Psychology and Aging

Are Work Characteristics Related to Personality Development During the Retirement Transition?

Lena Schimanski, Johanna Hartung, and Gizem Hülür

Online First Publication, August 28, 2025. https://dx.doi.org/10.1037/pag0000937

AMERICAN PSYCHOLOGICAL ASSOCIATION

Psychology and Aging

ISSN: 0882-7974

https://doi.org/10.1037/pag0000937

Are Work Characteristics Related to Personality Development During the Retirement Transition?

Lena Schimanski, Johanna Hartung, and Gizem Hülür
Department of Psychology, University of Bonn

Work is one major developmental context in adulthood, as most adults spend considerable time at work. Retirement causes extensive changes in social contexts, daily routines, and individuals' identity. Little is known about how work characteristics are associated with personality trajectories, especially during the retirement transition. In the present study, we examined associations between changes in Big Five personality traits during the retirement transition and work environment characteristics (autonomy, skill discretion, and demands) as well as work effort. Based on three-wave longitudinal data from the Midlife in the United States study, we identified $n = 286$ adults (50–77 years, $M = 57.83$, $SD = 5.00$; 51% women), who retired during the study period, and a control group who did not retire ($n = 260$, 50–71 years, $M = 54.28$, $SD = 3.82$; 54% women). We analyzed data using latent change score models. The measurement model for conscientiousness was not time-invariant, therefore mean differences could not be analyzed. Significant mean-level decreases were found for neuroticism in both groups and for openness in retirees. There were only few significant associations between preretirement work characteristics and personality change: In retirees, higher preretirement skill discretion was associated with greater neuroticism decline and higher autonomy with less openness decline. In nonretirees, higher autonomy was associated with greater decline in extraversion. These findings suggest that work characteristics are not a major influence on personality trait changes during the retirement transition. Possible explanations and research desiderata concerning personality development in the context of retirement are discussed.

Public Significance Statement

In the present study, retirement had no significant long-term impact on mean-level personality changes. Retirees showed declines in neuroticism and openness and nonretirees showed decline in neuroticism, while extraversion and agreeableness remained stable in both groups. Preretirement work characteristics and subjective work effort were hardly associated with personality changes. Future studies should focus on sources of interindividual differences in personality change trajectories and in the subjective experience of the retirement transition.

Keywords: retirement, lifespan development, personality change, work characteristics, work effort

Supplemental materials: https://doi.org/10.1037/pag0000937.supp

A growing body of research provides evidence for personality trait change across the entire lifespan (Bleidorn et al., 2022; Graham et al., 2020; Seifert et al., 2024). This research is mostly focused on the five factor model of personality, including the dimensions of neuroticism (emotional stability), extraversion, openness to experience, agreeableness, and conscientiousness (McCrae & Costa, 2008). Understanding the sources of personality changes can improve models of personality development. Personality traits are related to important life outcomes in multiple domains, including work, interpersonal relationships, and health (e.g., Soto, 2021). Research on personality change is scarce in midlife and early old adulthood. Studying personality development during the retirement transition

Hannes Zacher served as action editor.
Lena Schimanski https://orcid.org/0000-0002-2856-0830
Johanna Hartung https://orcid.org/0000-0002-6392-4468
Gizem Hülür https://orcid.org/0000-0002-9225-3878

The data analysis scripts are openly accessible at https://osf.io/8hyd6/ (Schimanski et al., 2025). Detailed information about the Midlife in the United States study (study procedures, samples, materials, and data) can be found at https://www.midus.wisc.edu. The current project was presented at the 53rd Congress of the German Psychological Association in September 2024. The authors have no conflicts of interest to declare.

Lena Schimanski played a lead role in conceptualization, formal analysis, visualization, writing–original draft, and writing–review and editing. Johanna Hartung played a supporting role in formal analysis and writing–review and editing. Gizem Hülür played a lead role in supervision, a supporting role in formal analysis and writing–review and editing, and an equal role in conceptualization.

Correspondence concerning this article should be addressed to Lena Schimanski, Department of Psychology, University of Bonn, Kaiser-Karl-Ring 9, 53111 Bonn, Germany. Email: lena.schimanski@uni-bonn.de

can offer insights on successful aging, since personality guides adaptational and health behaviors and is related to well-being, mental, and physical health (Infurna et al., 2020; Lachman, 2015; Pocnet et al., 2021). With the growing number of retirees in developed countries and the prolonged retirement phase due to increasing life expectancy (Walker, 2010), studying this life phase is crucial to enhance health and well-being in midlife and old adulthood.

One way to better understand personality development is to explore contextual influences. This article focuses on work as a key developmental context in adulthood. Some studies suggest reciprocal links between personality changes and work characteristics (e.g., Li et al., 2014; Wille et al., 2014; Wu, 2016). Work environments may shape personality development by creating demands and affordances that trigger personality trait-related behaviors, as well as changes in attitudes, priorities, and values. This may ultimately lead to personality trait changes (Dawis & Lofquist, 1984; Tett & Burnett, 2003; Woods et al., 2019). While research on personality changes during retirement is growing, findings of the few longitudinal studies remain heterogeneous. Preretirement work characteristics likely influence personality changes with retirement by affecting the direction and magnitude of changes in daily life after retirement (Henning et al., 2024). Job characteristics such as skill discretion, autonomy, and demands provide a context for developing competencies and resources for retirement adaptation, potentially leading to differential personality trajectories (Wang et al., 2011). Past research already showed associations of preretirement work characteristics with health and well-being in retirement (van den Bogaard et al., 2016; Wang, 2007).

The present study contributes to existing research in two ways. First, we examine potential sources of differential personality trajectories across the retirement transition, rather than just mean-level changes. Second, we focus on subjective work characteristics as predictors of personality changes, connecting research on work-personality associations with retirement-related personality changes. While studies on the role of work characteristics for workers' personality focus on continuous effects of work environments, this study on the role of preretirement work characteristics on retirees' personality is focused on the effects of the loss of work environments. We focus on subjective perceptions, as individuals may experience identical work situations differently depending on past experiences and psychological characteristics (Judge et al., 2000; Schmitz et al., 2019). For example, role status alone is less informative for personality changes than one's investment in and identification with that role (Hudson & Roberts, 2016; Hudson et al., 2012; Lodi-Smith & Roberts, 2007; Roberts et al., 2005). Furthermore, Schmitz et al. (2019) showed that subjective evaluations of work environments are associated more strongly with personal resources, psychological, and personality factors, while objective measures showed stronger associations with sociodemographic factors. Past research has also highlighted the relevance of subjective work characteristics for retirement-related decisions and experiences (e.g., Hudomiet et al., 2021; Sonnega et al., 2018). To our knowledge, the present study is among the first to examine the role of subjective preretirement work characteristics for personality trait changes in association with retirement using longitudinal data from a population-based sample. With this approach, we aim to understand the sources of personality development in the transition from midlife to early old age and to help reconcile mixed findings by identifying potential moderators of individual differences in personality change.

Personality Trait Changes in Midlife and Early Old Adulthood

Mean-level changes in personality traits are pronounced in young and old adulthood, but moderate changes can also be found in middle to early old adulthood. Across midlife and early old adulthood neuroticism, extraversion and openness tend to decrease or remain stable, while agreeableness and conscientiousness mostly increase or remain stable (e.g., Bleidorn et al., 2022; Graham et al., 2020; Roberts et al., 2006; Seifert et al., 2024; Stahlhofen et al., 2024). Of course, these trajectories represent average change patterns. Many studies documented significant variability in personality trait changes across the lifespan (Graham et al., 2020; Schwaba & Bleidorn, 2018), highlighting the importance of investigating contextual factors in personality development.

Age-related changes in life circumstances and (normative) life events, like retirement, divorce or unemployment, that necessitate adaptive processes may drive personality trait changes (Bleidorn et al., 2018; Dugan et al., 2024; Specht et al., 2011). There is more research on normative life events in younger adulthood, resulting in limited data on how life events affect personality development in middle and early old adulthood. This results in a deficient foundation for evaluating theories of personality development in older age ranges (Schwaba & Bleidorn, 2019).

Personality Development in the Context of Work and Retirement

In middle to old adulthood, retirement represents an impactful normative life event. Personality traits influence retirement experiences through emotional evaluations, motivational processes, and coping strategies (McCrae & Costa, 2008). Conversely, retirement can trigger and accelerate personality development, as individuals establish new structures and navigate substantial life changes, including loss of work roles and resources, development of new routines, changes in social contacts, and redefinition of identity and goals (Wang & Shi, 2014). Such changes trigger adaptational processes to maintain and enhance well-being and health and adjust to life without work (Henning et al., 2016), including distancing from work, taking on new roles, dealing with new and unclear expectations, and navigating challenges and possibilities of the new life phase (Wang & Shi, 2014).

Several theories offer explanations how retirement may shape personality development in adulthood. Changes in personality traits can arise from changes in daily thoughts, feelings, and behavior. The Triggering situation, Expectancy, States/State expression, Reaction framework describes how repeated short-term processes can lead to long-term changes (Wrzus & Roberts, 2017). Daily situations or events can trigger trait relevant expectancies and/or states (thoughts, feelings, and behaviors) leading to internal and external reactions. If these states and reactions conflict with existing personality traits and are experienced repeatedly, they can alter self-views and personality via reflective and associative learning processes. For instance, a diligent worker who enjoys relaxed retirement activities and receives social rewards for flexible, nonperfectionist behaviors, may experience decreased conscientiousness.

The social investment principle (Roberts et al., 2005) implies that Triggering situation, Expectancy, States/State expression, Reaction components are related to people's social roles, which are linked to certain expectations and self-views that guide behavior. Age-graded

normative changes and life events alter roles and demands, potentially changing personality traits, especially if someone is highly invested in a role. Studies confirm greater personality changes with higher investment (Hudson & Roberts, 2016; Hudson et al., 2012; Lodi-Smith & Roberts, 2007). Work contexts often imply clear behavioral expectations, for example, to be reliable, friendly, ambitious. Therefore, retirement may particularly affect traits most relevant for these expectations, for example, conscientiousness or agreeableness (Asselmann & Specht, 2021; Lodi-Smith & Roberts, 2007; Nye & Roberts, 2019).

Marsh et al. (2013) introduced the "La dolce vita" effect regarding personality changes during the retirement transition contrasting the maturation principle at the beginning of working life. While work demands and expectations increase conscientiousness and extraversion and decrease neuroticism (Roberts & Wood, 2006), retirement's reduced pressure and relaxation of demands and expectations may lead to behavioral and personality "relaxation," characterized by increases in agreeableness and decreases in neuroticism, extraversion, openness, and conscientiousness (Marsh et al., 2013).

Retirement lacks clear behavioral and role expectations, which can result in uncertainty in the adaptation process (Freund et al., 2009; Schwaba & Bleidorn, 2019). The paradoxical theory of personality coherence (Caspi & Moffitt, 1993) states that in new situations without knowledge of adequate behavior, people rely on environmental information to guide their actions. In environments with clear information on and high pressure to show specific behavior, behavioral adaptations are most likely, which in turn facilitate personality trait change. Without such pressure, people will probably act consistent with their personality, promoting trait continuity. During the retirement transition, three scenarios may occur: First, environmental cues and presses may guide behavior while accommodating to this new life phase and lead to mean-level personality trait changes if many people experience similar presses and adaptational processes. Second, the experience of different presses and adaptational processes could result in high interindividual differences in change. Third, the retirement transition may enhance personality trait continuity, if people do not experience such environmental presses (Schwaba & Bleidorn, 2019).

People adapt differently to retirement, as evidenced by interindividual differences in well-being trajectories (Henning et al., 2016, 2024; Wang, 2007; Weber & Hülür, 2021). This likely extends to personality changes with retirement, but interindividual differences and contributing factors remain understudied. Research has shown that preretirement work characteristics, such as job stress, physical demands, and job satisfaction, are related to retirement outcomes, including health and well-being. For instance, van den Bogaard et al. (2016) found health improvements after retirement only in adults with high job stress. Also, adults with low job satisfaction and physically demanding and stressful jobs experienced increases in well-being (Wang, 2007). Consequently, the work context may impact personality development during retirement. Henning et al. (2024) found that job type (blue-collar vs. white-collar) was unrelated to personality trait development during the retirement transition. It is necessary to further explore preretirement work contexts and to consider a diverse range of work-related variables.

Theories on personality development at work, like the theory of work adjustment (Dawis & Lofquist, 1984), trait activation theory (Tett & Burnett, 2003), and the Demands-Affordances TrAnsactional model (Woods et al., 2019), all state that personality traits can be shaped by work-related demands and affordances by activating specific trait-related behaviors. Through continuing adjustment to achieve correspondence with the work environment, motivated for example, by personal goals or rewards, new behaviors can be reinforced, potentially changing attitudes, priorities, values, and ultimately personality traits. Thus, work environments may shape personality development before retirement, thereby influencing the personal conditions of entering the retirement phase.

Following the resource-based dynamic model of retirement adjustment (Wang et al., 2011), various resources (e.g., physical, cognitive, motivational, financial, social, and emotional) may affect developmental trajectories across the retirement process. In this study, we focus on three central work environment characteristics well studied in industrial, work, and organizational psychology—skill discretion, autonomy, and demands—because they may influence the direction and magnitude of changes in daily life after retirement and are associated with competencies and resources for coping with retirement transitions.

Integrating theories of work-related and retirement-related personality development could offer new insights into potential sources of differential developmental trajectories. Research on associations of work characteristics with personality changes is scarce, and there is even less research focusing on midlife. Work environments create different demands and affordances for trait-related behaviors, attitudes and values, and influence work role investment (Schaufeli, 2016; Tabak et al., 2021; Woods et al., 2019). Work characteristics determine the quality and quantity of behavioral presses in the preretirement phase and thus the magnitude and direction of changes that retirement brings about for daily life, thereby creating a frame for the extent of potential personality changes. For example, if individuals had very stressful jobs, retirement would be associated with a less stressful daily life resulting in a positive change (van den Bogaard et al., 2016; Wang, 2007; Wang et al., 2011). Thus, the level of demands at work before retirement could, for example, have differential effects on neuroticism trajectories across the retirement transition. While higher work stress and demands are linked to increases in neuroticism in working adults (Wu, 2016), higher preretirement work stress may be associated with stronger decreases in retirement after leaving the straining work environment. High work investment may strengthen associations between preretirement work characteristics and personality changes across the retirement transition because behavior, attitudes, values, and identity are more strongly defined by work-related situations and processes (Lodi-Smith & Roberts, 2007).

Past Findings on Personality Trait Changes Associated With Retirement

There is a small but growing body of research examining Big Five trait development longitudinally across the retirement transition. Findings are heterogeneous, likely due to differing methodological approaches. Table 1 summarizes characteristics of eight published studies on personality change with retirement. Studies typically examined all of the Big Five traits, with the exception of Mroczek and Spiro (2003), who only examined neuroticism and extraversion, and Henning et al. (2024), who could not examine agreeableness trajectories due to a lack of measurement invariance across retirees and nonretirees.

Table 1

Overview of Past Research on Personality Trait Development Across the Retirement Transition Ordered by Year of Publication

Publication	Country	Data	Sample	Baseline age	Statistical analyses	Measurement	Personality scale
Mroczek and Spiro (2003)	United States	Normative Aging Study	$N_{retirees}$ = 1,663 ♀ = 0%, ♂ = 100%	43–91 $M_{retirees}$ = 63.00 *SD* = 8.00	Regressions of personality trait changes on retirement status	Up to five waves (1988, 1991, 1992, 1993, 1996, 1999)	Eysenck Personality Inventory short form (Eysenck & Eysenck, 1968; Floderus, 1974), 18 items
Löckenhoff et al. (2009)	United States	East Baltimore Epidemiologic Catchment Area Study	$N_{retirees}$ = 63 ♀ = 64%, ♂ = 36% $N_{nonretirees}$ = 304 ♀ = 62%, ♂ = 38%	$M_{retirees}$ = 60.59 *SD* = 7.83 $M_{nonretirees}$ = 51.13 *SD* = 5.80	Regressions of personality trait changes on retirement status	Two waves, 9 years apart (1995, 2004)	Revised Neuroticism-Extraversion-Openness Personality Inventory (Costa & McCrae, 1992), 240 items
Specht et al. (2011)	Germany	SOEP	$N_{retirees}$ = 693 ♀ = 54%, ♂ = 46%	$M_{retirees}$ = 59.15 *SD* = 6.26	Regressions of personality trait changes on retirement status	Two waves, 4 years apart (2005, 2009)	German BFI-S (Gerlitz & Schupp, 2005; John et al., 1991; Lang et al., 2001), 15 items
Schwaba and Bleidorn (2019)	Netherlands	Longitudinal Internet Studies for the Social Sciences	$N_{retirees}$ = 690 ♀ = 40%, ♂ = 60% $N_{nonretirees}$ = 532 ♀ = 50%, ♂ = 50%	51–81 $M_{retirees}$ = 64.41 *SD* = 3.61 17–90 $M_{nonretirees}$ = 59.22 *SD* = 6.92	Comparison of mean-level changes before, during and after the retirement transition between retirees and nonretirees	Up to six waves, 1 year apart (between 2008 and 2015)	IPIP (Goldberg, 1992), 50 items
Hansson et al. (2020)	Sweden	Health, Ageing, and Retirement Transitions in Sweden	$N_{retirees}$ = 796 ♀ = 57%, ♂ = 43%	60–66 $M_{retirees}$ = 62.93 *SD* = 1.60	Analyses of mean-level changes in retirees	Up to four waves, 1 year apart (2015–2018)	Mini IPIP (Donnellan et al., 2006), 20 items
Asselmann and Specht (2021)	Germany	SOEP	$N_{retirees}$ = 2,592 ♀ = 44%, ♂ = 56%	$M_{retirees}$ = 62.76 *SD* = 3.84	Regressions of personality trait changes on retirement status	Up to four waves, 4 years apart (2005, 2009, 2013, and 2017)	German BFI-S (Gerlitz & Schupp, 2005; John et al., 1991; Lang et al., 2001), 15 items
Dugan et al. (2024)	United States	yourPersonality Project	$N_{retirees}$ = 49		Analyses of postevent slopes in retirees	On average 6.67 waves, approx. 1 month apart	Mini IPIP (Donnellan et al., 2006), 20 items
Henning et al. (2024)	Norway	Norwegian Life Course, Ageing and Generation Study	(a) $N_{retirees,\ blue}$ = 194 ♀ = 52%, ♂ = 48% (b) $N_{retirees,\ white}$ = 332 ♀ = 50%, ♂ = 50% (c) $N_{nonretirees,\ blue}$ = 284 ♀ = 45%, ♂ = 55% (d) $N_{nonretirees,\ white}$ = 453 ♀ = 45%, ♂ = 55%	52–67 (a) *M* = 58.01 *SD* = 2.89 (b) *M* = 58.62 *SD* = 2.94 (c) *M* = 55.23 *SD* = 2.94 (d) *M* = 55.33 *SD* = 3.12	Comparison of mean-level changes between four groups: blue-/white-collar retirees and blue-/white-collar nonretirees	Two waves, 10 years apart (2007, 2017)	Norwegian Big Five Inventory short form-20 (Engvik & Clausen, 2011; John et al., 1991), 20 items

Note. SOEP = socioeconomic panel; BFI-S = Big Five Inventory short form; IPIP = international personality item pool.

Three studies found no significant changes in neuroticism across the retirement transition (Asselmann & Specht, 2021; Löckenhoff et al., 2009; Specht et al., 2011), whereas five studies reported significant declines (Dugan et al., 2024; Hansson et al., 2020; Henning et al., 2024; Mroczek & Spiro, 2003; Schwaba & Bleidorn, 2019). Only Dugan et al. (2024) found an effect of retirement on change in neuroticism; Henning et al. (2024), Mroczek and Spiro (2003), and Schwaba and Bleidorn (2019) found no differences in change between retirees and nonretirees.

For extraversion, most studies reported stability (Asselmann & Specht, 2021; Hansson et al., 2020; Henning et al., 2024; Mroczek & Spiro, 2003; Schwaba & Bleidorn, 2019; Specht et al., 2011). Only Dugan et al. (2024) found decreases in extraversion after retirement, and Löckenhoff et al. (2009) found decreases in the activity facet of extraversion in retirees compared to nonretirees.

Most studies found no significant changes in openness (Asselmann & Specht, 2021; Dugan et al., 2024; Hansson et al., 2020; Löckenhoff et al., 2009; Specht et al., 2011). Henning et al. (2024) reported similar declines in retirees and nonretirees. Schwaba and Bleidorn (2019) found decreases in openness shortly before retirement, a small increase in the month after and then gradual decreases over 5 years, while nonretirees showed declines over the whole study period.

Regarding agreeableness, Asselmann and Specht (2021), Hansson et al. (2020), and Specht et al. (2011) found no significant changes. Dugan et al. (2024) and Löckenhoff et al. (2009) reported retirement-related increases in agreeableness (and the compliance facet). Schwaba and Bleidorn (2019) documented stability in agreeableness shortly before retirement, increases shortly afterward and declines over the following 5 years, while nonretirees showed continuous mean-level stability.

For conscientiousness, Dugan et al. (2024), Hansson et al. (2020), Henning et al. (2024), and Schwaba and Bleidorn (2019) found no significant changes across the retirement transition. Specht et al. (2011) and Asselmann and Specht (2021) reported short-term and long-term decreases in conscientiousness after retiring, and Löckenhoff et al. (2009) found a decrease in the self-discipline facet.

Taken together, previous research shows mixed evidence for mean-level personality changes with retirement. In addition, several studies reported significant individual differences in changes for all traits, suggesting high variability in change patterns (Dugan et al., 2024; Henning et al., 2024; Mroczek & Spiro, 2003; Schwaba & Bleidorn, 2019).

Past Findings on Personality Trait Changes Associated With Work Characteristics

Past research has found differential associations of the key work characteristics skill discretion, autonomy, and demands as well as work effort with personality trait levels and changes. Since there is not much research on the exact constructs examined in the present study, studies that examined other related constructs that hint at relevant associations are also reported. Jobs with high skill discretion may require high skill levels or expertise, learning new things, and dealing with diverse, subjectively interesting topics. As such, corresponding jobs are more complex and stimulating (Oltmanns et al., 2017; Staudinger et al., 2016). Previous research has documented that work complexity and innovation were positively related to openness levels and changes (Kohn & Schooler, 1978, 1982; Nieß & Zacher, 2015). While in past studies openness remained stable or decreased during the retirement transition, higher skill discretion may promote stability or smaller declines, as these jobs foster engagement with new, complex, and challenging activities, and this tendency might translate to the postretirement phase. On the other hand, openness could decrease more strongly for people with high skill discretion jobs, if related demands cease and the individual reduces engagement in complex tasks and activities. Furthermore, Stahlhofen et al. (2024) found an association between the related construct of higher job innovation (variety in work activities) and smaller decreases in neuroticism over time in middle-aged adults. Because higher job innovation was related to lower levels of neuroticism at baseline, it was argued that people with high job innovation had less potential for normative decreases in neuroticism.

In previous studies, job autonomy has also been referred to as self-determination, self-direction, decision latitude, decision authority or job control. Higher job autonomy has been associated with higher levels of and increases in agentic positive emotionality (consisting of achievement and social potency, reflected in ambition, enjoyment of overcoming challenges, being forceful, and decisive), which overlaps with facets of conscientiousness and extraversion (Le et al., 2014; Roberts et al., 2003), and with increases in openness (Nieß & Zacher, 2015). Kohn and Schooler (1978, 1982) also reported associations between level of and change in self-direction with level of and change in ideational flexibility (openness). Similarly, higher job control predicted increases in openness and decreases in agreeableness and increases in job control predicted increases in openness, conscientiousness, and agreeableness (Wu, 2016). Contrarily, Holman and Hughes (2021), Stahlhofen et al. (2024), and Sutin and Costa (2010) did not find significant associations of autonomy with personality trait changes. Based on these findings, it is possible that if people held highly autonomous jobs, leaving their work roles may make them less extraverted. On the other hand, they could continue to take on roles that foster extraversion. As with skill discretion, higher job autonomy may support stability or smaller declines in openness because high autonomy jobs often entail complex tasks and cognitive stimulation, and people may continue to create such environments and engage in cognitively stimulating activities in retirement. On the other hand, without job environments and demands that foster higher autonomy, openness could decrease more strongly in retirement. In addition, high autonomy jobs often involve greater responsibility and tough decisions. As agreeableness may be more important and rewarded more often in retirement (Schwaba & Bleidorn, 2019), higher job autonomy may be related to increases in agreeableness after retirement. For many people, retirement reduces the pressure to be conscientious, which could result in declines of conscientiousness (Asselmann & Specht, 2021; Löckenhoff et al., 2009; Schwaba & Bleidorn, 2019; Specht et al., 2011). This decline may be more pronounced among individuals with higher job autonomy, given its positive association with levels of and changes in conscientiousness.

Job demands are closely linked to job stress, which has been found to predict increases in neuroticism and decreases in extraversion and conscientiousness (Wu, 2016). Work stress also correlates with increases in negative emotionality. Conversely, increases in conscientiousness associated with the transition into leadership roles were

mediated by increasing job demands (Li et al., 2021). Furthermore, higher psychological work demands were related to increases in extraversion (Sutin & Costa, 2010). Holman and Hughes (2021) reported associations of higher work demands with increases in openness, agreeableness, and extraversion, whereas Stahlhofen et al. (2024) found no associations between a global measure of job stress and personality trait changes. Leaving a high-demand, high-stress work context could be experienced as a relief and result in greater decreases in neuroticism. Findings on associations of job demands and changes in extraversion are mixed. On the one hand, if work demands resulted in individuals being less sociable and active, leaving the work context may result in a reversal of this trend. On the other hand, if work demands required individuals to become more extraverted, a lack of those demands could result in decreases of extraversion in retirement. Similarly for conscientiousness, if high job stress and pressure lead to decreasing conscientiousness, higher job demands could be related to stability or less decline in conscientiousness in retirement. Then again, if higher job demands, for example, associated with leadership roles, fostered higher conscientiousness, a loss of those demands could result in stronger decreases in conscientiousness in retirement.

In addition, based on the social investment principle (Roberts et al., 2005), the investment in work roles may be a driver of personality trait changes associated with work characteristics. Lodi-Smith and Roberts (2007), Hudson et al. (2012), and Hudson and Roberts (2016) found positive associations of social investment at work with levels of and changes in agreeableness, conscientiousness, and emotional stability. In retirement, higher investment in work roles may lead to greater changes in everyday life as individuals shift their focus from work tasks to other life domains and seek new sources of meaning. In contrast, a person with low work investment may have already invested more time and found meaning in other life domains prior to retirement.

The Present Study

This study adds to existing research by examining sources of individual differences in personality development across the retirement transition in midlife to early old adulthood. The role of subjective work characteristics and work effort in personality development has not yet been explored in the context of losing the work environment. We analyze longitudinal data from the Midlife in the United States (MIDUS) study, focusing on three central work environment characteristics: skill discretion, autonomy, and work demands. Furthermore, we include subjective work effort to examine if investment in work roles influences personality development during the retirement transition as proposed by the social investment principle (Hudson & Roberts, 2016; Hudson et al., 2012; Lodi-Smith & Roberts, 2007; Roberts et al., 2005). In addition, we analyze if work effort moderates the relationship between preretirement work characteristics and personality changes. We include a nonretired control group in our analyses to differentiate retirement-related personality trait changes from age-graded normative changes (Henning et al., 2024; Schwaba & Bleidorn, 2019).

This exploratory study aims to examine the research questions whether Big Five personality traits change in association with retirement and if work characteristics and work effort influence these trends. Because past research has resulted in heterogeneous findings, we did not derive specific hypotheses regarding change patterns of Big Five traits across the retirement transition in association with specific work-related factors.

Method

Transparency and Openness

We used deidentified publicly available data from the MIDUS study. Detailed information about study procedures, samples, materials, and data can be found at www.midus.wisc.edu. The study design, hypotheses, and analytic plan were not preregistered. We report how we determined our sample size, any data exclusions, all manipulations, and all study measures in this study. Since our project titled "Are Work Characteristics Related to Personality Development During the Retirement Transition?" conducted at the Department of Developmental and Educational Psychology, University of Bonn, Germany, is based on secondary data analysis, the present study is exempt from institutional review board approval. Analyses were performed with R Version 4.4.1 (R Core Team, 2024). Latent change score models were estimated with *lavaan 0.6–18* (Rosseel, 2012). R-code and outputs are openly accessible at https://osf.io/8hyd6/ (Schimanski et al., 2025).

Participants and Procedure

We used data from the large-scale national probability sample of community-dwelling adults from the MIDUS study. MIDUS comprises three waves of data (M1: 1995–1996, M2: 2004–2006, M3: 2013–2014). In our analyses, we included data from participants who fully retired (self-report only "retired" and not "working," "self-employed," "unemployed," "laid-off," or "maternity/sick leave") between the first and second or the second and third waves and provided personality data at the last wave before (hereinafter referred to as T1) and the first wave after retirement (hereinafter referred to as T2), as well as data on work variables at T1. Participants had to be at least 50 years old at T1 to be included in our analyses. This criterion was chosen to create a more homogeneous group of middle-aged adults in the second half of working life, because the reasons for and consequences of retiring at a younger age differ substantially from retiring closer to or at the statutory retirement age. In addition, we identified a control group of adults aged 50+ who did not retire. The control group included all participants who were working at two consecutive waves (T1 and T2; self-report only "working" and/or "self-employed" and not "retired," "unemployed," "laid-off," or "maternity/sick leave"), provided personality data at both waves and data on work variables at the first of these two waves. For participants who provided data at all three waves, M1 and M2 data were chosen, because the mean age was closer to the mean age of the retiree sample. It was not possible to use propensity score matching to create a control group due to small resulting sample sizes and a loss of power for the planned analyses. The retiree sample included $n = 286$ adults aged 50–77 years at T1 ($M = 57.83$, $SD = 5.00$; 51% women; 94% White, 3% Black/African American, 2% other). The control group consisted of $n = 260$ adults aged 50–71 years at T1 ($M = 54.28$, $SD = 3.82$; 54% women; 92% White, 4% Black/African American, 1% Asian or Pacific Islander, 2% multiracial, 1% other). Analyzed variables included personality at both waves as well as work and control variables at T1. Demographics were obtained via phone interviews. Personality measures as well as work variables were assessed via self-administered questionnaires.

Measures

Personality

The Big Five personality traits were measured with the Midlife Development Inventory (Lachman & Weaver, 1997). Participants rated 25 adjectives on a 4-point Likert scale ranging from 1 (*a lot*) to 4 (*not at all*). Items were recoded so that higher values represent higher personality trait levels. Neuroticism was assessed with four items (moody, worrying, nervous, and calm [reverse scored]), extraversion with five items (outgoing, friendly, lively, active, and talkative), openness to experience with seven items (creative, imaginative, intelligent, curious, broad-minded, sophisticated, and adventurous), agreeableness with five items (helpful, warm, caring, softhearted, and sympathetic), and conscientiousness with four items (organized, responsible, hardworking, and careless [reverse scored]).

Work Characteristics

Measures of perceived work environment included skill discretion, decision authority (referred to as autonomy), and work demands (Bosma et al., 1997; Karasek & Theorell, 1990; Karasek et al., 1981; Schwartz et al., 1988). Participants answered all items on a 5-point Likert scale from 1 (*all of the time*) to 5 (*never*). Scale scores were constructed by calculating the sum of the (reverse scored) items so that higher scores represent higher manifestations of work characteristics. Skill discretion was assessed with three items about learning new things at work, high skill level, or expertise and dealing with various subjectively interesting things ($\alpha = .68$). Decision authority (autonomy) was measured with six items regarding initiative, work methods, task selection, work in general, work environment, and time control ($\alpha = .85$). Work demands were assessed with five items about work intensity, amount and combination of demands, available time and interruptions ($\alpha = .74$). In addition, a single-item measure of participants' subjective work effort on a scale from 0 (*no thought or effort*) to 10 (*very much thought and effort*) was included in the analyses. This was the only available item in MIDUS measuring work effort.

Control Variables

Control variables included sex, education, income, age, and health status because they are associated with levels and changes in personality traits and work characteristics (e.g., Harvey et al., 2017; Jaconelli et al., 2013; Kajonius & Johnson, 2018; Mac Giolla & Kajonius, 2019; Murray & Booth, 2015; Sutin et al., 2009; Woods et al., 2013). Participants' sex was coded as 0 = male and 1 = female. Participants reported their age at T1 in years, their highest level of education on a scale from 1 (*no school/some grade school*) to 12 (*doctoral-level degree*) and their last calendar year wages in categories. Because categories differed in the first and second MIDUS wave, we used adjusted categories ranging from 1 (*less than $0/loss*) to 23 (*$200,000 or more*). Health status was operationalized as the number of chronic conditions out of 29 possible (including e.g., depression, diabetes, migraine, and stroke) that the participants had experienced or been treated for in the past 12 months.

Statistical Analysis

Latent change score models were used to analyze changes in personality traits during the retirement transition and associations with work characteristics. Models were estimated with robust full information maximum likelihood estimation. We report robust fit indices. Statistical significance is evaluated at $p < .05$.

First, we established separate measurement models for the five personality traits at T1 and T2 in the whole sample ($n = 546$). Model fit was evaluated based on comparative fit index (CFI; Bentler, 1990), root-mean-square error of approximation (RMSEA; Steiger, 1990), and standardized root-mean-square residual (SRMR; Kline, 2016). Adequate model fit was indicated by CFI values $\geq .90$ and RMSEA and SRMR values $< .08$ (Hu & Bentler, 1999). To achieve adequate model fit for extraversion, openness, and agreeableness, it was necessary to allow a residual correlation between the items "lively" and "active," "imaginative" and "creative," and "softhearted" and "sympathetic," respectively. In an earlier analysis of personality data in MIDUS, Zimprich et al. (2012) identified these residual correlations. Furthermore, RMSEA indicated inadequate model fit for conscientiousness and the scale was not invariant so that the item "hardworking" was excluded from analyses. In addition, the item "talkative" was excluded from the extraversion scale to establish strong measurement invariance (see section "Tests of Measurement Invariance"). Model fit indices and internal consistency coefficients at T1 and T2 are presented in Table 2.

Second, we tested measurement invariance across groups as well as longitudinal measurement invariance separately in both groups across the two measurement waves (Widaman et al., 2010). Strong measurement invariance is a prerequisite for comparing factor means of the same construct between groups or longitudinally in the same group. We first tested configural invariance, that is, the same pattern of factor loadings in both groups/over time, then weak invariance, that is, invariant factor loadings in both groups/over time, and finally strong invariance, that is, invariant factor loadings and intercepts in both groups/over time. Residual correlations of the same item were allowed across time. Significant differences in model fit regarding weak invariance were represented by changes in

Table 2
Model Fit Indices and Internal Consistency Coefficients

Personality trait	CFI	RMSEA	SRMR	ω
		T1		
Neuroticism	0.996	.043	.013	.69
Extraversion	1.000	.000	.001	.64
Openness	0.962	.070	.035	.72
Agreeableness	1.000	.000	.012	.68
Conscientiousness	1.000	.000	.000	.47
		T2		
Neuroticism	0.990	.063	.020	.66
Extraversion	1.000	.000	.005	.65
Openness	0.974	.061	.029	.75
Agreeableness	0.999	.021	.014	.70
Conscientiousness	1.000	.000	.000	.42

Note. $N = 546$, Extraversion without "talkative," conscientiousness without "hardworking." T1 = measurement 1; T2 = measurement 2; CFI = comparative fit index; RMSEA = root-mean-square error of approximation; SRMR = standardized root-mean-square residual.

CFI ≥ .010 accompanied by changes in RMSEA of ≥ .015 or SRMR ≥ .030 and regarding strong invariance by changes in CFI ≥ .010 accompanied by changes in RMSEA of ≥ .015 or SRMR ≥ .010 (Chen, 2007).

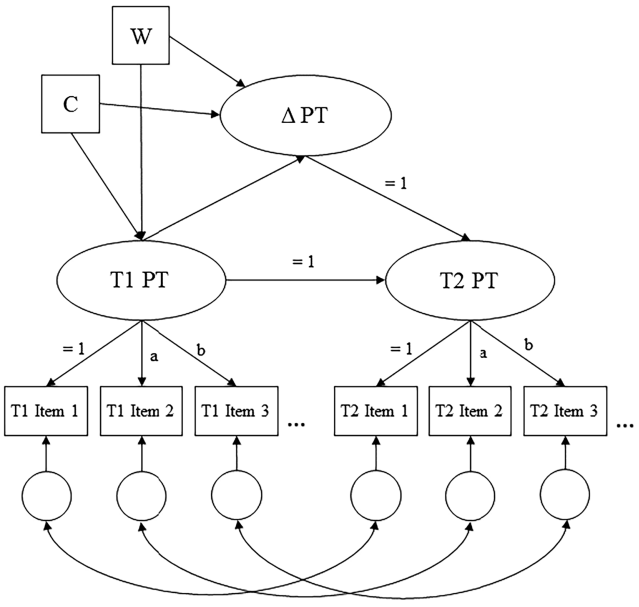
Third, we fitted multigroup latent change score models for each personality trait (Kievit et al., 2018; McArdle, 2009). We tested models including work characteristics, work effort, and control variables to examine our research question. Skill discretion, autonomy, work demands, and work effort were examined as predictors of personality trait changes. Furthermore, work effort was examined as a moderator of associations between work characteristics and trait changes. For this purpose, interaction terms of work environment characteristics with work effort were included in the models. A graphic representation of the models is provided in Figure 1. Differences in change scores and associations between variables between retirees and nonretirees were evaluated based on the estimates' 95% confidence intervals. To facilitate interpretations of findings, work-related and control variables were centered at the means of the entire sample (retirees and nonretirees). Descriptive statistics and correlations between study variables at baseline are shown in Table 3.

Results

Tests of Measurement Invariance

Model fit indices from tests of measurement invariance across groups (retirees vs. nonretirees) at T1 can be found in the Supplemental Table S1. The gradual constraints did not lead to meaningful deteriorations in model fit, so that strong measurement invariance could be assumed for all personality traits, except for extraversion and conscientiousness. The items "talkative" and "hardworking" were excluded to achieve strong measurement invariance. The extraversion scale with and without the item "talkative" (r = .94–.97 for retirees and nonretirees at T1 and T2) and the conscientiousness scale with and without the item "hardworking" (r = .96–.97 for retirees and nonretirees at T1 and T2) were highly correlated, so that it can be assumed that the item exclusions had only minor impact on the meaning of the scales. Fit indices from tests of longitudinal measurement invariance for retirees and nonretirees can also be found in the Supplemental Tables S2 and S3. For the subsequent analyses, latent change score models with factor loadings and intercepts constrained to be equal over time and across groups were used for neuroticism, extraversion, openness, and agreeableness. For the conscientiousness model without the item "hardworking," only weak longitudinal measurement invariance held for retirees and nonretirees. Because invariance of factor intercepts is necessary for the comparison of means over time (e.g., for establishing a latent change score), change in conscientiousness was examined with a regression model with two factors for T1 and T2 with constrained factor loadings. The latent variable for T2 was regressed on the latent variable for T1.

Figure 1
Latent Change Score Model for PT



Note. Latent change score models for the PT with factor loadings and intercepts constrained to be equal over time. Residual correlations of the same items at T1 and T2 were allowed. W = work variables; C = control variables; PT = personality trait; T1 = measurement 1; T2 = measurement 2.

Latent Change Score Models of Personality Traits

Latent change score models for neuroticism, extraversion, openness, and agreeableness and the regression model for conscientiousness showed good fit (see Table 4). T1 level variances as well as change score intercepts and variances are presented in Table 5. There were significant interindividual differences in T1 levels for all five personality traits. In both groups, neuroticism decreased significantly, whereas extraversion and agreeableness remained stable. Openness declined significantly only in retirees and remained stable in nonretirees. Overlapping confidence intervals indicated that there were no significant differences between retirees and nonretirees with regard to average personality change. Change varied significantly across individuals in all four traits. Associations between baseline personality trait levels and work characteristics are reported in the Supplemental Tables S4 and S5. Retirees and nonretirees did not differ significantly in these associations.

Latent change score and regression models with work characteristics, work effort, and control variables showed adequate fit, except for openness, where CFI was slightly below the threshold for acceptable fit (see Table 4). Regression coefficients of latent personality change scores on work-related variables for both groups are presented in Table 6. In retirees, higher skill discretion was associated with greater decline in neuroticism and higher autonomy was associated with less decline in openness. In nonretirees, higher autonomy was associated with greater decline in extraversion and higher T1 conscientiousness. Work effort was positively related to T1 conscientiousness and demands to T2 conscientiousness. There were no significant differences between retirees and nonretirees.

Coefficients for regressions on interactions of work effort with work characteristics can be found in the Supplemental Table S6. There were no significant associations, except for a positive association of T1 conscientiousness with the interaction of skill discretion and work effort (b = 0.036, p = .015, 95% CI [0.007, 0.066], β = 0.445) in nonretirees. On average, there was no significant association between skill discretion and T1 conscientiousness, but

Table 3
Means, Standard Deviations, and Correlations of Study Variables at T1

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Neuroticism	—	−.21***	−.22***	−.11	−.19**	−.15*	−.12*	.17**	−.08	.14*	−.10	−.05	−.04	.18**
2. Extraversion	−.13*	—	.52***	.51***	.24***	.18**	.13*	−.05	.20**	.00	.03	.07	.12	−.14*
3. Openness	−.15*	.50***	—	.33***	.23***	.35***	.32***	−.03	.21**	−.10	.24***	.13*	.05	−.11
4. Agreeableness	.03	.49***	.37***	—	.24***	.08	.06	−.02	.15*	.26***	−.10	−.13*	.03	.03
5. Conscientiousness	−.14*	.16**	.23***	.22***	—	.24***	.22***	.00	.34***	.14*	.14*	.15*	.00	−.12
6. Autonomy	−.10	.20***	.23***	.18**	.16**	—	.56***	.05	.32***	−.21***	.26***	.14*	.03	−.11
7. Skill discretion	−.08	.21***	.30***	.17**	.21***	.55***	—	.11	.44***	−.07	.40***	.28***	.07	−.06
8. Demands	.20***	−.03	.04	.11	.13*	.13*	.30***	—	.18**	.00	.15*	.18**	−.05	.05
9. Work effort	.05	.22***	.08	.26***	.21***	.34***	.50***	.17**	—	.09	.15*	.16*	−.02	−.06
10. Sex	.19**	.06	−.05	.27***	.09	−.12*	−.02	.13*	.14*	—	−.12	−.28***	.02	.15*
11. Education	−.08	−.09	.24***	−.05	.12*	.15*	.26***	.13*	.00	−.07	—	.47***	−.03	−.06
12. Income	−.08	−.08	.12	−.13*	.19**	.24***	.33***	.23***	.23***	−.37***	.33***	—	−.14*	−.13*
13. Age at T1	−.11	.09	−.08	−.05	−.12*	−.07	−.10	−.27***	−.03	.04	.04	−.19**	—	.04
14. Health at T1	.27***	−.05	−.02	.11	−.03	.08	.01	.16**	.08	.08	−.11	−.05	.06	—
M retirees	2.08	3.23	3.00	3.50	3.44	22.50	10.58	15.17	8.22	51%[a]	7.25	14.56	57.83	2.65
SD retirees	0.62	0.52	0.49	0.45	0.47	4.41	2.10	3.29	1.73		2.56	4.93	5.00	2.31
M nonretirees	2.05	3.28	3.06	3.49	3.42	23.43	11.04	15.11	8.59	53%[a]	7.68	15.55	54.28	1.92
SD nonretirees	0.60	0.55	0.52	0.46	0.48	4.52	2.10	3.00	1.56		2.62	4.78	3.82	1.81
Cohen's *d* for group mean differences	0.05	0.09	0.11	0.03	0.03	0.21	0.22	0.02	0.22	0.10	0.17	0.20	0.79	0.35

Note. Lower diagonal: retirees $N = 286$, upper diagonal: nonretirees $N = 260$, Sex: 0 = male, 1 = female, education: 1 (no school/some grade school) to 12 (doctoral-level degree), income: 1 (less than $0/loss) to 23 ($200,000 or more), health: sum of chronic conditions (0–29). T1 = measurement 1.
[a] Percentage female.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4
Model Fit Indices of Latent Change Score and Regression Models

Personality trait	CFI	RMSEA	SRMR
Latent change score/regression models			
Neuroticism	0.980	.048	.051
Extraversion	0.964	.069	.064
Openness	0.923	.074	.072
Agreeableness	0.987	.034	.049
Conscientiousness	1.000	.000	.035
Models with work-related and control variables			
Neuroticism	0.952	.040	.040
Extraversion	0.939	.047	.045
Openness	0.879	.061	.059
Agreeableness	0.963	.034	.043
Conscientiousness	0.966	.031	.038

Note. N = 546, extraversion without "talkative," conscientiousness without "hardworking." CFI = comparative fit index; RMSEA = root-mean-square error of approximation; SRMR = standardized root-mean-square residual.

for people with higher work effort, there was a positive association, and for people with lower work effort, a negative association.

Regression coefficients of latent change scores of personality traits on control variables for both groups are presented in Table 7. In retirees, women showed very small increases in extraversion and agreeableness compared to very small decreases in men. Women were more conscientious at T1. Higher income was related to higher T1 conscientiousness and to greater increases in extraversion. In nonretirees, women showed greater increases in agreeableness and were more conscientious at T1 and T2. Higher education was associated with greater decline in neuroticism. More chronic conditions were related to lower conscientiousness at T1 and T2. Again, there were no significant differences between retirees and nonretirees.

Follow-Up Analysis

To analyze if retirement length was associated with personality trait changes, latent change score and regression models with work characteristics, work effort and control variables additionally including retirement length (0–10 years, $M = 3.91$, $SD = 2.59$) were examined in the retiree sample. Retirement length was not significantly related to level of or change in any of the five personality traits.

Discussion

The present study contributes to emerging research on midlife and early old adulthood personality development in association with retirement by connecting research on work-personality associations with retirement-related personality changes. It extends past research by examining subjective work characteristics and work effort as potential sources of individual differences in personality change, rather than just analyzing mean-level changes, to help reconcile mixed findings of past research. We analyzed two waves of longitudinal data from MIDUS to compare personality trajectories and associations with work-related variables in retirees (N = 286) and nonretirees (N = 260).

Mean-Level Personality Trait Changes Across the Retirement Transition

Both groups showed significant mean-level decreases in neuroticism, whereas extraversion and agreeableness remained stable. Openness declined significantly in retirees and remained stable in nonretirees. Personality changes did not differ significantly between retirees and nonretirees, indicating that changes were not retirement-related. Change in conscientiousness could not be examined due to the lack of strong measurement invariance. Significant interindividual differences in change were observed for all four traits in both groups. Thus, the observed personality trajectories reflect age-graded normative changes with high variability in change patterns. These results correspond to past findings on personality trajectories in midlife and early old adulthood and they are overall consistent with most findings on mean-level personality changes across the retirement transition.

One possible explanation for the lack of associations between retirement and mean-level changes in personality is based on the set-point theory (Ormel et al., 2017). According to this theory, personality trait levels oscillate around a person-specific baseline level, with life events causing rather short-term changes that diminish over

Table 5
T1 Level Variances and Change Score Intercepts and Variances of Latent Change Score Models of Personality Traits

	T1 level variance				Change score intercept				Change score variance			
Personality trait	σ^2	*SE*	*p*	95% CI	Estimate	*SE*	*p*	95% CI	σ^2	*SE*	*p*	95% CI
Retirees												
Neuroticism	0.171	0.027	<.001	[0.118, 0.225]	−0.074	0.022	.001	[−0.116, −0.031]	0.066	0.012	<.001	[0.041, 0.090]
Extraversion	0.369	0.050	<.001	[0.272, 0.467]	0.006	0.033	.844	[−0.058, 0.071]	0.128	0.028	<.001	[0.073, 0.183]
Openness	0.245	0.041	<.001	[0.165, 0.326]	−0.125	0.027	<.001	[−0.178, −0.072]	0.102	0.020	<.001	[0.062, 0.142]
Agreeableness	0.105	0.015	<.001	[0.076, 0.135]	−0.027	0.019	.153	[−0.064, 0.010]	0.048	0.011	<.001	[0.026, 0.071]
Conscientiousness	0.263	0.058	<.001	[0.150, 0.377]								
Nonretirees												
Neuroticism	0.151	0.026	<.001	[0.099, 0.202]	−0.085	0.024	<.001	[−0.132, −0.038]	0.081	0.018	<.001	[0.046, 0.116]
Extraversion	0.411	0.050	<.001	[0.314, 0.508]	0.014	0.033	.668	[−0.050, 0.078]	0.107	0.030	<.001	[0.048, 0.166]
Openness	0.287	0.050	<.001	[0.188, 0.385]	−0.042	0.025	.087	[−0.091, 0.006]	0.066	0.017	<.001	[0.033, 0.099]
Agreeableness	0.122	0.018	<.001	[0.087, 0.158]	0.011	0.019	.558	[−0.026, 0.048]	0.053	0.010	<.001	[0.035, 0.072]
Conscientiousness	0.282	0.064	<.001	[0.157, 0.407]								

Note. Retirees N = 286, nonretirees N = 260, extraversion without "talkative," conscientiousness without "hardworking." T1 = measurement 1; *SE* = standard error; CI = confidence interval.

Table 6

Regressions of Latent Change Scores of Personality Traits on Work-Related Variables in Models With Control Variables

	Autonomy			Skill discretion			Demand			Work effort		
Personality trait	*b* [95% CI]	*SE* *p*	β	*b* [95% CI]	*SE* *p*	β	*b* [95% CI]	*SE* *p*	β	*b* [95% CI]	*SE* *p*	β
Retirees												
Neuroticism	0.010 [−0.001, 0.020]	0.005 .075	.145	−0.036* [−0.058, −0.013]	0.012 .002	−.253	0.009 [−0.004, 0.022]	0.006 .173	.100	0.017 [−0.010, 0.045]	0.014 .214	.103
Extraversion	0.009 [−0.009, 0.026]	0.009 .329	.112	0.007 [−0.029, 0.043]	0.018 .704	.043	−0.012 [−0.034, 0.009]	0.011 .260	−.121	−0.015 [−0.059, 0.029]	0.023 .509	−.076
Openness	0.015* [0.001, 0.028]	0.007 .037	.223	−0.031 [−0.063, 0.001]	0.016 .060	−.221	0.000 [−0.016, 0.016]	0.008 .999	.000	−0.005 [−0.040, 0.031]	0.018 .800	−.027
Agreeableness	−0.002 [−0.011, 0.008]	0.005 .727	−.033	0.005 [−0.017, 0.027]	0.011 .632	.049	0.000 [−0.011, 0.011]	0.006 .997	.000	0.012 [−0.015, 0.039]	0.014 .374	.094
Conscientiousness T1[a]	0.014 [−0.004, 0.031]	0.009 .124	.141	0.002 [−0.039, 0.043]	0.021 .921	.010	0.013 [−0.009, 0.035]	0.011 .245	.100	0.051 [−0.002, 0.105]	0.027 .059	.208
Conscientiousness T2[a]	−0.002 [−0.018, 0.015]	0.008 .843	−.017	0.027 [−0.009, 0.064]	0.019 .144	.133	0.000 [−0.022, 0.022]	0.011 .983	.002	−0.026 [−0.066, 0.015]	0.021 .215	−.104
Nonretirees												
Neuroticism	−0.006 [−0.019, 0.007]	0.007 .365	−.085	0.007 [−0.025, 0.039]	0.016 .680	.045	0.013 [−0.002, 0.029]	0.008 .091	.126	−0.018 [−0.058, 0.022]	0.020 .371	−.086
Extraversion	−0.017* [−0.032, −0.002]	0.008 .026	−.241	0.024 [−0.017, 0.065]	0.021 .244	.157	0.000 [−0.022, 0.022]	0.011 .978	.003	0.033 [−0.024, 0.091]	0.029 .257	.154
Openness	−0.001 [−0.015, 0.013]	0.007 .870	−.020	0.004 [−0.026, 0.034]	0.016 .798	.032	0.007 [−0.010, 0.023]	0.008 .433	.075	0.038 [−0.002, 0.079]	0.021 .062	.222
Agreeableness	−0.003 [−0.013, 0.007]	0.005 .578	−.055	−0.016 [−0.041, 0.008]	0.013 .199	−.144	0.010 [−0.002, 0.022]	0.006 .108	.123	0.031 [0.000, 0.062]	0.016 .054	.193
Conscientiousness T1[a]	0.021* [0.002, 0.041]	0.010 .030	.217	−0.013 [−0.058, 0.033]	0.023 .588	−.060	−0.009 [−0.036, 0.017]	0.014 .495	−.062	0.133* [0.077, 0.190]	0.029 <.001	.447
Conscientiousness T2[a]	−0.002 [−0.017, 0.013]	0.008 .805	−.022	−0.023 [−0.056, 0.011]	0.017 .181	−.123	0.021* [0.005, 0.038]	0.008 .011	.162	−0.001 [−0.053, 0.051]	0.027 .974	−.003

Note. Retirees $N = 286$, nonretirees $N = 260$. T1 = measurement 1; T2 = measurement 2; *SE* = standard error; CI = confidence interval.

[a] Because of lacking strong measurement invariance, no latent change score was estimated. The latent factor for T2 was regressed on the latent factor for T1. The T1 and T2 factors were regressed on work characteristics.

* $p < .05$.

Table 7

Regressions of Latent Change Scores of Personality Traits on Control Variables

	Sex			Education			Income			Age T1			Health T1		
Personality trait	*b* [95% CI]	*SE* *p*	β	*b* [95% CI]	*SE* *p*	β	*b* [95% CI]	*SE* *p*	β	*b* [95% CI]	*SE* *p*	β	*b* [95% CI]	*SE* *p*	β
Retirees															
Neuroticism	0.061 [−0.033, 0.155]	0.048 .202		−0.006 [−0.023, 0.011]	0.008 .484	−.052	−0.002 [−0.011, 0.007]	0.005 .646	−.037	0.001 [−0.007, 0.009]	0.004 .752	.023	−0.004 [−0.023, 0.014]	0.009 .647	−.034
Extraversion	0.162* [0.024, 0.301]	0.071 .021		0.002 [−0.025, 0.029]	0.014 .882	.015	0.020* [0.005, 0.034]	0.007 .009	.286	−0.007 [−0.020, 0.007]	0.007 .312	−.104	0.014 [−0.012, 0.041]	0.013 .292	.097
Openness	0.083 [−.0.030, 0.196]	0.058 .150		0.019 [−0.004, 0.041]	0.012 .106	.163	0.004 [−0.009, 0.017]	0.007 .585	.061	−0.009 [−0.019, 0.001]	0.005 .066	−.158	0.004 [−0.016, 0.024]	0.010 .714	.030
Agreeableness	0.132* [0.046, 0.219]	0.044 .003		−0.009 [−0.025, 0.008]	0.008 .291	−.099	0.003 [−0.006, 0.013]	0.005 .467	.074	0.000 [−0.006, 0.007]	0.003 .904	.009	−0.001 [−0.016, 0.013]	0.007 .852	−.014
Conscientiousness T1[a]	0.220* [0.068, 0.372]	0.078 .005		0.007 [−0.024, 0.038]	0.016 .664	.041	0.017* [0.001, 0.033]	0.008 .036	.199	−0.010 [−0.023. 0.003]	0.007 .143	−.118	0.003 [−0.028, 0.033]	0.016 .852	.016
Conscientiousness T2[a]	−0.011 [−0.147, 0.125]	0.069 .873		0.015 [−0.010, 0.041]	0.013 .242	.092	−0.001 [−0.015, 0.014]	0.007 .918	−.009	−0.007 [−0.019, 0.004]	0.006 .206	−.088	−0.031* [−0.059, −0.002]	0.014 .033	−.166
Nonretirees															
Neuroticism	0.042 [−0.054, 0.137]	0.049 .394		−0.032* [−0.051, −0.014]	0.010 .001	−.267	0.008 [−0.001, 0.017]	0.005 .065	.125	0.003 [−0.010, 0.015]	0.006 .668	.032	0.000 [−0.025, 0.024]	0.012 .971	−.003
Extraversion	0.128 [−0.014, 0.271]	0.072 .076		0.001 [−0.028, 0.030]	0.015 .950	.007	0.001 [−0.014, 0.015]	0.008 .946	.007	−0.004 [−0.021, 0.014]	0.009 .683	−.041	−0.014 [−0.051, 0.023]	0.019 .450	−.079
Openness	0.053 [−0.053. 0.158]	0.054 .329		0.013 [−0.011, 0.037]	0.012 .283	.130	0.002 [−0.009, 0.014]	0.006 .685	.042	−0.001 [−0.013, 0.011]	0.006 .836	−.018	0.016 [−0.012, 0.044]	0.014 .257	.110
Agreeableness	0.086* [0.004, 0.168]	0.042 .040		0.006 [−0.011, 0.023]	0.009 .510	.064	0.001 [−0.008, 0.010]	0.004 .830	.019	0.003 [−0.006, 0.013]	0.005 .495	.053	−0.002 [−0.022, 0.018]	0.010 .817	−.018
Conscientiousness T1[a]	0.176* [0.022, 0.330]	0.079 .025		0.012 [−0.018, 0.041]	0.015 .431	.069	0.013 [−0.003, 0.029]	0.008 .103	.140	0.002 [−0.015, 0.018]	0.008 .848	.013	−0.019 [−0.060, 0.023]	0.021 .377	−.075
Conscientiousness T2[a]	0.163* [0.046, 0.280]	0.060 .006		0.004 [−0.019, 0.027]	0.012 .743	.026	0.008 [−0.007, 0.024]	0.008 .288	.101	0.001 [−0.014, 0.015]	0.007 .930	.006	−0.041* [−0.071, −0.011]	0.015 .008	−.185

Note. Retirees $N = 286$, nonretirees $N = 260$, sex: 0 = male, 1 = female, education: 1 (no school/some grade school) to 12 (doctoral-level degree), income: 1 (less than $0/loss) to 23 ($200,000 or more), health: sum of chronic conditions (0–29). T1 = measurement 1; T2 = measurement 2.

[a] Because of lacking strong measurement invariance, no latent change score was estimated. The latent factor for T2 was regressed on the latent factor for T1. The T1 and T2 factors were regressed on work characteristics.

* $p < .05$.

time. Schwaba and Bleidorn (2019) found short-term increases in agreeableness and openness in the first month after retirement, followed by long-term decreases. It is possible that after an orientation and adaptation phase, the effects of retirement level off, and people return to their baseline trait levels. Still, one has to keep in mind that we examined mean-level trait changes. Individuals differ in their change patterns and some people may experience lasting personality changes in the transition to retirement.

The present study did not find the "La dolce vita" effect, which is characterized by increases in agreeableness and decreases in neuroticism, extraversion, openness, and conscientiousness (Marsh et al., 2013). To further examine this effect, it is essential to analyze presses, demands, expectations, and changes therein before and after retirement. This would also generate insights for the evaluation of the paradoxical theory of personality coherence (Caspi & Moffitt, 1993). Following this perspective, participants' different presses and adaptation processes may not have been captured by mean-level changes. Alternatively, participants may not have experienced strong environmental presses, which would have strengthened personality trait continuity. Continuity could also have been strengthened by postretirement adjustment behaviors in line with identity continuity theory (Atchley, 1971). Retirees may have sought out and created environments with similar characteristics to their former job environment.

The present findings suggest that, on average, retirement had no long-term effects on personality development. However, there were significant individual differences in change for neuroticism, extraversion, openness, and agreeableness among retirees and nonretirees, highlighting the need to explore potential sources of these individual personality change patterns.

Association of Work Characteristics With Personality Trait Changes

This study examined the link between work-related factors (skill discretion, autonomy, work demands, and subjective work effort) and personality changes during the retirement transition. Only very few significant associations were found. In retirees, higher autonomy was related to less decline in openness and higher skill discretion was related to stronger decreases in neuroticism. Kohn and Schooler (1978, 1982), Nieß and Zacher (2015), Sutin and Costa (2010), and Wu (2016) found associations between autonomy and increases in openness in working adults. Despite normative mean-level decreases in openness in middle to old adulthood (e.g., Graham et al., 2020; Roberts et al., 2006; Seifert et al., 2024), people with higher work autonomy, who are used to handle more complex tasks and responsibilities, may continue engaging with complex and stimulating tasks in retirement, thereby strengthening their openness. Skill discretion has not yet been associated with changes in neuroticism. However, having worked in jobs with high skill discretion may facilitate adaptation processes during the retirement transition, enhancing the normative mean-level decrease in neuroticism. Such jobs involve complex tasks requiring high skill level and learning, which could serve as resources for managing uncertainty and changing circumstances as well as structuring everyday life in retirement.

In nonretirees, higher autonomy was associated with greater declines in extraversion, which is in contrast to past findings of associations of higher autonomy with increases in extraversion (Le et al., 2014; Roberts et al., 2003; Sutin & Costa, 2010). The present nonretiree sample was in their 50 s and later stages of working life, suggesting that work characteristics and personality traits may have been shaped by selection and socialization effects before the study period (Hartung et al., 2024; Stahlhofen et al., 2024). For example, more extraverted people could have selected or been selected for jobs with higher autonomy (e.g., supervisor positions). Socialization effects could also have enhanced extraversion in people with higher autonomy, because their responsibilities may have required frequent interactions with others. Accordingly, in the present nonretiree sample, autonomy and extraversion were positively related at baseline. Those individuals with higher work autonomy were also more extraverted and had thus more potential for declines than individuals with lower autonomy. Furthermore, baseline conscientiousness was related to higher autonomy and work effort, and higher conscientiousness at follow-up was related to higher work demands. These results are in line with past findings (Hudson & Roberts, 2016; Lin et al., 2015; Sutin & Costa, 2010; Wu, 2016). In terms of selection effects, highly conscientious people, who are diligent, responsible, organized, and ambitious, may pursue high-profile jobs with higher autonomy and demands, or they may be hired or promoted into those jobs. In terms of socialization effects, those jobs may promote increases in conscientiousness to fulfill respective requirements. The associations of work-related variables with personality trait changes did not differ significantly between retirees and nonretirees.

Work effort did not significantly moderate the association of work characteristics with personality trait changes. The only significant association was found for baseline conscientiousness in nonretirees. On average, there was no significant association between skill discretion and baseline conscientiousness. However, for people with higher work effort, the association was positive, while for those with lower work effort, it was negative. This unexpected finding suggests future research is needed to explore the moderating role of work effort for associations of work characteristics with personality levels and changes.

The social investment principle (Roberts et al., 2005) was not supported by the present findings on work effort, or its interactions with work characteristics and personality changes. Unlike other studies, in this study, work effort was assessed using only a single item. Past studies assessed workplace social investment more comprehensively, using multiple scales representing domains like job involvement, social and emotional investment, organizational citizenship behavior or counterproductive work behaviors (Hudson & Roberts, 2016; Hudson et al., 2012; Lodi-Smith & Roberts, 2007).

Asselmann and Specht (2021) concluded that objective work characteristics such as employment status (full-time vs. part-time) do not significantly affect personality trait changes during the retirement transition. Similarly, Henning et al. (2024) found no associations of job type (blue- vs. white-collar) with personality changes across the retirement transition. The present study adds findings on subjective work characteristics and work effort, which were also largely unrelated to personality trait changes.

Retirement is experienced differently by individuals due to their pre- and postretirement circumstances and resources to manage the transition (Wang & Shi, 2014; Wang et al., 2011). Interestingly, research indicates that the effects of subjectively positive events diminish more rapidly and strongly than those of subjectively negative events (Sheldon et al., 2013). Therefore, the subjective

experience of the retirement transition may be a better predictor for personality changes (Dugan et al., 2024; Lodi-Smith & Roberts, 2007; Schwaba & Bleidorn, 2019). Future research should explore subjective characteristics of retirement experiences, including valence, impact, predictability, challenge, emotional significance, change in worldviews, social status changes, external control, and extraordinariness (Luhmann et al., 2021).

Strength, Limitations, and Future Directions

The present study has several strengths. We used data from a diverse, community-based sample of people who retired between measurements and compared retirees with nonretirees to differentiate retirement effects from normative personality changes. We are, to the best of our knowledge, among the first to examine subjective characteristics of the preretirement work context concerning changes in Big Five personality traits during the retirement transition. Furthermore, we tested for measurement invariance before analyzing personality changes and included relevant control variables in our analyses.

On the other hand, several limitations should be considered. In the present study, two waves of data 9 years apart were analyzed, preventing the detection of nuanced or short-term changes. Furthermore, it is not possible to differentiate between anticipation effects (changes in thoughts, behavior, activities or work schedules in preparation for retirement leading to personality changes) and socialization effects (personality changes following retirement caused by changing environmental influences; Asselmann & Specht, 2021). Future studies should assess personality more often at shorter intervals before and after retiring to examine short-term and long-term effects and identify potential changes before retirement.

The control group was not far from retirement, suggesting that change processes may already have started in their minds, feelings, and actions (Henning et al., 2024). Also, it was not feasible to match the control group, and there were significant baseline differences between retirees and nonretirees regarding autonomy, skill discretion, work effort, age, income, and health. We controlled for main effects of age, sex, education, income, and health but the sample size was too small for differentiated moderation analyses. Future studies should explore the quantity and quality of social roles individuals hold before and after retirement and their associations with personality traits and retirement outcomes (Löckenhoff et al., 2009). In addition, research should investigate how changes in roles and expectations are associated with fluctuations in momentary thoughts, feelings, and behaviors and the potentially resulting short- and long-term personality changes (Asselmann & Specht, 2021; Schwaba & Bleidorn, 2019).

The Big Five personality traits and work-related variables were assessed using only a few items. Reliability was acceptable to good, except for conscientiousness. Also, the conscientiousness measure was not invariant over time for retirees, suggesting that its meaning changed for individuals who retired during the study period. Future studies should measure personality and work characteristics more comprehensively. That would also allow facet-level analyses of personality changes. Certain personality facets, such as self-discipline (conscientiousness), may be more relevant in the work context and thus subject to larger changes during the retirement transition (Löckenhoff et al., 2009).

Regarding the heterogeneity of past and present findings, it must be considered that personality changes across the retirement transition and the impact of the work environment may vary by decade, nation, and culture, depending on for example, social and legal systems, societal attitudes toward retirement and work, and expectations for older adults (Schwaba & Bleidorn, 2019; Serrat et al., 2018). The present findings are based on data collected in a U.S. sample between 1995 and 2014. Even within this period, attitudes and expectations could have changed, leading to differing retirement experiences and behavioral presses. In addition, the findings may not generalize to countries with different living standards and levels of social security.

Conclusions

The present study examined associations of preretirement work characteristics with personality trait changes across the retirement transition by comparing retirees and nonretirees from the MIDUS study. We found significant mean-level decreases in neuroticism and openness, reflecting age-graded normative changes, and only very few significant associations of work-related variables with personality trait changes. These associations did not differ significantly between retirees and nonretirees. Thus, in this sample, work characteristics, subjective work effort and retirement had minimal long-term impact on personality development in late midlife to early old adulthood. Future studies should focus on different sources of interindividual differences in personality change trajectories and the subjective experience of the retirement transition. Furthermore, anticipation and adaptational processes should be examined with a better temporal resolution.

References

Asselmann, E., & Specht, J. (2021). Personality maturation and personality relaxation: Differences of the Big Five personality traits in the years around the beginning and ending of working life. *Journal of Personality*, *89*(6), 1126–1142. https://doi.org/10.1111/jopy.12640

Atchley, R. C. (1971). Retirement and leisure participation: Continuity or crisis? *The Gerontologist*, *11*(1), 13–17. https://doi.org/10.1093/geront/11.1_Part_1.13

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, *107*(2), 238–246. https://doi.org/10.1037/0033-2909.107.2.238

Bleidorn, W., Hopwood, C. J., & Lucas, R. E. (2018). Life events and personality trait change. *Journal of Personality*, *86*(1), 83–96. https://doi.org/10.1111/jopy.12286

Bleidorn, W., Schwaba, T., Zheng, A., Hopwood, C. J., Sosa, S. S., Roberts, B. W., & Briley, D. A. (2022). Personality stability and change: A meta-analysis of longitudinal studies. *Psychological Bulletin*, *148*(7–8), 588–619. https://doi.org/10.1037/bul0000365

Bosma, H., Marmot, M. G., Hemingway, H., Nicholson, A. C., Brunner, E., & Stansfeld, S. A. (1997). Low job control and risk of coronary heart disease in Whitehall II (prospective cohort) study. *The BMJ*, *314*(7080), Article 558. https://doi.org/10.1136/bmj.314.7080.558

Caspi, A., & Moffitt, T. E. (1993). When do individual differences matter? A paradoxical theory of personality coherence. *Psychological Inquiry*, *4*(4), 247–271. https://doi.org/10.1207/s15327965pli0404_1

Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Structural Equation Modeling*, *14*(3), 464–504. https://doi.org/10.1080/10705510701301834

Costa, P. T., Jr., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and the NEO Five-Factor Inventory (NEO-FFI) professional manual*. Psychological Assessment Resources.

Dawis, R. V., & Lofquist, L. H. (1984). *A psychological theory of work adjustment*. University of Minnesota Press.

Donnellan, M. B., Oswald, F. L., Baird, B. M., & Lucas, R. E. (2006). The mini-IPIP scales: Tiny-yet-effective measures of the Big Five factors of personality. *Psychological Assessment*, *18*(2), 192–203. https://doi.org/10.1037/1040-3590.18.2.192

Dugan, K. A., Vogt, R. L., Zheng, A., Gillath, O., Deboeck, P. R., Fraley, R. C., & Briley, D. A. (2024). Life events sometimes alter the trajectory of personality development: Effect sizes for 25 life events estimated using a large, frequently assessed sample. *Journal of Personality*, *92*(1), 130–146. https://doi.org/10.1111/jopy.12837

Engvik, H., & Clausen, S. E. (2011). Norsk kortversjon av Big Five Inventory (BFI-20) [Norwegian short form of the Big Five Inventory (BFI-20)]. *Tidsskrift for Norsk Psykologforening*, *48*, 869–872.

Eysenck, H. J., & Eysenck, S. B. G. (1968). *Manual for the Eysenck Personality Inventory*. Educational and Industrial Testing Service.

Floderus, B. (1974). Psychosocial factors in relation to coronary heart disease and associated risk factors. *Nordisk Hygienisk Tidskrift*, (Suppl. 6), 7–148.

Freund, A. M., Nikitin, J., & Ritter, J. O. (2009). Psychological consequences of longevity. *Human Development*, *52*(1), 1–37. https://doi.org/10.1159/000189213

Gerlitz, J.-Y., & Schupp, J. (2005). *Zur Erhebung der Big-Five-basierten Persönlichkeitsmerkmale im SOEP* [The measurement of the Big Five personality traits in the SOEP]. Deutsches Institut für Wirtschaftsforschung Berlin.

Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological Assessment*, *4*(1), 26–42. https://doi.org/10.1037/1040-3590.4.1.26

Graham, E. K., Weston, S. J., Gerstorf, D., Yoneda, T. B., Booth, T., Beam, C. R., Petkus, A. J., Drewelies, J., Hall, A. N., Bastarache, E. D., Estabrook, R., Katz, M. J., Turiano, N. A., Lindenberger, U., Smith, J., Wagner, G. G., Pedersen, N. L., Allemand, M., Spiro, A., III, … Mroczek, D. K. (2020). Trajectories of Big Five personality traits: A coordinated analysis of 16 longitudinal samples. *European Journal of Personality*, *34*(3), 301–321. https://doi.org/10.1002/per.2259

Hansson, I., Henning, G., Buratti, S., Lindwall, M., Kivi, M., Johansson, B., & Berg, A. I. (2020). The role of personality in retirement adjustment: Longitudinal evidence for the effects on life satisfaction. *Journal of Personality*, *88*(4), 642–658. https://doi.org/10.1111/jopy.12516

Hartung, J., Stahlhofen, L., Schilling, O. K., Wahl, H.-W., & Hülür, G. (2024). Do early midlife work characteristics predict 20-year change in control beliefs? *Psychology and Aging*, *39*(6), 672–687. https://doi.org/10.1037/pag0000830

Harvey, S. B., Modini, M., Joyce, S., Milligan-Saville, J. S., Tan, L., Mykletun, A., Bryant, R. A., Christensen, H., & Mitchell, P. B. (2017). Can work make you mentally ill? A systematic meta-review of work-related risk factors for common mental health problems. *Occupational and Environmental Medicine*, *74*(4), 301–310. https://doi.org/10.1136/oemed-2016-104015

Henning, G., Lindwall, M., & Johansson, B. (2016). Continuity in well-being in the transition to retirement. *GeroPsych: The Journal of Gerontopsychology and Geriatric Psychiatry*, *29*(4), 225–237. https://doi.org/10.1024/1662-9647/a000155

Henning, G., Løset, G. K., & Huxhold, O. (2024). Personality and 10-year personality development among Norwegians in midlife-Do retirement and job type play a role? *Psychology and Aging*, *39*(6), 658–671. https://doi.org/10.1037/pag0000814

Holman, D. J., & Hughes, D. J. (2021). Transactions between Big-5 personality traits and job characteristics across 20 years. *Journal of Occupational and Organizational Psychology*, *94*(3), 762–788. https://doi.org/10.1111/joop.12332

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Hudomiet, P., Hurd, M., Parker, A., & Rohwedder, S. (2021). The effects of job characteristics on retirement. *Journal of Pension Economics and Finance*, *20*(3), 357–373. https://doi.org/10.1017/S1474747220000025

Hudson, N. W., & Roberts, B. W. (2016). Social investment in work reliably predicts change in conscientiousness and agreeableness: A direct replication and extension of Hudson, Roberts, and Lodi-Smith (2012). *Journal of Research in Personality*, *60*, 12–23. https://doi.org/10.1016/j.jrp.2015.09.004

Hudson, N. W., Roberts, B. W., & Lodi-Smith, J. (2012). Personality trait development and social investment in work. *Journal of Research in Personality*, *46*(3), 334–344. https://doi.org/10.1016/j.jrp.2012.03.002

Infurna, F. J., Gerstorf, D., & Lachman, M. E. (2020). Midlife in the 2020s: Opportunities and challenges. *American Psychologist*, *75*(4), 470–485. https://doi.org/10.1037/amp0000591

Jaconelli, A., Stephan, Y., Canada, B., & Chapman, B. P. (2013). Personality and physical functioning among older adults: The moderating role of education. *The Journals of Gerontology: Series B*, *68*(4), 553–557. https://doi.org/10.1093/geronb/gbs094

John, O. P., Donahue, E. M., & Kentle, R. L. (1991). *The Big Five Inventory—Versions 4a and 54*. University of California at Berkeley, Institute of Personality and Social Research.

Judge, T. A., Bono, J. E., & Locke, E. A. (2000). Personality and job satisfaction: The mediating role of job characteristics. *Journal of Applied Psychology*, *85*(2), 237–249. https://doi.org/10.1037/0021-9010.85.2.237

Kajonius, P. J., & Johnson, J. (2018). Sex differences in 30 facets of the five factor model of personality in the large public (N = 320,128). *Personality and Individual Differences*, *129*, 126–130. https://doi.org/10.1016/j.paid.2018.03.026

Karasek, R., Baker, D., Marxer, F., Ahlbom, A., & Theorell, T. (1981). Job decision latitude, job demands, and cardiovascular disease: A prospective study of Swedish men. *American Journal of Public Health*, *71*(7), 694–705. https://doi.org/10.2105/AJPH.71.7.694

Karasek, R., & Theorell, T. (1990). *Healthy work: Stress, productivity, and the reconstruction of working life*. Basic Books.

Kievit, R. A., Brandmaier, A. M., Ziegler, G., van Harmelen, A.-L., de Mooij, S. M. M., Moutoussis, M., Goodyer, I. M., Bullmore, E., Jones, P. B., Fonagy, P., Lindenberger, U., Dolan, R. J., & the Neuroscience in Psychiatry Network Consortium. (2018). Developmental cognitive neuroscience using latent change score models: A tutorial and applications. *Developmental Cognitive Neuroscience*, *33*, 99–117. https://doi.org/10.1016/j.dcn.2017.11.007

Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). Guilford Press.

Kohn, M. L., & Schooler, C. (1978). The reciprocal effects of the substantive complexity of work and intellectual flexibility: A longitudinal assessment. *American Journal of Sociology*, *84*(1), 24–52. https://doi.org/10.1086/226739

Kohn, M. L., & Schooler, C. (1982). Job conditions and personality: A longitudinal assessment of their reciprocal effects. *American Journal of Sociology*, *87*(6), 1257–1286. https://doi.org/10.1086/227593

Lachman, M. E. (2015). Mind the gap in the middle: A call to study midlife. *Research in Human Development*, *12*(3–4), 327–334. https://doi.org/10.1080/15427609.2015.1068048

Lachman, M. E., & Weaver, S. L. (1997). *The Midlife Development Inventory (MIDI) Personality Scales: Scale construction and scoring*. Brandeis University.

Lang, F. R., Lüdtke, O., & Asendorpf, J. B. (2001). Testgüte und psychometrische Äquivalenz der deutschen Version des Big Five Inventory (BFI) bei jungen, mittelalten und alten Erwachsenen [Psychometric properties and equivalence of the German version of the Big Five Inventory (BFI) for young, middle-aged, and old adults]. *Diagnostica*, *47*(3), 111–121. https://doi.org/10.1026//0012-1924.47.3.111

Le, K., Donnellan, M. B., & Conger, R. (2014). Personality development at work: Workplace conditions, personality changes, and the corresponsive principle. *Journal of Personality*, *82*(1), 44–56. https://doi.org/10.1111/jopy.12032

Li, W.-D., Fay, D., Frese, M., Harms, P. D., & Gao, X. Y. (2014). Reciprocal relationship between proactive personality and work characteristics: A latent change score approach. *Journal of Applied Psychology*, *99*(5), 948–965. https://doi.org/10.1037/a0036169

Li, W.-D., Li, S., Feng, J. J., Wang, M., Zhang, H., Frese, M., & Wu, C.-H. (2021). Can becoming a leader change your personality? An investigation with two longitudinal studies from a role-based perspective. *Journal of Applied Psychology*, *106*(6), 882–901. https://doi.org/10.1037/apl0000808

Lin, W., Ma, J., Wang, L., & Wang, M. (2015). A double-edged sword: The moderating role of conscientiousness in the relationships between work stressors, psychological strain, and job performance. *Journal of Organizational Behavior*, *36*(1), 94–111. https://doi.org/10.1002/job.1949

Löckenhoff, C. E., Terracciano, A., & Costa, P. T. (2009). Five-factor model personality traits and the retirement transition: Longitudinal and cross-sectional associations. *Psychology and Aging*, *24*(3), 722–728. https://doi.org/10.1037/a0015121

Lodi-Smith, J., & Roberts, B. W. (2007). Social investment and personality: A meta-analysis of the relationship of personality traits to investment in work, family, religion, and volunteerism. *Personality and Social Psychology Review*, *11*(1), 68–86. https://doi.org/10.1177/1088868306294590

Luhmann, M., Fassbender, I., Alcock, M., & Haehner, P. (2021). A dimensional taxonomy of perceived characteristics of major life events. *Journal of Personality and Social Psychology*, *121*(3), 633–668. https://doi.org/10.1037/pspp0000291

Mac Giolla, E., & Kajonius, P. J. (2019). Sex differences in personality are larger in gender equal countries: Replicating and extending a surprising finding. *International Journal of Psychology*, *54*(6), 705–711. https://doi.org/10.1002/ijop.12529

Marsh, H. W., Nagengast, B., & Morin, A. J. S. (2013). Measurement invariance of big-five factors over the life span: ESEM tests of gender, age, plasticity, maturity, and la dolce vita effects. *Developmental Psychology*, *49*(6), 1194–1218. https://doi.org/10.1037/a0026913

McArdle, J. J. (2009). Latent variable modeling of differences and changes with longitudinal data. *Annual Review of Psychology*, *60*(1), 577–605. https://doi.org/10.1146/annurev.psych.60.110707.163612

McCrae, R. R., & Costa, P. T., Jr. (2008). The five-factor theory of personality. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (3rd ed., pp. 159–181). Guilford Press.

Mroczek, D. K., & Spiro, A., III. (2003). Modeling intraindividual change in personality traits: Findings from the normative aging study. *The Journals of Gerontology: Series B*, *58*(3), P153–P165. https://doi.org/10.1093/geronb/58.3.P153

Murray, A. L., & Booth, T. (2015). Personality and physical health. *Current Opinion in Psychology*, *5*, 50–55. https://doi.org/10.1016/j.copsyc.2015.03.011

Nieß, C., & Zacher, H. (2015). Openness to experience as a predictor and outcome of upward job changes into managerial and professional positions. *PLOS ONE*, *10*(6), Article e0131115. https://doi.org/10.1371/journal.pone.0131115

Nye, C. D., & Roberts, B. W. (2019). A neo-socioanalytic model of personality development. In B. B. Baltes, C. W. Rudolph, & H. Zacher (Eds.), *Work across the lifespan* (pp. 47–79). Elsevier Academic Press. https://doi.org/10.1016/B978-0-12-812756-8.00003-7

Oltmanns, J., Godde, B., Winneke, A. H., Richter, G., Niemann, C., Voelcker-Rehage, C., Schömann, K., & Staudinger, U. M. (2017). Don't lose your brain at work—The role of recurrent novelty at work in cognitive and brain aging. *Frontiers in Psychology*, *8*, Article 117. https://doi.org/10.3389/fpsyg.2017.00117

Ormel, J., VonKorff, M., Jeronimus, B. F., & Riese, H. (2017). Set-point theory and personality development: Reconciliation of a paradox. In J. Specht (Ed.), *Personality development across the lifespan* (pp. 117–137). Elsevier Academic Press. https://doi.org/10.1016/B978-0-12-804674-6.00009-0

Pocnet, C., Popp, J., & Jopp, D. (2021). The power of personality in successful ageing: A comprehensive review of larger quantitative studies. *European Journal of Ageing*, *18*(2), 269–285. https://doi.org/10.1007/s10433-020-00575-6

R Core Team. (2024). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing.

Roberts, B. W., Caspi, A., & Moffitt, T. E. (2003). Work experiences and personality development in young adulthood. *Journal of Personality and Social Psychology*, *84*(3), 582–593. https://doi.org/10.1037/0022-3514.84.3.582

Roberts, B. W., Walton, K. E., & Viechtbauer, W. (2006). Patterns of mean-level change in personality traits across the life course: A meta-analysis of longitudinal studies. *Psychological Bulletin*, *132*(1), 1–25. https://doi.org/10.1037/0033-2909.132.1.1

Roberts, B. W., & Wood, D. (2006). Personality development in the context of the neo-socioanalytic model of personality. In D. K. Mroczek & T. D. Little (Eds.), *Handbook of personality development* (pp. 11–39). Lawrence Erlbaum Associates.

Roberts, B. W., Wood, D., & Smith, J. L. (2005). Evaluating five factor theory and social investment perspectives on personality trait development. *Journal of Research in Personality*, *39*(1), 166–184. https://doi.org/10.1016/j.jrp.2004.08.002

Rosseel, Y. (2012). lavaan: An R package for structural equation modeling. *Journal of Statistical Software*, *48*(2), 1–36. https://doi.org/10.18637/jss.v048.i02

Schaufeli, W. B. (2016). Heavy work investment, personality and organizational climate. *Journal of Managerial Psychology*, *31*(6), 1057–1073. https://doi.org/10.1108/JMP-07-2015-0259

Schimanski, L., Hartung, J., & Hülür, G. (2025, July 29). *MIDUS—Personality development, work characteristics, and retirement*. https://osf.io/8hyd6/

Schmitz, L. L., McCluney, C. L., Sonnega, A., & Hicken, M. T. (2019). Interpreting subjective and objective measures of job resources: The importance of sociodemographic context. *International Journal of Environmental Research and Public Health*, *16*(17), Article 3058. https://doi.org/10.3390/ijerph16173058

Schwaba, T., & Bleidorn, W. (2018). Individual differences in personality change across the adult life span. *Journal of Personality*, *86*(3), 450–464. https://doi.org/10.1111/jopy.12327

Schwaba, T., & Bleidorn, W. (2019). Personality trait development across the transition to retirement. *Journal of Personality and Social Psychology*, *116*(4), 651–665. https://doi.org/10.1037/pspp0000179

Schwartz, J. E., Pieper, C. F., & Karasek, R. A. (1988). A procedure for linking psychosocial job characteristics data to health surveys. *American Journal of Public Health*, *78*(8), 904–909. https://doi.org/10.2105/AJPH.78.8.904

Seifert, I. S., Rohrer, J. M., & Schmukle, S. C. (2024). Using within-person change in three large panel studies to estimate personality age trajectories. *Journal of Personality and Social Psychology*, *126*(1), 150–174. https://doi.org/10.1037/pspp0000482

Serrat, R., Villar, F., Pratt, M. W., & Stukas, A. A. (2018). On the quality of adjustment to retirement: The longitudinal role of personality traits and generativity. *Journal of Personality*, *86*(3), 435–449. https://doi.org/10.1111/jopy.12326

Sheldon, K. M., Boehm, J., & Lyubomirsky, S. (2013). Variety is the spice of happiness: The hedonic adaptation prevention model. In S. A. David, I. Boniwell, & A. Conley Ayers (Eds.), *The Oxford handbook of happiness*

(pp. 901–914). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199557257.013.0067

Sonnega, A., Helppie-McFall, B., Hudomiet, P., Willis, R. J., & Fisher, G. G. (2018). A comparison of subjective and objective job demands and fit with personal resources as predictors of retirement timing in a national U.S. sample. *Work, Aging and Retirement*, *4*(1), 37–51. https://doi.org/10.1093/workar/wax016

Soto, C. J. (2021). Do links between personality and life outcomes generalize? Testing the robustness of trait–outcome associations across gender, age, ethnicity, and analytic approaches. *Social Psychological and Personality Science*, *12*(1), 118–130. https://doi.org/10.1177/1948550619900572

Specht, J., Egloff, B., & Schmukle, S. C. (2011). Stability and change of personality across the life course: The impact of age and major life events on mean-level and rank-order stability of the big five. *Journal of Personality and Social Psychology*, *101*(4), 862–882. https://doi.org/10.1037/a0024950

Stahlhofen, L., Hartung, J., Schilling, O., Wahl, H. W., & Hülür, G. (2024). The relevance of perceived work environment and work activities for personality trajectories in midlife. *Journal of Personality*, *92*(1), 278–297. https://doi.org/10.1111/jopy.12776

Staudinger, U. M., Finkelstein, R., Calvo, E., & Sivaramakrishnan, K. (2016). A global view on the effects of work on health in later life. *The Gerontologist*, *56*(Suppl. 2), S281–S292. https://doi.org/10.1093/geront/gnw032

Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research*, *25*(2), 173–180. https://doi.org/10.1207/s15327906mbr2502_4

Sutin, A. R., & Costa, P. T., Jr. (2010). Reciprocal influences of personality and job characteristics across middle adulthood. *Journal of Personality*, *78*(1), 257–288. https://doi.org/10.1111/j.1467-6494.2009.00615.x

Sutin, A. R., Costa, P. T., Jr., Miech, R., & Eaton, W. W. (2009). Personality and career success: Concurrent and longitudinal relations. *European Journal of Personality*, *23*(2), 71–84. https://doi.org/10.1002/per.704

Tabak, F., Tziner, A., Shkoler, O., & Rabenu, E. (2021). The Complexity of Heavy Work Investment (HWI): A conceptual integration and review of antecedents, dimensions, and outcomes. *Sustainability*, *13*(14), Article 7803. https://doi.org/10.3390/su13147803

Tett, R. P., & Burnett, D. D. (2003). A personality trait-based interactionist model of job performance. *Journal of Applied Psychology*, *88*(3), 500–517. https://doi.org/10.1037/0021-9010.88.3.500

van den Bogaard, L., Henkens, K., & Kalmijn, M. (2016). Retirement as a relief? The role of physical job demands and psychological job stress for effects of retirement on self-rated health. *European Sociological Review*, *32*(2), 295–306. https://doi.org/10.1093/esr/jcv135

Walker, A. (2010). The emergence and application of active aging in Europe. In G. Naegele (Ed.), *Soziale Lebenslaufpolitik* (pp. 585–601). VS Verlag für Sozialwissenschaften. https://doi.org/10.1007/978-3-531-92214-0_22

Wang, M. (2007). Profiling retirees in the retirement transition and adjustment process: Examining the longitudinal change patterns of retirees' psychological well-being. *Journal of Applied Psychology*, *92*(2), 455–474. https://doi.org/10.1037/0021-9010.92.2.455

Wang, M., Henkens, K., & van Solinge, H. (2011). A review of theoretical and empirical advancements. *American Psychologist*, *66*(3), 204–213. https://doi.org/10.1037/a0022414

Wang, M., & Shi, J. (2014). Psychological research on retirement. *Annual Review of Psychology*, *65*(1), 209–233. https://doi.org/10.1146/annurev-psych-010213-115131

Weber, E., & Hülür, G. (2021). Co-development of couples' life satisfaction in transition to retirement: A longitudinal dyadic perspective. *The Journals of Gerontology: Series B*, *76*(8), 1542–1554. https://doi.org/10.1093/geronb/gbaa067

Widaman, K. F., Ferrer, E., & Conger, R. D. (2010). Factorial Invariance within longitudinal structural equation models: Measuring the same construct across time. *Child Development Perspectives*, *4*(1), 10–18. https://doi.org/10.1111/j.1750-8606.2009.00110.x

Wille, B., Hofmans, J., Feys, M., & De Fruyt, F. (2014). Maturation of work attitudes: Correlated change with big five personality traits and reciprocal effects over 15 years. *Journal of Organizational Behavior*, *35*(4), 507–529. https://doi.org/10.1002/job.1905

Woods, S. A., Lievens, F., De Fruyt, F., & Wille, B. (2013). Personality across working life: The longitudinal and reciprocal influences of personality on work. *Journal of Organizational Behavior*, *34*(S1), S7–S25. https://doi.org/10.1002/job.1863

Woods, S. A., Wille, B., Wu, C., Lievens, F., & De Fruyt, F. (2019). The influence of work on personality trait development: The demands-affordances TrAnsactional (DATA) model, an integrative review, and research agenda. *Journal of Vocational Behavior*, *110*, 258–271. https://doi.org/10.1016/j.jvb.2018.11.010

Wrzus, C., & Roberts, B. W. (2017). Processes of personality development in adulthood: The TESSERA framework. *Personality and Social Psychology Review*, *21*(3), 253–277. https://doi.org/10.1177/1088868316652279

Wu, C.-H. (2016). Personality change via work: A job demand–control model of Big-Five personality changes. *Journal of Vocational Behavior*, *92*, 157–166. https://doi.org/10.1016/j.jvb.2015.12.001

Zimprich, D., Allemand, M., & Lachman, M. E. (2012). Factorial structure and age-related psychometrics of the MIDUS personality adjective items across the life span. *Psychological Assessment*, *24*(1), 173–186. https://doi.org/10.1037/a0025265

Received December 18, 2024
Revision received July 25, 2025
Accepted July 26, 2025 ■