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Outcomes of Occupational Self-Efficacy in Older Workers

Michelle E. Paggi¹ and Daniela S. Jopp²

¹Institute of Geriatric Psychiatry, Weill Cornell Medical College, White Plains, NY, USA ²Institut de Psychologie, Université de Lausanne, Switzerland

Abstract

Because of the increasing number of older workers, it is important to develop models of work-related constructs for this population. The present article developed a model surrounding occupational self-efficacy, testing its relation to other factors (e.g., intrinsic job motivation), predictors (e.g., self-perceptions of aging), and outcomes (e.g., job satisfaction). Employed adults of ages 50 and older ($n = 313$) were recruited via organizations and social media sites. Study participants ($M = 59.7$, $SD = 6.1$, range = 50–78) volunteered to fill out an Internet survey. Occupational self-efficacy predicted job satisfaction, and intrinsic job motivation fully mediated this relationship. More negative self-perceptions of aging predicted poorer occupational self-efficacy. Occupational self-efficacy also predicted life satisfaction. Expected retirement age and job performance were unrelated to occupational self-efficacy. These findings may inform workplace interventions that seek to maintain or increase older worker job and life satisfaction.

Keywords

older workers; retirement age; job performance; job satisfaction; job motivation

Introduction

An estimated four out of every five baby boomers believe that they will work past the traditional retirement age; their reasons cited include having a desire to continue working and needing the extra income (Pitt-Catsoupes & Smyer, 2005). Older workers have also reported that they remain in the workforce to stay active (Moen, Erickson, Argarwal, Fields, & Todd, 2000) and because they find their work meaningful, regardless of their type of employment (Johnson, 2006). Because individuals are planning on working longer, it is important to further our understanding of factors that contribute to older workers remaining productive and satisfied with their jobs. Yet, most of our knowledge on psychological work-related constructs stems from studies with younger individuals.

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Corresponding Author: Michelle E. Paggi, Institute of Geriatric Psychiatry, Weill Cornell Medical College, 21 Bloomingdale Road, White Plains, NY 10605, USA. mip2045@med.cornell.edu.

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One concept that seems to play a key role in older adults' work experience is occupational self-efficacy, defined as belief in one's ability to do one's job (Shyns & von Collani, 2002). Little is known about predictors and outcomes of occupational self-efficacy in older adults: While occupational self-efficacy could be expected to be important for job satisfaction and performance, similar to younger ages, one could assume that beliefs about one's aging could be an important addition to a model considering older individuals. In addition, considering specificities of the work context of older adults, an interesting question is what predicts the decision to leave the workforce, and to what extent occupational self-efficacy could play a role.

The present study specifies and expands prior models on the outcomes of self-efficacy in the workplace by examining older adult-specific factors that may be related to self-efficacy in the context of work. Specifically, attitudes toward one's own aging were investigated as a predictor of work-related self-efficacy. The present study also examines intrinsic job motivation, defined as taking pride in one's job and seeking ways to more effectively complete job tasks (Fletcher, Hansson, & Bailey, 1992), as a mechanism through which self-efficacy can influence job-related outcomes, including job satisfaction, life satisfaction, expected future job performance, and retirement age.

Self-Efficacy and Its Importance for Task Performance

Self-efficacy is a key construct in the context of performance and therefore highly relevant for the work environment and is thus the central construct in the model developed in the current study. As defined by Bandura (1977), self-efficacy is the belief that one can successfully carry out behaviors necessary to generate specific outcomes. Although originally conceived of as a domain-specific construct, the concept of generalized self-efficacy was also developed to describe individuals' general beliefs about their performance abilities (Schwarzer & Jerusalem, 1995). According to Bandura's theory, self-efficacy is influenced by four factors: mastery experiences gained from effective task performance, social modeling of successful performance by peers, social persuasion to believe in one's abilities, and good physical and mental health (Bandura, 2012).

With advancing age, additional factors may begin to influence self-efficacy, such as beliefs about one's own aging. Experimental and longitudinal research demonstrated that self-perceptions of aging have significant impacts on cognitive performance, functional health, and longevity (Levy, 1996; Levy, Slade, & Kasl, 2002a; Levy, Slade, Kunkel, & Kasl, 2002b). Thus, espousing negative views on one's own aging could have detrimental effects on older workers' self-efficacy and possibly their ability to perform job tasks and remain in the workforce.

Both domain-specific and generalized self-efficacy have been shown to contribute to work-related task performance (Judge & Bono, 2001; Judge, Jackson, Shaw, Scott, & Rich, 2007). A meta-analysis showed a significant correlation between generalized self-efficacy and job performance (corrected correlation: $\rho = .23$; Judge & Bono, 2001). However, a later meta-analysis found that the relationship between self-efficacy (generalized and domain specific) and performance was moderated by task complexity: Self-efficacy contributed to job performance when task complexity was low, not when medium or high because individuals

are better able to apply self-regulatory behaviors to less complex tasks, whereas tasks of higher complexity are more affected by distal factors, such as personality traits (Judge et al., 2007). Thus, multiple factors and their interrelationships should be considered when examining self-efficacy and job performance.

Self-Efficacy and Job Satisfaction

In addition to its importance for job performance, self-efficacy has been shown to be important for job satisfaction (Judge & Bono, 2001; Schyns & von Collani, 2002). In a meta-analysis investigating generalized self-efficacy and job satisfaction, Judge and Bono (2001) found that the mean corrected correlation between these two constructs was high ($p = .45$). Thus, there is a strong relationship between feeling generally competent and being satisfied with one's job.

Schyns and von Collani (2002) found that occupational self-efficacy predicts job satisfaction beyond generalized self-efficacy, with occupational self-efficacy accounting for 16% of the variance in job satisfaction. An important next step would be to determine what mechanisms are responsible for the relationship between occupational self-efficacy and job satisfaction. Perhaps feeling more confident in one's job skills increases motivation to perform well, leading to more positive work outcomes such as increased job satisfaction.

Predictors of Intrinsic Job Motivation in Older Workers

There is a widely held perception that the closer an individual is to retirement, the less motivation the worker has to perform well in her job (Hedge, Borman, & Lammlein, 2006). However, according to Kanfer and Ackerman (2004), older workers' motivation must be understood within the context of lifespan development theory, which posits that the aging process is marked by a dynamic interaction between gains and losses. For example, though fluid intelligence declines starting in midlife, crystallized intelligence steadily increases well into old age (Schaie, 1996); thus, older workers in occupations who rely more on knowledge accumulated rather than having to perform novel tasks requiring flexibility and perceptual speed may be better able to maintain job motivation. In addition, older individuals prioritize generativity (e.g., caring for others and helping society as a whole and future generations) to a greater degree than younger individuals (McAdams & de St Aubin, 1998); thus, older workers may be more motivated to perform in job tasks that are evaluated in terms of collaborative efforts, conflict resolution, and innovation rather than competition with coworkers. Kanfer and Ackerman (2004) therefore conclude that, based on theoretical knowledge of adult development, there is no reason to believe that job motivation underlies universal and inevitable decline with age. Job motivation in older individuals should thus be understood as a product of both the nature of the occupation itself and the criteria by which job performance is evaluated.

This concept was supported by a study showing that older workers are more motivated by stimulating jobs with high-quality job content than are younger workers, demonstrating that older workers are driven by intrinsic rewards of their jobs (e.g., taking on challenging job tasks) to a greater degree than younger workers, who were more motivated by career opportunities (Boumans, De Jong, & Janssen, 2011). Thus, this study challenged the

stereotype that job motivation declines with age. In addition, these findings support predictions based on lifespan development theory whereby older adults' job motivation depends both on job content and performance criteria and thus does not evidence uniform age-associated decline. Because older workers are motivated by more challenging jobs, it follows that they may also be more motivated if they have higher self-efficacy for their ability to perform their job tasks.

Predictors of Retirement Decisions

Due to increased longevity and vitality at later ages, older adults are more likely to be able to extend working life beyond traditional retirement age. The decision to retire early seems strongly related to job enjoyment and work resources rather than health issues: Schreurs, de Cuyper, van Emmerik, Notelaers, and de Witte (2011) demonstrated that having more job resources (e.g., social support from colleagues) reduced the likelihood of early retirement, and this relationship was fully mediated by work enjoyment. These results imply that older adults want to stay employed longer if they enjoy their jobs due to having autonomy and high-quality work environments (Schreurs et al., 2011).

van den Berg (2011) also investigated work enjoyment and retirement and found that older workers with stimulating jobs and job autonomy were willing to work until at least age 65, and intrinsic motivation partially mediated these relationships. Elovainio et al. (2005) found that workers with low job control (i.e., how much individuals can influence their job) were more likely to consider early retirement, suggesting that ensuring older workers feel in control of their jobs may lead to higher older employee retention. Thus, internally rewarding aspects of one's job are key to continuing working until retirement age (van den Berg, 2011), corroborating other research findings indicating that intrinsic rather than extrinsic job rewards are more important motivators for older workers (Boumans et al., 2011).

A qualitative study of older individuals who had left their jobs indicated that work intensification (e.g., employers increasing work hours, workload, and job responsibilities) was a main reason cited for permanently exiting the workforce or taking a temporary break from working (Perera, Sardeshmukh, & Kulik, 2015). These participants were unsuccessful in their attempts to negotiate with their employers for job accommodations, such as flexible working hours, prompting them to leave their jobs. Participants also cited personal factors, such as declining health and adequate financial resources, as reasons for retiring (Perera et al., 2015). The next step in research on factors influencing older workers' retirement is to examine the importance of additional psychological factors, such as occupational self-efficacy and job motivation, for how long they plan to remain in the workforce.

Work and Well-Being in Older Adults

Studies have shown that working into old age is associated with higher well-being (Aquino, Russell, Cutrona, & Altmaier, 1996; Baker, Cahalin, Gerst, & Burr, 2005; Warr, Butcher, Robertson, & Callinan, 2004). Aquino et al. (1996) found that the number of hours worked at a paying job was positively related to life satisfaction in older workers. Although older adults may experience higher life satisfaction because of the social environment of a workplace, social support did not explain this relationship. This study did not identify which

characteristics of paid employment contribute to higher life satisfaction; however, the authors speculated that such work may be meaningful and stimulating and thus lead to higher life satisfaction.

Perhaps engaging in productive activity is what explains older adults' increased life satisfaction due to working. Baker et al. (2005) found that older adults who had more hours of productive activities (including paid work) had higher levels of life satisfaction and greater increases in life satisfaction over time. Thus, remaining productive in late life can maintain or even increase well-being.

Does employment status differentially affect older individuals depending on whether they desire to work? Warr et al. (2004) found that older individuals working past traditional retirement age because of devotion to one's job rather than financial need had higher affective well-being than retirees. Thus, employment beyond retirement age can benefit older individuals if they choose to work because they find their jobs fulfilling.

Study Aims and Hypotheses

The objective of the current study was to expand prior models of predictors and work-related outcomes of occupational self-efficacy in older workers. Our conceptual model is shown in Figure 1. The proposed model adds to existing models of occupational self-efficacy by incorporating self-perceptions of aging as a predictor of occupational self-efficacy as well as by examining how occupational self-efficacy relates to older workers' expectations for their ability to perform their job tasks in the future and remain in the workforce. Furthermore, the proposed model also investigates intrinsic job motivation as a mechanism through which occupational self-efficacy can influence job-related outcomes in this population.

Hypothesis 1: Occupational self-efficacy predicts more positive job-related outcomes.

Because working into old age has been associated with well-being (Aquino et al., 1996; McNamara, 2006; Warr et al., 2004), it was expected that higher occupational self-efficacy would be related to higher life satisfaction (*H1a*).

Occupational self-efficacy has been shown to predict job satisfaction (Schyns & von Collani, 2002), so it was hypothesized that higher occupational self-efficacy would be related to higher job satisfaction (*H1b*) and older expected retirement age (*H1c*). Given that higher self-efficacy predicts better work performance (Judge & Bono, 2001), it was hypothesized that higher occupational self-efficacy would be related to higher expected future job performance (*H1d*).

Hypothesis 2: Occupational self-efficacy predicts intrinsic job motivation, which in turn mediates the relationships between occupational self-efficacy and job-related outcomes.

Occupational self-efficacy has been found to be correlated with intrinsic job motivation (Fletcher et al., 1992). Therefore, it was expected that higher occupational self-efficacy

would predict more positive work-related outcomes and intrinsic job motivation would mediate these relationships.

Hypothesis 3: More negative self-perceptions of aging predict poorer occupational self-efficacy and lower intrinsic job motivation.

Because self-perceptions of aging have been shown to affect various domains of functioning in older adults (Levy, 1996; Levy et al., 2002a, 2002b), these were included as predictors of occupational self-efficacy and motivation in the model. Self-perceptions of aging may affect older adults' ability to perform one's job functions and sustain job motivation, and it was therefore hypothesized that more negative self-perceptions of aging would be related to poorer occupational self-efficacy and lower intrinsic job motivation.

Method

Participants

The sample included 313 participants with a mean age of 59.7 ($SD = 6.1$, range 50–78). The population of interest was older workers, defined in this study as individuals aged 50 and older who are currently working for pay either full time or part time. Research on labor force participation has indicated that participation declines at ages 50 to 55 (Organisation for Economic Co-operation and Development, 2015), so age 50 was chosen as the inclusion cutoff because one of the central variables was predicted retirement age. The sample was 78.5% women, 88.2% White, 5.4% Black, 1.3% Asian or Pacific Islander, 3.5% Native American or Alaskan Native, and 3.5% “other.” In terms of ethnicity, 1.9% of the sample identified as Hispanic. More than half the sample (67.2%) was married or had a domestic partner. This sample was highly educated: 5.3% had a high school diploma or equivalent, 25.3% had an associate's degree, 29.7% had a bachelor's degree, and 39.6% had a graduate degree. The majority of the sample was of high socioeconomic status (SES), with 70.6% having a professional or technical job and 72.6% having an income equal to or greater than \$50,000. The majority of the sample was working for a company (92.0%), whereas 8.0% was self-employed.

Recruitment and Procedures

To recruit participants, organizations serving the needs of middle-aged and older adults in the United States were emailed with a request to distribute the survey. A link to the survey was also posted on the social media pages of these organizations. One example of a type of organization that was contacted includes Area Agencies on Aging (AAAs) throughout the United States. AAAs were initiated by the Older Americans Act in 1973 to provide services for older adults and caregivers in every community, allowing them to age in place (National Association of Area Agencies on Aging, 2015). AAAs often provide senior employment training for adults aged 55 and older who are income eligible, so contacting these organizations was a means of reaching the target population. Local libraries throughout the country were also contacted, as they were also a way to reach the target population because they provide job training and computer classes for older individuals. Also contacted were organizations that provide computer training for seniors. AARP online discussion forums

focusing on older worker issues were also contacted to recruit participants. After providing informed consent, study participants filled out an online survey.

Measures

Predictor of job-related outcomes

Occupational self-efficacy: Occupational self-efficacy was assessed with the Occupational Self-Efficacy Scale – Short Form (Schyns & von Collani, 2002), which includes eight items such as “No matter what comes my way in my job, I’m usually able to handle it.” Responses are on a scale ranging from 1 (*not at all true*) to 6 (*completely true*; alpha in current study = .93).

Predictor of occupational self-efficacy and intrinsic job motivation

Self-perceptions of aging: Self-perceptions of aging were measured with the Attitudes Toward Own Aging subscale of the Philadelphia Geriatric Center Morale Scale (Lawton, 1975). This scale consists of five items such as “Things get worse as one ages,” and participants responded with “yes” or “no” (alpha in current study = .62). Responses were coded so that higher scores meant more negative self-perceptions of aging.

Mediator between occupational self-efficacy and job-related outcomes

Intrinsic job motivation: Intrinsic job motivation was measured with the six-item Intrinsic Job Motivation Scale (Warr, Cook, & Wall, 1979), containing items like “I feel a sense of personal satisfaction when I do this job well.” Response options are on a scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*; alpha in current study = .62).

Outcomes of occupational self-efficacy and intrinsic job motivation

Job satisfaction: Job satisfaction was measured with the 16-item Job Satisfaction Scale (Warr et al., 1979), which lists working conditions such as “the freedom to choose your own method of working,” and participants rated their satisfaction on a scale ranging from 1 (*extremely dissatisfied*) to 7 (*extremely satisfied*; alpha in current study = .92).

Life satisfaction: Life satisfaction was assessed with the five-item Satisfaction with Life Scale (Pavot, Diener, Colvin, & Sandvik, 1991), in which participants responded on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) to items such as “If I could live my life over, I would change almost nothing” (alpha in current study = .90).

Predicted future job performance: Though accurate predictions about older workers' future productivity and retirement age can be made only with longitudinal studies, older workers' expectations for their occupational future may serve as a proxy for these outcomes. The psychological literature has demonstrated that personal expectations map onto actual outcomes. For example, in adults of all ages, higher ratings of cognitive abilities translate into better performance on cognitive tasks (Hertzog, Dixon, & Hultsch, 1990; Jopp & Hertzog, 2007; Woo, Schmitter-Edgecombe, & Fancher, 2008). Thus, participants were asked to predict their future job performance using the following question: “Over the course of the next 5–10 years, to what extent do you expect your overall job performance to

change?” Answer choices were on a 10-point scale with the following anchors: 1 equaling *decrease greatly*, 5 equaling *remain the same*, and 10 equaling *increase greatly*.

Predicted retirement age: Predicted retirement age was chosen as a proxy for actual retirement age because it has been cited as the best predictor (Beehr & Bennett, 2007; Wang & Shultz, 2010). Participants estimated their retirement age by answering the following question: “At what age do you expect to and/or wish to retire?”

Demographic and occupational information: To control for possible confounding effects of sociodemographic characteristics on the predictor and outcome variables, participants were asked to provide the following information: age, gender, ethnicity (i.e., indicate whether of Hispanic origin or descent), race, and years of education. In addition, we assessed total household income (before taxes) and occupation (professional or technical, marketing or sales, administrative or clerical, service industry, construction or maintenance, and production or transportation). Because the majority of the sample had a professional or technical job (70.6%), for the purposes of the analyses, a dichotomous variable (job level) was created to indicate whether one had a professional-level job.

Self-rated health was assessed with the seven health-related items from the Personal Resources Questionnaire – Short Form (Jopp & Leipold, 2004); for these items, the participants were asked “How much of this resource do you have?” (e.g., physical well-being) and indicated their responses on a scale ranging from 1 (*none*) to 5 (*great amount*; alpha in current study = .88).

Data Analyses

Hypotheses were tested using structural equation modeling (SEM) with AMOS 18.0 (Arbuckle, 2009). There were several advantages to utilizing SEM for the purposes of this study: Measurement validity is increased through measuring latent constructs via multiple indicators. Therefore, one arrives closer to approximating a construct by having more than one method of measuring it (Werner & Karin Schermelleh-Engel, 2009). Considering the principle study variables are abstract and can therefore not be measured directly, SEM was an appropriate choice for data analysis. Latent constructs measured with multiple indicators also increases the reliability of the study by taking measurement error into account during analyses; thus, the analyses in the current study were conducted without being biased by measurement error (Werner & Karin Schermelleh-Engel, 2009). Finally, SEM allows for the testing of complex models, enabling one to test relationships between multiple constructs in one model and compare the strength of the relationships between the variables (Werner & Karin Schermelleh-Engel, 2009). In the current study, we were able to simultaneously examine multiple types of outcomes (e.g., job satisfaction and future job performance) of occupational self-efficacy as well as their interrelationships. Taking these outcomes into account concurrently and to control for their interrelationships allows the testing of a more accurate model of complex reality.

Only 1.83% of the data were missing and, according to Little's missing completely at random test (Little, 1988), the data were missing completely at random ($\chi^2 = 19717.93$, $df =$

22199, $p = 1.00$). Missing data were handled using the full information maximum likelihood method (Wothke & Arbuckle, 1996).

Models for this study were specified using two-step modeling: We first conducted confirmatory factor analysis to determine the measurement models, and then structural models testing the relations between constructs were specified (Kline, 2011). To specify the measurement models, we created parcels by averaging two or more questionnaire items, which then represented the indicators of the latent variables. These observed variables were loaded onto the latent variables, and all of the variables were allowed to correlate with each other. The fit statistics indicate that this model fits the data well, and the factor loadings for the latent variables were all statistically significant (see Appendix Table A1). Then, the structural model (the second step in two-step modeling) was fitted to the data (see Figure 2). To add covariates to the model, we specified them as exogenous variables and added causal paths from them to the variables of interest.

Hu and Bentler (1998) recommend using several fit indices. For the root mean square error of approximation (RMSEA), values less than .06 are considered a good fit (Hu & Bentler, 1999). For the comparative fit index (CFI) and Tucker-Lewis Index (TLI), values greater than .95 are considered a good fit (Hu & Bentler, 1999). According to Kline (2011), values greater than .90 for the CFI and TLI are considered a “favorable” fit. For the mediation models, to test whether the indirect effect of the independent variable on the dependent variable via the mediator was statistically significant, bootstrapping was used (Cheung & Lau, 2007).

Results

Table 1 contains the bivariate correlations between study variables. Age was positively related to job satisfaction ($r = .14, p < .05$). The older the participant, the more negatively they evaluated their future job performance ($r = -.23, p < .01$). The older the participant, the higher the estimated retirement age ($r = .30, p < .01$). More negative self-perceptions of aging were related to poorer occupational self-efficacy ($r = -.27, p < .01$). Occupational self-efficacy was positively related to job motivation ($r = .17, p < .01$), job satisfaction ($r = .34, p < .01$), life satisfaction ($r = .31, p < .01$), and predicted future job performance ($r = .14, p < .01$). Of note, occupational self-efficacy was unrelated to predicted retirement age.

In terms of the fit statistics, the measurement model had a significant chi-square ($\chi^2 = 550.04, df = 379, p < .01$); however, the CFI was .96, the TLI was .94, and the RMSEA was .04, indicating a good fit.

Figure 2 displays the structural model. The chi-square was significant ($\chi^2 = 672.94, df = 389, p < .01$), but the CFI was .94, and the TLI was .90, indicating a favorable fit. The RMSEA was .05, indicating a good fit.

As hypothesized, occupational self-efficacy positively predicted job motivation ($\beta = .29, p < .01$) and life satisfaction ($\beta = .17, p < .01$). It is notable that neither of the occupation variables (i.e., job level and whether or not self-employed) predicted job motivation, and only one of the demographic variables predicted job motivation (being a woman $\beta = .17, p$

<.05), where as occupational self-efficacy was the stronger predictor. It is also worth noting that self-rated health ($\beta = .27, p < .01$) and being married ($\beta = .24, p < .01$) were stronger predictors of life satisfaction than was occupational self-efficacy. Income ($\beta = .14, p < .05$), being a woman ($\beta = .12, p < .05$), and age ($\beta = .11, p < .05$) also positively predicted life satisfaction, but occupational self-efficacy was a stronger predictor than these demographic variables.

Unlike what was expected, occupational self-efficacy did not predict estimated retirement age ($\beta = .08, p > .05$) nor expected future job performance ($\beta = .07, p > .05$). These two variables were exclusively predicted by sociodemographic factors. Higher income was associated with younger retirement age ($\beta = -.19, p < .01$), whereas being Hispanic ($\beta = .12, p < .05$), being self-employed ($\beta = .23, p < .01$), and older age ($\beta = .33, p < .01$) were associated with later retirement age. Expected future job performance was positively predicted by self-rated health ($\beta = .14, p < .05$) and negatively predicted by age ($\beta = -.23, p < .01$) and race (Black: $\beta = -.21, p < .05$; Native American: $\beta = -.14, p < .05$; White: $\beta = -.29, p < .05$).

As expected, having more negative self-perceptions of aging was related to lower occupational self-efficacy ($\beta = -.21, p < .01$), but this construct was unrelated to job motivation ($\beta = -.01, p > .05$). None of the demographic or occupational variables predicted occupational self-efficacy, with the exception of self-rated health ($\beta = .23, p < .01$), which was a strong predictor.

Job motivation was hypothesized to mediate the relationships between occupational self-efficacy and job satisfaction, life satisfaction, expected job performance, and retirement age. The requirements for a mediation were met for the relationship between occupational self-efficacy and job satisfaction: (a) occupational self-efficacy predicted job satisfaction before adding the mediator ($\beta = .33, p < .01, 95\% \text{ CI } [.20, .45]$) and (b) the indirect effect of occupational self-efficacy on job satisfaction via job motivation was significant ($\beta = .06, p < .05, 95\% \text{ CI } [.00, .52]$). Because the effect of occupational self-efficacy on job satisfaction was no longer significant with job motivation as a mediator (direct effects: $\beta = .26, p > .05, 95\% \text{ CI } [-.16, .42]$), job motivation served as a full mediator. The requirements for mediation were not met for life satisfaction (indirect effect: $\beta = .03, p > .05, 95\% \text{ CI } [-.03, .58]$), expected job performance (indirect effect: $\beta = .00, p > .05, 95\% \text{ CI } [-.05, .06]$), or retirement age (indirect effect: $\beta = .02, p > .05, 95\% \text{ CI } [-.03, .08]$). The only other predictor of job satisfaction was age ($\beta = .14, p < .05$), but this coefficient was smaller relative to occupational self-efficacy and job motivation.

Discussion

The current study investigated a set of psychological factors, including occupational self-efficacy and intrinsic job motivation that affect job outcomes in older workers. Unlike less changeable characteristics, such as sociodemographic information, these psychological factors can be modified to improve older workers' job-related satisfaction and well-being. The major finding of this study was that, in a sample of older workers, self-reported occupational self-efficacy predicted job satisfaction, and job motivation was responsible for

this relationship. Also as predicted, having more negative self-perceptions of aging was related to poorer occupational self-efficacy. These results were consistent with several study hypotheses.

The Current Study Enhances Our Knowledge on the Role of Self-Efficacy in Older Workers

The findings from the current study expand our knowledge of self-efficacy theory as it applies to older workers. Occupational self-efficacy predicted intrinsic job motivation, implying that greater confidence in one's job performance abilities was related to older workers' feeling motivated to work hard because it is personally satisfying. This finding supports previous research showing a relationship between occupational self-efficacy and intrinsic job motivation (Fletcher et al., 1992). This positive relationship between occupational self-efficacy and intrinsic job motivation is important given the negative stereotype held by employers that job motivation declines universally with age (Hedge et al., 2006). Research on job motivation in older workers has shown that motivation does not uniformly decline with age, and older adults are more motivated by intrinsic rewards (e.g., taking on challenging tasks) than their younger counterparts (Boumans et al., 2011). Thus, certain aspects of the job itself seem to help older workers to stay motivated, but these aspects are not always under an individual's control. However, intervention studies aiming at increasing self-efficacy have shown that self-efficacy beliefs are indeed changeable (West, Bagwell, & Dark-Freudeman, 2008). Thus, combined with the fact that this construct was the strongest predictor of job motivation in this study, this finding that occupational self-efficacy is related to job motivation could be useful for developing workplace interventions aimed at improving older adults' job outcomes.

Occupational self-efficacy was positively related to job satisfaction, implying that older workers who have greater confidence in their abilities are more satisfied with their jobs. This finding supports previous research showing that occupational self-efficacy predicts job satisfaction (Schyns & von Collani, 2002). This relationship was fully mediated by intrinsic job motivation, indicating that feeling motivated to perform well is a mechanism responsible for occupational self-efficacy leading to higher job satisfaction. Although older age was also positively related to job satisfaction, both occupational self-efficacy and job motivation were stronger predictors of this construct, demonstrating the degree to which this outcome may be modifiable.

Occupational self-efficacy was also positively related to life satisfaction, indicating that older adults with more confidence in their ability to perform their job functions were also more satisfied with their lives overall. This finding makes sense in light of previous research showing that remaining in the workforce into old age was associated with overall well-being (Aquino et al., 1996; McNamara, 2006); because occupational self-efficacy is an important component of job outcomes, it was expected that feeling confident in one's working abilities would also be an important component of life satisfaction. Although both self-rated health and being married were stronger predictors of life satisfaction, prior research has established that these and other sociodemographic variables predict life satisfaction (Barger, Donoho, & Wayment, 2009). Considering that by definition life satisfaction is an assessment of how one

feels about one's life as a whole (Pavot et al., 1991), it makes sense that multiple sociodemographic factors predicted this construct in this study.

Unlike what was hypothesized, neither occupational self-efficacy nor intrinsic job motivation were related to expected job performance, indicating that older workers' confidence in their current abilities had no impact on their perceptions of their future abilities. A possible reason could be that it is difficult to estimate one's future job performance based on current levels of self-efficacy and job motivation.

The Current Study Highlights the Importance of Self-Perceptions of Aging for This Population

Having less positive self-perceptions of aging was related to lower occupational self-efficacy, indicating that older workers who espouse more negative attitudes toward their own aging have less confidence in their abilities to perform their job functions. This finding is important, as it clearly shows the importance of endorsing negative views and makes sense in light of prior research indicating that attitudes toward aging impact various areas of functioning in older adults (Levy, 1996; Levy et al., 2002a, 2002b). Therefore, workplace interventions that seek to increase occupational self-efficacy should target self-perceptions of aging. Although self-rated health was also a strong predictor of occupational self-efficacy, it may be more feasible to focus on addressing negative attitudes toward aging to improve older workers' confidence in their abilities. In addition, perhaps such an intervention could be delivered in tandem with a wellness intervention that seeks to improve employee health.

Unlike what was hypothesized, self-perceptions of aging were unrelated to intrinsic job motivation, indicating that views on aging have no effect on whether older workers are willing to perform well in their jobs because they take pride in their work. Future studies should seek to determine whether additional psychological factors are related to intrinsic job motivation that could be intervened upon to increase motivation in this population.

Expected Retirement Age and Expected Future Job Performance Do Not Seem To Depend on Psychological Factors

Occupational self-efficacy was unrelated to expected retirement age and future job performance, indicating that feeling confident in one's working abilities was not related to how long older workers intend to stay in the workforce nor how well they believed they would perform over time. However, it seems that retirement age and future job performance were predicted by more concrete, rather than psychological factors. For example, having a lower income was related to expecting to retire at an older age, which indicates that less financially secure older workers may remain in the workforce longer. In fact, previous research has shown that needing extra income was an important reason for wanting to work past traditional retirement age (Pitt-Catsoupes & Smyer, 2005). An older expected retirement age was also predicted by being self-employed, a finding that is supported by previous research demonstrating that self-employment offers a good opportunity to accommodate age-related issues and to enter a "phase dretirement" by reducing work hours (Maestas & Zissimopoulos, 2010). Furthermore, unlike their counterparts who work for

organizations, self-employed older workers may not have access to adequate retirement benefits and may thus need to work longer. Healthier and younger workers in this sample had more positive ratings of their expected job performance over time, suggesting that this population feels that their continued ability to perform job functions will depend on physical functioning and perhaps other age-related factors, such as cognition.

Limitations

The cross-sectional design of the current study limited our ability to understand causal links between occupational self-efficacy and work-related outcomes. Future studies on this topic should employ a longitudinal design to determine the causal sequence of the effects of occupational self-efficacy. Furthermore, because fully retired adults were not included in the sample (most of the questionnaire items did not apply to people without paid employment), we were not able to determine how full retirees differ from employed older adults. Following older workers over time would allow for comparisons between employed and fully retired older adults.

The predicted retirement age variable captures only the degree to which retirement age is chosen by the individual rather than outside factors, such as being laid off, becoming too sick or disabled to work, or having to leave the workforce to care for a loved one. Future studies on this topic should investigate to what extent retirement is a free choice by examining multiple factors, including those outside an individual's control.

The study was also limited by the sampling method. Older workers who do not have regular access to a computer may not have been reachable by the recruitment methods. Also, participants self-selected into the study, which may have resulted in a biased sample in which White women of higher SES were overrepresented. The lack of diversity in the sample limits the generalizability of this study to individuals with differing demographics. Future studies on this topic should recruit older workers of more varied SES and racial and ethnic backgrounds. Furthermore, the relationship between occupational self-efficacy and work-related outcomes may be different depending on the type of job someone has. A next step for this area of research would be to examine these relationships with a sample of older workers with a greater variety of job types to determine how the relationship between occupational self-efficacy and outcomes differs according to the nature of one's job.

Potential Applications of Current Study Findings and Future Directions

The knowledge gained from this study has potential applications for workplace interventions that can target older workers' occupational self-efficacy and work-related outcomes. The current study identified self-perceptions of aging as a predictor of occupational self-efficacy, so interventions should focus more strongly on changing negative attitudes toward aging to stabilize occupational self-efficacy. Occupational self-efficacy should be strengthened to help older workers feel motivated to work more effectively and thus feel more satisfied with their jobs. These findings build on prior intervention research designed to enhance older workers' health and performance. In one study, the intervention was delivered via supervisors who worked with their employees to develop an action plan to enhance older workers' problem-solving abilities with regard to performing work functions (Koolhaas,

Brouwer, Groothoff, & van der Klink, 2010). Other workplace interventions were delivered via health-care professionals (e.g., nurses and social workers) and involved developing action plans with older workers in terms of their health improvement goals (e.g., exercise and healthier diet; Hughes et al., 2011). Increasing self-efficacy can be accomplished by following the procedures developed by West et al. (2008) for memory self-efficacy. In this study, older adults' memory self-efficacy was raised by conducting memory training courses involving goal setting, promoting vicarious experience of mastery by encouraging learning from one's peers, verbal persuasion, and anxiety reduction. Also, study findings suggest that such an intervention may also be feasible via the Internet (Heber et al., 2013), which may be more appropriate for self-employed older workers or ones who work from home, but one should keep in mind that specific demographics (White women with high SES) would be reached better than others. Thus, there are a variety of ways workplace interventions can improve occupational self-efficacy in older workers and thus enhance positive job-related outcomes. As the older worker population continues to grow, we need to do what is necessary to ensure that people can remain motivated members of the workforce who are satisfied with their jobs.

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Appendix

Table A1

Factor Loadings for Measurement Model.

	β
Occupational self-efficacy ^a	
Parcel 1 (Items 1, 3, and 6)	.88*
Parcel 2 (Items 2, 4, and 8)	.94*
Parcel 3 (Items 5 and 7)	.90*
Self-perceptions of aging ^b	
Parcel 1 (Items 1 and 3)	.55*
Parcel 2 (Items 4 and 5)	.79*
Item 2	.35*
Job motivation ^c	
Parcel 1 (Items 1 and 2)	.54*
Parcel 2 (Items 3 and 5)	.61*
Parcel 3 (Items 6 and 4)	.74*
Life satisfaction ^d	
Item 1	.88*
Item 2	.86*
Item 3	.90*
Item 4	.78*
Item 5	.65*
Job satisfaction ^e	

	β
Parcel 1 (Items 2, 4, 5, and 10)	.93 [*]
Parcel 2 (Items 1, 7, and 8)	.87 [*]
Parcel 3 (Items 3, 6, and 9)	.87 [*]

^a Occupational Self-Efficacy Scale – Short Form.

^b Attitudes Toward Own Aging subscale of the Philadelphia Geriatric Center Morale Scale.

^c Intrinsic Job Motivation Scale.

^d Satisfaction with Life Scale.

^e Job Satisfaction Scale.

* $p < .01$.

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Biographies

Michelle E. Paggi is a Postdoctoral Associate at the Institute of Geriatric Psychiatry at Weill Cornell Medical College.

Daniela S. Jopp is an Associate Professor at the Institute of Psychology at the University of Lausanne.

Figure 1.
Study conceptual model.

Figure 2.

Structural model for study questions.

Note. Latent variable indicators and intercorrelations not shown for clarity.

*Relationship significant at $p < .05$.

Table 1

Zero-Order Correlations Between Central Study Variables.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Age	—																			
2. Gender	-.11*	—																		
3. White	.11	-.02	—																	
4. Black	-.03	.01	-.68**	—																
5. Asian	-.04	-.01	-.23**	-.03	—															
6. Native American	-.03	-.12*	-.27**	-.05	-.02	—														
7. Other	-.04	.09	-.49**	-.05	.13*	.15**	—													
8. Ethnicity	-.12*	-.10	-.21**	.09	-.02	.11	.24**	—												
9. Married	-.08	-.15**	.12*	-.19**	-.04	.1	-.01	.05	—											
10. Education	.02	-.07	.07	-.06	.02	-.07	-.01	-.03	.12*	—										
11. Income	-.11	-.14*	.14*	-.13*	.06	-.08	-.10	-.09	.33**	.43**	—									
12. Professional-level job	.02	.04	.09	-.02	.01	-.11	-.11	-.12*	.05	.44**	.44**	—								
13. Self-employed	.15**	-.11	.01	-.08	-.03	.02	.09	-.04	.06	.18**	.17**	.15**	—							
14. Self-rated health	.04	.00	-.09	.04	.05	.01	.08	-.02	.13*	.17**	.24**	.10	.15**	—						
15. Occupational self-efficacy	-.03	.05	-.09	-.00	.10	.00	.10	.04	.05	.10	.11*	.14*	.03	.29**	—					
16. Self-perceptions of aging	.07	-.02	.01	-.01	.06	.06	.02	-.03	-.12*	-.15**	-.15**	-.14*	-.01	-.38**	-.24**	—				
17. Job motivation	-.00	.08	.06	-.06	.03	-.03	-.04	-.05	.04	.01	.11	.04	.05	.04	.17**	-.01	—			
18. Job satisfaction	-.01	-.03	-.04	.05	-.02	.05	.02	.04	.06	.04	.14*	.11	-.22**	.17**	.28**	-.31**	.17**	—		
19. Life satisfaction	.01	.10	.05	-.08	.04	-.02	.02	.02	.30**	.20**	.33**	.22**	.05	.34**	.28**	-.49**	.12*	.42**	—	
20. Predicted job performance	-.24**	.07	-.20**	.03	.13*	-.03	.20**	.13*	-.03	.01	-.06	-.05	-.01	.15**	.16**	-.15**	.04	.11	.06	—
21. Predicted retirement age	.39**	-.12*	.04	-.08	-.01	-.03	.05	.08	-.09	.06	-.13*	.03	.29**	.03	.07	-.02	.02	-.04	-.03	.10

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