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Unraveling the Complex Relationship Between Work Transitions and Self-Esteem and Life Satisfaction

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Transitions in and out of work are common experiences with major repercussions for people's lives. The complex link between work transitions and psychological adjustment is not well understood, however. In this preregistered study, we analyzed 11 waves of longitudinal data from a representative sample of 13,671 Dutch participants to examine the transactional effects between repeated work transitions (employment and unemployment) and psychological adjustment (self-esteem and life satisfaction). We investigated change trajectories before and after the transitions and tested whether event-related characteristics moderated transition effects. Participants with higher levels of self-esteem and life satisfaction were less likely to experience unemployment and more likely to experience employment, indicating selection effects. Participants decreased in their self-esteem and life satisfaction before the beginning of unemployment indicating anticipatory effects, with larger decreases in self-esteem for participants who ended up experiencing longer unemployment. We found no effects of employment on changes in life satisfaction or self-esteem (except when accounting for unemployment), but participants entering more satisfying jobs showed larger increases in life satisfaction. Results were mostly robust when accounting for gender, age, socioeconomic status, and the Big Five traits, and when using propensity-score matching. Effects did not differ among multiple experiences of the same transition. Together, these findings point to dynamic transactions between employment/unemployment and self-esteem/life satisfaction. Findings highlight the importance of closely assessing the specific timing of pre- and posttransition changes and the existence of large individual differences in reactions to work transitions that seem to be partly explained by eventrelated characteristics.

Keywords: self-esteem, life satisfaction, employment and unemployment, work transitions, life transitions

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Transitions in and out of work are common experiences in people's lives. Most people have more than one job in their lifetime, many people experience unemployment and some even experience it multiple times over the course of their lifetime, as data from Europe and the U.S. show (Booker & Sacker, 2012; Herber et al., 2019; Schmillen & Möller, 2010; U.S. Bureau of Labor Statistics, 2019). Such work transitions have become more prevalent over the last couple of decades due to global labor market transformations and large recessions (OECD, 2020). The COVID-19 pandemic, for example, has triggered one of the worst job crises since the Great Depression with unprecedented global employment losses (OECD, 2020). In 2020, 8.8% of global working hours were lost relative to the fourth quarter of 2019, equivalent to 255 million full-time jobs (International Labor Organization, 2021).

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The preregistration, the analytic methods, and code are available on the

OSF (https://osf.io/5jkhw/?view_only=230c45b8bb5446a9a8d08a6c6b414 43f). The data and research material of the LISS data are openly accessible (http://www.lissdata.nl/) and our results and participant selection can be reproduced by running our code on these data.

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These trends highlight the importance of understanding people's psychological experience of employment and unemployment transitions. The central role of work for human psychological functioning is well established (Blustein, 2008; Jahoda, 1982; Kohn & Schooler, 1978; Warr, 1987). Employment has been shown to be beneficial for physical and mental health, and unemployment a potent risk factor for outcomes such as depression, anxiety, mortality, and suicide (Flint et al., 2013; Gebel & Voßemer, 2014; Thomas et al., 2005; Warr, 2007; for a meta-analysis, see Paul & Moser, 2009; for a review, see Wanberg, 2012). In addition to research on clinical outcomes, a growing literature has studied the links between work and psychological adjustment more generally (for meta-analyses, see Luhmann et al., 2012; McKee-Ryan et al., 2005). However, several major questions about the link between work transitions and psychological adjustment remain and are addressed in this preregistered study (for preregistration, see Reitz, Luhmann et al., 2022).

The first aim of this study was to investigate the links between psychological adjustment and two important types of work transitions (i.e., changes in employment status): entering a new employment and becoming unemployed. Consistent with theories that stress the importance of dynamic person-environment transactions for individual development (Fraley & Roberts, 2005; Neyer & Asendorpf, 2001; Sameroff, 1975), we expected to find bidirectional effects with psychological adjustment predicting work transitions and vice versa. Following the call to take a multidimensional perspective on life transitions (Wagner et al., 2020), we studied the links between work transitions and two key indicators of psychological adjustment that predict physical and psychological health (Diener, 2009; Orth & Robins, 2014): self-esteem and life satisfaction. These two constructs are correlated (r = 0.58), but also distinct (Lyubomirsky et al., 2006). The distinction between both constructs holds both conceptually (self-esteem is a person's evaluation of their personal value, life satisfaction is a person's overall evaluation of their life) as well as empirically (unique patterns of relations with the other measured variables). The present study provided empirical evidence for another, less studied criterion for exploring their similarity, that is, their shared environmental antecedents (for criteria to determine sibling constructs, see Lawson & Robins, 2021; for a study that examined changes in both characteristics in response to another life event, see Reitz et al., 2022).

Previous research has provided first evidence for the link between work transitions and life satisfaction and self-esteem, but conclusions are limited due to the lack of studies using large longitudinal data and rigorous study designs. We, therefore, examined the longitudinal links between self-esteem and life satisfaction and work transitions using a large 11-year multiwave data set, allowing us to unravel the longitudinal dynamics with high-temporal resolution. Specifically, we examined both directions of effects between work transitions and psychological adjustment: selection (self-esteem and life satisfaction predict the likelihood to experience work transitions) and socialization (work transitions predict changes in self-esteem and life satisfaction). As transition-induced change might occur before and after transitions, we distinguish between preevent (anticipation) and postevent change.

In addition, we investigated the effect of combined and repeated work transitions on self-esteem and life satisfaction. Most studies examined the impact of single unemployment transitions (for an exception, see Luhmann & Eid, 2009). Work transitions are, however, rarely isolated experiences in real life: reemployment can follow unemployment and unemployment can be experienced repeatedly (U.S. Bureau of Labor Statistics, 2019). It is unknown, however, whether reemployment cancels out the effects of unemployment (*interference*) and whether people's responses to repeated experiences of the same type of work transition become stronger (*sensitization*) or weaker (*habituation*) with each experience.

The second aim of this study was to investigate reasons why individuals differ in their change in self-esteem and life satisfaction in response to work transitions. Knowledge about the sources of individual differences in psychological adjustment is needed to identify people at risk for maladjustment and to develop prevention and intervention programs (e.g., for people who are struggling with the consequences of unemployment). We, therefore, examined whether event-related characteristics of employment transitions (i.e., job satisfaction) and unemployment transitions (i.e., unemployment duration) moderated change in self-esteem and life satisfaction. We also explored whether demographic characteristics moderated changes in self-esteem and life satisfaction.

Selection Effects of Self-Esteem and Life Satisfaction on Work Transitions

Research has provided general support for selection effects of self-esteem (Cetre et al., 2016; Luciano & Orth, 2017; Orth & Luciano, 2015) and life satisfaction (Denissen et al., 2019; Luhmann & Eid, 2009; Stutzer & Frey, 2006) and life transitions in important life domains, particularly in the relationship domain. In contrast, less is known about such selection effects for life transitions in the work domain, and in particular for self-esteem, the evidence is inconclusive (for an overview of exceptions, see Krauss & Orth, 2021). Some longitudinal studies indicated that high levels of selfesteem predict later employment (e.g., Salmela-Aro & Nurmi, 2007). With regard to unemployment, it was found that adolescents with low levels of self-esteem were more likely to be unemployed in young adulthood (an effect that became, however, nonsignificant when accounting for intelligence (IQ), depression, and socioeconomic status (SES); Trzesniewski et al., 2006). A study on the British Household Panel Survey (BHPS) found that low self-esteem predicted unemployment for women but not for men (Huysse-Gaytandjieva et al., 2015). In contrast, another study found no selection effects for unemployment (Tetzner et al., 2016).

There is some evidence to suggest that life satisfaction predicts unemployment. Longitudinal research on panel studies reported that dissatisfied (vs. satisfied) individuals were more likely to lose their job (Clark, 2003; Graham et al., 2004; Luhmann & Eid, 2009). One previous analysis of parts of the present data reported that individuals who experienced unemployment had lower life satisfaction than those who did not experience unemployment (Denissen et al., 2019). For employment, evidence is lacking, with the exception of one study that found that higher life satisfaction was associated with a higher likelihood of starting a new job (Luhmann et al., 2013).

In summary, theory and some research indicate that self-esteem and life satisfaction predict work transitions. Based on this literature, we anticipated that higher levels of self-esteem and life satisfaction predict a lower likelihood of experiencing unemployment (H1.1) and a higher likelihood of experiencing employment (H1.2).

Socialization Effects of Work Transitions on Self-Esteem and Life Satisfaction

Both self-esteem (Donnellan et al., 2012; Kuster & Orth, 2013; Trzesniewski et al., 2003) and life satisfaction (Eid & Diener, 2004; Lucas & Donnellan, 2007) show substantial rank-order stability (consistency) over time. Yet, research also found phases of decreased rank-order stability (e.g., Reitz et al., 2020), considerable individual variability in change trajectories (e.g., Lucas & Donnellan, 2007; Tetzner et al., 2016), and mean-level changes across the lifespan (for self-esteem, see Orth et al., 2018; for life satisfaction, see Baird et al., 2010; Hudson et al., 2017). Together, these findings suggest that selfesteem and life satisfaction are changeable.

In the wake of these findings, there has been an increasing interest in identifying the factors and processes that elicit change in selfesteem and life satisfaction (i.e., socialization effects). Lifespan theory and other transactional perspectives have posited that environmental changes can trigger a developmental change in broad traits (Baltes et al., 2006; Elder, 1998; Roberts et al., 2005; Sameroff, 2010). According to these perspectives, major life events can elicit change in self-esteem and life satisfaction as they bring various changes in the environment, which has generally been supported by empirical evidence (Bleidorn et al., 2018; Denissen et al., 2019; Lucas, 2007). Life events in the work domain might be an important catalyst of psychological change as work is of central importance for people's basic needs (Blustein, 2008; Jahoda, 1982; Van den Broeck et al., 2016). Work transitions provide a unique opportunity to study the predictions of lifespan theory and other transactional perspectives because they bring about changes in the environment that might be major sources of self-esteem and life satisfaction.

Self-esteem theories predict that work transitions can influence self-esteem, too. Self-esteem is considered to rise and fall in response to people's subjective experience of success and failure (Crocker & Wolfe, 2001; Hogan & Roberts, 2004; James, 1890). Several scholars consider self-esteem to be responsive to mastery experiences (Leary & Baumeister, 2000; Wojciszke et al., 2011). Research testing these predictions for work transitions is scarce and evidence is mixed and indirect. A study found changes in employment status and income to be related to decreases in self-esteem in older adults (Orth et al., 2010). Another study found that first-time employed increased in selfesteem; the difference in the mean-level change was, however, only small compared to those not yet employed after graduation (Reitz et al., 2020). In contrast, other studies found no links between employment status and self-esteem (Kuster et al., 2013).

Set-point models of subjective well-being (e.g., Lykken & Tellegen, 1996) predict that life satisfaction changes temporarily in reaction to life events and returns to baseline levels over time, but research has shown that long-term change in life satisfaction is possible (Diener et al., 2006). Longitudinal studies have consistently reported negative effects of unemployment on life satisfaction (Clark et al., 2001; Lucas, 2007; McKee-Ryan et al., 2005; Winkelmann & Winkelmann, 1998). One of the first large-scale longitudinal studies on this topic used the German Socioeconomic Panel (SOEP) and concluded that unemployment might permanently change life satisfaction (Lucas et al., 2004). A meta-analysis of longitudinal studies reported negative effects of unemployment on life satisfaction but cautioned that many of these studies were conducted a long time ago (Luhmann et al., 2012). The authors reported a nonlinear trajectory: A negative initial reaction was

followed by an increase (rebound), which, however, did not balance out the initial negative reaction until 3 years after the event (see also Denissen et al., 2019).

An important unanswered question in the literature is at what point in time changes due to work transitions begin. Theoretical perspectives on personality development consider the possibility that changes start before the life event begins, as people might already engage in psychological investments when anticipating life transitions (Roberts et al., 2005). Studies using the SOEP have reported preevent declines in life satisfaction (Clark et al., 2008; Hahn et al., 2015; Oesch & Lipps, 2013; for a meta-analysis, see Luhmann et al., 2012), which are commonly referred to as anticipatory effects, even if expectations are not directly assessed. However, another study did not find anticipatory effects (von Scheve et al., 2017). Anticipatory effects of unemployment on life satisfaction need to be replicated, especially in countries other than Germany, where most of this data is from. Also, such effects should be explored for self-esteem and employment, for which evidence is lacking.

Previous research has not yet consistently disentangled anticipatory effects from selection and postevent socialization effects. For at least two reasons, the distinction between these effects is of great importance to accurately interpret the results from prospective studies. First, if anticipatory changes are ignored, one might draw incorrect conclusions about postevent socialization effects. For example, if adjustment levels decrease before unemployment but do not drop any more after, one might falsely conclude that there is no change across unemployment. Second, disentangling anticipatory effects from selection effects is necessary to avoid false conclusions about the predictive validity of self-esteem and life satisfaction. For example, low levels of self-esteem prior to unemployment could either indicate selection effects (individuals with low self-esteem are more likely to experience unemployment) or anticipatory effects (people's self-esteem tends to decrease during the time leading up to unemployment). To disentangle these effects, we analyzed self-esteem and life satisfaction across multiple assessments before and after work transitions.

In summary, based on previous theory and research, we expected socialization effects: The transition to unemployment will predict decreases in self-esteem and life satisfaction (H2.1) and the transition to employment will predict increases in self-esteem and life satisfaction (H2.2). To examine the precise timeline of change, we explored both anticipatory (prevent) and postevent change as distinguishable parts of socialization effects.

The Effects of Multiple Work Transitions on Self-Esteem and Life Satisfaction

Research has almost exclusively focused on single occurrences of either employment or unemployment. However, these work transitions are not isolated instances. We explored two ways in which their effects might be intertwined. First, people may experience transitions in and out of employment within short periods of time. The effects of a later transition may interfere with the effects of a prior transition, which is why we examined combined effects. Second, many people experience multiple transitions of the same type, and their responses to later transitions may differ from responses to earlier transitions (sensitization or habituation), which is why we examined repeated transitions. In the following, we describe these possibilities in more detail.

Combined Effects of Employment and Unemployment Transitions

Experiencing a sequence of employment and unemployment transitions may lead to multiple layers of effects on self-esteem and life satisfaction. However, most existing research has not disentangled their combined effects. Similar to interference, a physical phenomenon in which two waves come together to form a new wave, an accurate estimate of an event requires accounting for the effects of previous events. For example, a positive effect of speedy reemployment might cancel out the negative effect of unemployment and quickly losing one's job might result in an attenuated positive effect of a new employment. Interference might also result in illusory effects, for example, when a rebound in adjustment following unemployment is due to universal factors (e.g., setpoint effects) but is mistaken for a positive effect of reemployment if it occurs soon after. To the extent that employment and unemployment frequently occur closely together, and both have distinctive effects, accounting for interference should result in more pronounced and/or robust effect size estimates.

Research on the effect of reemployment on self-esteem is scarce and has not been able to statistically tease apart unemployment and reemployment. One challenge of many studies is that they used retrospective reports instead of assessing change from unemployment to employment. A meta-analysis found that reemployment was associated with an improvement in mental health (self-esteem was one of 6 indicators; Paul & Moser, 2009). The magnitude of the positive effects of reemployment was larger than the magnitude of the negative effects of unemployment (for similar findings, see McKee-Ryan et al., 2005). However, when corrected for testing effects (a systematic change of test scores caused by repeated measurement), Paul and Moser (2009) found that the effect sizes for unemployment and reemployment became more similar. Hence, we accounted for testing effects.

Research on life satisfaction has not yet provided conclusive results. Some studies have reported that people increased in life satisfaction after reemployment but did not return to their preunemployment levels (Clark et al., 2001; Luhmann & Eid, 2009). A meta-analysis of mostly prospective studies has surprisingly reported that the initial impact of reemployment on life satisfaction was negative (Luhmann et al., 2012). The authors speculated that the actual experience of reemployment might have been less positive than anticipated and therefore called for studies that account for anticipatory changes of reemployment. It might also be that formerly unemployed individuals were still recovering from that experience when they became reemployed, which is why the authors emphasized the need to tease these effects apart. Moreover, as most studies on combined effects used the SOEP data from Germany (with country-specific [long] unemployment durations and reemployment patterns), studies from other countries are needed to examine the generalizability of their findings.

Repeated Employment and Unemployment Transitions

A substantive number of people experience multiple unemployment spells in their lifetime. Data from the U.S. and Germany suggest an average of 1.5 and 1.6 unemployment spells across 3- and 25-year periods, respectively (Palumbo, 2010; Schmillen & Möller, 2010).

Of those reporting unemployment, 15% reported two, and 3% reported three or more spells during the 17 years of the BHPS (Booker & Sacker, 2012). Nevertheless, little is known about whether or not the effects of work transitions are similar when experienced repeatedly. The stress-sensitization model predicts that repeated exposure to negative experiences results in increasingly negative effects on psychological adjustment (Monroe & Harkness, 2005). Similarly, the stress-accumulation model predicts more intense reactions after repeated unemployment spells due to an accumulation of stress factors such as financial and social deprivation (Warr, 1987). Contrasting predictions can be derived from theories of adaptation or habituation: People might respond less intensely to each new work transition as people handle adversity increasingly well (Frederick & Loewenstein, 1999).

Research on repeated work transitions is still in its infancy. A study using the SOEP reported that the decline in life satisfaction was the same each time, but because people did not return to their preunemployment level during reemployment, their life satisfaction decreased (in a stepwise fashion) from unemployment to unemployment (Luhmann & Eid, 2009). A study using the BHPS also reported that psychological well-being levels were lower at each unemployment spell (Booker & Sacker, 2012). However, neither study included a comparison group nor accounted for testing effects. Replications of the effects of repeated unemployment spells on life satisfaction that account for testing effects are needed to obtain robust effects. Furthermore, it is important to examine other psychological outcomes, such as self-esteem, as well as the impact of repeated employment transitions.

In summary, based on previous theory and research, we explored combined effects of employment and unemployment transitions and examined whether the effects of employment and unemployment changed with repeated experiences (sensitization or habituation). Based on the notion that personality characteristics might predispose individuals to have more erratic work lives (Caspi et al., 1989), we also explored whether self-esteem and life satisfaction predicted the likelihood of experiencing repeated work transitions.

Event-Related Characteristics as Moderators of Socialization Effects

Several studies found considerable interindividual differences in the change of self-esteem and life satisfaction in response to work transitions (Doré & Bolger, 2018; Lucas, 2007; Luhmann & Eid, 2009; Reitz et al., 2020). Previous research has predominantly focused on personality and socioeconomic factors as sources of this heterogeneity, while less is known about the moderating role of event-related characteristics (Yap et al., 2012; see Eid & Larsen, 2008; McKee-Ryan et al., 2005). However, the quality of life transitions can vary tremendously and likely bring about unique psychological experiences (Lodi-Smith & Roberts, 2007; Luhmann et al., 2021). While most people consider employment as a positive event, some people may be unhappy with their job or feel overwhelmed by the new challenges and responsibilities. Similarly, while most people consider unemployment as a negative event, a brief spell might not be such a negative experience if a new job is already on the horizon. Nevertheless, the literature often categorizes a certain life transition as either a positive or a negative experience, thus ignoring the quality or subjective valence of the experience. This valence, however, may shape an individual's response to the event (e.g., Luhmann et al., 2021; for a recent study that demonstrated that for bereavement, see Reitz et al., 2022). Hence, we examined peoples' job satisfaction and the duration of unemployment as moderators of changes in self-esteem and life satisfaction.

Job Satisfaction

Job satisfaction, a central evaluative characteristic of the work experience, might moderate the effects of employment and unemployment on self-esteem and life satisfaction. Self-esteem is positively related to job satisfaction (for a meta-analysis, see Judge & Bono, 2001). Job satisfaction prospectively predicted self-esteem in one of two samples in one study (Kuster et al., 2013), whereas no effects were found in another study (Orth et al., 2012). A study on within-person change during the education-to-work transition found that an increase in positive achievement-related daily experiences was linked to an increase in self-esteem for young adults who entered full-time employment (Reitz et al., 2020). This finding is in line with the notion that self-esteem levels fluctuate in response to good and bad experiences (Crocker & Wolfe, 2001; James, 1890). Hence, positive employment effects on self-esteem may be amplified for people who are satisfied with their jobs. Conversely, negative effects of unemployment might be amplified for people who lose a job they were satisfied with.

Job satisfaction might also moderate effects of work transitions on life satisfaction. Research has reported a link between job satisfaction and life satisfaction (see Bowling et al., 2010), which is consistent with the hypothesis that job experiences spill over into other areas of life (Heller et al., 2002). People who are more satisfied with their new job can thus be expected to report higher life satisfaction in response to a new job. The reverse might be true for unemployment: People who are more satisfied with their previous job should report lower life satisfaction in response to losing this job. In summary, we expected larger increases in self-esteem and life satisfaction when starting a satisfying job and larger decreases when terminating a satisfying job (H3.1).

Unemployment Duration

A number of researchers have argued that longer periods of unemployment may have more negative psychological consequences due to cumulative stress processes (e.g., increasing financial pressures, diminishing coping resources, frustrations from failed job seeking; Kinicki et al., 2000; Kroft et al., 2016; Warr et al., 1982). Consistent with this position, studies found that longer unemployment spells had more negative effects on mental health (McKee-Ryan et al., 2005; Paul & Moser, 2009) and life satisfaction (Hahn et al., 2015; Luhmann & Eid, 2009).

Other researchers have argued that individuals may be likely to adapt to even long spells of unemployment as they learn to deal with the circumstances (e.g., by budgeting and dropping inefficient job search strategies; see Clark, 2006). While this notion conflates unemployment duration and time passed since the event (regardless of whether it triggered a short vs. long spell), there is some evidence to support this idea (for a review, see Clark, 2006). However, these studies were mostly based on cross-sectional or retrospective data and operationalized duration as a person's total lifetime spent unemployed, which does not capture the duration of specific unemployment spells. Another set of studies reported no effects of unemployment duration on life satisfaction (Winkelmann, 2009; Winkelmann & Winkelmann, 1998). A reason why the latter findings differ from those from other studies might be methodological (a cutoff of more vs. less than 2 months).

In sum, research provided mixed evidence for the moderating effect of unemployment duration. While studies that employ stricter statistical controls found that longer spells predict a stronger decrease in psychological well-being, studies with less strict controls reported inconsistent evidence. Because the present study applied statistical procedures that were as stringent (if not more stringent) as the former group of studies, we predicted greater decreases in self-esteem and life satisfaction for longer versus shorter spells of unemployment (H3.2).

Personal Characteristics as Moderators and Covariates

In addition to event-related characteristics, we examined the role of personal characteristics in the links between psychological adjustment and work transitions. First, self-esteem and life satisfaction might be associated with work transitions partly because of a confound that is relatively stable and independent of the environmental circumstances. Broad personality traits-such as the Big Five traits extraversion, neuroticism, openness, agreeableness, and conscientiousness-might shape or even partly explain the links between work transitions and both self-esteem and life satisfaction. Personality traits have been reliably linked with individual differences in self-esteem (Robins, Tracy, et al., 2001) and life satisfaction (Anglim et al., 2020), and were found to predict work transitions including new employment and unemployment (Denissen et al., 2019; Roberts et al., 2007). To the degree that the links between self-esteem and life satisfaction and work transitions are a function of personality trait differences, accounting for personality trait differences should reduce the direct association between work transitions and self-esteem and life satisfaction.

Second, demographic factors may play a role in the links between psychological adjustment and work transitions. Specifically, women and older workers have a higher risk of unemployment (International Labor Organization, 2021). To account for this heterogeneity, we include age and gender in all models as covariates. Furthermore, there is evidence that age, gender, and SES are linked with self-esteem and life satisfaction (Diener, 2009; Robins, Hendin, et al., 2001; Sinclair et al., 2010). In the Netherlands, unemployment effects were found to vary depending on gender and age (Mooi-Reci & Ganzeboom, 2015). Hence, we explored whether the association between work transitions and self-esteem and life satisfaction was moderated by age, gender, and SES.

The Present Study

The present study examined the complex links between work transitions (two changes in employment status: becoming employed and becoming unemployed) and psychological adjustment (selfesteem and life satisfaction) to address several unanswered questions. Our first aim was to investigate their bidirectional association that is predicted by transactional views. We expected to find selection effects: higher levels of self-esteem and life satisfaction should predict a lower likelihood of unemployment (H1.1) and a higher likelihood of employment (H1.2). Furthermore, we expected to find socialization effects: the unemployment transition predicts a decrease (H2.1) and the employment transition predicts an increase in self-esteem and life satisfaction (H2.2). As employment and unemployment rarely occur as isolated events, we examined the impact of multiple transitions. Specifically, we examined combined effects of employment and unemployment and whether self-esteem and life satisfaction showed sensitization (*responding more strongly*) or habituation (*responding less strongly*) after repetitions of the same transition. We furthermore explored selection effects for repeated transitions.

Our second aim was to investigate sources of interindividual differences in change in self-esteem and life satisfaction in response to work transitions. Based on theory and research, we identified two event-related characteristics of work transitions that might shape socialization effects. We predicted that individuals with higher (vs. lower) levels of job satisfaction show stronger positive effects when they start their job and stronger negative effects when they terminate their job (H3.1). In addition, we predicted that the decline in self-esteem and life satisfaction is more pronounced for longer (vs. shorter) unemployment spells (H3.2). Finally, we explored whether age, gender, and SES moderate effects.

The present study used a design that overcomes several methodological challenges in previous research (see Bleidorn et al., 2018; Luhmann et al., 2014). First, most studies relied on data with only a few assessments with relatively large time lags between them that prohibit examining the precise timeline and shape of change trajectories. We used a prospective design with multiple, rather fine-grained assessments of employment status (every month), self-esteem (every 1-2 years), and life satisfaction (every year), which provided novel insights into the specific nonlinear change trajectories. Second, most studies placed the first assessment shortly before or at the time of the transition, which cannot capture anticipatory changes but mistakes them for stable preexisting differences. To disentangle anticipatory from selection and postevent effects, we used assessments from several years before the work transition and examined both effects simultaneously. Third, most studies covered only a few years, which is not long enough to separate short-term from long-term or baseline change and to capture repeated transitions. In contrast, we covered a period of up to 11 years.

We used multilevel modeling to estimate the specific change trajectories, to model individual differences in change, and to capture the effects of multiple work transitions. We preregistered our hypotheses and the data analytic strategy and made the code of the data analysis available on the Open Science Framework (OSF; https://osf.io/5jkhw/). To examine the robustness of effects, we included age and gender as covariates. We also ran exploratory robustness tests that used the Big Five traits as covariates and propensity-score matched comparison groups.

Method

Procedure

representative probability sample of Dutch households drawn from the population register by Statistics Netherlands (Scherpenzeel & Das, 2010). Participants were recruited by letter, followed by a telephone call and/or house visit, and had to complete online questionnaires (for detailed information on the sample, recruitment, and materials, see https://www.lissdata.nl/about-panel). To counteract attrition, new participants are included in the panel on a regular basis (Lugtig, 2014). The present study is exempt from institutional review board approval because it uses a publicly available deidentified archival data set.

We used data from the 11 waves that were available at the time of conducting the analyses. The first data collection was in 2008 and the last used collection was in 2019. The first cohort assessed in 2008 was the largest and has been, naturally, participating the longest (11 years). Participants provided demographic information on a monthly basis, which we used to code experiences of work transitions. Participants completed the life satisfaction questionnaires every year and self-esteem questionnaires in most but not all years (assessments were a maximum of 2 years apart) in a planned missingness design. The exact pattern of planned missingness depended on the year of sample entry (i.e., a cohort; see Tables S1 and S2 of the Supplementary Materials, for an overview of the sample sizes for each cohort per assessment year). We calibrated the time axis according to the timing of events, with 0 representing the time of the event, with negative values indicating the number of months before the event and with positive values indicating the number of months after the event. This approach makes it less relevant that certain waves or years were missing (as compared to an analytic strategy that uses "year" or "measurement wave" as time axis).

Participants

The existing data set had a total pool of over 22,000 participants. We included data from participants who completed at least one self-esteem or life satisfaction survey (individuals with only one assessment contributed to the estimation of the intercept). This resulted in a sample of 13,671 participants. The average age of participants at the first assessment was 43.62 years (SD = 17.74) and 54% of the participants were female. Regarding highest educational attainment, 8% reported primary school, 22% VMBO (akin to junior high school), 11% HAVO/VWO (akin to senior high school), 22% MBO (akin to junior college), 21% HBO (akin to college), and 9% university. Regarding monthly income after taxes, 15% reported no income, 8% less than 500€, 16% between 501€ and 1,000€, 19% between 1,001€ and 1,500€, 21% between 1,501€ and 2,000€, 10% between 2001 € and 2,500€, 5% between 2,501€ and 3,000€, and 3% 3,001€ or higher. Eighty-three percent had a Dutch heritage (for percentages per variable and group, see Tables S3 and S4 of the Supplementary Materials). Other ethnicities were other Western, Indonesian, Turkish, Dutch Antilles, Surinamese, and Moroccan (for more information on the ethnic composition of the LISS panel, see Knoef & de Vos, 2009). A detailed description of the full sample can be found online.

The preregistration of the hypotheses, the data analytic strategy, and the R code of the data analysis are available on the OSF (https:// osf.io/5jkhw/; deviations from the final study from the registration are shown in Table S5 of the Supplementary Materials). The LISS

Data for this study came from the Longitudinal Internet Studies for the Social Sciences (LISS) panel. The LISS panel follows a data are openly accessible and our results and participant selection can be reproduced by running our code on these data. A recent study used the LISS data from 2008 to 2017 to examine the links between first-occurrence life events (including work transitions) and Big Five personality traits (Denissen et al., 2019). This study included life satisfaction (to compare the effects of the Big Five traits with), but in contrast to our study it did not include self-esteem, multiple work transitions, the 2018–2019 data, nor the moderators. Another study used the LISS data to examine cross-sectional correlations between employment status and self-esteem and life satisfaction (van der Meer & Wielers, 2016).

Measures

Self-Esteem

Self-esteem was assessed with the 10-item Rosenberg self-esteem scale (Rosenberg, 1965). Participants rated their agreement with statements such as "On the whole I am satisfied with myself" on a 7-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (7). The scale's internal consistency (coefficient α) was .90 across years.

Life Satisfaction

Life satisfaction was measured using the five-item Diener satisfaction with life scale (Diener et al., 1985). Responses to statements such as "In most ways my life is close to my ideal" were assessed on a 7-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (7). The average coefficient α was .89 across years.

Work Transitions

Work transitions were derived from the employment statuses of the monthly demographic surveys. We created dummy variables to indicate the experience of new employment and unemployment based on a month-to-month comparison of participants' primary occupation status. When participants reported a change into one of these answer options from 1 month to the next, we marked the month in which the change had taken place with two dummy variables. A "1" on the first dummy indicated the employment transition: the beginning of paid employment (about one-third each was previously employed, a student, or other, including home keeper, freelancer, voluntary activity). A "1" on the second dummy indicated the unemployment transition: becoming a job seeker following job loss. We created dummies for the first, second, and third occurrences of unemployment and employment in the study period. The prevalence of each type of event decreased considerably with each repetition, which is why we restricted our analyses to three repetitions.

Tables S6 and S7 of the Supplementary Materials show the sample sizes per assessment wave for different work transitions for self-esteem and life satisfaction, respectively. Table S8 of the Supplementary Materials shows demographic differences between participants who experienced an employment transition (N = 1,819) and those who did not experience an employment transition and reported a work status at any point while in the LISS panel (mostly people who entered the sample while being employed; N = 5,633). Table S9 of the Supplementary Materials shows demographic

differences between participants who experienced an unemployment transition (N = 933) and those who did not experience an unemployment transition and reported a work status at any point while in the LISS panel (N = 6,508).

Time Coefficients Capturing Mean-Level Change

We adopted the recommendations by Luhmann and Eid (2012) and computed four time coefficients (i.e., time-variant event parameters) to model within-person changes in self-esteem and life satisfaction (see Figure S10 of the Supplementary Materials, for an illustration). We included one preevent change coefficient (preLin) and three postevent change coefficients: postYear indicating sudden but short-term (nonlasting) changes, postBase indicating baseline changes, and postLin indicating gradual (linear) changes:

- 1. The *linear anticipation* coefficient (preLin) reflects the rate of linear change in the outcome variable leading up to the first transition. The monthly metric was converted to a 5-year (60 months) metric to reduce range differences between indicators (also done for the postLin coefficient).¹ All occasions preceding the transition (e.g., -1 if a self-esteem or life satisfaction assessment happened 5 years before the event) have negative values that count upwards to 0 until the time of the transition, after which all occasions were coded as 0.
- 2. The *postevent year* coefficient (postYear) indicates a sudden short-term change in the outcome. PostYear was coded as a dummy variable with 1 marking any self-esteem or life satisfaction assessment within 1 year after the transition and 0 for all other occasions.
- 3. The postevent baseline change coefficient (postBase) represents a sudden baseline shift after the transition. PostBase can be interpreted as a baseline change in the outcome variable (for the duration of the study), beyond short-term changes. PostBase is coded as a dummy variable with a value of 1 for any self-esteem or life satisfaction assessment after the transition, and 0 for all occasions before the transition.
- 4. The *postevent linear* coefficient (postLin) reflects the rate of linear change in the outcome variable after the transition, beyond short-term changes and baseline change. All occasions preceding the transition were coded with 0, and all occasions after the transition have positive values that count upwards (e.g., 1 if a self-esteem or life satisfaction assessment happened 5 years after the transition; see Footnote 1).

For the comparison groups (which is the case for the original comparison groups and the propensity-score matched comparison

¹ Our decision to choose a 5-year interval was based on previous research that found this interval to be long enough to capture anticipatory effects (which can occur as early as 2–3 years prior to the event), adaptation effects, and to disentangle stable and temporary effects (Clark et al., 2008; Denissen et al., 2019; Luhmann et al., 2013). We preferred the 5-year interval over a monthly metric, which would have rendered the coefficients too small.

groups added following a reviewer comment)², all time coefficients were coded with 0 on all occasions. As a result, these coefficients represent changes in the transition sample over and above those experienced by other participants. The intercept estimates the predicted level of the outcome variable for an individual of average age and gender who has never experienced the transition, at the first measurement occasion.

Event-Related Characteristics

Job Satisfaction. Job satisfaction was assessed with five items. Participants indicated how satisfied they were with "your wages or salary or profit earnings," "your working hours," "the type of work that you do," "the general atmosphere among your colleagues," and "with your current work." The scale ranged from *not at all satisfied* (0) to *fully satisfied* (10). The scale also contained the sixth item "your career so far," which we excluded because we were interested in participants' current or previous job instead of their career in general. The average coefficient α was .83. If multiple satisfaction measures were available for a specific job, the average was taken. For plotting the results, we formed a binary job satisfaction variable using a mean-level split (*lower satisfaction* [0], *higher satisfaction* [1]).

Unemployment Duration. Duration of unemployment was derived from the event variable described above. We computed duration as the number of months from beginning to end of the transition. We log-transformed the duration variable because many more individuals experienced short-term unemployment than long-term unemployment (producing skewness). For plotting the results, we formed a binary duration variable (0-12 months [0], 12 months or more [1]).

Demographic Variables

Age was included as a linear covariate (grand-mean centered at age 43.62). We divided it by five to create a metric similar to the linear event-related time coefficients (i.e., 1 = 5 years/60 months). We also included age as a squared covariate. To avoid that the range of the quadratic term deviated strongly from the linear term, quadratic terms were divided by 10, which makes them also easier to interpret and renders the scaling more comparable to the other variables (cf. Clark et al., 2016). In addition, female gender (*male* [0], *female* [1]) was added as a covariate.

We examined the moderating effects of person-level (time-invariant) demographic characteristics of the socialization effect in separate analyses as they were reported at the beginning of the survey: gender, age, education level, income level, and occupational prestige. As education, occupational prestige, and income were not continuous and the income variable was skewed, we dichotomized them. Education was measured using a categorical variable indicating the highest diploma obtained. Consistent with common statistical practice in the Netherlands (CBS, 2021), we coded participants with college and/or university as "highly educated" (29%) and the remaining participants as "low to medium educated" (71%). Furthermore, we coded "other mental work," "skilled and supervisory manual work," "semiskilled manual work," "unskilled and trained manual work," and "agrarian profession" as lower occupational prestige (51%) and "higher academic or independent profession," "higher supervisory profession," "intermediate academic or independent profession," and "intermediate supervisory or commercial profession" as *higher occupational prestige* (49%). Finally, we created a dummy variable indicating lower *income* with a value of 0 for all individuals earning $1,500 \in$ monthly or less (51%), and a 1 indicating higher income for all individuals earning $1,501 \in$ or more (49%).

Personality

The Big Five traits (extraversion, agreeableness, conscientiousness, emotional stability, openness to experience) were assessed with the 50-item version of the IPIP Big Five Inventory (Goldberg, 1992). Participants rated their agreement with self-describing statements on a 5-point scale ranging from 1 (*very inaccurate*) to 5 (*very accurate*). The average coefficient α was .82 across years.

Analytic Strategy

Measurement occasions (Level 1) were nested within persons (Level 2), which in turn were nested within households (Level 3). To account for the nested structure, we analyzed the data using multilevel models using the lme4 package (Version 1.1-21; Bates et al., 2014) in R (Version 3.6.3; R Core Team, 2020). Self-esteem, life satisfaction, and job satisfaction were grand-mean standardized (i.e., in the long format). Effects, therefore, resemble effect sizes (Cohen's d) in the case of the dummy predictors, for example, a value of 1 indicates that the difference between groups equaled 1 SD. Effects for continuous predictors can be interpreted as a change in SD units of the outcome variable for every 1-unit increment of the predictor (e.g., corresponding to a 5-year increment in the case of the event timing and age variables). Analyses were first conducted separately for self-esteem and life satisfaction and for employment and unemployment. The rationale for starting with a separate analysis is that not everybody who transitioned out of unemployment went back into employment, and not everyone who transitioned into employment has previously been unemployed. In addition to fixed effects, we modeled random intercepts for households, persons, and measurement occasions (when analyzing repeated transitions). The latter random effect was added because the dependent variable (but not the independent variables) was identical within measurement occasions.

We accounted for linear and quadratic age, gender, and testing effects in all models. The testing effects variable accounted for changes in self-esteem and life satisfaction scores that were due to the repeated assessments. We modeled testing effects as linear changes in the form of a function of the number of previous

² For the demographic variables female gender, education, income, marital status, Dutch heritage, age, self-esteem, and life satisfaction we took participants' first value and imputed missing values, using the R-package mice (Version 3.11.1). We then proceeded to select only a subsample of LISS participants who ever reported being employed. Using the "nearest neighbor" algorithm of the matchit R-package (Version 4.3.2), we used these variables to created matched samples that people who did experience a first work transition and those who did not, using propensity scores that depended on the above-described variables. For unemployment, matching was fully successful but for employment, there were still major differences for age and marital status so we included these variables as control variables in the analyses. In the resulting models, we no longer included a selection effect because propensity score matching is aimed at removing the influence of selection effects.

self-esteem and life satisfaction assessments (0 for the first assessment, 1 for the second assessment, and so forth; for a similar approach, see McArdle et al., 2002).

Combined Employment and Unemployment Transitions

After examining the effects of employment and unemployment separately, we examined them in one model. This combined analysis disentangles the effects of interlocking time effects. Consider this example: Someone recovers from decreased life satisfaction after becoming unemployed and eventually finds a new job. Is the recovery due to the dissipation of the short-term effect of unemployment, or to the new job that exerts a positive effect? For these analyses, we added all time coefficients of the first occurrence of both work transitions to a regression equation predicting self-esteem or life satisfaction.

Repeated Work Transitions

We also investigated whether repeated transitions had different effects on self-esteem and life satisfaction. We created two data frames: One consisting of measurements of individuals who had experienced at least one transition into paid employment during the study, and another one consisting of measurements of individuals who had experienced at least one transition into unemployment. For up to three (repeated) transitions, separate rows were created with information about self-esteem and life satisfaction at each measurement occasion, and the relative position of each occasion compared to the (repeated) transition in question, as indicated by the time coefficients described above. Table S11 of the Supplementary Materials shows an example of the coding of the time coefficients for the different repetitions of employment transitions for life satisfaction for one fictitious individual.

Time-Invariant Effects Indicating Preexisting Differences

We created a time-invariant dummy variable *Event Selection* with a value of 1 for participants who had ever experienced the transition (i.e., had been employed/unemployed at least once) and with 0 for those who did not (neither before nor during the study). The effect of this dummy variable indicates differences between those who will experience a transition and those who will not, which were interpreted as selection effects.

Moderator Analyses

We examined the extent to which the reaction to the employment and unemployment transitions (i.e., socialization effects) varied as a function of job satisfaction and duration of unemployment. We additionally explored gender, age, initial education level, initial income, and initial occupational prestige as Level 2 moderators.

Inference Criteria and Power Considerations

Our statistical tests were dependent, as the same outcome variable and events were used in multiple comparisons. Because of the relatively large number of statistical tests, we controlled for the false-discovery rate using the "BY" method (Benjamini & Yekutieli, 2001), which accounts for dependency. We did this within each major group of hypotheses, with separate corrections for primary hypotheses versus more exploratory analyses. For details about these various correction procedures, we refer to the R scripts uploaded to OSF. We computed 99.9% confidence intervals for a lack of a uniform corrected level, so the significance levels do not correspond to the confidence intervals (they approximately correspond to the corrected, but not raw p value).

Because we employed secondary data analysis, we were unable to determine the sample size a priori using power analysis. Instead, we performed a posthoc sensitivity power analysis using the simr package, which starts with a model estimate obtained with the actual data and uses observed parameters (e.g., correlations between random effects) to simulate additional data sets. For these simulations, the user can specify effect sizes for selected coefficients and then compute the power with which these effect sizes could be detected. Because this simulation approach is very computationally intensive, it was focused on the "power bottleneck": The parameter that is calculated on the smallest number of data points and therefore has the lowest power. This was the postYear parameter, which is typically only based on a single data point. Because unemployment occurs less frequently than unemployment in the LISS data set and we have fewer self-esteem than life satisfaction assessments, the postYear effect for unemployment and self-esteem represents the bottleneck. Because we focused on the first repetition in our main analyses, our power analysis focused on the first unemployment transition. We had 74% power to detect an effect size of d = .15 for a first postYear effect on self-esteem, and 98% power to detect an effect size of d = .20.

Results

Descriptive Statistics

The means and standard deviations across all available waves were: M(SD) = 5.52 (1.02) for self-esteem, M(SD) = 5.05 (1.11) for life satisfaction, M(SD) = 6.64 (1.09) for job satisfaction, and M(SD) = 12.72 (14.6) for unemployment duration (in months; see Table S12 of the Supplementary Materials, for the means and standard deviations for all waves). The correlations between the study variables were (minimum/maximum correlation across all measurement waves): r = .43/.49 for self-esteem and life satisfaction, r = .22/.39 for self-esteem and job satisfaction,³ and .32/.57 for life satisfaction and job satisfaction. The duration of the first unemployment (which we used as moderator variable) did not correlate significantly with the average satisfaction with the lost job or the average levels of self-esteem and life satisfaction during the study, $p \ge .06$. At the first employment transition, the average age was M(SD) = 35.28 (13.18) and 61% were female. At the first unemployment transition, the average age was M(SD) = 43.19(12.40) and 55% were female. The average time between the first and second occurrences was 30 months for employment and 25 months for unemployment (time between the second and third occurrences were 22 and 21 months).

³ We excluded an outlier from the correlations between self-esteem and job satisfaction, which was r = .62. It stems from the 2010 data collection, when there were less than 40 data points for this correlation. We excluded this correlation from our presentation of the correlation ranges, as it is not representative for the rest of the waves (ranged between .22 and .39).

Selection Effects of Self-Esteem and Life Satisfaction on Work Transitions

We first examined selection effects for the first employment and unemployment transitions that people experienced during the study period (see Table 1). We found selection effects both for employment and unemployment and for both self-esteem and life satisfaction. Confirming H1.1 and H1.2, participants with higher levels of self-esteem and life satisfaction were more likely to become employed (b = .19 and b = .12, respectively) and less likely to become unemployed (b = -.16 and b = -.32, respectively). These coefficients can be interpreted as effect sizes (Cohen's d's) and thus effects can be considered small, except for life satisfaction and unemployment, for which they can be considered small to medium.

Next, we explored whether self-esteem and life satisfaction predicted the experience of repeated work transitions. We first computed residualized scores that partialed out gender, age, and testing effects. To omit assessments that might have been affected by anticipatory effects, we computed the (between-group standard-ized) mean across assessments that occurred at least 2 years before the first unemployment. We compared participants who experienced one, two, or three transitions of each event. Because we ran four regressions, we applied an α level of .05/4 = .01. No comparison remained statistically significant after this correction. Hence, we concluded that selection effects did not differ between repetitions.

Socialization Effects of First Work Transitions on Self-Esteem and Life Satisfaction

Next, we investigated the effects of the first employment and unemployment transitions that occurred in the study period (see Table 1). The testing effects were statistically significant and negative in all models, indicating a decrease in self-esteem and life satisfaction with every additional assessment. However, testing effects were very small (self-esteem: b = -.02/-.01; life satisfaction: b = -.01/.00), which corresponds to an annual change of 0 to -.02 SD units. Women reported lower self-esteem (b = -.14/-.15) but higher life satisfaction (b = .05/.04). The gender effects resemble effect sizes (Cohen's d) and can be considered small. Age effects were small, too (although note that coefficients cannot be interpreted as effect sizes). Linear age was positively associated with self-esteem (b = .05/.04) and life satisfaction (b = .02/.01), corresponding to a change of .01–.05 *SD* units across 5 years. Quadratic age was negatively associated with self-esteem (b = -.04/-.07). Further inspection indicated a gradual flattening of the increase after midlife.

Consistent with Hypothesis 2.1, we found a negative anticipatory effect of unemployment on self-esteem and life satisfaction. Participants decreased in self-esteem (b = -.10) and life satisfaction (b = -.16) before the beginning of unemployment. In other words, the effect would translate into an accumulated decrease of between .10 and .16 *SD* units if the last measurement took place 5 years before the event (note that preevent measurements often took place later, e.g., 2 years before the event, in which case the predicted accumulated decreased would be a fraction of this). We did not find average socialization effects that started after the beginning of unemployment (neither sudden nor lasting changes). Inconsistent with Hypothesis 2.2, participants did, on average, neither change in self-esteem or life satisfaction before nor after the beginning of employment.

The self-esteem and life satisfaction trajectories for employment are depicted in Panel A and Panel B of Figure 1 and those for unemployment in Panel A and Panel B of Figure 2, respectively (see Supplemental Materials content S13, for a description of the visualization). The figures and a comparison of the time coefficients before (preLin) and after unemployment (postYear plus postBase) show that after the anticipatory drop before unemployment, there was no full recovery to baseline levels.

To estimate individual variability, we modeled random effects around the time coefficients in the models above. We ran four analyses for each combination of transition and outcome variable (e.g., unemployment and self-esteem). In each analysis, we included a random slope around one time coefficient (e.g., the postYear coefficient) and investigated whether this resulted in a significant improvement in fit, compared to the original model (which contained only random intercepts). This was true for all comparisons, indicating that there was substantial individual variability in all effects of unemployment and employment on both self-esteem and life satisfaction, $ps \leq .00002$.

Table 1

Multilevel Associations Between First Work Transitions and Self-Esteem and Life Satisfaction

			First emp	ployment		First unemployment							
		Self-esteem		Life satisfaction				Self-esteem		Life satisfaction			
Coefficient	b	99.9% CI	р	b	99.9% CI	р	b	99.9% CI	р	b	99.9% CI	р	
Intercept	02	(07, .03)	.238	10	(15,05)	<.001	.12	(.08, .15)	<.001	.01	(03, .04)	.508	
Testing	02*	(02,01)	<.001	01*	(01,01)	<.001	01*	(02,01)	<.001	00^{*}	(01,00)	<.001	
Female gender	14*	(19,10)	<.001	.05*	(.01, .09)	<.001	15*	(20,11)	<.001	.04*	(.00, .09)	.001	
Linear age	.05*	(.04, .06)	<.001	.02*	(.01, .03)	<.001	.04*	(.03, .05)	<.001	.01*	(.00, .02)	<.001	
Quadratic age	04*	(06,02)	<.001	.01	(01, .02)	.068	07*	(08,05)	<.001	01*	(03, .00)	.005	
Selection	.19*	(.13, .25)	<.001	.12*	(.06, .17)	<.001	16*	(26,05)	<.001	32*	(41,22)	<.001	
Anticipation	.00	(08, .07)	.894	04	(11, .03)	.045	10*	(20,01)	<.001	16*	(25,07)	<.001	
Postevent year	.02	(06, .10)	.402	.00	(06, .07)	.816	01	(13, .10)	.668	06	(16, .03)	.020	
Postevent baseline	02	(10, .05)	.319	.01	(05, .08)	.516	.01	(10, .11)	.848	02	(11, .06)	.367	
Postevent linear	.03	(04, .10)	.205	.02	(04, .08)	.361	.01	(08, .10)	.699	.04	(04, .12)	.090	

Note. $p = \operatorname{raw} p$ value obtained from the analyses that is not yet adjusted for multiple testing. Significant effects for time coefficients are in bold. * Significant after correction for false-discovery rate





Note. Figure depicting standardized and residualized (controlling for gender, age, and testing effects) selfesteem and life satisfaction values as a function of the number of months relative to the first employment transition of participants who experienced the transition into employment during the study period. The graph was created from average (across participants) outcome variables' levels during every month before, during, and after the transition for which there was at least one assessment available. See the online article for the color version of this figure.

Combined Effects of Employment and Unemployment Transitions

In addition to analyzing employment and unemployment transitions separately, we analyzed them in one model as described in the analytic strategy section (i.e., we estimated effects for transitions independent from the previous transition). As shown in Table 2, results from the analyses of combined transitions mostly replicated the results of the separate unemployment and employment transitions, indicating that the negative anticipatory effect found for unemployment transitions was independent of employment transitions. One additional finding was that a very small positive postevent baseline effect of employment on life satisfaction appeared (b = .05) when unemployment transitions were accounted for.

The Effects of Repeated Work Transitions

To test the effects of repeated transitions, we ran the model described in the analytic strategy section. Results indicated that none of the Time coefficient \times Repetition interaction effects were statistically significant: No *p* value was smaller than .05, and after correcting for false-discovery rate, all *p* values equaled 1. These results indicate that the employment and unemployment transitions





Note. Figure depicting standardized and residualized (controlling for gender, age, and testing effects) selfesteem and life satisfaction values as a function of the number of months relative to the first unemployment transition of participants who experienced the transition into unemployment during the study period. The graph was created from average (across participants) outcome variables' levels during every month before, during, and after the transition for which there was at least one assessment available. See the online article for the color version of this figure.

did not show robust associations with different levels of self-esteem and life satisfaction if they occurred repeatedly.

To examine the effects of repeated work transitions, we modeled the effect of two repetitions of the employment and unemployment transitions on self-esteem and life satisfaction in multivariate regressions (i.e., both the first and second transitions were included, and hence, their effects were accounted for one another). The regression analyses indicated that there was a negative anticipatory effect of unemployment and that people showed a small boost after starting reemployment in addition to regressing toward the mean.

To illustrate the effects, we computed predicted values for employment and unemployment transitions that were 2 years apart and smoothed the output with the "loess" algorithm in ggplot2 (with a span of .4, established after some trial and error). As can be seen in Figure 3, the repeated transitions had similar effects; effects were generally more pronounced for life satisfaction than for self-esteem. If shorter intervals (events every 6-12 months) were chosen, participants would not recover from the decline of unemployment before the next employment, resulting in a general downward trend.

Event-Related Characteristics as Moderators of Socialization Effects

Next, we ran moderator analyses while adjusting the *p* values to account for multiple testing, as described above and in the R scripts.

 Table 2

 Combined Effects of First Employment and Unemployment Transitions

		Self-esteem		Life satisfaction						
Coefficient	b	99.9% CI	р	b	99.9% CI	р				
Intercept	01	(06, .04)	.528	09	(13,04)	<.001				
Testing	02*	(02,01)	<.001	01*	(01,00)	<.001				
Female gender	14*	(19,10)	<.001	.05*	(.01, .09)	<.001				
Linear age	.05*	(.04, .06)	<.001	.02*	(.01, .03)	<.001				
Quadratic age	04*	(06,03)	<.001	.01	(01, .02)	.266				
Employment										
Selection	.20*	(.14, .26)	<.001	.14*	(.09, .20)	<.001				
Anticipation	.00	(08, .08)	.968	03	(10, .04)	.207				
Postevent year	.03	(06, .11)	.319	.01	(06, .08)	.606				
Postevent baseline	.00	(08, .08)	.876	.05*	(01, .12)	.008				
Postevent linear	.04	(05, .12)	.151	.02	(05, .09)	.395				
Unemployment										
Selection	20*	(30,09)	<.001	35*	(45,26)	<.001				
Anticipation	09*	(19, .02)	.005	14*	(23,05)	<.001				
Postevent year	02	(13, .10)	.613	06	(15, .04)	.045				
Postevent baseline	.00	(11, .11)	.985	05	(14, .04)	.078				
Postevent linear	.00	(11, .10)	.890	.03	(06, .12)	.259				

Note. $p = \operatorname{raw} p$ value obtained from the analyses that is not yet adjusted for multiple testing. Significant effects for time coefficients are in bold. * Significant after correction for false-discovery rate.

For job satisfaction, we found several moderator effects for employment, but not for unemployment. Job satisfaction moderated the effect of the employment transition on both self-esteem and life satisfaction (see Figure 4 and Table 3): High job satisfaction predicted a baseline increase in self-esteem (b = .08) and life satisfaction (b = .09). For self-esteem, this effect did not remain significant after accounting for multiple testing. In addition, the postYear × job satisfaction effect indicated a sudden short-term decline when subsequent job satisfaction was high (b = -.09), which effectively delayed the positive baseline shift by a year. The interactions between job satisfaction and the postevent linear effects

Figure 3

Predicted Self-Esteem and Life Satisfaction Scores for Repeated Work Transitions



Note. Predicted self-esteem and life satisfaction scores for repeated unemployment and employment transitions across 2-year intervals between the various events. The gray solid lines indicate the unemployment events and the black dotted lines the employment events. Note that values were slightly below zero because of the negative selection effect.

(i.e., all changes in *SD* units from 0 to 5 years after the event beyond short-term and baseline change) were negative for both self-esteem (b = -.08) and life satisfaction (b = -.08). Hypothesis 3.1 was thus partly supported for employment but not for unemployment.

Together, these findings indicate a nonlinear trajectory for the high job satisfaction group, as some of the postemployment time interaction coefficients were positive and some negative (e.g., self-esteem: b = -.09/.08/-.08 for postevent year/postevent baseline/postevent linear, respectively; for an illustration, see Figure 4; note that effects were small). The general pattern was at follows: those who started a satisfying job showed a sudden baseline increase in self-esteem and life satisfaction (which was not or less the case for those who started a less satisfying job), followed by a gradual decrease thereafter. However, levels did not fully return to baseline and were higher 5 years after the employment than before and higher than the levels of those with low job satisfaction.

We found a moderator effect for unemployment duration for selfesteem but not for life satisfaction (see Figure 5 and Table 4): Participants who experienced longer spells of unemployment displayed a larger anticipatory decrease in their self-esteem (b = -.09), followed by a larger linear increase (recovery) after the event (b =.09). These moderator effects indicate changes in *SD* units across 5 years. Those with longer spells of unemployment had still lower levels of self-esteem than those with shorter spells 6 years after. Hypothesis 3.2 was thus partly supported.

Personal Characteristics as Moderators and Covariates

Tables S14 and S15 of the Supplementary Materials show the separate moderation analyses for the demographic variables. In all models, age, education, income, and occupational prestige had positive main effects on self-esteem and life satisfaction. Female gender had a positive main effect on life satisfaction but a negative main effect on self-esteem. None of the interaction effects of the demographic





Note. On the *y*-axis, standardized and residualized (controlling for gender, age, and testing) levels of self-esteem and life satisfaction are depicted. See the online article for the color version of this figure.

variables and the time coefficients on self-esteem and life satisfaction were significant after correcting for the false-discovery rate.

In exploratory analyses that were requested in review, we examined whether the effects between work transitions and self-esteem and life satisfaction held after accounting for the Big Five traits. With one exception (see below), all previously significant effects remained significant and all previously nonsignificant effects remained nonsignificant. The time coefficients in the model without the Big Five traits (see Table 1) changed from those in the model with the Big Five traits (see Table 5) as follows: For selection, effect sizes decreased by half (change in estimates before/after accounting for the Big Five traits: employment and self-esteem: b = .19/.08; employment and life satisfaction; b = .12/.06; unemployment and self-esteem: b = -.16/-.08), except for unemployment and life satisfaction, for which the effect size remained similar (b = -.32/-.27).

For anticipation, the effect sizes remained virtually identical (average/range of absolute change: b = .02/b = .01 and b = .02),

except for unemployment and self-esteem, for which the effect decreased from b = -.10 to b = -.05 and no longer met our adjusted threshold for significance (p = .03). The effect sizes of the postevent time coefficients remained virtually identical (the average/range of absolute change for postevent year: b = .01/b = 0 and b = .02; postevent baseline: b = .03/b = .02 and b = .04; and postevent linear: b = .01/b = .00 and b = .01).

Together, accounting for the Big Five traits resulted in a decrease in the unemployment models resulted in a decrease (by approximately half) of the selection and anticipatory effects for self-esteem, but not for life satisfaction (the decrease was negligible). Accounting for the Big Five traits in the employment models resulted in attenuation, but not disappearance, of selection effects for both selfesteem and life satisfaction.

Additional Robustness Testing

We reran exploratory analyses that were requested in review using propensity-score matched comparison groups (see Footnote 2). We found that effects were generally comparable: All previously significant effects remained significant and had similar magnitudes (see Table S16 of the Supplementary Materials). However, some previously nonsignificant findings were significant: We found negative anticipatory effects of employment for self-esteem (b = -.12) and life satisfaction (b = -.08) that were, however, partly compensated after a year after the transition (b = .08, b = .05, respectively, the latter was however nonsignificant).

Discussion

The present study investigated the association between work transitions (employment and unemployment) and psychological adjustment (self-esteem and life satisfaction) using prospective multiwave data from a large, nationally representative sample from the Netherlands. Our first aim was to examine the bidirectional links between work transitions and self-esteem and life satisfaction over time. We found evidence for bidirectional effects. First, high levels of self-esteem and life satisfaction predicted the occurrence of employment and low levels predicted the occurrence of unemployment, indicating selection effects. Second, both self-esteem and life satisfaction decreased in anticipation of unemployment, indicating anticipatory effects, but remained, on average, relatively stable across the employment transition. The effects of the first versus repeated work transitions did not differ.

Our second aim was to examine whether two event-related characteristics of work transitions contributed to individual differences in change in self-esteem and life satisfaction. Job satisfaction moderated the effect of employment on life satisfaction and the duration of unemployment moderated the effect of unemployment on self-esteem. We found no evidence for moderating effects of any of the demographic variables. Results were mostly robust when accounting for the Big Five traits and using propensity-score matching.

Self-Esteem and Life Satisfaction Predicted Employment and Unemployment

The finding that people who scored higher on life satisfaction were less likely to experience unemployment and more likely to experience employment replicates previous studies (Clark, 2003;

Table	3
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Moderator Effects of Job Satisfaction on the Association on the Effect of Work Transitions on Self-Esteem and Life Satisfaction

				Unemployment									
	Self-esteem			Ι	Life satisfaction			Self-esteem			Life satisfaction		
Coefficient	b	99.9% CI	р	b	99.9% CI	р	b	99.9% CI	р	b	99.9% CI	р	
Intercept	14	(46, .19)	.411	58	(88,29)	<.001	.02	(19, .24)	.841	29	(50,07)	.009	
Testing	00	(02, .01)	.825	00	(02, .01)	.512	01	(03, .01)	.389	02	(04, .00)	.056	
Female gender	10	(20,00)	.046	.11	(.03, .20)	.012	12	(25, .00)	.051	.16	(.04, .28)	.010	
Linear age	.03	(.01, .06)	.019	05^{*}	(07,02)	<.001	.09*	(.06, .13)	<.001	.04	(.01, .08)	.004	
Quadratic age	05	(09,01)	.021	03	(07, .00)	.070	.05	(01, .11)	.087	.11*	(.05, .16)	<.001	
Job satisfaction	.19*	(.13, .24)	<.001	.26*	(.20, .31)	<.001	.26*	(.19, .33)	<.001	.39*	(.32, .46)	<.001	
Selection	.09	(23, .41)	.579	.33	(.03, .62)	.030	02	(24, .21)	.888	.10	(12, .32)	.362	
Anticipation	15*	(24,06)	.001	09	(17,01)	.025	13	(23,03)	.009	09	(18, .00)	.062	
Postevent year	.01	(06, .07)	.829	.01	(04, .06)	.625	01	(10, .08)	.803	04	(11, .04)	.335	
Postevent baseline	.09	(.03, .15)	.006	.11*	(.06, .16)	<.001	01	(09, .07)	.790	07	(13, .00)	.057	
Postevent linear	05	(14, .03)	.234	.04	(03, .11)	.300	08	(18, .03)	.162	.06	(04, .15)	.228	
Job satisfaction \times Anticipation	.04	(02, .10)	.205	.06	(.01, .12)	.020	01	(08, .07)	.819	.09	(.02, .16)	.015	
Job satisfaction \times PostYear	09*	(16,03)	.003	.01	(04, .05)	.825	.03	(06, .12)	.473	04	(11, .03)	.288	
Job satisfaction × PostBase	.08	(.02, .14)	.007	.09*	(.04, .14)	<.001	.04	(04, .12)	.370	.01	(06, .08)	.820	
Job satisfaction × PostLin	08*	(13,03)	.001	08*	(12,03)	<.001	08	(15,02)	.016	08	(14,03)	.004	

Note. $p = \operatorname{raw} p$ value obtained from the analyses that is not yet adjusted for multiple testing. Significant moderator effects are in bold. * significant after correction for false-discovery rate.

Graham et al., 2004; Luhmann & Eid, 2009). Our findings provide novel evidence that these selection effects generalize to self-esteem, which extends previous research by using large power, accounting for personal characteristics, testing effects, and false-discovery rates (e.g., Huysse-Gaytandjieva et al., 2015; Salmela-Aro & Nurmi, 2007). Together, these findings emphasize that individuals play an active role in shaping their work lives and, hence, their personal development, as proposed by transactional and lifespan perspectives.

There are at least two mechanisms that may drive these effects and should be examined in future research. First, people with higher selfesteem and life satisfaction may have been more successful at obtaining a job. They showed higher levels of job search behavior (Kanfer et al., 2001) and better interview performance (Liden et al., 1993), possibly because of (overly) positive perceptions of their competence (Dufner et al., 2015) and likability (Reitz et al., 2016). Second, lower self-esteem and life satisfaction, which are associated with reduced work performance (Judge & Bono, 2001), may have increased their risk of getting laid off (Wagenaar et al., 2015).

Self-Esteem and Life Satisfaction Decreased in Anticipation of Unemployment

The finding that self-esteem and life satisfaction decreased before the onset of unemployment provides novel evidence for anticipatory effects. These anticipatory effects seem to have had a long-term impact. Despite some rebound effects, even 5 years after experiencing unemployment, both self-esteem and life satisfaction levels did not fully recover to baseline levels. Our findings extend previous research that focused mostly on reaction and adaptation to unemployment or pointed to anticipatory effects but did, unlike our study, not test their robustness (e.g., Luhmann et al., 2012; McKee-Ryan et al., 2005; Paul & Moser, 2009). Due to the analytical approach of the present study, the anticipatory effects are distinct from (unbiased by) selection effects and postevent change. In addition, anticipatory effects of unemployment remained significant when accounting for employment, indicating that the estimates are robust and unbiased by interfering effects of employment transitions. Moreover, the fact that findings were largely replicated when using a matched comparison group provides additional confidence in the robustness of our findings.

Our finding supports the notion that people experience psychological changes prior to important work transitions, possibly as they anticipate the event (Lucas et al., 2004; Luhmann et al., 2013). Anticipatory change has been discussed for other stressful life events: Divorce is often preceded by a period of conflict and separation (e.g., Bleidorn et al., 2021; van Scheppingen & Leopold, 2020) and widowhood is often preceded by a period of spousal illness (e.g., Infurna et al., 2017). Similarly, it is plausible that people often know in advance whether and when they might get laid off. Recessions, company problems, and personal conflicts or performance issues may foreshadow potential lay-offs (Wagenaar et al., 2015). We did, however, not directly test whether people were really consciously aware of their upcoming unemployment. We can, therefore, not exclude the possibility that there are also other reasons for the preevent declines, such as temporary changes in the circumstances due to which people actively initiate work transitions. However, the fact that we found preevent declines in this sample from the Netherlands, a country with stringent notification procedures that inform employees about lay-offs early on (OECD, 2019), points into the direction of anticipatory effects, even if they operate in parallel with other mechanisms.

The finding that the anticipatory change before unemployment generalizes to self-esteem is novel. It is in line with the notion that self-esteem falls in response to failures in relevant life domains (Crocker & Wolfe, 2001; James, 1890). More specifically, it supports the hypothesis that experiences that inform about a person's successes and failures in the work domain are a source of self-esteem (Wojciszke et al., 2011). Furthermore, it seems that change prior to work transitions is not limited to health and well-being but also applies to self-evaluations, which informs the discussion of possible

Figure 5

Unemployment Duration as Moderator of the Effect of Unemployment

(A) Self-esteem



Note. On the *y*-axis, standardized and residualized (controlling for gender, age, and testing) levels of self-esteem and life satisfaction are depicted. See the online article for the color version of this figure.

mechanisms. Identity change might be a mechanism, which is considered to change in anticipation of major life events (e.g., Pasupathi et al., 2007). Given that work is a crucial aspect of one's identity (e.g., Wille & De Fruyt, 2014), it might be that people start to rewrite their life story once they know that unemployment is imminent, with consequences for self-esteem.

The sudden and long-term postunemployment increases were not significant after correction and could not compensate for the pretransition decline. Although self-esteem and life satisfaction reached the lowest points within the first year after the unemployment transition (at around 10 and 6 months, respectively), our findings suggest that they are mostly the result of a rapid decrease before instead of after the transition. Previous studies have, however, reported change after the unemployment transition (for a meta-analysis, see Luhmann et al., 2012). A reason for the divergent findings might be that most previous studies did not account for anticipatory effects, testing effects, and selection effects when examining reaction and adaptation effects, unlike our study. Previous approaches might thus have led to biased estimates of postevent change because the preevent levels tend to diverge from their habitual level (see Luhmann et al., 2012). Results from a study that overcame these methodological challenges reported, in line with our findings, that most Big Five trait changes occurred before life events (Denissen et al., 2019). Retirement is another type of work transition that can be anticipated, yet it is normative (in contrast to unemployment). For retirement, changes in self-esteem were predominantly found before the event, too (Bleidorn & Schwaba, 2018). Together, these studies suggest that shared mechanisms might be at work for different life events that lead to changes that predominantly occur before the event.

More knowledge about anticipatory change may help advance theory development as it provides new clues for where to look for mechanisms that explain life transition changes. The evidence for anticipatory change implies that we should look beyond environmental processes triggered by the new context to psychological processes triggered already when expecting the event. A possible explanation for the larger pre-versus postunemployment change is that people might become anxious about the upcoming unemployment and job search, which might abate after the event (Kramer et al., 2021). The soon-to-be unemployed might overestimate the intensity and duration of their emotional reactions (Wilson & Gilbert, 2005). Another potential explanation is that, as people approach unemployment, they might already experience stressors such as the looming financial strain, which might first result in a decrease in psychological adjustment. However, these preevent stressors might also trigger compensation strategies, such as cutting down expenses, as part of a proactive, behavioral optimizing process that might prevent additional drops once unemployment starts (Baltes & Dickson, 2001; Heckhausen et al., 2010).

No Consistent Change Patterns Linked to Employment

We found no evidence for change in self-esteem and life satisfaction before and after starting employment in the main analyses. However, we found two effects in the additional analyses that extend previous research: First, when simultaneously accounting for unemployment, employment predicted a small increase in life satisfaction after a year (and not within the first year). As we found no such effect when examining employment separately, this finding suggests that unemployment transitions (that possibly occurred after a year past the employment) might have interfered with its positive effects (i.e., attenuated them slightly). Future research is needed to examine such potential interference effects further. Second, when using a matched comparison group, we found negative anticipatory effects for employment that were, however, partly compensated a year after the transition.

Together, these findings suggest that the experience of employment might not be as positive as expected. Our finding complements previous studies that found only small effects of the first job on selfesteem change (Reitz et al., 2020) and no effects of reemployment on life satisfaction (Luhmann et al., 2012). Our finding indicates that the absence of a general boost in self-esteem and life satisfaction might be a general phenomenon after employment. A plausible

		Self-esteem	Life satisfaction					
Coefficient	b	99.9% CI	р	b	99.9% CI	р		
Intercept	.11	(18, .40)	.452	23	(53, .07)	.131		
Testing	01	(03, .01)	.269	01	(03, .01)	.267		
Female gender	10	(22, .02)	.118	.22*	(.09, .34)	.001		
Job satisfaction	.13*	(.10, .16)	<.001	.07*	(.04, .10)	<.001		
Linear age	.04	(02, .09)	.187	$.08^{*}$	(.03, .13)	.002		
Quadratic age	07	(14,00)	.043	04	(21, .12)	.602		
Selection	10	(40, .19)	.488	03	(33, .26)	.830		
Anticipation	20*	(30,10)	<.001	18*	(28,09)	<.001		
Postevent year	03	(11, .04)	.381	07	(14,01)	.029		
Postevent baseline	.02	(05, .10)	.541	01	(07, .05)	.718		
Postevent linear	09	(19, .01)	.064	01	(10, .08)	.878		
Job satisfaction \times Anticipation	09*	(15,03)	.003	05	(18, .09)	.497		
Job satisfaction \times Postevent year	.06	(00, .13)	.058	01	(14, .13)	.898		
Job satisfaction \times Postevent baseline	03	(09, .03)	.366	08	(21, .05)	.228		
Job satisfaction \times Postevent linear	.09*	(.04, .14)	.001	.15	(.04, .26)	.006		

Moderator Effects of Unemployment Duration on the Effect of Unemployment on Self-Esteem and Life Satisfaction

Note. $p = \operatorname{raw} p$ value obtained from the analyses that is not yet adjusted for multiple testing. Significant moderator effects are in bold. * Significant after correction for false-discovery rate.

explanation is a hedonic adaptation process (Diener et al., 2006): Newly employed people might experience a brief increase in their life satisfaction but gradually return to their original levels. Instead of average effects, we found significant individual differences in psychological adjustment to employment. Individual differences in change in the absence of average effects are in line with what was found for the first job after university (Reitz et al., 2020) and underlines the need to attend more strongly to individual variability in change in response to work transitions.

Together, we found more consistent effects for unemployment than for employment. This pattern of results is in line with suggestions that negative events have a greater and longer lasting impact than positive events (Baumeister et al., 2001; for an overview, see Larsen & Prizmic, 2008). Our study provides evidence that this general principle might also apply to work transitions. A possible explanation for this pattern might be differences in societal expectations regarding the two transitions. Joining the labor force and maintaining a job is a normative (i.e., societally expected) developmental task in adulthood (Hutteman et al., 2014). Being employed per se is, thus, nothing extraordinary and might therefore not lead to a boost in self-esteem and life satisfaction. However, being unemployed could be seen as a failure of fulfilling a socially expected role, which might explain the declines in self-esteem and life satisfaction. The idea that the normativity of occupational statuses shapes their impact on self-esteem and life satisfaction corresponds to one's recent study's finding that unemployment had a less negative effect on health when unemployment rates were high (Heggebø & Elstad, 2018).

No Selection nor Socialization Effects for Repeated Work Transitions

We found that people with lower levels of self-esteem and life satisfaction were as likely to experience a second or third employment and unemployment transition as they were to experience a first transition (i.e., selection). This finding provides novel evidence

Table 5

Table 4

Multilevel Associations Between First Work Transitions and Self-Esteem and Life Satisfaction While Accounting for the Big Five Traits

			First em	ployment		First unemployment							
		Self-esteem		Life satisfaction				Self-esteem		Life satisfaction			
Coefficient	b	99.9% CI	р	b	99.9% CI	р	b	99.9% CI	р	b	99.9% CI	р	
Intercept	.03	(01, .07)	.01	08	(13,04)	<.001	.09	(.07, .12)	<.001	01	(05, .02)	.17	
Testing	02*	(02,01)	<.001	01*	(02,01)	<.001	02^{*}	(02,01)	<.001	01*	(01,00)	<.001	
Female gender	05^{*}	(09,01)	<.001	.13*	(.09, .17)	<.001	06*	(09,02)	<.001	.13*	(.09, .17)	<.001	
Linear age	.03*	(.02, .03)	<.001	.00	(00, .01)	.10	.02*	(.02, .03)	<.001	.00	(01, .01)	.49	
Quadratic age	03*	(04,01)	<.001	.03*	(.01, .04)	<.001	04*	(05,03)	<.001	.01*	(.00, .03)	.00	
Selection	.08*	(.04, .13)	<.001	.06*	(.01, .11)	<.001	08*	(16,00)	<.001	27^{*}	(36,18)	<.001	
Anticipation	01	(07, .05)	.60	02	(09, .05)	.27	05	(14, .03)	.03	14*	(24,05)	<.001	
Postevent year	.02	(05, .09)	.34	.02	(07, .10)	.53	01	(11, .09)	.82	05	(16, .07)	.18	
Postevent baseline	05	(12, .01)	.01	02	(09, .06)	.42	03	(12, .07)	.37	04	(15, .07)	.23	
Postevent linear	.02	(04, .08)	.28	.02	(06, .09)	.46	.02	(07, .10)	.48	.04	(05, .14)	.13	

Note. $p = \operatorname{raw} p$ value obtained from the analyses that is not yet adjusted for multiple testing. Significant effects for time coefficients are in bold. * Significant after correction for false-discovery rate.

suggesting that while people with low levels of self-esteem and life satisfaction are at risk to experience unemployment in general, there is no enhanced risk to experience a second or third spell. Their greater likelihood to experience any spell, however, of course does make them more likely to experience repeated spells in an additive fashion.

In addition, we found that work transitions had similar effects on self-esteem and life satisfaction (i.e., socialization) when experienced repeatedly: The magnitude of the decline in self-esteem and life satisfaction was the same for each unemployment spell. Together, these findings neither support sensitization (or habituation) models that predict a less intense decline with each new unemployment experience nor stress-sensitization or -accumulation models that predict a more intense decline. Instead, the degree of work-transition-induced change in self-esteem and life satisfaction seems to be independent of whether the transition has already been experienced or not. Previous research also found the magnitude of the decline in life satisfaction to be comparable with each unemployment spell but found the levels to decrease more and more with each spell (Booker & Sacker, 2012; Luhmann & Eid, 2009). A reason why we did not find sensitization patterns might be that we used stricter statistical controls (when omitting these controls, we found differences between one and two spells). Another reason might be that the unemployment spells in our Dutch study were shorter than the ones in the German SOEP, which might point to sensitization patterns only occurring after longer unemployment phases.

People Differed Considerably in Their Change During Work Transitions

Our findings demonstrate considerable interindividual differences in the change of self-esteem and life satisfaction during work transitions, which is in line with previous research (Doré & Bolger, 2018; Lucas, 2007; Reitz et al., 2020). The finding that the random slopes of all time coefficients were significant adds to the literature that the rates of anticipatory, short-term, baseline change, and posttransition change showed substantial heterogeneity. The results of the moderator analyses support the notion that eventrelated characteristics of work transitions contribute to this heterogeneity (Eid & Larsen, 2008).

Job Satisfaction Moderated Work Transition Effects on Self-Esteem and Life Satisfaction

We found that job satisfaction moderated the effects of employment on self-esteem and life satisfaction. More specifically, people with low job satisfaction showed more stability after the employment transition, whereas people with high job satisfaction initially increased in psychological adjustment (which was only significant for life satisfaction) although this boost dissipated somewhat in terms of later declines in self-esteem and life satisfaction. Together with previous findings (Reitz et al., 2020), our findings suggest that the employment transition per se does not have a positive effect on self-esteem and life satisfaction due to the variability in job satisfaction: Only some jobs are satisfying and provide sources for self-esteem and life satisfaction. The findings call for a refinement of the notion that employment is good for people's psychological adjustment: Self-esteem and life satisfaction only seem to increase when people start a satisfying job (see also Crocker & Wolfe, 2001; Hogan & Roberts, 2004; James, 1890).

Our findings provide additional weight to the call for paying closer attention to the specific event characteristics to better understand individual differences in transition-induced change (see also Luhmann et al., 2021). An important event characteristic that may explain why job satisfaction moderated employment effects is job success, as people who are satisfied with their jobs are more likely to be successful in their jobs (Judge & Bono, 2001). In addition, job success in daily life was found to covary with selfesteem change across the transition to work (Reitz et al., 2020). It might be that self-esteem only started to increase after some time during the transition to a satisfying job because indicators of success such as positive feedback or promotions might occur only after having worked in a new job for some time. The notion of contingent self-esteem might also help explain the upward trend in self-esteem for those satisfied with their jobs: if a new job provides opportunities for success (and hence, job satisfaction; see Judge & Bono, 2001), people might increasingly base their self-esteem on this job, which in turn leads to increases in self-esteem (Crocker & Wolfe, 2001).

Life satisfaction increased among those starting a satisfying job and it peaked around 15 months into the new job. A potential explanation is a sudden availability of resources that fulfill basic needs (Ryan & Deci, 2000). The satisfaction of basic psychological needs at work is linked with job satisfaction and life satisfaction (for a meta-analysis, see Van den Broeck et al., 2016). Need satisfaction on life satisfaction (Unanue et al., 2017). Some of the need-fulfilling resources might have long-term effects, given that we found that the life satisfaction levels declined were still higher for people with satisfying jobs 5 years after the employment transition. Levels did, however, decrease after about 15 months, which might point to a certain degree of hedonic adaptation (Diener et al., 2006).

Unemployment Duration Moderated Effects on Self-Esteem but not Life Satisfaction

Participants who experienced longer periods of unemployment displayed a larger decrease before and a larger increase after the unemployment transition. While these effects were visible for both outcomes, they were only significant for self-esteem. This finding is novel, as previous research has neither examined unemployment duration as moderator of self-esteem change nor of anticipatory change in general. This finding provides a new perspective on the role of unemployment duration. A prominent explanation for the greater decline in psychological adjustment for people who experienced longer unemployment durations is cumulative stress processes (Warr et al., 1982). Our findings add that this more pronounced decline might occur already prior to unemployment and can therefore not be due to the postunemployment stressors. For people for whom job opportunities are rare, such as people working in niche sectors, unemployment spells might be longer. Hence, looming unemployment might be more threatening to them and might impact their self-esteem more strongly before it begins.

After the unemployment transition, participants with longer durations rebounded to some degree, but not fully, from the anticipatory drop. This finding corresponds to the idea that people can adapt somewhat to unemployment as they find ways to deal with the stressors after some time (Clark, 2006). One potential coping mechanism that deserves more attention is psychological disengagement, which is considered as a defense strategy for stigmatized individuals (Major et al., 1998). Unemployed workers are stigmatized and seen as less competent (Norlander et al., 2020). Complementary to the idea that people might increasingly base their self-esteem on work if it is satisfactory, people might increasingly detach their self-esteem from the work domain after long periods of unemployment as a means of self-protection and to maintain their self-esteem levels. Such defense strategies might not be at play during short periods of unemployment because there is no need for self-protection if a new job is already around the corner.

Taken together, our findings suggest both similarities and differences in the environmental antecedents of self-esteem and life satisfaction. Both characteristics were negatively predicted by unemployment but not predicted by employment, which suggests a shared functioning in responding to these environmental experiences. At the same time, the moderator effects differed, which suggests a certain degree of distinctness in their antecedents. An important avenue for future research is to further study their shared and distinct environmental and biological antecedents to define the boundaries of these constructs and to understand their differential functioning in relation to environmental experiences.

Personal Characteristics as Moderators and Covariates

We found that the main effects held after accounting for age, gender, SES, and the Big Five personality traits (with 1 exception). In addition, we found no evidence for moderating effects of age, gender, and SES. If solely stable mechanisms would have been at work, there would not have been effects above and beyond the demographic and personality covariates. These findings suggest that the observed effects are robust across demographic groups and individuals with different personality traits and thus, provide additional confidence that our results indicate selection and socialization effects.

Still, three selection effects and one anticipatory effect were attenuated when personality traits were included as covariates (3 of the effects were for self-esteem). These are novel findings that point to potentially shared mechanisms of effects in life satisfaction and personality, and in particular, in self-esteem and personality, which might be due to the shared identity-related processes discussed above. Future research is needed to further examine the role of the Big Five traits in associations between work transitions and self-esteem and life satisfaction.

Limitations and Future Directions

The present study has several strengths that overcome multiple constraints of previous research. We used a large, representative sample, an 11-year prospective longitudinal design, and multiple, rather fine-grained repeated assessments. We applied advanced analyses with strict controls to examine trajectories before and after work transitions with high precision. We examined bidirectional associations, combined and repeated transitions, event-related and demographic moderator variables, and accounted for demographic characteristics and the Big Five traits. Nevertheless, the study has several limitations that are informative for future research. Our results pointed to two event-related sources of the heterogeneity in self-esteem and life satisfaction changes following work transitions (i.e., job satisfaction and unemployment duration), but other sources remain to be explored. The psychological, idiosyncratic experience of life transitions that was also shown to shape effects of other life transitions (e.g., bereavement; Reitz et al., 2022) deserves more attention. Studies using quasi-experimental designs that target specific work transitions (e.g., following a cohort into employment or employees of a company that goes bankrupt) are needed as they can better capture peoples' experiences and individual circumstances than national panel studies. Such studies should directly examine the degree to which the work transitions were anticipated.

Future research should also capture the reasons for work transitions. Following self-determination theory (Ryan & Deci, 2000), it might be that when motivation for employment is intrinsic (e.g., people expect it to be very fulfilling) as opposed to extrinsic (e.g., social pressure) people increase in their self-esteem and life satisfaction. Similarly, it might be that when unemployment is voluntary as opposed to being laid off, people adjust better (Kassenboehmer & Haisken-DeNew, 2009). Following social investment theory, the importance of work for the individual, especially the centrality of the role to the individuals' identity, is considered to be a promising moderator (Lodi-Smith & Roberts, 2007; though see Den Boer et al., 2019). Narratives that capture the centrality of work in people's identity might illuminate key change mechanisms.

While our study used more frequent and dense assessments than most research, it was not suited to capture fast-paced change in thoughts, feelings, and behaviors and link them to monthly or yearly change in self-esteem and life satisfaction (e.g., Wrzus & Roberts, 2017). Intensive longitudinal designs that include repeated phases of daily diary or experience sampling methods are needed but rarely used in studies on the psychological adaptation to life transitions (Hektner et al., 2007). Such designs should be tailored to work transitions to provide insights into the change mechanisms (e.g., daily success and failure experiences at work or in the job search process; Reitz et al., 2020).

Although the data may be generalized to the Dutch population due to the representativeness of the sample, the effects might be different in other countries. The anticipatory effect of unemployment might be more pronounced in the Netherlands, where employees tend to see it coming early on, than in countries with weaker pretermination resolution mechanisms. The Netherlands has the strictest procedures for dismissals in the OECD countries (4,17 on a 0–6 scale indicating stringent notification procedures; OECD, 2019). In contrast, the U.S. and Canada (both 0,69) have the least stringent procedures, as the employer does not have to provide a reason to the worker before dismissal. Germany, where the SOEP is from, is in the middle field (1,67).

The absence of an additional drop once unemployment starts might also not replicate in countries with less regulatory protection. The Netherlands has relatively high severance pay (1,33 months of pay after notice vs. 0 months in Germany and the U.S.; maximum: 4 months in Turkey) and relatively high unemployment benefits (75% of last pay during the first 2 months) that are paid for long durations (48% after 5 years; U.S.: 18%; Germany: 23%) even in the case of resignation (OECD, 2020). Future research should replicate

our study in different countries and occupational groups with varying degrees of employment protection. In addition, attempts should be made to account for cultural contexts that shape the value of work and hence, may influence the reactions to unemployment (Schwartz, 1999).

Finally, while life satisfaction and self-esteem are important indicators of healthy functioning, they are not exhaustive indicators of well-being. Different trajectories after work transitions may be found for more direct indicators of personal growth and eudaimonic well-being (Infurna & Luthar, 2016; Jayawickreme et al., 2021). Furthermore, future research should extend this research to work transitions that were not covered here, including promotions and retirement.

Conclusion

The present study examined the reciprocal effects between work transitions and self-esteem and life satisfaction. Consistent with transactional perspectives, our results suggest that the experience of work transitions and self-esteem and life satisfaction are linked via dynamic, bidirectional transactions. That is, self-esteem and life satisfaction predisposed people to experience work transitions: People with high levels of self-esteem and life satisfaction were more likely to become employed and less likely to become unemployed. In addition, work transitions had effects on self-esteem and life satisfaction, but the effects occurred mostly pretransition: the average person decreased in self-esteem and life satisfaction before unemployment started, which had long-term effects that people did not fully recover from 6 years after; yet they did not show additional drops after unemployed started. The effect of unemployment was similar if experienced repeatedly. Employment had, on average, no consistent effects, except a small effect on life satisfaction when unemployment transitions were accounted for. We found considerable individual variability in self-esteem and life satisfaction, which was related to event-related characteristics of the work transitions. Specifically, people who were satisfied with their new job showed increases in life satisfaction. People who experienced longer periods of unemployment displayed a larger anticipatory decrease in their self-esteem.

The present study has important implications for research and practice. The study underscores the importance of rigorous, welltimed longitudinal designs to capture the transition-adjustment dynamics, the specific change trajectories before and after work transitions, and the individual differences in psychological adjustment to work transitions. Several ideas that might help further theory development were discussed, including unique transitional experiences and psychological anticipation and adjustment processes. The study identified a group at risk: People with low self-esteem and low life satisfaction seem to be more likely to become unemployed and less likely to reenter the labor market, which decreases their self-esteem and life satisfaction further. Especially if these events are long and frequent, negative effects on their psychological adjustment might accumulate. Furthermore, we cautiously conclude that programs should start long before unemployment begins and aim at preventing long unemployment spells.

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