Successful Motivational Aging at Work: Antecedents and Retirement-Related Outcomes

Margaret E. Beier

Rice University

Alexander C. LoPilato

Ruth Kanfer

Georgia Institute of Technology

Author Note

Margaret E. Beier, Department of Psychology, Rice University; Alexander C. LoPilato, School of Psychology, Georgia Institute of Technology; Ruth Kanfer, School of Psychology, Georgia Institute of Technology.

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Correspondence concerning this article should be addressed Margaret Beier, Department of Psychology, Rice University, Houston, TX 77005. beier@rice.edu.

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Abstract

The current study integrates ideas from the successful aging at work paradigm with theory and research on retirement motivation with a sample of (N=397) mid-life workers ($M_{age} = 52.34$; $SD = 5.87$) over a 16 month period. We conceptualized successful motivational aging at work as a typology of successful, usual, and unsuccessful motivational aging at work and provide empirical support for the validity of this typology. Motivation to work was defined as retirement age and post-retirement work intentions. We found that promotion-focused trait orientation and person-job fit were predictive of successful aging classification and that work centrality and retirement-related attitudes were related to motivation to work outcomes. Successful aging at work classification, however, did not predict motivation to work outcomes, operationalized as intended retirement age and post-retirement work intentions. Our findings provide support for the dynamic process of motivational aging at work and provide evidence that trait and contextual variables can predict this process. Further, we show that retirement decisions are complex and influenced by an array of work and non-work attitudes. (171)

Successful Motivational Aging at Work: Antecedents and Retirement-Related Outcomes

Over the past few decades, theory and research in cognitive aging, developmental life-span psychology, and gerontology has coalesced around the concept of successful aging in later adulthood (Rowe & Kahn, 1997, 2015) and the psychological processes that promote adaptive functioning and well-being across the lifespan, particularly in later adulthood (Baltes & Baltes, 1990; Heckhausen & Schulz, 1995). As progress in these areas continues, there has been growing interest in applying the concept of successful aging to understanding the determinants, processes, and outcomes that support successful aging at work (Kooij, 2015a, 2015b, Zacher, 2015a, 2015b) and in relation to personal and organizational strategies that promote longer working lives by delaying retirement or facilitating post-retirement work (Rudolph & Baltes, 2017; Truxillo, Cadiz, & Hammer, 2015). In organizational and vocational psychology, most empirical research on older workers has focused on the identification of person characteristics and contextual variables as they uniquely affect work motivation, job satisfaction, retirement processes, and employment reentry following retirement. Recent theorizing by Kooij and Zacher (Kooij, 2015a, 2015b; Zacher, 2015a 2015b), however, suggest that the successful aging concept can integrate historically disparate lines of research and advance work-related theories and practice that promote older worker productivity, longevity, and well-being. In particular, both the Zacher and Kooij models define successful aging at work in terms of the pattern or trajectory of intra-individual change in multiple work-related outcomes that occur over the course of one's work life. Further, Zacher's (2015a) model suggests that normative assessments of how successfully one is aging relative to others is an important component of successful aging at work.

Conceptualizing successful aging at work in terms of person characteristics and patterns of experience over the working life span represents a new approach to understanding age-related changes and the determinants and consequences of these changes on work-related variables. Accordingly, the first objective of this study is to empirically examine a basic tenet of successful aging at work models; namely, the existence of a typology based on different trajectories of change over time in the experience of older workers. In this study, we focus on the experience of motivation at work and use latent class analysis to determine whether we can classify workers into meaningful, mutually exclusive groups based on self-perceptions of change in work motivation over a 16-month period. Our method departs somewhat from the successful aging at work paradigm posited by Zacher (2015a) in that we do not examine normative comparisons (e.g., how am I doing compared to others?). Rather, we focus on intra-individual change perceptions (e.g., how am I doing since last year?). In line with the successful aging paradigm (Kooij, 2015a, 2015b; Zacher 2015a, 2015b), we expected to find clusters of workers who reported an increase in work motivation (successful motivational aging), those who reported no change (usual motivational aging), and those who reported an overall decrease (unsuccessful motivational aging). Accordingly, we hypothesized that:

H1: Workers may be classified into distinct types of successful motivational aging based on self-reported change in motivational experience at work.

A second objective of this study is to integrate successful motivational aging at work with prior theory and findings in the motivational literature. Building upon recent theorizing by Kanfer, Beier, and Ackerman (2013), we distinguish between motivation at work and motivation to work. Whereas motivation at work pertains to the impact of person characteristics, contextual factors, and work experiences that affect psychological processes (e.g., goal setting, self-

regulation) that support job performance, studies investigating motivation to work typically encompasses a broader network of person characteristics (work centrality) and contextual factors (e.g., financial resources) that affect decision-making processes (e.g., retirement, return to work).

According to the Kanfer et al. (2013) framework, motivation *at* work pertains to the cognitions, affect, and behaviors directed toward work role accomplishment. By contrast, motivation *to* work concerns the thoughts, feelings, and behaviors related to participate or continue in an observable work arrangement. The distinction between these motivations is particularly important in later adulthood. During early adulthood, motivation at work and motivation to work are often indistinguishable since the motivation to work is strongly supported by cultural norms and financial needs. Among adults nearing normative retirement age, however, changes in motivation at work represent only one of several factors that may affect changes in motivated decisions to retire or return to work following retirement. For example, research in the retirement literature provides evidence for the role of non-work variables, such as health, finances, and retirement attitudes on retirement intentions and post-retirement work intentions (Beehr, 1986; Feldman, 2013; Wang & Shi, 2014; Wang & Shultz, 2010). Although declines in motivation at work are often popularly believed to hasten retirement and increase the strength of retirement intentions, Kanfer et al. (2013) propose that a different (though overlapping) constellation of factors drive motivational processes in the work role and motivated work participation choices. That is, Kanfer et al. (2013) suggest that motivational aging at work may be only weakly related to retirement intentions and motivation to work following retirement, particularly when taking account of non-work variables.

Antecedents of Successful Motivational Aging *at* Work

Our second hypothesis addresses the person and contextual variables that predict the perceived trajectory of motivational change at work over time and associated motivational aging class membership. Numerous studies have examined the person and contextual antecedents of motivation at work, though we found no studies investigating the effects of these antecedents on work motivation trajectories over the working life span. In Kooij's (2015b) model of successful aging at work, proactive behaviors are viewed as crucial for promoting continuous person-job fit, which in turn is proposed to lead to successful aging at work. Proactive behaviors are particularly important for aging workers because people age in idiosyncratic ways (Caspi, Roberts, & Shiner, 2005; Hertzog, Kramer, Wilson, & Lindenberger, 2008). Thus, maintaining or increasing person-job fit cannot be accomplished simply by organization-level interventions that tend toward a one-size-fits all approach. Rather, maintaining or increasing person-job fit and successful aging will require individual workers to be proactive (Kooij, 2015b; Kooij, van Woerkom, Wilkenloh, Dorenbosch, & Denissen, 2017).

We posit that person traits most closely related to proactivity will be positively and significantly related to perceptions of successful motivational aging at work (Kooij, 2015b). From a motivational perspective, such behaviors reflect a positive, promotion-focused orientation toward success and engagement in proactive behaviors through the allocation of resources (e.g., effort, time) toward goal accomplishment (Kanfer et al., 2013). We use a promotion-focused trait measure of motivational orientation as an index of work-related proactivity. Specifically, we hypothesize that individual differences in promotion-focused trait orientation will predict classification of perceived change in work motivation over a one-year period. Although the current study is mainly concerned with the influence of promotion-focused motivational trait orientation on motivational aging classification, we also assess prevention-

focused motivational trait orientation, but do not include specific hypotheses about its relationships to successful motivational aging at work.

H2: Promotion-focused motivational trait orientation will significantly predict motivational aging class membership, such that workers with higher levels of promotion-focused motivational trait orientation will have greater odds of belonging to a successful motivational aging at work class than workers with lower levels of the trait.

As noted previously, person-job fit is a contextual variable that plays a crucial role in Kooij's (2015b) model of successful aging at work. As abilities and motives change with increased age, person-job misfit may increase (Kanfer & Ackerman, 2004). Among older employees, increased person-job misfit is associated with reduced work motivation and job satisfaction (Perry, Dokko, & Golom, 2012). We extend this notion to the successful aging paradigm by examining the relationship between individual differences in perceptions of person-job fit (a composite of need-supplies and abilities-demand fit) and successful motivational aging at work class membership. We hypothesize the following:

H3: Individual differences in perceived person-job fit will significantly predict motivational aging class membership. Employees who perceive themselves as fitting with their jobs will have greater odds of belonging to a successful motivational aging at work class than workers who do not perceive themselves as fitting with their jobs.

Antecedents of Motivation to Work

Successful aging at work models typically have not distinguished between outcomes that occur as part of the working experience (e.g., work motivation) and outcomes related to decisions about working (e.g., retirement intentions; Kooij, 2015b; Zacher, 2015b). The conceptualization of motivation at work, motivation to retire, and motivation to work proposed

by Kanfer et al. (2013) suggests that the person and situational factors that predict the motivational experience at work will be different from those that predict intentions to retire and intentions to work following retirement. In support of Kanfer et al.'s model, meta-analytic findings by Topa and her colleagues (Topa, Moriano, Depolo, Alcover, & Morales, 2009; Topa, Moriano, Depolo, Alcover, & Moreno, 2011) suggest no overlap between person and contextual determinants that predict motivation at work and variables significantly associated with retirement decisions, such as health, retirement attitudes, financial situation, and perceived income. In addition, although meta-analytic findings of age-related normative work motives show a small increase in the strength of intrinsic work motives with advancing age, there is no evidence to support a uniform age-related increase or decline in motivation at work among older adults (Kooij, de Lange, Jansen, Kanfer, & Dikkers, 2011). By contrast, age is positively related to retirement age intentions (older workers are expected to work longer, particularly in jobs with relatively low physical demands; Adams & Rau, 2011; Taylor & Shore, 1995). Taken together, these findings suggest that motivation to retire and motivation to work following retirement likely have different antecedents than motivation at work (see Fisher, Chaffee, & Sonnegg, 2016 for a review). Specifically, transactional variables (e.g., financial planning and one's anticipated financial satisfaction during retirement), retirement attitudes, and more firmly established attitudes about work that develop over the course of a career (e.g., work centrality, an index of how much work is part of identity; Paullay, Alliger, & Stone-Romero, 1994) are expected to significantly predict retirement intentions. Integrating these ideas leads to the following hypotheses:

H4a: Work centrality will be positively associated with intentions to retire at later ages and stronger intentions for post-retirement work.

H4b and H4c: Retirement attitudes will be related to expected retirement age intentions. People who look forward to retirement (positive retirement attitudes) should plan to retire earlier than those who do not (H4b). Conversely, negative retirement attitudes will be positively related to retirement age (H4c).

H4d: Financial preparation and one's anticipated financial satisfaction in retirement will be related to retirement intentions, such that those with more planning and higher anticipated financial satisfaction during retirement will tend to report earlier retirement age intentions.

Successful Motivational Aging at Work, Retirement Intentions, and Motivation to Work

The third issue addressed in this study pertains to the influence of an individual's motivational experience at work on retirement intentions and motivation to work post retirement. In other words, does the experience of successful motivational aging at work predict later retirement age intentions and/or stronger intentions to work following retirement? On the one hand, meta-analytic findings by Topa et al. (2009) indicate that subjective at-work outcomes, such as job satisfaction, do not generally show a significant relationship with retirement intentions. On the other hand, Zacher and Rudolph (2017) found a time-lagged effect of change in job satisfaction significantly predicted retirement intentions. In the Zacher and Rudolph study, an increase in job satisfaction was posited to lead an otherwise disgruntled worker to recommit to working versus retirement; similarly, a decrease in job satisfaction would encourage an otherwise satisfied worker to consider leaving the workforce (Zacher & Rudolph, 2017). From the successful aging at work perspective, it remains unclear whether different patterns of motivational change at work will be related to future employment intentions. For example, although an individual's classification in the successful motivational aging group might be associated with improved job-related outcomes such as job performance, individuals may not

show successful aging at work in terms of employment longevity due to variables exogenous to motivation in the workplace (e.g., positive attitudes about retirement and financial need). In accord with successful aging at work models that emphasize the dynamics of motivation at work, we hypothesize the following:

H5a and H5b: There will be significant differences in retirement age intentions and intentions for post-retirement work across motivational class membership (successful, usual, and unsuccessful motivational aging at work). Individuals in the successful motivational aging group are expected to report later retirement age intentions compared to individuals in the usual or unsuccessful motivational groups (H5a) and they are expected to have stronger intentions for post-retirement work (H5b).

This study contributes to the advancement of new models of successful aging at work research in two ways. First, focusing on a single subjective variable (i.e., work motivation), we provide initial evidence on a key tenet of the successful aging at work framework; namely the existence of a successful aging typology based on differences in the trajectories of self-reported work motivation over time (Zacher, 2015a). Second, we integrate theory and findings from the work motivation and retirement literatures to better understand the relationship between an individual's experience of success in motivational aging at work and retirement intentions.

Method

Participants

Participants were part of a larger two-phase initiative investigating antecedents and consequences of retirement among individuals with similar educational backgrounds. In addition to the measures described below, the project included questionnaires on retirement norms at work and at home, and questionnaires aimed at retirees who were surveyed simultaneously with

the working sample reported here, but who are not part of the current study. A total of 5,325 participants were recruited for the study in January 2009 from a list of Georgia Institute of Technology alumni who had obtained a bachelor's, master's, or doctoral degree between 1965 and 1990 in an engineering field. A total of 1,094 individuals (20.5%) completed the first phase of the project (Time 1 survey). Of this sample, 780 qualified as the focal sample for this study; that is, they reported full-time employment and plans to retire from their current organization (rather than quit their current organization and subsequently work and retire from another organization) at Time 1. Approximately 16 months later (May, 2010), qualified participants who had completed the Time 1 survey were invited via email to participate in Time 2. A total of 397 full-time working participants (50.0% of the Time 1 sample of working participants) completed the Time 2 survey. The age for the final employed sample ranged from 41 to 67, with a mean of 52.34 years ($SD = 5.87$; 86% male). In the final sample, 43.1% reported BA degrees, 49.6% Master's degrees, and 7.3% Ph.D. degrees as their highest level of educational attainment. The sample was largely Caucasian (93.7%), with 2.5% African-American, 1.5% Asian, 1.0% Hispanic, and 1.3% did not report ethnicity. Job tenure ranged from less than one month to 41.8 years ($M = 14.8$ years, $SD = 10.47$).

We used the approach recommended by Goodman and Blum (1996) to examine attrition effects from Time 1 to Time 2. Specifically, we computed a multinomial logistic regression where participation at Time 2 was the dichotomous dependent variable. All predictor variables of interest (approach trait motivation, avoidance trait motivation, work centrality, perceived person-job fit, retirement attitudes, financial planning activity, anticipated financial satisfaction in retirement), and the control variables (health and age) were entered into the logistic regression. This model was not significant ($-2\text{Log Likelihood} = 885.988$, $\chi^2(11) = 4.772$, $p = .94$),

indicating that adding the predictor and control variables to the logistic regression model did not increase the predictive validity of the model for distinguishing participation in Time 2.

Furthermore, the amount of variance in survey response accounted for by this set of predictors was quite small (Nagelkerke $R^2 = .010$). In summary, we are confident that if selective attrition affected our results at all, its effect was quite small (Goodman & Blum, 1996).

Participants reported a wide variety of job titles, with the largest number of respondents reporting jobs in the construction, manufacturing, and goods producing sectors (excluding agriculture; 35%), followed by the professional and business services sectors (27%), government (12%), trade, transportation, or utilities sectors (11%), educational or health services (8%), and leisure, hospitality, or other industry sectors (7%).

Measures

To avoid respondent fatigue, careless responding, and participant attrition we used abbreviated measures when possible. Measure modifications were based on item factor loadings from the original measures when available and on the relevance of item content to our research goals. Unless otherwise indicated, a six-point Likert scale was used for each measure; response options ranged from “strongly disagree” (1) to “strongly agree” (6).

Anticipated financial satisfaction during retirement. Satisfaction with expected retirement income was assessed at Time 1 using two items adapted from a five-item measure (Adams, 1999): “I worry about whether my family income will be adequate when I retire” (reverse-scored), and “I am satisfied with what my standard of living will be when I retire.”

Work centrality. Three items from the twelve-item Work Centrality scale (Paullay et al., 1994) and two items from the six-item Work Involvement Scale (Kanungo, 1982) were used to assess work centrality at Time 1. Sample items include “The most rewarding things that happen

to me involve my work” and “Work is one of the most important aspects of a person’s life.” Because this newly derived work centrality scale had a relatively low internal consistency reliability estimate ($\alpha = .67$), we examined its factor structure with a confirmatory factor analysis (CFA) using MPlus version 7.4 (Muthén & Muthén, 2015). We compared the fit of a model where all items loaded on one factor with a model where the three Paullay et al. (1994) items loaded on one factor and the two Kanungo (1982) items loaded on a separate factor. Neither the one-factor solution ($\chi^2 (5) = 48.67, p < .01$) nor the two-factor solution ($\chi^2 (4) = 46.65, p < .01$) fit the data particularly well (CFI’s below .90, RMSEAs above .10). Poor fit was not surprising given the relatively low internal consistency reliability estimate of the scale; nonetheless, a chi-square test of the difference between the one- and two- factor solutions was not significant ($\Delta \chi^2 (1) = 2.02, p > .05$). As such, we retained the more parsimonious one-factor solution.

Motivational trait orientation. Two measures were developed to assess stable individual differences in motivational traits in the work domain at Time 1. Building on an integration of Higgin’s Regulatory Focus Theory (Higgins, 1997), Kanfer and Heggestad’s (1999) conception of motivational traits, and Dweck’s (1986) distinction between learning/mastery and performance goal orientation, one three-item motivational trait measure was developed to assess the intensity of dispositional tendencies and action preferences toward demonstrating accomplishments and enhancing mastery (achievement motivation). We use the term promotion-focused to describe the direction and content of this motivational trait orientation. Items in this measure are: “I like to take on tasks that offer the opportunity for advancement,” “My greatest work motivation comes from the chance to learn, achieve, or challenge myself,” and “I am eager to take on work tasks that will provide me with opportunities for personal development.”

A second, four-item motivational trait measure was developed to assess stable tendencies at work directed toward avoidance or prevention of negative outcomes and loss. We use the term prevention-focused to describe the direction and content of this motivational trait orientation. Example items are “I am always mindful of how my performance will affect my job security,” and “My number one concern at work is to avoid making a mistake or getting a poor performance evaluation.”

Person-job fit. Fit was assessed at Time 1. Abilities-demand fit was assessed with a five-item measure to assess perceived correspondence between job demands and competencies (Abdel-Halim, 1981). An example item is “I feel that my job uses my full abilities.” Needs-supplies fit was assessed using 8-items from the 16-item Meaning of Work Scale (Mor-Barak, 1995). For each item, participants indicated the extent to which his or her current job offered as much benefit as desired. Sample items are, “My job helps me to feel as worthwhile as I would like to feel” and “My job pays me as much as I would like.” Needs-supplies fit and abilities-demand fit were highly correlated ($r = .67$, $p < .001$) and as such, we created a composite of person-job fit by summing standardized scores for these measures.

Retirement planning activity. Retirement planning was assessed with two scales at Time 1: retirement planning intensity and retirement advice-seeking. The eight-item retirement planning intensity scale was based on a nine-item Financial Planning Activity Scale that was updated for this study to include an array of activities associated with widely available tools (e.g., Internet net-worth calculators and assessments of retirement needs; Stawski, Hershey, & Jacobs-Lawson, 2007). Sample items include “read about investing or financial planning,” and “used a retirement calculator to determine how much I need to retire.” The retirement advice seeking scale included four locally developed items. Sample items include “talked with current

retirees about how to prepare for retirement,” and “talked with an insurance agent or benefits specialist about health insurance or other insurance I might need in late life.” The retirement planning intensity scale and the retirement advice seeking scale were highly correlated ($r = .61, p < .001$), so we combined these two scales into one composite measure of overall retirement planning by summing their standardized scores to simplify the presentation.

Retirement attitudes. Positive and negative retirement attitudes were assessed at Time 1. The item stem was: “People differ in how they view retirement. Regardless of when you plan to retire, indicate the extent to which you agree with each statement. For me, retirement means _____. ” The positive retirement attitude scale was adapted from a list of retirement goals generated in prior research (Brougham & Walsh, 2007); the negative retirement attitude scale was locally developed. Nine items were used to assess positive retirement attitudes and ten items assessed negative retirement attitudes. Sample items include “the opportunity to experience new things” and “having more time to do volunteer work” for positive attitudes and “having fewer opportunities to see other people” and “being bored and not having anything to do” for negative attitudes.

Successful motivational aging at work. On the Time 2 survey, participants indicated the extent to which their “work conditions and work attitudes have changed over the past year” for each of five items. Building on findings from the work motivation literature that highlights the importance of intrinsic motivation (interest, enjoyment, autonomy), fair treatment, and work-role satisfaction as key features of work motivation (see Kanfer, Frese, & Johnson, 2017), we used the following five items to capture these elements of work motivation: 1) job interest, 2) job enjoyment, and 3) freedom to decide what work to do and how to do it, 4) satisfaction with how I am treated, and 5) satisfaction with my work role. For each item, participants were instructed to

indicate their experience over the past year by checking one of three response categories: “increased,” “stayed the same,” or “decreased.” Derivation of the motivational clusters using these five items is described in the Analytic Approach section.

Post-retirement employment intentions. Participants were asked their intentions for post-retirement work with a single question at Time 2, “Some people have chosen to engage in partial retirement where they continue working after their retirement. Do you plan to work after retirement?” Participants answered “yes” (67.3%) or “no” (32.7%).

Retirement intentions. Participants were asked their current expected retirement age (i.e., “All things considered, at what age do you currently expect to retire from your current role?”) at Time 2.

Control variables. We controlled for chronological age and health, which were not central variables to our research questions, but have been repeatedly shown to be related to expected retirement age in prior research (Adams & Rau, 2004; Taylor & Shore, 1995; Topa et al., 2009). General physical health was measured during both times using two items taken from Adams’ (1999) longer health measure: “Generally speaking, my health is very good” and “Overall, I am very satisfied with my health.” A health composite was created by averaging both time points.

Procedure

Participants were recruited via email invitation to participate in a two-phase online survey investigating work and retirement. Participants who completed both Time 1 and Time 2 surveys were entered into a random drawing to win one of ten \$50 cash prizes. To bolster participation at Time 2, participants were also directly compensated \$25 upon completion of the second survey.

Analytic Strategy

We used latent class analysis (LCA) to test our first hypothesis pertaining to group differences in the pattern of motivation experienced at work. Like factor analysis, LCA is a latent variable method that describes the relationships observed among a set of manifest categorical variables by estimating a smaller subset of latent factors. The difference, however, is that the estimated latent factor is categorical rather than continuous. In the context of our study, we hypothesized that a single latent factor with three categories—successful motivational aging, usual motivational aging, and unsuccessful motivational aging—would provide the best description of the relationships among the motivational variables. This hypothesized model would group individuals into three motivational classes; the first class would contain individuals who are more likely to respond that their work motivations improved over the past year (the successful motivational aging group), the second class would contain individuals who are more likely to respond that their work motivations stayed the same over the past year (the usual motivational aging group), and the third class would contain individuals who are more likely to respond that their work motivations declined over the past year (the unsuccessful motivational aging group).

To determine the best latent class model, we estimated a two-class model, a three-class model, and a four-class model. We used the Vuong-Lo-Mendell-Rubin Likelihood Ratio Test, the Lo-Mendell-Rubin Adjusted Likelihood Ratio Test, and the Parametric Bootstrapped Likelihood Ratio Test to compare the different models (Nylund, Asparouhov, & Muthén, 2007; Tofighi & Enders, 2008). Like factor analysis, these tests compare two models where one model is nested within the other complex model. If the nested model provides a similar fit to the complex model, then it is selected as the best-fitting model. We also used a measure of entropy to compare the different models. Entropy summarizes how well any given model classifies

individuals into different groups. Higher measures of entropy (greater than .80, Wang, 2007) demonstrate that the model can accurately classify most individuals into a single class, whereas lower measures of entropy let us know that individuals are equally likely (or nearly so) to belong to two or more classes.

We used Mplus 7.0 (Muthén & Muthén, 2015) to estimate the latent class models. Once we identified the best fitting model, we used it to predict respondent classification. Following this, we used a generalized linear model to estimate the effects each predictor had on the likelihood of belonging to a given latent class. We then used an individual's motivational class membership along with other retirement antecedents to predict retirement intentions and the likelihood of working after retirement.

Results

Latent Class Analysis

To test our first hypothesis -- that we could categorize people in terms of successful, unsuccessful, or usual motivational aging at work -- we conducted an LCA. The results of the LCA are provided in Table 1. As shown in the table, we found that the three-class model fit the data better than the two- or four-class models. Using the unadjusted (the Vuong-Lo-Mendell-Rubin Likelihood Ratio Test) and adjusted (Lo-Mendell-Rubin Adjusted Likelihood Ratio Test) likelihood ratio tests, we found a non-significant difference between the four-class model's likelihood and the three-class model's likelihood (Unadjusted LL Difference = 36.77 and Adjusted-LL Difference = 36.23), supporting the three-class model. The Bayesian Information Criterion (BIC) for the three-class model (2842.24) was also smaller than the BIC for the two-class model (2997.49) and the four-class model (2869.89). Although the Akaike Information Criterion (AIC), the Sample Size Adjusted BIC (SSA-BIC), and the entropy value supported the

four-class model over the three-class model, we decided to retain the three-class model as it provided a more interpretable solution than the four-class model (i.e. the three different classes were clearly distinguishable by their responses to the five items) and subjects were more evenly distributed in the three-class than in the four-class model ($N1 = 65$, $N2 = 109$, and $N3 = 176$ for the three-class model and $N1 = 166$, $N2 = 69$, $N3 = 92$, and $N4 = 23$ for the four-class model).

To provide meaning to the three-class model, we compared the item response probabilities across each class. We found that individuals belonging to the first class were generally more likely to respond that their motivation at work had increased over the last year across all five items with probabilities ranging from .51 (freedom to make decisions at work) to .90 (satisfaction with work role). Individuals belonging to the second class were generally more likely to respond that their motivation at work had decreased over the last year across all five items with probabilities ranging from .45 (freedom to make decisions at work) to .85 (job enjoyment). Individuals belonging to the third class were generally more likely to respond that their work motivation had not changed over the last year across all five items with probabilities ranging from .76 (freedom to make decisions at work) to .93 (satisfaction with work role). Given these patterns of response probabilities, we argue that individuals predicted to belong to the first class are experiencing successful motivational aging, individuals predicted to belong to the second class are experiencing unsuccessful motivational aging, and individuals predicted to belong the third class are experiencing usual motivational aging. Thus, the LCA supports our first hypothesis.

Predicting Successful versus Usual and Unsuccessful Motivational Aging

We used multinomial logistic regression to test Hypothesis 2 (that promotion-focused motivational orientation would be positively related to successful motivational aging at work)

and Hypothesis 3 (that person-job fit would be related to successful motivational aging at work). Like logistic regression, multinomial logistic regression tests how well a given variable can predict a categorical response variable. Unlike logistic regression, however, multinomial logistic regression analyzes a categorical response variable with more than two categories using one of the categories as the reference category. The predictor variables are then used to predict the odds of belonging to the reference category over the remaining categories.

We used the successful motivational aging group as our reference category. We found that as promotion-focused trait orientation increased, so did the odds of belonging to the successful motivational aging group over the usual motivational aging group (Odds Ratio = .84, Table 2). The odds of belonging to the successful motivational aging group over the unsuccessful aging group also increased (OR = .87, Table 2). We also found that as person-job fit increased, so did the odds of belonging to the successful motivational aging group over the unsuccessful motivational aging group (Odds Ratio = .88; Table 2). However, changes in person-job fit did not affect the odds of belonging to the successful motivational aging group over the usual motivational aging group. Prevention-focused trait orientation was unrelated to the odds of belonging to the successful motivational aging group.

To provide a more intuitive understanding of our findings, we created two figures. Figure 1 demonstrates how the predicted probabilities of belonging to the three motivational aging groups change as promotion-focused trait orientation increases while holding the remaining variables constant at their means. As promotion-focused trait orientation increases from our sample's minimum value to its maximum value, the probability that an individual belongs to the successful motivational aging group increases from .04 to .26, whereas the probability that an individual belongs to either the usual motivational aging group or the unsuccessful motivational

aging group decreases from .65 to .45 and from .30 to .28, respectively. Similarly, Figure 2 demonstrates how the predicted probabilities of belonging to the successful motivational aging group, the usual motivational aging group, and the unsuccessful motivational aging group change as person-job fit increases while holding the remaining variables constant at their means. That is, as person-job fit increases from our sample's minimum value to its maximum value, the probability that an individual belongs to the successful motivational aging group increases from .03 to .27, whereas the probability that an individual belongs to the unsuccessful motivational aging group decreases from .79 to .14. Together, these findings provide full support for our second hypothesis and partial support for our third hypothesis.

Predicting Motivation to Work

Means, standard deviations, and inter-correlations of study variables are shown in Table 3. As anticipated, age was positively correlated with anticipated retirement age, meaning that older people expected to retire later. In support of Hypothesis 4a (that work centrality would be positively related to retirement intentions), we found that work centrality was positively correlated with retirement age and post-retirement employment intentions. Also in support of Hypothesis 4b and 4c, we found that retirement attitudes were significantly correlated with retirement age expectations in the expected direction – workers who had negative attitudes about retirement expected to retire at older ages and those who were more positively inclined toward retirement expected to retire at younger ages. In support of Hypothesis 4d, we found that anticipated financial satisfaction in retirement was negatively related to retirement age expectations (people who anticipated being more satisfied with their financial situation in retirement expected to retire earlier versus later) and similarly negatively related to post-

retirement employment intentions (i.e., they were less likely to express intentions to work post-retirement).

Although zero-order correlations are informative, regression permits the examination of the independent effects of each predictor. We used ordinary least squares regression to predict expected retirement age, controlling for age and health. Predictors were retirement attitudes (positive and negative), retirement planning behaviors, anticipated financial satisfaction in retirement, a dummy-coded variable that estimated the mean difference between the usual motivational aging class and the successful motivational aging class, a dummy-coded variable that estimated the mean difference between the unsuccessful motivational aging class and the successful motivational aging class, and work centrality. After controlling for age and health, positive retirement attitudes and anticipated financial satisfaction in retirement remained significant predictors of earlier retirement age expectations. And although no longer related to retirement age expectation, work centrality remained a significant predictor of post-retirement work intentions ($OR = 1.15$, Table 4). Specifically, a unit increase in work centrality increased the odds of working after retirement by 15%. The regression analysis was used to test the effect of successful aging at work classification on retirement age and post-retirement work intentions (Hypotheses 5a and 5b). As shown in Table 4, we did not find a significant effect of motivational class membership on either outcome providing no support for Hypothesis 5.

Discussion

The current study provides support for successful aging at work models that call for greater attention to the dynamics and trajectory of change in key variables that contribute to older worker outcomes. Our findings further contribute to the emerging literature on successful aging at work in four important ways. First, and perhaps most importantly, we provide initial

empirical evidence for differential trajectories of motivational change in the absence of an intervention or job change across a period of 16 months. Specifically, using a sample of professional mid-life employees, results of our latent class analysis showed three distinct groups characterized by differences in perceived patterns of motivational change (successful, usual, and unsuccessful aging at work), supporting the notion that motivational aging is a dynamic process characterized by heterogeneity. Second, we show that motivational class membership, in terms of experienced pattern of motivational change, was predicted by both trait and person-environment fit variables (i.e., promotion-focused motivational orientation and person-job fit). These findings provide support for the idea that both individual and contextual variables influence motivational aging trajectories. Third, although we did not obtain evidence to support the influence of motivational aging class membership on retirement age or post-retirement work intentions, we used Kanfer et al.'s (2013) framework to argue that the impact of motivational aging at work on retirement outcomes may still exist, but that it may be largely eclipsed by other antecedents to retirement-related outcomes (e.g., attitudes about retirement and one's financial situation). Fourth, we think our findings advance the successful aging at work literature by providing an example of how an integration of historically disparate literatures (in this case the motivation and retirement literatures) can inform future research efforts. These findings extend prior research by showing that select person traits and person-job fit are key determinants of differential patterns of motivation experienced at work among older employees.

Findings of the latent class analysis provide initial evidence regarding how employees differ on motivational experiences at work. Half of the workers in the sample were in the declining motivation (unsuccessful aging) group, 31% were in the no motivation change (usual aging) group, and 19% were in the improving motivation (successful aging at work) group. That

is, fully one half of the older workers in the current sample perceived a decline in their work motivation, with many in the unsuccessful motivational aging at work category reporting a decline in job enjoyment. By contrast, the highest probabilities of response among individuals who were classified in the successful and usual motivational aging groups pertained to job satisfaction with their work role, suggesting that unsuccessful motivational aging at work may be associated with a different, more intrinsic aspect of motivation than usual or successful aging at work.

Our model of successful motivational aging departs somewhat from Zacher's (2015a) description of successful aging trajectories that are based on normative comparisons. We argue that people compare their own progress to a time in the past and that these assessments affect attitudes and behavior (i.e., intra-individual assessments). However, we do not include both normative and intra-individual assessments in the current study, so the relative importance of within-person judgments (i.e., How am I doing compared to last year?) versus between-person/normative judgments (i.e., How am I doing compared to others?) remains an interesting future research question

Consistent with the general successful aging at work model proposed by Kooij (2015a), employees higher in promotion-focused trait orientation were more likely to belong to the successful motivational class than to either the usual or unsuccessful groups. We also found that as perceived person-job fit increased, so did the likelihood of belonging to the successful aging class over the unsuccessful aging class, though perceptions of fit did not affect the likelihood of belonging to the successful versus the usual aging classes. Taken together these findings suggest that both person and contextual factors contribute to motivational dynamics among older adults.

An additional aim of this study was to integrate the successful aging at work paradigm with the larger literature on work motivation. Consistent with Kanfer et al.'s (2013) distinction between motivation at work and motivation to retire and to work, we found individual differences in promotion trait focus and perceived person-job fit significantly predicted the motivational experience at work and that more general work attitudes such as work centrality and non-work variables such as behaviors and attitudes related to retirement significantly predicted retirement and post-retirement intentions. Contrary to expectations based on recent findings by Zacher and Rudolph (2017), however, we did not find that motivational class membership (successful, usual, or unsuccessful aging) predicted retirement age or post-retirement work intentions. A number of explanations could account for this null result. It may be that retirement intentions reflect a deliberative, often years-long decision process that takes into account not only the individual's work experience, but also financial resources, company policies, and non-work demands (Kanfer et al., 2013; Wang & Shi, 2014). Although a decline in motivation at work may stimulate thoughts of retiring, changes work motivation may be considered an insufficient reason for changing one's retirement intentions or motivation to work post-retirement. In support of this explanation, and as we expected, we found that anticipated financial satisfaction in retirement and positive attitudes about retirement assessed at Time 1 predicted retirement age intentions at Time 2 and that work centrality predicted post-retirement employment intentions at Time 2 after all other variables were accounted for.

Limitations

This study has several limitations worth noting. First, the sample is homogeneous in gender, race, and industry/job type; that is, it was comprised mainly of white highly educated professionals with engineering degrees. Although there was some heterogeneity in job type –

from construction to education and leisure/hospitality – the sample does not represent the diversity of jobs or workers in the current economy, affecting the generalizability of our results. Generally, most of the jobs held by the highly educated current sample were knowledge jobs. It could be that the relationships found in the current study may be moderated by job type. For instance, financial concerns may play an even greater role in retirement decisions for workers who are less affluent than the current sample (Wang & Shi, 2014). The importance of person-job fit may also be dependent on job type particularly as related to physical job demands and worker abilities because workers in physically demanding jobs may not be as able to compensate for changes in abilities as they would be in jobs that rely more on knowledge for successful performance (Kanfer & Ackerman, 2004). Although the sample limits the generalizability of the study's results, we did find that traits and attitudes predicted successful motivational aging, suggesting further research with a broader sample is needed to examine whether these antecedents generalize across industries, jobs, and workers.

A second limitation is related to the relatively narrow age range of the current sample, which likely served to restrict the range of responses to some of the predictor and outcome variables. Moreover, an age-diverse sample would have permitted examination of the moderating influence of age on the relationship between predictors and outcomes. Although we found evidence that the sample of middle aged and older workers included in the current study can be grouped into successful aging classifications that aligned with Zacher's (2015a) conceptualization of successful aging and we found evidence for antecedents of these classifications, we are not able to examine whether these relationships are moderated by age. Examining interactions with age would have provided a stronger test of the successful aging at

work framework (Zacher, 2015a). Examining whether perceptions of motivational successful aging and its antecedents differ with age is fodder for future research.

Additional limitations of this study are related to its design. Although we collected data over two time points, we did not examine within-person change in study variables over time (see Wang et al., 2017 for a discussion of considerations in longitudinal research). As such, the classification of motivational successful aging at work described in this study was not based on objective change over time, but the individual's retrospective perceptions of how much factors related to intrinsic motivation changed over the past year. This limitation might be considered particularly problematic in examining successful aging at work, in that one might argue that a true test of this framework would require longitudinal assessment (Kooij, 2015a, 2015b; Zacher, 2015a, 2015b). We believe, however, that retrospective perceptions of successful, usual, and unsuccessful aging can be just as – and perhaps more – relevant influences on work-related attitudes and behaviors than actual change in attitudes over time. That is, regardless of whether a person's job interest objectively changes from Time 1 to Time 2, if he or she perceives that it has changed, then that perception should affect current behavior. This idea is aligned with research on perceptions of person-job fit, which is predictive of job satisfaction and performance (Kristof-Brown & Billsberry, 2013). That is, regardless of what objective assessments of fit might indicate, a person's perception of how well he or she fits with a job will represent the idiosyncrasies of job attitudes that may not be captured in more objective assessments. Moreover, subjective assessments of changes in motivation over time should be related to objective assessments. We do not include objective assessments of motivational change, however, so we cannot compare perceptions of change with objectively measured change in the

current study. The importance of using retrospective perceptions versus objective assessments in the subjective aging at work research paradigm remains a question for future research.

A final limitation of the current study is related to some of the measures used. Because the study relied on a relatively long survey with a field sample, we used abbreviated measures to control for participant fatigue and attrition, and single-item indicators were used for some constructs (retirement age intentions and post-retirement employment intentions). It is likely that the use of these abbreviated and single-item measures introduced error and served to attenuate the reliability estimates and correlations reported here. In particular, the reliability of our work centrality and anticipated financial satisfaction in retirement measures were slightly below the generally accepted level of .70. Although we were able to conduct a CFA to confirm that a one-factor work centrality measure was appropriate in the current study, the financial satisfaction in retirement measure comprised only two items, making CFA impossible. Future research can further explore the effects reported here with more refined measures to get a more reliable estimate of effect sizes. We would posit that future research using more reliable measures would show even stronger relationships than those reported here.

Implications

In addition to providing support for tenets of the successful aging at work paradigm relating to trajectories of successful, usual, and unsuccessful aging (Zacher, 2015a), the current study has two practical implications. First, our findings provide further evidence for the role of promotion-focused trait orientation and person-job fit in successful motivational aging at work, supporting prior work by Kooij and others on the benefits of proactivity for job crafting and enhancing successful motivational aging among older workers (Kooij et al., 2017). Our findings suggest that interventions that promote positive retirement attitudes may operate to facilitate

early, rather than later, retirement age intentions, highlighting the promise of job crafting as an effective means of increasing successful motivational aging at work and working longer (Lichtenthaler & Fischbach, 2016).

Second, our results address the antecedents of motivational successful aging at work and suggest that attending to person-job fit with aging workers could increase perceptions of successful aging. It would be interesting to examine how motivational dynamics affect personal well-being or other outcome variables in the successful aging paradigm. It may be, for example, that individuals who experience motivational decline at work are more likely to experience negative affective states and/or reduced productivity relative to individuals experiencing usual or successful aging on the motivational dimension. Future research can examine the relationship between successful motivational aging and these outcomes.

Conclusions

The current study provides support for the successful aging at work paradigm, particularly as related to different trajectories of successful aging at work and the importance of proactive employee attitudes for predicting successful aging. Furthermore, the consideration of successful aging at work was expanded to include retrospective self-perceptions. As such, this study provides initial support for the adoption of a dynamic perspective of successful aging at work in the motivational domain. It also demonstrates the importance of positive assessments of the work environment and promotional traits for successful aging at work. Moreover, the current study highlights the need for future research to examine the best approaches for measuring successful aging at work and to clarify whether and how motivational aging affects other work outcomes of crucial importance to individual, organizational, and societal well-being such as work engagement and retirement decisions.

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Table 1

Results of the Latent Class Analysis Examining Fit for a Two, Three, and Four Class Solution

# Classes	Loglikelihood	AIC	BIC	SSA-BIC	VLMR (p)	LMR (p)	BLRT (p)	Entropy
2	-1437.24	2916.48	2997.49	2930.87	< .01	< .01	< .01	.88
3	-1327.40	2718.79	2842.24	2740.73	< .01	< .01	< .01	.87
4	-1309.00	2704.00	2869.89	2733.47	.11	.11	< .01	.89

Note. AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; SSA-BIC = Sample Size Adjusted Bayesian Information Criterion; VLMR = Vuong-Lo-Mendell-Rubin Likelihood Ratio Test; LMR = Lo-Mendell-Rubin Adjusted Likelihood Ratio Test; BLRT = Parametric Bootstrapped Likelihood Ratio Test.

Table 2

Multinomial Logistic Regression Predicting Successful Aging at Work

	Successful Aging vs. Usual Aging		Successful Aging vs. Unsuccessful Aging	
<u>Predictors</u>	<u>Coefficient (SE)</u>	<u>Odds Ratio</u>	<u>Coefficient (SE)</u>	<u>Odds Ratio</u>
Intercept	3.44* (1.94)	31.19	5.16* (2.14)	174.16
Age	.03 (.03)	1.03	.02 (.03)	1.02
Prevention	-.03 (.04)	.97	.03 (.04)	1.03
Promotion	-.17* (.07)	.84	-.14* (.08)	.87
Person-Job Fit	-.04 (.03)	.96	-.13** (.03)	.88
Null AIC = 719.16, Model AIC = 692.11;				
Model Fit	Null Deviance = 715.16, Model Deviance = 672.11			

Note. * $p < .05$, ** $p < .01$. N = 350. AIC = Akaike Information Criterion.

Table 3

Means, Standard Deviations, and Intercorrelations of Study Variables with Internal Consistency Reliability Estimates (α) on the Diagonal

	Mean	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Age	52.34	5.87	--										
2. Health	9.90	1.86	.03	(.85)									
3. Prevention	12.45	4.12	-.11*	-.13*	(.74)								
4. Promotion	14.60	2.46	-.10	.13*	-.01	(.70)							
5. Work Centrality	15.95	7.18	.26**	.09	-.16**	.16**	(.67)						
6. Person-Job Fit	29.47	5.58	.06	.13*	-.17**	.28**	.40**	(.91)					
7. Neg. Ret. Att.	27.33	8.40	.08	-.16**	.16**	-.04	.26**	-.03	(.83)				
8. Pos. Ret. Att.	39.44	5.24	-.11*	.03	.17**	.12*	-.28**	.04	-.33**	(.72)			
9. Ret. Planning	31.25	9.59	.23**	.09	.07	.01	-.03	.08	-.11*	.24**	(.85)		
10. Fin. Sat. in Ret.	7.76	2.15	-.07	.25**	-.38**	.03	.15**	.25**	-.28**	.01	.10*	(.63)	
11. Exp. Ret. Age	63.65	4.75	.30**	.02	.06	.12*	.16**	.04	.15**	-.21**	-.05	.82**	--
12. Post-Ret Emp.	.68	.47	.02	-.02	.04	.08	.22**	.06	.13*	-.07	-.03	.18**	.10

Note. * $p < .05$, ** $p < .01$. N = 348. Ret. = retirement; Neg. Ret. Att. = negative retirement attitudes; Pos. Ret. Att. = positive retirement attitudes; Fin. Sat. in Ret. = anticipated financial satisfaction in retirement; Exp. Ret. Age = expected retirement age at Time 2; Post-Ret. Emp. = intentions for post-retirement employment (1 = yes and 0 = no)

Table 4

Models Predicting Retirement Intentions and Post-Retirement Work Intentions

	Expected Retirement T2	Post-Ret. Work Intentions	
<u>Predictors</u>	<u>Coefficient (SE)</u>	<u>Coefficient (SE)</u>	<u>Odds Ratio</u>
Intercept	59.24** (3.72)	-.60 (1.11)	.55
Age	.22** (.04)	-.01 (.02)	.99
Health	.16 (.13)		
Positive Retirement Attitudes	-.12* (.05)		
Negative Retirement Attitudes	.01 (.03)		
Retirement Planning	-.05 (.03)		
Financial Satisfaction in Retirement	-.44** (.12)		
Usual Aging – Successful Aging	-.23 (.65)	-.53 (.33)	.59
Unsuccessful Aging – Successful Aging	-.57 (.70)	.37 (.38)	1.45
Work Centrality	.08 (.06)	.14** (.03)	1.15
Model Fit	R ² = .68 (.17 when Exp. Ret. T1 is not included)		Null Deviance = 438.74, Model Deviance = 409.96

Note. $p < .05^*$, $p < .01^{**}$. N = 348. Exp. Ret. T1 = expected retirement age at Time 1. To test the effect of motivational aging class, we used two dummy-coded variables that compared Usual Aging (1) to Successful Aging (0) and Unsuccessful Aging (1) to Successful Aging (0).

Figure 1. Predicted relationship between promotion-focused motivational trait orientation and the probability of latent motivational class membership.

Figure 2. Predicted relationship between perceived person-job fit and the probability of latent motivational class membership.