely associated with resource loss (Ahlstrom et al., 2010; Ilmarinen, Tuomi, & Seitsamo, 2005; Sjögren-Rönkä, Ojanen, Leskinen, Mustalampi, & Mälkiä, 2002). For example, work ability was positively associated with health-related quality of life in a study of middle-aged men working in blue-collar occupations (Sörensen et al., 2008). Another study found that poor objective health (i.e., health measured by tests or examinations rather than by self-

ratings) was the most age-sensitive measure of work ability in a sample of female home care workers (Pohjonen, 2001). Results from this study also found those with poor *perceptions* of health had the highest risk of having poor work ability, elucidating the importance of subjective perceptions of one's health. A physical exercise intervention was also related to increased perceptions of health and subsequently to increased levels of work ability over time (Nurminen et al., 2002), while another similar intervention study found the same results over a 5-year period, regardless of participants' age (Pohjonen & Ranta, 2001). All of these studies highlight the strong, positive association health has with work ability and PWA. Replicating these prior findings and separating perceived health's effects from aging to better understand the influence of perceived health on PWA *beyond the influence of age*, it was hypothesized that:

H2: General health status positively relates to PWA after controlling for age.

According to the theoretical basis of the SOC model, associated action regulation strategies are most effective for individuals in situations characterized by high demands and few resources (P.B. Baltes, 1987; P.B. Baltes, 1997; P.B. Baltes & M.M. Baltes, 1990; Young et al., 2007). Therefore, workers with poorer perceptions of their health should benefit more from SOC strategy use in terms of their PWA such that these strategies act as a way to: a) structure their workplace goal systems, and b) effectively guide optimal allocation of their limited resources to meet work demands to reach these goals. The use of SOC strategies should aid in the maximization of functional gains and minimization of functional losses at work, thus helping employees to maintain (or enhance) their current functioning specific to the workplace (i.e., PWA; P.B. Baltes, 1997). This is based off the idea that those with lower perceptions of health have lower

baseline levels of PWA, such that they are functioning at a lower PWA level at work as compared to those with higher perceptions of health. In this way, unhealthy employees have more opportunity to reap the benefits SOC strategies can have on their PWA levels as compared to those who perceive themselves as being healthy. This follows the theoretical basis of the SOC model, highlighting the importance of its strategies for those with low resources—in this case, a loss of resources stemming from lower perceptions of health. In line with these ideas, it was hypothesized that:

> **H3**: General health status moderates the positive SOC-PWA relationship after controlling for age, such that the relationship is stronger for those with lower perceptions of health regardless of one's age.

2.6 Perceived Job Control

Another important antecedent of PWA is job control, which is the extent to which an employee perceives they have control over the work they do (Smith, Tisak, Hahn, & Schmieder, 1997). This construct is generally seen as having two theoretically similar—yet distinct—subcomponents, which Karasek (1979) describes as what types and/or variety of skills employees perceive they are able to develop and use in the workplace (i.e., skill discretion) and the level of control employees perceive they have over the decisions they are able to make concerning their respective work activities (i.e., decision authority). The current study investigated employees' job control in terms of decision authority. Previous studies have found that decision authority is a better variable to use in models investigating job control's relationship with PWA in conjunction with SOC strategy use as compared to skill discretion (Riedel et al., 2015; Weigl et al. 2013). This is most likely due to decision authority being related to the control employees have over

the decisions they make about their work activities rather than the potential skills they can use and/or develop. In this way, decision authority better enables employees to implement SOC strategies, making it more relevant to the current study.

Job control has been found to positively influence numerous organizational outcomes. Researchers conducting a four-wave longitudinal, cross-lagged study found a reciprocal relation of work characteristics (including job control) with subjective well-being outcomes, in which more job control was related to higher levels of job satisfaction (De Lange, Taris, Kompier, Houtman, & Bongers, 2004). Other studies have replicated this finding, also showing that high job control is related to increased organizational commitment (Lyness, Gornick, Stone, & Grotto, 2012). Additionally, interventions to promote job control and support have been found to increase employee well-being by decreasing burnout and perceived stress while bolstering job satisfaction (Moen et al., 2016). Most relevant to the current study, job control has been found to be positively related to PWA (e.g., Weigl et al. 2013).

Whereas poor perceptions of health reflect a limitation on personal resources, job control is a contextual resource that can support an employee's ability to function in the workplace. This follows the job demand-control model, which emphasizes the importance of an employee's control over their work to meet high levels of demands in avoiding work strain (Karasek, 1979). Numerous studies have supported this idea, finding a consistent positive relation between job control and PWA (Feldt et al., 2009; McGonagle et al., 2015; Müller, Weigl, Heiden, Glaser, & Angerer, 2012; Riedel et al., 2015; van den Berg et al., 2009; Weigl et al., 2013). Replicating these prior findings, it was hypothesized that:

H4: Perceptions of job control positively relate to PWA after controlling for age.

Job control has also been found to positively relate to SOC strategy use, and it has been argued job control may be necessary for SOC strategies to be effectively implemented into one's work life (Abraham & Hansson, 1995; Freund & P. B. Baltes, 2000; 2002; Moghimi et al., 2017; Müller et al., 2013). This is due to high levels of job control supporting the use of SOC strategies by enabling employees to independently set and adjust their workplace goals as well as decide how their resources fluctuate to meet the demands of these goals. Weigl and colleagues (2013) expanded on this idea, finding that "under low job control the use of SOC strategies appeared to have a detrimental effect on work ability, [suggesting that] the use of SOC strategies can actually be counterproductive if they are not supported by adequate contextual resources" (p. 620). The authors argue this may be due to employees overstepping their boundaries such that SOC strategy use may go against organizational standards and authority figures. In doing so, employees may face repercussions that then deplete personal resources, negatively affecting PWA levels. In this way, job control is not only important for implementing SOC strategies, but also for the effect SOC strategies can have on PWA levels.

However, job control has not been found to moderate the SOC-PWA relationship on its own. Only when it was combined with employee age in a three-way interaction was it found to strengthen the positive relationship between SOC strategy use and PWA. Results from this study found that older workers with high job control displayed the strongest positive relationship between SOC strategy use and PWA (Weigl et al., 2013). One way to understand this finding is that job control is necessary for SOC strategies to be implemented in one's work life, but these strategies are most helpful for those with

depleted resources—in this case, for older workers. This follows the primary assumption of the SOC model, emphasizing how the use of SOC strategies should be most helpful for those in situations characterized by high demands and low resources. However, as mentioned, health may be a better predictor of PWA than aging. Following this idea, lower perceptions of health can be understood as a limitation on one's personal resources, while perceived job control can be understood as a contextual resource necessary for SOC strategies to be implemented into one's work. If an employee perceives themselves as healthy, there would perhaps be limited need for SOC strategies to positively influence their PWA levels. Additionally, if an employee does not have a high level of perceived job control, they may not be able to implement SOC strategies into their work even if these strategies would be beneficial to them (e.g., if they perceive themselves to be unhealthy). Following these ideas, there are four hypothetical scenarios for what employees could be experiencing in terms of their perceptions of their health and job control and their relation to these employees' respective PWA levels.[3]

First, there could be relatively high perceptions of both health and job control. High perceptions of job control could allow the implementation of SOC strategies and thus relate to higher PWA levels, but high perceptions of health would limit this as PWA levels would already be relatively high. This scenario may be associated with higher PWA levels if SOC strategies were being used, but only slightly as compared to a situation in which SOC strategies were not being used.

[3] These are hypothetical scenarios looking at employees in terms of their varying levels of perceived health and job control. These are not results of what was tested for and are oversimplified, but were used to help the reader better understand the content.

Second, there could be relatively high perceptions of health but relatively low perceptions of job control. Due to low perceptions of job control, there would be limited opportunity to implement (and thus benefit from) SOC strategy use in terms of PWA. However, high perceptions of health would be associated with higher average levels of PWA. This scenario would not be associated with higher PWA levels if SOC strategies were being used, but there would likely already be higher average levels of PWA in comparison to scenarios where there were low perceptions of health.

Third, there could be relatively low perceptions of both health and job control. Due to low perceptions of job control, there would be limited opportunity to implement (and thus benefit from) SOC strategy use in terms of PWA. Average PWA levels would also be relatively low due to low perceptions of health, making SOC strategies useful if they could be implemented. This scenario would not be associated with higher PWA levels if SOC strategies were being used, and there would be lower average levels of PWA in comparison to scenarios where there were high perceptions of health.

Lastly and most important to the current study, there could be relatively low perceptions of health and relatively high perceptions of job control. Due to high perceptions of job control, SOC strategies could be implemented and benefited from, thus relating to relatively higher PWA levels if SOC strategies were being used. PWA levels would likely be lower on average due to low perceptions of health, making SOC strategies more useful when implemented. This scenario may be associated with higher PWA levels if SOC strategies were being used as compared to a situation in which SOC strategies were not being used. In this way, employees with poor perceptions of health (i.e., a limitation on personal resources) and high perceptions of job control (i.e., a

contextual resource necessary to effectively implement SOC strategies into one's work life) should benefit the most from SOC strategy use in terms of their PWA. As illustrated in Figure 2, it was last hypothesized that:

> **H5**: There is a three-way interactive effect of SOC strategy use, general health status, and perceived job control on PWA after controlling for age, such that the positive relationship between SOC strategy use and PWA is strongest for employees with lower perceptions of health and higher perceptions of job control, regardless of age.

CHAPTER 3: METHOD

3.1 Participants and Procedure

Participants were recruited to complete two online surveys using Amazon's Mechanical Turk (MTurk). Two surveys, which were distributed approximately 30 days apart, were used to attempt to avoid potential problems concerning common method bias (CMB): the idea that relationships between variables can be influenced by variance attributed to a researcher's measurement method instead of the constructs themselves (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). CMB is more of a concern with self-report, cross-sectional data as responses to this measurement method are prone to certain biases (e.g., consistency motif, social desirability bias, implicit theories; c.f., Podsakoff et al., 2003). While Conway and Lance (2010) note CMB may not be as large of a problem as some purport it to be, it was accounted for in the current study by using the dependent variable (PWA) at Time 2 and ensuring participant anonymity.[4] All of the study measures were included in the surveys at both time points, yet, all variables except for PWA (Time 2) were only included in analyses using the Time 1 measurement.

Some participants were not invited to take the second survey due to a variety of reasons (e.g., insufficient effort responding), which is explained in more detail below. The surveys asked questions specific to this study, but also included other unrelated questions as part of a larger data collection effort. Inclusion criteria limited participants to age 18+ U.S. full-time workers (i.e., at least 30-hour work weeks) using MTurk screening parameters. Respondents were unidentifiable; a randomly generated code connected to

[4] While Podsakoff and colleagues (2003) also recommend using separate data sources, self-report data were important to use in the context of this study. This was especially true for PWA as it embodied participants' own perceptions of their work ability levels.

participants' MTurk IDs was used to identify qualified participants for the Time 2 survey. These codes were confidential and only accessible to the researchers involved in this study.

A total of 900 qualified participants took the first survey and were compensated $3.00. From this sample, 50 participants were excluded from taking the second survey. Data were cleaned using a variety of tactics to remove inattentive participants' responses. Any participant who completed less than half of the survey (i.e., incomplete responders) was removed. Three insufficient effort responding (IER) questions (e.g., "Choose neutral for your response to this question.") were included, and any participant who answered more than one of these incorrectly was removed (n = 5). Any participant who took less than seven minutes to take the survey (which was based upon pilot data) was removed for responding too quickly (n = 13). Any participant who responded that they worked less than 30 hours per week (which was part of the inclusion criteria) was removed (n = 2). Finally, any participant who provided inconsistent or anomalous demographic information (e.g., problems with their randomly generated identification code or a different age between surveys other than one year older) was removed (n = 30). A total of 19 participants were removed for more than one of the above reasons.

Accounting for those who were excluded from the first round, 850 participants were invited to take the second survey approximately 30 days after the first survey. A total of 538 of these potential participants took the second survey and were compensated an additional $3.50. From this sample, a total of 72 participants were excluded (44 participants due to incomplete responding; four participants for incorrectly answering more than one IER question; and an additional 41 participants for responding too

quickly). An additional participant was excluded for not working full time (i.e., less than 30 hours), and 25 participants were excluded for issues regarding their randomly generated identification codes that made matching their second survey results to their first survey results impossible. A total of 54 of these removed participants were removed for more than one of the above reasons.

A final sample of 466 participants was used for data analysis. The sample was 51.5% female (n = 240), ranged in age from 22 to 64 years old (M = 38.39, SD = 9.40), and was primarily white (78.54%). The top three reported occupation types based on O*Net categories were Sales and Related Occupations (n = 101), Management Occupations (n = 58), and Computer and Mathematical Occupations (n = 51).

3.2 Measures

Mean composites of the item scores for each scale were created based upon the following measures used. All reverse-coded items were recoded before creating composites and scale scores were only computed for participants who completed at least 75 percent of scale items. Reliability estimates are reported in Table 1.

Perceived work ability (PWA). PWA was measured using McGonagle and colleagues' (2015) four-item scale, which was adapted and validated from Tuomi and colleagues' (1998) original Work Ability Index (WAI; α = .83). The authors tested the construct validity of the measure, with results showing a strong, positive correlation with the WAI, support for a one-factor model of PWA based upon these four items, and support for significant relationships with other constructs in the direction the literature supports. Three items were taken from the WAI and an additional item was previously adapted from the WAI (see Barnes-Farrell et al., 2004). These items encompass the

demands associated with PWA (i.e., physical, mental, and interpersonal/social) as well as a question for the overall assessment of one's current PWA level in comparison to their lifetime best. Each question was measured on an 11-point scale from 0 (*Cannot Currently Work at All*) to 10 (*Work Ability at Its Lifetime Best*). An item from this scale is, "Assume that your best work ability is a value of 10 points. How many points would you give your current ability to work?" See Appendix A for the full scale.

Selection, optimization, and compensation (SOC) strategies. SOC strategy use was measured using P.B. Baltes and colleagues' (1999) 12-item short-version of the Selection, Optimization, and Compensation-questionnaire in English ($\alpha = .69$). Each question asked respondents to choose between two options: a SOC strategy or a distractor statement. One point was allotted for each SOC strategy chosen, while zero points were given for choosing the distractor statements. These points were then totaled to reflect participants' general use of SOC strategies with a maximum of 12 points and a minimum of zero points. An item from this scale is, "When things don't go as well as before, I choose one or two important goals (*SOC strategy*). When things don't go as well as before, I still try to keep all my goals (*distractor*)." See Appendix B for the full scale.

While the scale is divided into SOC's four respective strategies (i.e., elective selection, loss-based selection, optimization, and compensation), the current study combined all of these items to represent participants' general SOC strategy use. This was appropriate as these components are understood as a functional set that act as a singular, "orchestrated" process (P.B. Baltes & M.M. Baltes, 1990; Weigl et al., 2013; Young et al., 2007). Research has corroborated this idea, demonstrating that although each SOC strategy has been found to be empirically distinct, they are positively related and form a

higher order construct when combined (B.B. Baltes & Heydens-Gahir, 2003; Wiese, Freund, & P. B. Baltes, 2000). Due to this, several studies have used the SOC scale in this way (e.g., Müller et al., 2012; Riedel et al., 2015; von Bonsdorff et al., 2014; Weigl et al., 2013). Confirmatory factor analysis (CFA) results are presented later in the Supplementary Analysis section.

General health status (GHS). GHS was measured with one question asking participants about their perceptions of their general health. This question was on a 5-point scale ranging from 1 (*Poor*) to 5 (*Excellent*). Though this is a single-item measure, it is widely used and accepted in epidemiological research (McGonagle et al., 2015). It has also been found to correlate to various health indicators and mortality in studies looking at specific populations (e.g., Ferraro & Kelley-Moore, 2001; Murata, Kondo, & Tamakoshi, 2006).

Perceived job control. Perceived job control (i.e., decision authority) was measured using three items from Smith and colleagues' (1997) scale ($\alpha = .91$). These items were on a 5-point Likert scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*) and were totaled and averaged to represent participants' perceptions of job control. An item from this scale is, "My job allows me to make a lot of decisions on my own." See Appendix C for the full scale.

Age (control variable). Respondents were asked a question regarding their age (i.e., "What is your age in years?"), which served as a control variable in tests of all hypotheses in the current study. Becker (2005) recommends a thorough explanation for control variables among other recommendations for reporting such as including them in all output tables. Age was appropriate to control for in the current study due to its

relationship with all study variables: SOC (Moghimi et al., 2017), PWA (Müller et al., 2013), job control (Ng & Feldman, 2010), and health (Ferraro, 2006). Controlling for age limited age's potential conflation of results and helped investigate the influence of health on PWA regardless of participants' age.

CHAPTER 4: RESULTS

4.1 Descriptive Statistics and Bivariate Correlations

Descriptive statistics and bivariate correlations are in Table 1. PWA levels were generally high, averaging over 8 on a scale from 0 to 10. SOC strategy use varied by participant with an approximately normal distribution. Both general health status and perceived job control averaged a little higher than midpoints on their respective 1-to-5 scales. SOC strategy use was positively correlated with PWA ($r = .12$, $p < .05$). Both general health status ($r = .41$, $p < .001$) and perceived job control ($r = .21$, $p < .001$) had strong, positive correlations with PWA. Age did not significantly correlate with PWA or SOC strategy use but was negatively related to general health status ($r = -.13$, $p < .01$) and positively related to perceived job control ($r = .10$, $p < .05$).

4.2 Hypothesis Testing

Before any analyses were conducted, predictor and moderating variables were standardized. Interaction terms were then computed using these standardized variables, as recommended by Dawson (2014). Following this, hierarchical linear multiple (moderated) regression analysis was run with PWA (measured at Time 2) as the outcome variable, while controlling for age. Results from this analysis can be seen in Table 2 and modelled in Figure 3.

First, the control variable (age) was entered in block 1. Age alone did not have a significant relationship with PWA levels and accounted for zero percent of the variance in Time 2 PWA.

Second, the rest of the exogenous variables (i.e., SOC strategy use, general health status, and perceived job control) measured at Time 1 were entered into block 2 to

investigate potential main effects (Hypotheses 1, 2, and 4). SOC strategy use did not relate to PWA levels (β = .08, *ns*), therefore Hypothesis 1 was not supported. Both general health status (β = .48, $p < .001$) and perceived job control (β = .20, $p < .001$) had significant, positive relationships with PWA, supporting Hypotheses 2 and 4. This step accounted for 21 percent of the variance in PWA levels.

Third, the three two-way interaction terms were entered into block 3. Hypothesis 3 proposed that general health status would moderate the positive relationship between SOC strategy use and PWA, such that the relationship would be stronger for those who perceived themselves as unhealthy as compared to those who perceived themselves as healthy. This hypothesis was not supported as results showed a non-significant interaction between SOC strategy use and general health status on PWA (β = .02, *ns*). This step accounted for an additional two percent of the variance in PWA levels (a significant amount). Although not hypothesized, a significant two-way interaction was observed for general health status x job control in this step.

In the final step, the three-way interaction term was entered into block 4. Hypothesis 5 proposed that the positive relationship between SOC strategy use and PWA would be significantly different from the other slopes and strongest for those with low perceived health and high perceived job control. This hypothesis was not supported as results showed a non-significant interaction between SOC strategy use, general health status, and perceived job control on PWA (β = .08, p = .087). Interestingly, the relationship between age and PWA became significant in this step (β = .10, $p < .05$). This step did not account for any additional variance in PWA levels.

4.3 Supplemental Analyses

A series of supplemental analyses were conducted to help further understand the data and contextualize results.

Nature of three-way interaction. While the proposed three-way interaction was non-significant, its nature was investigated further as a supplemental analysis due to the *p*-value being close to significant. The three-way interaction was plotted using software developed by Dawson and Richter (2006). This plot can be seen in Figure 4. The plot, which was accompanied by slope difference tests, showed a significant difference between slope 3 (low perceived health, high perceived job control) and slope 4 (low perceived health, low perceived job control), $t = -2.54$, $p = .012$. This test and the direction of the related slopes imply that those with low perceived health and low perceived job control benefit more in terms of their PWA when using SOC strategies as compared to those with low perceived health and high perceived job control. However, this was a supplemental analysis based off a non-significant interaction and should be investigated further in later research.

Two-way interaction of general health status and job control. As noted, a non-hypothesized two-way interaction between general health status and perceived job control on PWA was seen in the regression output ($\beta = -.12$, $p < .01$). The two-way interaction was plotted using Dawson and Richter's (2006) software, which can be seen in Figure 5. The slopes (both significant at $p < .001$) of this plot imply that perceptions of job control have a stronger, positive relation to PWA for those with low perceived health as compared to those with high perceived health. Again, this was a supplemental analysis

based on a non-hypothesized interaction and should be investigated further in future research.

Analysis of job type. The type of occupation a person has may influence several of the variables included in the current study by affecting things such as the demands one faces at work. This is especially true for the dependent variable, as PWA is based on workers' perceptions of their ability to continue working based upon not only their resources but also the characteristics of their job such as its demands (Ilmarinen et al., 2008; McGonagle et al., 2015). Using O*Net, participants were assigned values for their work demands (i.e., physical, mental, social/interpersonal, and overall) on a 0-100 scale based on their reported occupation. Means and standard deviations for each demand for the sample were: physical (M = 32.19, SD = 13.10), mental (M = 66.33, SD = 8.31), social/interpersonal (M = 74.70, SD = 8.41), and overall (M = 57.74, SD = 6.41). Full results can be seen in Table 3. O*Net items used to determine each job demand value are reported in Table 4. Six participants were not assigned job demand values due to coding issues (i.e., the occupation they listed was too broad and/or could not be connected to an O*Net code). The three occupations with the highest overall job demands were: Farming, Fishing, and Forestry Occupations (M = 73.06), Construction and Extraction Occupations (M = 70.78), and Healthcare Practitioners and Technical Occupations (M = 68.99).

To account for job type in results, overall job demands (calculated as an average of each occupation's combined physical, mental, and social demands) was controlled for in the final regression model as a supplemental analysis. Overall job demands was also added to the study's correlation matrix (see Table 1) but was not significantly correlated to any other variable. Results of the hierarchical linear multiple (moderated) regression

model with overall job demands added as a control variable can be seen in Table 5. Adding overall job demands as a control variable in the model did not have an influence on the statistical significance of hypothesis testing results for all hypotheses. One change was seen in block 3, where a non-hypothesized, two-way interaction between SOC strategy use and perceived job control became significant, β = -.08, $p < .05$. However, this interaction became non-significant in the next, final block.

Power analysis. A post-hoc power analysis was run using G*Power to determine the power achieved with the found effect sizes based on the final sample size. The correlation between SOC strategy use and PWA (r = .14) with a sample size of 466 and α of .05 resulted in 92% power. Interaction terms tend to produce smaller effect sizes (Shieh, 2009), as seen with the three-way interaction (b = .08). Due to this, a power analysis was run to determine the number of participants needed to detect a change in R^2 in a moderated multiple regression. Given 90% power, α of .05, and a similar effect size (i.e., .08), I would have needed 247 participants. These results indicate the final sample size was sufficient for testing the proposed hypotheses in terms of power.

Confirmatory factor analysis of SOC scale. Confirmatory factor analysis (CFA) was run on the SOC scale to address its low α value. Although previous researchers have used the SOC measure as uni-dimensional like in the current study, CFA was run to test whether the data supported the assumed four-factor structure. CFA can be run with dichotomous data (such as with SOC's response scale), however, there are special considerations when comparing models. Early work done by Dolan (1994) using simulations found that using sample sizes of 200 or smaller is not appropriate when running a CFA with dichotomous response scales. Later research by Flora and Curran

(2004) followed this idea, finding that more complex models (i.e., those with more than eight indicators) and even relatively large sample sizes (anywhere from 500 to 1,000 participants) increasingly biased CFA estimates by inflating test statistics and underestimating standard errors. With 12 indicators and sample size of 466, the current study followed recommendations of these authors by using weighted least square mean and variance adjusted (WLSMV) estimators when running the CFA—which is argued to be a more robust CFA method when using dichotomous, categorical response scales. This was done using Rosseel's (2012) 'lavaan' package and related syntax.

Contrary to expectations, results supported a four-factor model. All fit indices (i.e., $\chi^{2,}$ CFI, TLI, RMSEA) were improved when moving from a one-factor to four-factor model (see Table 6; Brown, 2006). With the four-factor model, all factor loadings were significant for each SOC strategy: elective selection (ranging from .67 to .94); loss-based selection (ranging from .48 to .68); optimization (ranging from .79 to .95); and compensation (ranging from .31 to .86). Table 7 contains standardized factor loadings for the four-factor model.

Due to the unexpected four-factor model structure, descriptive statistics, coefficient alphas, and correlations between PWA, overall SOC strategy use, and the four SOC factors were computed (see Table 8). Results showed strong, positive correlations between each SOC strategy and the overall SOC composites, which were stronger when measured at the same time point. Optimization and compensation were more strongly correlated with PWA levels at both points, as compared to elective and loss-based selection. Optimization and compensation also had higher means than both selection categories at both time points. Elective and loss-based selection correlated more strongly

at both time points than with optimization and compensation, and vice versa. Finally, loss-based selection and compensation also showed low α values. Limitations of the SOC scale and future directions are detailed in the Discussion.

CHAPTER 5: DISCUSSION

The goal of the current study was to test main effects and boundary conditions of the SOC-PWA relationship while controlling for age. Regarding main effects, the relationship between SOC strategy use and PWA levels was not significant, failing to support Hypothesis 1. Further, the correlation between SOC strategy use and PWA was quite weak. This follows the limited research on the SOC-PWA relationship, which has found equivocal support for the relationship between SOC strategy use and PWA levels. The weak relationship observed in this study could be due to attenuation due to measurement issues with the SOC scale, which is discussed in more detail later. Further, due to an expectation of moderation, it is understandable that the linear relation could be weak. SOC strategies are most important for those in situations of high demands and few resources, which moderation could parse out. Thus, the current study was set up to test this assumption by investigating those with low perceptions of health and high perceptions of job control to better investigate when the SOC-PWA relationship could exist.

Supporting Hypotheses 2 and 4, both general health status and perceived job control had significant, positive relationships with PWA, regardless of age. This aligns with previous research (e.g., Ahlstrom et al., 2010; Feldt et al., 2009; Ilmarinen, Tuomi, & Seitsamo, 2005; McGonagle et al., 2015; Müller et al., 2012; Riedel et al., 2015; Sjögren-Rönka et al., 2002; van den Berg et al., 2009; Weigl et al., 2013), demonstrating the importance of maintaining key resources to support employees' PWA levels. While resources can come from the employee themselves or from outside sources, results follow a trend in the work ability literature stressing the importance of personal resources in

supporting PWA levels. This manifested as a stronger relationship between PWA and perceived health as compared to perceived job control (see Tables 1 and 2). However, results continue to highlight job control's strong association with PWA, specifically when measured as decision authority.

The current study also expanded on previous studies by focusing on perceptions of health rather than objective health measures (e.g., diagnosed diseases), finding similar strong associations with PWA levels. Rather than focusing on specific, objective health indicators, measuring health this way (i.e., perceptions of health) mitigates the need to ask about personal health information and better captures health as a whole. Using the 4-item PWA measure instead of the WAI also thwarted concerns of the WAI's use of health-related items, which could inflate work ability's relationship to health measures.

There was no support for Hypothesis 3, as general health status was not found to moderate the positive SOC-PWA relationship. This could mean using general health status as a moderating variable on its own may not be relevant for the SOC-PWA relationship. However, limitations of this study may have contributed to these non-significant results. One limitation in particular is the high range restriction for PWA. Participants generally reported higher levels of PWA, which is common in related studies. While PWA is relevant to all workers, it is most applicable to those who have aspects of their lives that negatively affect them in terms of their available resources (e.g., older employees; workers with chronic health conditions) and/or their ability to do their job. However, this population is difficult to study—especially in the workforce. This is likely due to the healthy worker effect (HWE): the idea that a person must be relatively healthy to work (Li & Sung, 1999). The HWE limits researchers' ability to study related

constructs such as PWA, which reduces the amount of variance to be explained in these constructs. This manifested itself in the current study with the restricted range of PWA, which made it more difficult to find the proposed interactions (such as health as a moderator of the SOC-PWA relationship) if they existed. However, this would also be true for the aforementioned, significant main effects that were found. Regardless, future studies should sample in a way that provides the most variance for these types of constructs.

Finally, the three-way interaction between SOC strategy use, general health status, and perceived job control was not significant, meaning Hypothesis 5 was not supported. Again, this could mean these moderating variables are not appropriate to use when investigating the SOC-PWA relationship, or limitations of the study may have contributed to these non-significant results. Interestingly, results of supplemental analyses plotting this non-significant three-way interaction included a significant difference between two slopes—those with low perceived health and low perceived job control benefitted more when using SOC strategies in terms of their PWA as compared to those with low perceived health and high perceived job control. This analysis and the associated interaction plot (see Figure 4) imply SOC strategy use could act to counteract losses in perceived job control, going against some researchers' argument job control is needed for SOC strategies to be implemented (e.g., Freund & P. B. Baltes, 2000; 2002; Moghimi et al., 2017). However, again, this was based off a non-significant three-way interaction and should be investigated further in future research.

Interestingly, in the final regression block, age showed a significant, *positive* association with PWA. This goes against many studies looking at this relationship, which

have largely supported the idea that aging has a negative relationship with PWA (e.g., van den Berg et al., 2009). This finding also supports some researchers' (e.g., Ilmarinen, 2009; Pohjonen & Ranta, 2001) argument that specific aspects of aging such as declines in health are the driving factor(s) behind age's negative relationship with PWA. Future studies should continue to investigate the age-PWA relationship to test whether specific aspects of aging such as perceived health are better able to predict PWA levels than aging itself.

5.1 Practical Implications

Study results underscore the positive relationships between perceived health and perceived job control with PWA. Increased levels of PWA are related to positive organizational outcomes such as increased productivity and decreased absenteeism (McGonagle et al., 2015; Tuomi et al., 2001), which organizations can capitalize on by finding ways to support the perceived health and job control of their employees. Researchers have demonstrated this idea through physical exercise interventions, which related to increased perceptions of health and subsequently to increased levels of work ability over time (Nurminen et al., 2002; Pohjonen & Ranta, 2001). Other intervention tactics outside of SOC, perceived health, and perceived job control can also be used to positively influence employees' PWA levels. For example, McGonagle, Beatty, and Joffe (2014) found that a coaching intervention helped elevate PWA levels in employees working with chronic health conditions. Empirically-based interventions like these should be taken advantage of by organizations to better support the PWA of their employees—especially those who are most vulnerable—to reap their ensuing benefits.

5.2 Limitations

As with any study, there were limitations with the current study. First, the measurement of SOC strategy use displayed a low α value. While using P.B. Baltes and colleagues' (1999) original measure, the reliability estimate was lower than most researchers deem acceptable. This is problematic as low α values (and reliability estimates in general) negatively affect statistical procedures and subsequent results, which is due to a concept termed attenuation: "underestimating the correlation between two different measures because of measurement error" (Lavrakas, 2008, p. 36). No measure is perfect; thus, attenuation can be understood as the 'unreliability' of an observed score when trying to measure the hypothetical 'true' score of the construct in question (Cohen, Cohen, West, & Aiken, 2013). In this way, the low α value of the SOC scale provided lower estimates when looking at effect sizes such as SOC's related correlation and regression coefficients such as SOC's weak but significant correlation with PWA. Osborne (2003) notes that these negative effects are compounded when looking at interaction terms as they are based upon cross-products of these estimates. Specific to the regression output of the current study, this means beta weights (e.g., for the non-significant interaction terms including SOC strategy use) could have been higher if the α value was higher—potentially altering what results were found.

Other studies have also shown low α values when using this SOC scale (e.g., Riedel et al., 2015). This could be due to a few aspects of the scale itself. First, the SOC scale is unique as it uses a dichotomous response scale. Research has found that these types of response scales negatively influence item intercorrelations and thus negatively affect α values (Cortina, 1993). This trend was seen in Table 8. Second, the short version

of the scale was used. While the creators of the shortened scale used the items of the original scale showing the highest reliability, α values increase as more items are added. Thus, using the short version of the SOC scale also negatively affected the α value. While the α value of the SOC scale used was relatively weak, Freund and P.B. Baltes (2002) note that SOC encompasses a broad concept. Research has found that people can use certain SOC strategies more than others and that items within these action regulation strategies can be variably used as well (Moghimi et al., 2017). This is further affected by the dichotomous scale and the four-factor structure the CFA supported. These ideas affect the internal consistency of related measures and should be considered when assessing its reliability estimates.

One way researchers have addressed this issue is by adapting the SOC scale. For example, Müller and colleagues (2013) adapted the response scale to encompass: a) the dichotomous scale, and b) an additional Likert-type scale. If participants using this scale responded that their behavior fit more with the SOC strategy statement as compared to the distractor statement, they were prompted to respond to a 5-point Likert-type scale. This scale—ranging from 1 (*Not Much*) to 5 (*Very Much*)—was used to rate their agreement with how well that SOC strategy fit their behavior. These responses were then used to calculate a 6-point score for each SOC strategy statement (0-5), with a score of zero indicating they responded with the distractor statement. Using a response scale like this would provide more variance for SOC strategy use and could not only give a more accurate representation of participants' use of SOC strategies, but potentially enable better reliability estimates. For this reason, future researchers should consider how they measure SOC strategy use and how they assess reliability.

Due to the concern of low α values, some researchers have argued that using test-retest reliability is more appropriate than α due to each item tapping into separate SOC strategies and people's variable use of these individual strategies (B.B. Baltes & Heydens-Gahir, 2003; Freund & P.B. Baltes, 2002; Wiese et al., 2000). Despite this suggestion, research has shown that people's use of SOC strategies can change over time (Zacher, Chan, Bakker, & Demerouti, 2015). However, the assessment of test-retest reliability in the current study showed a strong, significant correlation, $r = .49$, $p < .01$ (see Table 8; Cohen, 1988). Though the α value for SOC strategy use was weak in the current study, this may be due to the nature of the scale. Other methods such as test-retest reliability may be more appropriate to use and should be considered in future studies when assessing SOC's reliability.

Another limitation of the current study is the sample used was relatively young compared to other studies investigating similar constructs (e.g., PWA). Age was an important variable in the current study and the limited variance in age could have influenced results. This young sample was most likely due to the sampling method, which used MTurk participants. Research has found that MTurk workers are typically younger than those obtained through other sampling methods (Ross, Irani, Silberman, Zaldivar, & Tomlinson, 2010). They also tend to be more highly educated, less religious, more liberal, and more likely to be unemployed as compared to the general population (Goodman, Cryder, & Cheema, 2013). Self-selection into studies is another concern influencing the sample characteristics obtained in MTurk samples (Paolacci, & Chandler, 2014). This puts into question the generalizability of results when using MTurk. Due to these concerns, future studies should consider their sampling methods in order to provide

sufficient variability in age to look at its influence—even when used as a control variable like in the current study.

5.3 Future Directions

First, future researchers should consider how SOC strategy use is measured. Discussed as a limitation of the study, SOC had a low α value which brings up concerns such as attenuation. The nature of the dichotomous scale used in the current study could have led to this low α value, which could be resolved by adapting the scale. Müller and colleagues (2013) did just this by attaching a Likert-type scale to the dichotomous response scale, increasing the variance seen in responses for the SOC measure. However, there are other ways future research can extend this idea. New types of SOC measures such as other-source ratings and situational judgment tests investigating participant responses to vignettes of work-related situations involving potential SOC strategy use could be tested as new ways to measure SOC strategy use (Moghimi et al., 2017). Investigating these avenues in future research could uncover better ways to measure SOC strategy use, lessening concerns of the SOC scale used in the current study when looking at SOC's relationship with other variables such as PWA.

Added to this, another way future researchers should consider measuring SOC strategy use is by examining each action regulation strategy on their own. While many researchers look at overall SOC strategy use, some have argued that these strategies should be further investigated individually and for their potential interactive effects (Zacher et al., 2015). This is based on the idea that individuals may use some SOC strategies more than others (Moghimi et al., 2017), which would affect participants' overall SOC strategy use score. Though SOC strategies have been argued to be a

singular, “orchestrated” process (P.B. Baltes & M.M. Baltes, 1990), future research should parse out these strategies to see their potential separate and joint effects on PWA levels. In the current study (see Table 8), results indicated that optimization and compensation strategies were more strongly related to PWA levels than each selection strategy at both time points. Optimization and compensation strategies also had higher means at both time points, indicating participants generally used these strategies more often than the selection strategies.

Moghimi and colleagues (2017) also note that the use of SOC strategies may vary over time within people, which has been seen in some studies (e.g., Schmitt, Zacher, & Frese, 2012). In this way, development is multidirectional and multifunctional, noted by many as a dynamic process that does not act in a linear way (Freund & P.B. Baltes, 2000). One way to capture this change in SOC strategy use is by changing one’s research design such as by using diary study or longitudinal designs, which some researchers have begun to use (e.g., Zacher et al., 2015). However, results from the current study revealed a strong, significant relationship between participants’ overall use of SOC strategies across the two time points ($r = .49$, $p < .01$; see Table 8). These conflicting results warrant further investigation into the stability of within-person SOC strategy use in future research studies.

Future research should also consider how perceived job control is measured. Decision authority was used to measure perceptions of job control in the current study due to recommendations from previous studies (Riedel et al., 2015; Weigl et al. 2013). This is based on the logic that decision authority involves the control over decisions an employee can make about their work, allowing them to better implement SOC strategies

into their work. However, other aspects of job control (e.g., skill discretion, an overall assessment of job control combining decision authority and skill discretion) could be further investigated. Future studies should consider these methods for measuring perceived job control.

Lastly, future studies should investigate other potential moderating variables of the SOC-PWA relationship. Though the hypothesized three-way interaction was not supported, there may be other moderators that could elucidate when the relationship may exist. When choosing moderators, future researchers should consider the SOC theoretical model, looking for variables that affect both the demands employees face and the resources they have available. With the limited amount of studies available examining the SOC-PWA relationship, investigating other potential moderators could help better understand when SOC strategy use could relate to higher levels of PWA.

5.4 Conclusion

The purpose of this study was to test boundary conditions of the relationship between SOC strategy use and PWA, specifically investigating the potential influence of both general health status and perceived job control. Ultimately, these variables did not significantly moderate the SOC-PWA relationship. However, given sampling and measurement issues, future studies should continue to investigate the SOC-PWA relationship. If found, these studies could extend SOC theory and help organizations not only support those with lower levels of PWA but also capitalize on the organizational outcomes of PWA in the process.

Table 1

Descriptive Statistics and Zero-order Bivariate Correlations among Study Variables

Variable	Mean	*SD*	1	2	3	4	5	6	7	8	9	10	11
1. PWA (T1)	8.84	1.21	(.82)										
2. **SOC Strategies (T1)**	7.32	2.60	.14**	(.69)									
3. **General Health Status (T1)**	3.48	0.93	.40***	.15***	--								
4. **Perceived Job Control (T1)**	3.83	0.97	.24***	-.01	.11*	(.91)							
5. **Age (T1)**	38.39	9.40	.14**	.01	-.13**	.10*	--						
6. Overall Job Demands (T1)	57.74	6.41	.01	.02	-.04	.05	.01	--					
7. **PWA (T2)**	8.80	1.22	.66***	.12*	.41***	.21***	.04	.01	(.83)				
8. SOC Strategies (T2)	7.38	2.57	.18***	.49***	.13**	.05	.05	-.06	.16***	(.68)			
9. General Health Status (T2)	3.49	0.92	.33***	.17***	.82***	.13**	-.11*	-.04	.43***	.15**	--		
10. Perceived Job Control (T2)	3.86	0.93	.22***	-.02	.13**	.82***	.07	.02	.25***	.01	.17***	(.92)	
11. Age (T2)	38.42	9.38	.14**	.01	-.13**	.10*	.99***	.01	.04	.04	-.12*	.07	--

Note. $N = 466$. * $p < .05$; ** $p < .01$; *** $p < .001$. PWA = Perceived Work Ability; SOC Strategies = Selection, Optimization, and Compensation Strategies. (T1) = Measured at Time 1. (T2) = Measured at Time 2. Bolded variable names indicate used in the current study.

Table 2

Hierarchical Linear Multiple (Moderated) Regression Results with PWA (T2) as Criterion

	Dependent Variable: Perceived Work Ability (PWA)											
Predictor Variable (Block)	*b*	*S.E.*	*β*	*b*	*S.E.*	*β*	*b*	*S.E.*	*β*	*b*	*S.E.*	*β*
Intercept	8.80	.06		8.80	.05		8.81	.05		8.81	.05	
Control Variables (Block 1)												
Age	.05	.06	.04	.09	.05	.08	.10	.05	.08	.10*	.05	.08
Main Effects (Block 2)												
SOC Strategy Use				.08	.05	.06	.09	.05	.07	.08	.05	.07
General Health Status (GHS)				.48***	.05	.40	.48***	.05	.40	.49***	.05	.40
Perceived Job Control (JC)				.20***	.05	.16	.19***	.05	.16	.19***	.05	.15
Two-way Interactions (Block 3)												
SOC*GHS							.02	.05	.01	.01	.05	.01
SOC*JC							-.10	.05	-.08	-.09	.05	-.07
GHS*JC							-.12**	.04	-.11	-.12**	.04	-.12
Three-way Interaction (Block 4)												
SOC*GHS*JC										.08	.05	.07
ΔR^2		.00			.21***			.02*			.00	
R^2		.00			.21***			.23***			.23***	

Note. $N = 466$. * $p < .05$; ** $p < .01$; *** $p < .001$. *b* = unstandardized regression weight; *S.E.* = standard error; β = standardized beta weight. ΔR^2 = change in R^2 from prior block; PWA (T2) = Perceived Work Ability measured at Time 2; SOC Strategy Use = Selection, Optimization, and Compensation Strategy Use. All predictor and moderator variables were standardized, and interaction terms were computed with these standardized variables. All predictor variables were measured at Time 1.

Table 3

*Demands based on Job Type Using O*Net*

O*Net No.	Occupation Type	*n*	Overall Demands	Physical Demands	Mental Demands	Social/Interpersonal Demands
41	Sales and Related Occupations	101	58.29	33.69	65.15	76.03
11	Management Occupations	58	59.74	26.13	71.31	81.76
15	Computer and Mathematical Occupations	51	51.86	26.22	62.40	66.97
43	Office and Administrative Support Occupations	46	55.61	28.22	63.72	74.87
25	Education, Training, and Library Occupations	40	55.10	29.75	58.53	77.02
13	Business and Financial Operations Occupations	30	53.01	17.98	70.04	71.01
27	Arts, Design, Entertainment, Sports, and Media Occupations	23	57.35	30.41	67.43	74.20
29	Healthcare Practitioners and Technical Occupations	19	68.99	44.70	80.22	82.04
17	Architecture and Engineering Occupations	12	57.76	33.10	68.32	71.88
35	Food Preparation and Serving Related Occupations	12	65.44	57.06	64.11	75.15
19	Life, Physical, and Social Science Occupations	10	52.68	30.22	63.73	64.08
23	Legal Occupations	9	57.17	26.06	68.56	76.89
31	Healthcare Support Occupations	8	60.54	44.46	65.46	71.71
51	Production Occupations	8	58.74	51.81	66.15	58.27
21	Community and Social Service Occupations	7	60.14	26.02	69.21	85.19
53	Transportation and Material Moving Occupations	7	66.11	49.74	74.31	74.29
47	Construction and Extraction Occupations	5	70.78	70.80	69.57	71.97
49	Installation, Maintenance, and Repair Occupations	5	63.21	48.50	70.33	70.80
37	Building and Grounds Cleaning and Maintenance Occupations	3	62.09	64.33	58.22	63.72
39	Personal Care and Service Occupations	3	60.78	49.50	56.83	76.00
33	Protective Service Occupations	2	56.61	30.00	66.75	73.08
45	Farming, Fishing, and Forestry Occupations	1	73.06	59.83	84.00	75.33
--	Unassigned	6	--	--	--	--
Total		466	57.74	32.19	66.33	74.70

Note. $N = 466$. All demands are averages across O*Net reported values per occupation scored on a 0-100 scale. Total standard deviations for each demand category were: overall ($SD = 6.41$), physical ($SD = 13.10$), mental ($SD = 8.31$), and social/interpersonal ($SD = 8.41$).

Table 4

*O*Net Items Taken to Represent Job Demands*

Demand	Items	O*Net ID
Physical	Outdoors, Exposed to Weather	4.C.2.a.1.c
	Spend Time Standing	4.C.2.d.1.b
	Spend Time Kneeling, Crouching, Stooping, or Crawling	4.C.2.d.1.e
	Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls	4.C.2.d.1.g
	Spend Time Bending or Twisting the Body	4.C.2.d.1.h
	Spend Time Making Repetitive Motions	4.C.2.d.1.i
Mental	Consequence of Error	4.C.3.a.1
	Impact of Decisions on Co-workers or Company Results	4.C.3.a.2.a
	Frequency of Decision Making	4.C.3.a.2.b
	Importance of Being Exact or Accurate	4.C.3.b.4
	Time Pressure	4.C.3.d.1
	Responsibility for Outcomes and Results	4.C.1.c.2
Social	Face-to-Face Discussions	4.C.1.a.2.l
	Contact With Others	4.C.1.a.4
	Work With Work Group or Team	4.C.1.b.1.e
	Deal With External Customers	4.C.1.b.1.f
	Coordinate or Lead Others	4.C.1.b.1.g
	Frequency of Conflict Situations	4.C.1.d.1

Note. Items had varying responses scales. If needed, visit O*Net and refer to O*Net ID provided.

Table 5

Hierarchical Linear Multiple (Moderated) Regression Results with PWA (T2) as Criterion—Adding Overall Job Demands as a Control

	Dependent Variable: Perceived Work Ability (PWA)											
Predictor Variable (Block)	*b*	*S.E.*	*β*	*b*	*S.E.*	*β*	*b*	*S.E.*	*β*	*b*	*S.E.*	*β*
Intercept	8.80	.06		8.80	.05		8.81	.05		8.81	.05	
Control Variables (Block 1)												
Age	.04	.06	.04	.09	.05	.08	.10	.05	.08	.10*	.05	.08
Overall Job Demands	.01	.06	.01	.02	.05	.02	.02	.05	.01	.01	.05	.01
Main Effects (Block 2)												
SOC Strategy Use				.08	.05	.06	.09	.05	.07	.08	.05	.07
General Health Status (GHS)				.48***	.05	.40	.48***	.05	.39	.48***	.05	.40
Perceived Job Control (JC)				.19***	.05	.16	.19***	.05	.15	.18***	.05	.15
Two-way Interactions (Block 3)												
SOC*GHS							.02	.05	.02	.01	.05	.01
SOC*JC							-.11*	.05	-.08	-.09	.05	-.07
GHS*JC							-.12**	.04	-.11	-.13**	.05	-.12
Three-way Interaction (Block 4)												
SOC*GHS*JC										.08	.05	.08
ΔR^2		.00			.20***			.02*			.01	
R^2		.00			.20***			.22***			.23***	

Note. $N = 466$. * $p < .05$; ** $p < .01$; *** $p < .001$. *b* = unstandardized regression weight; *S.E.* = standard error; *β* = standardized beta weight. ΔR^2 = change in R^2 from prior block; PWA (T2) = Perceived Work Ability measured at Time 2; SOC Strategy Use = Selection, Optimization, and Compensation Strategy Use. All predictor and moderator variables were standardized, and interaction terms were computed with these standardized variables. All predictor variables were measured at Time 1.

Table 6

Confirmatory Factor Analyses Model Fit Indices for SOC Scale

Model	CFI	TLI	χ^2	*df*	Difference	RMSEA
One factor	.68	.61	630.73***	54		.15
Four factor	.85	.80	309.61***	48	321.12***	.11

Note. N = 457. The one-factor model includes all action regulation strategies (elective selection, loss-based selection, optimization, and compensation). The four-factor model has each action regulation strategy on its own. CFI = comparative fit index; TLI = Tucker-Lewis index; Difference = difference in chi-square from the prior model; RMSEA = root-mean-square error of approximation. *** $p < .001$.

Table 7

Standardized Factor Loadings for Four-Factor SOC Model

SOC Strategy	Item	Factor Loading	*S.E.*
Elective Selection	SOC 1	.84***	.04
	SOC 2	.94***	.04
	SOC 3	.67***	.05
Loss-based Selection	SOC 4	.49***	.06
	SOC 5	.68***	.06
	SOC 6	.48***	.07
Optimization	SOC 7	.86***	.04
	SOC 8	.95***	.04
	SOC 9	.79***	.05
Compensation	SOC 10	.74***	.06
	SOC 11	.31***	.07
	SOC 12	.86***	.06

Note. $N = 457$. *** $p < .001$.

Table 8

Descriptive Statistics and Zero-order Bivariate Correlations among SOC Strategies and PWA

Variable	Mean	*SD*	1	2	3	4	5	6	7	8	9	10	11	12
1. PWA (T1)	8.84	1.21	(.82)											
2. SOC Strategies (T1)	7.32	2.60	.14**	(.69)										
3. ES (T1)	1.32	1.08	-.03	.75***	(.64)									
4. LBS (T1)	1.60	.97	-.06	.62***	.48***	(.38)								
5. Optimization (T1)	2.47	.92	.26***	.64***	.23***	.08	(.74)							
6. Compensation (T1)	1.93	.97	.22***	.62***	.20***	.04	.42***	(.43)						
7. PWA (T2)	8.80	1.22	.66***	.12*	.01	-.09	.23***	.19***	(.83)					
8. SOC Strategies (T2)	7.38	2.57	.18***	.49***	.38***	.23***	.37***	.32***	.16***	(.68)				
9. ES (T2)	1.42	1.09	.07	.39***	.49***	.25***	.16***	.10*	.01	.69***	(.63)			
10. LBS (T2)	1.56	.97	.03	.27***	.24***	.36***	.12**	-.01	-.02	.61***	.38***	(.40)		
11. Optimization (T2)	2.46	.92	.19***	.31***	.10*	.01	.42***	.33***	.23***	.67***	.19***	.13**	(.72)	
12. Compensation (T2)	1.93	.94	.20***	.31***	.11*	-.05	.31***	.46***	.22***	.65***	.17***	.08	.51***	(.36)

Note. $N = 466$. * $p < .05$; ** $p < .01$; *** $p < .001$. PWA = Perceived Work Ability; SOC Strategies = Selection, Optimization, and Compensation Strategies; ES = Elective Selection; LBS = Loss-based Selection; (T1) = Measured at Time 1; (T2) = Measured at Time 2.

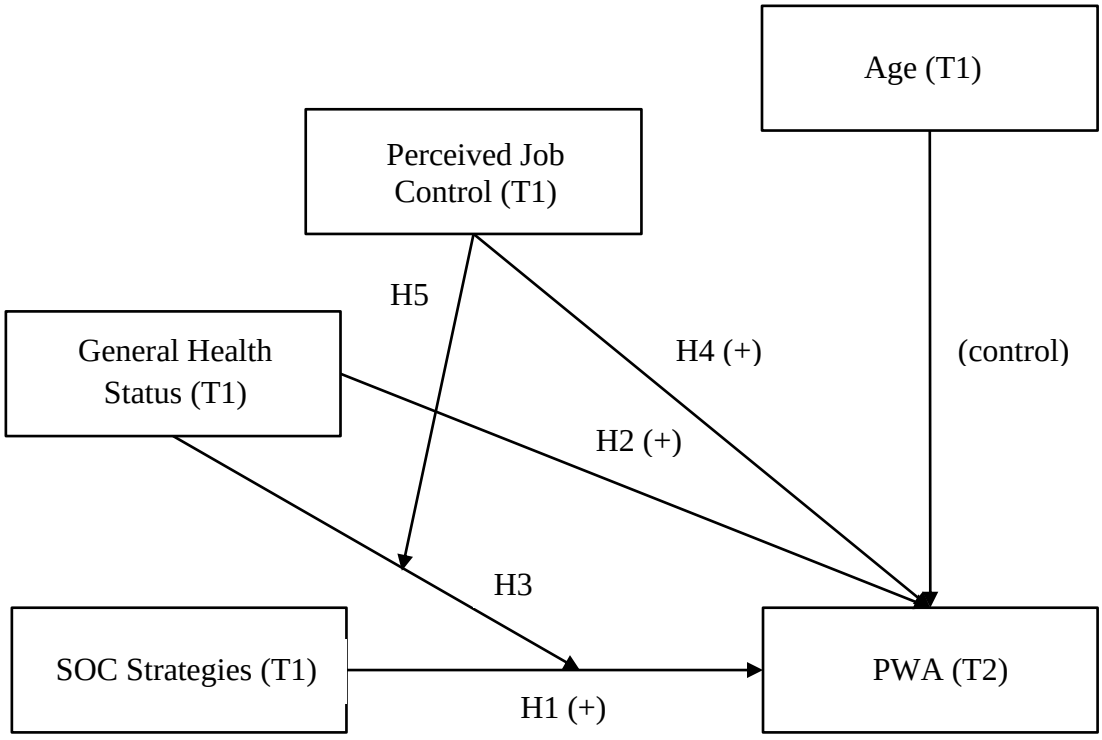

Figure 1. Study hypotheses. All variables but PWA (Time 2) were measured at Time 1. PWA = Perceived Work Ability; SOC Strategies = Selection, Optimization, and Compensation Strategies.

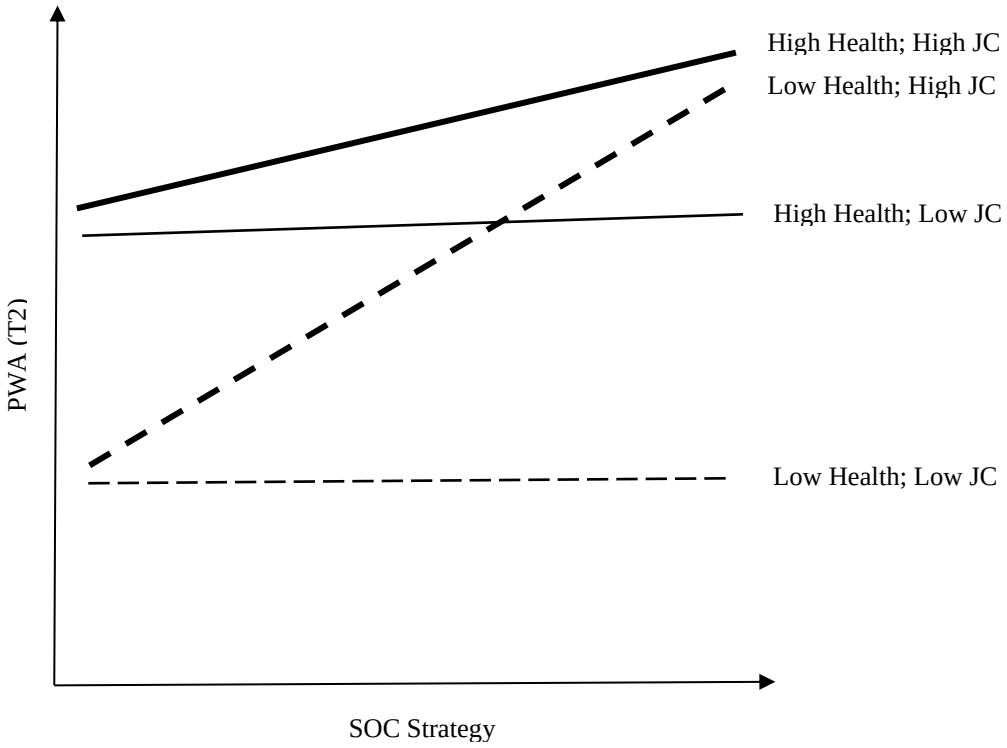

Figure 2. Proposed three-way interaction between SOC strategy use, general health status, and perceived job control (JC) on PWA (Time 2). PWA = Perceived Work Ability; SOC Strategies = Selection, Optimization, and Compensation Strategies.

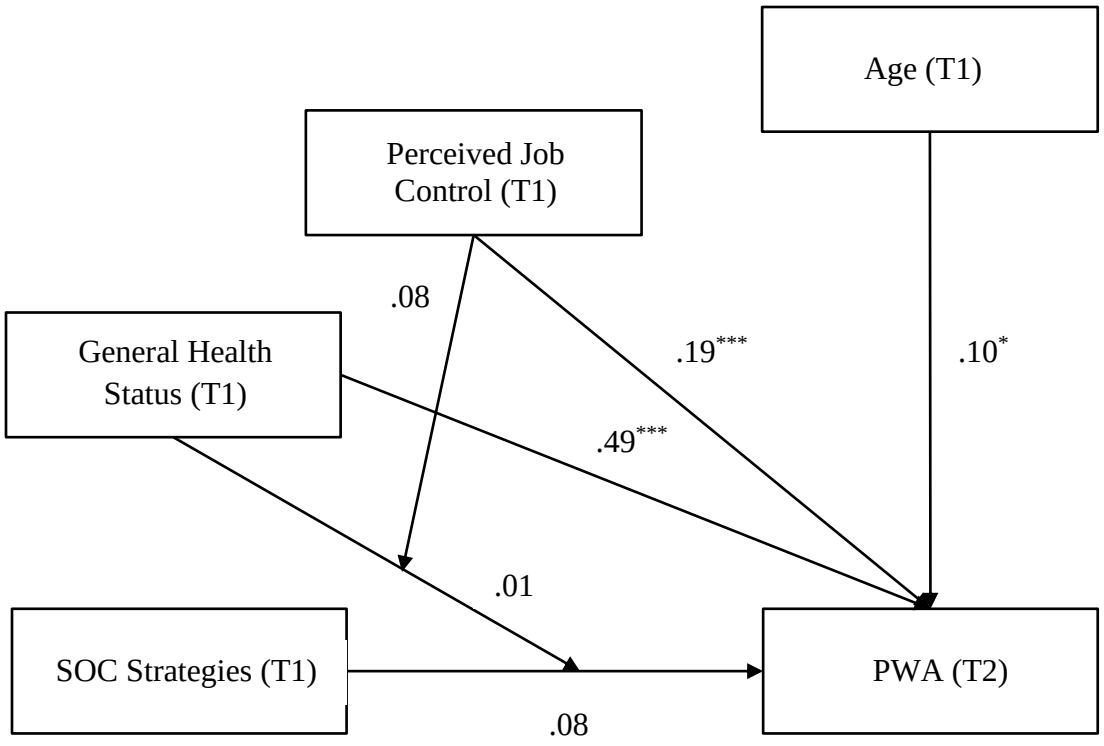

Figure 3. Study results. All variables but PWA (Time 2) were measured at Time 1. PWA = Perceived Work Ability; SOC Strategies = Selection, Optimization, and Compensation Strategies.

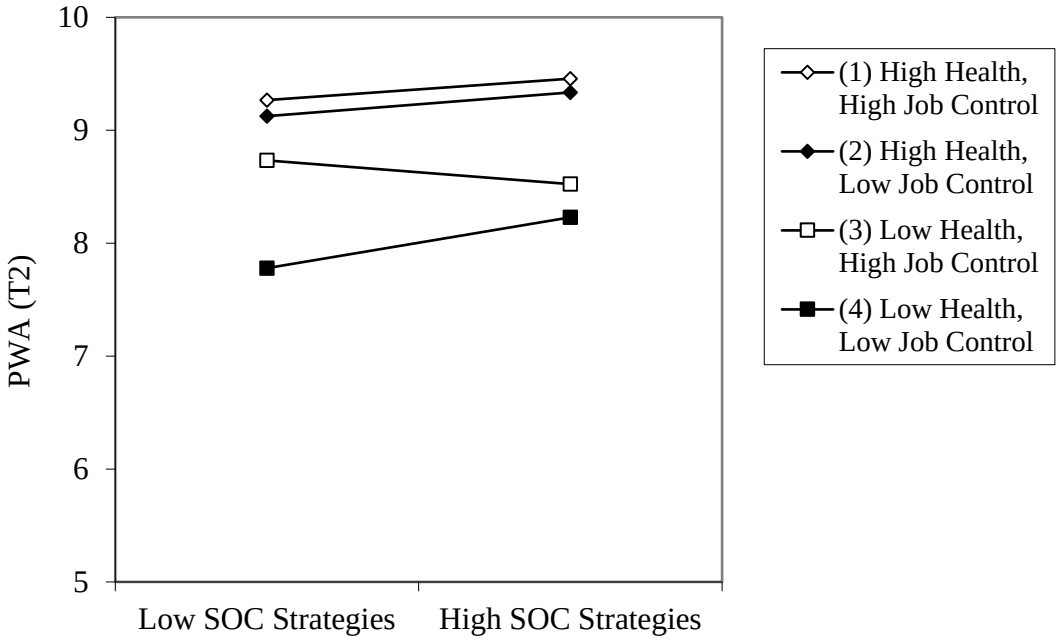

Figure 4. Three-way interaction (non-significant, hypothesized, supplemental analysis) between SOC strategy use, general health status, and perceived job control on PWA (Time 2). *N* = 466. Controlling for age. Original PWA scale is from 0 to 10. PWA = Perceived Work Ability; SOC Strategies = Selection, Optimization, and Compensation Strategies.

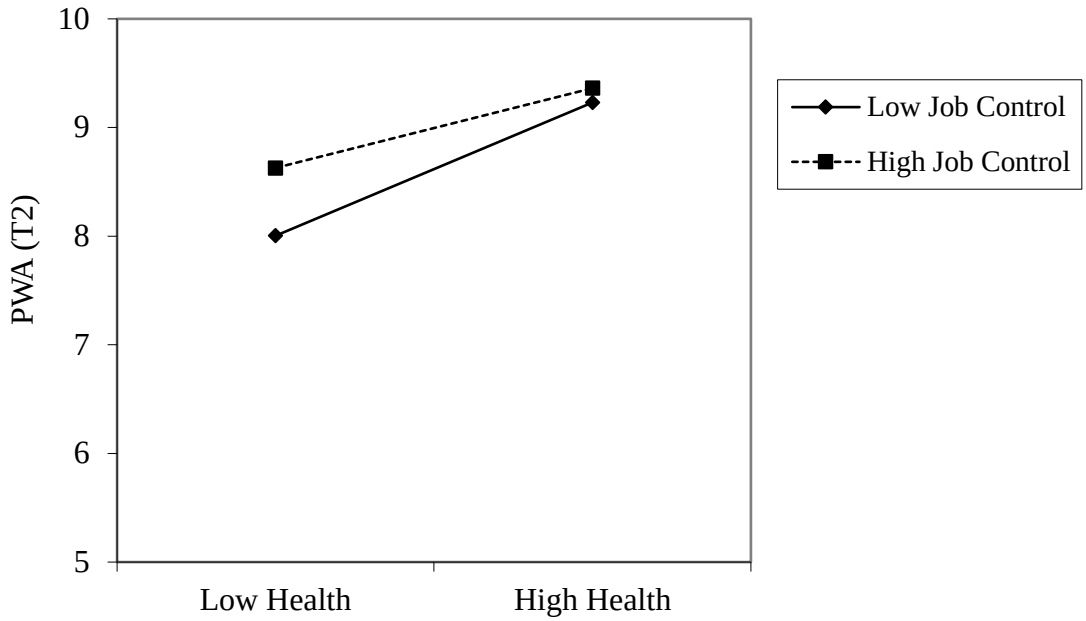

Figure 5. Two-way interaction (significant, non-hypothesized, supplemental analysis) between general health status and perceived job control on PWA (Time 2). *N* = 466. Controlling for age. Original PWA scale is from 0 to 10. PWA = Perceived Work Ability.

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APPENDIX A: PWA SCALE

Construct: Perceived Work Ability (PWA)

Source: McGonagle, Fisher, Barnes-Farrell, and Grosch (2015)

Instructions: Work ability refers to your capacity to continue doing your current job, given your health and other resources, in light of your job responsibilities. Assume that your best work ability is a value of 10 points.

Items:

1. How many points would you give your CURRENT ABILITY TO WORK? (*Overall*)

2. Thinking about the PHYSICAL demands of your job, how do you rate your current ability to meet those demands?

3. Thinking about the MENTAL demands of your job, how do you rate your current ability to meet those demands?

4. Thinking about the INTERPERSONAL/SOCIAL demands of your job, how do you rate your current ability to meet those demands?

Response Scale: (0) *Cannot Currently Work at All* to (10) *Work Ability at its Lifetime Best*

Scoring: Items stand on their own.

APPENDIX B: SOC SCALE

Construct: General Selection, Optimization, and Compensation (SOC) Strategy Use

Source: P.B. Baltes, M.M. Baltes, Freund, and Lang (1999)

Instructions: To *which* person are you *more* similar? Please choose Person A or Person B. (Note, this doesn't have to describe you fully; just choose the option that is more similar to you.)

Items:

Elective Selection

S1) I concentrate all my energy on few things.
- *Distractor*: I divide my energy among many things.

S2) I always focus on the one most important goal at a given time.
- *Distractor*: I am always working on several goals at once.

S3) When I think about what I want in life, I commit myself to one or two important goals.
- *Distractor*: Even when I really consider what I want in life, I wait and see what happens instead of committing myself to just one or two particular goals.

Loss-Based Selection

LBS1) When things don't go as well as before, I choose one or two important goals.
- *Distractor*: When things don't go as well as before, I still try to keep all my goals.

LBS2) When I can't do something important the way I did before, I look for a new goal.
- *Distractor*: When I can't do something important the way I did before, I distribute my time and energy among many other things.

LBS3) When I can't do something as well as I used to, I think about what exactly is important to me.
- *Distractor*: When I can't do something as well as I used to, I wait and see what comes.

Optimization

O1) I keep working on what I have planned until I succeed.
- *Distractor*: When I do not succeed right away at what I want to do, I don't try other possibilities for very long.

O2) I make every effort to achieve a given goal.

- *Distractor*: I prefer to wait for a while and see if things will work out by themselves.

O3) If something matters to me, I devote myself fully and completely to it.

- *Distractor*: Even if when something matters to me, I still have a hard time devoting myself fully and completely to it.

Compensation

C1) When things don't go as well as they used to, I keep trying other ways until I can achieve the same result I used to.

- *Distractor*: When things don't go as well as they used to, I accept it.

C2) When something in my life isn't working as well as it used to, I ask others for advice or help.

- *Distractor*: When something in my life isn't working as well as it used to, I decide what to do about it myself, without involving other people.

C3) When it becomes harder for me to get the same results, I keep trying harder until I can do it as well as before.

- *Distractor*: When it becomes harder for me to get the same results as I used to, it is time to let go of that expectation.

Response Scale: (1) SOC Strategy Target chosen; (0) Distractor chosen

Scoring: Items are summed for an overall score (minimum of 0, maximum of 12) for general SOC strategy use.

APPENDIX C: JOB CONTROL SCALE

Construct: Perceived Job Control (Decision Authority)

Source: Smith, Tisak, Hahn, and Schmieder (1997)

Instructions: Please indicate your responses below.

Items:

1. My job allows me to make a lot of decisions on my own.
2. I have a lot of say about what happens on my job.
3. On my job, I have freedom to decide how I work.

Response Scale: (1) Strongly Disagree, (2) Disagree, (3) Neutral, (4) Agree, (5) Strongly Agree

Scoring: Items were summed and averaged for an overall score of perceived job control (decision authority).