Journal of Economic Psychology 72 (2019) 1–11

Contents lists available at ScienceDirect

Journal of Economic Psychology

journal homepage: www.elsevier.com/locate/joep

Does life satisfaction predict reemployment? Evidence form German panel data

Damaris Rose[a,*], Olga Stavrova[b]

[a] University of Cologne, Germany
[b] Tilburg University, Netherlands

ARTICLE INFO

Keywords:
Life satisfaction
Reemployment
Big Five
Subjective well-being
Unemployment

JEL classification:
I31
J64

PsycINFO classification:
3000
3100

ABSTRACT

While life satisfaction has been identified as an important predictor of occupational success, the question of whether it might contribute to reemployment success among unemployed individuals has received much less research attention. Contrasting three theoretical perspectives (motivation theories, positive psychology, and the optimum level of well-being literature), we explored whether life satisfaction has a negative, a positive, or a non-monotonic effect on the likelihood of reemployment. We used large-scale panel data from Germany that gave us the possibility to monitor unemployed individuals' life satisfaction and labor market outcomes for 10 years. Results of a multi-level discrete-time hazard analysis supported the optimum level of well-being perspective providing evidence for an inverted-U-shaped association between life satisfaction and reemployment probability. Moderate levels of life satisfaction were associated with a stronger likelihood of reemployment than lower or higher levels of life satisfaction. This effect remained robust against controlling for individuals' socio-economic characteristics, labor market experience and the Big Five personality traits.

1. Introduction

Of all labor market experiences, unemployment has a particularly aversive and long-lived impact on subjective well-being (Lucas, Clark, Georgellis, & Diener, 2004). Studies have repeatedly shown that unemployed individuals have a lower life satisfaction and positive affect and are more vulnerable to depression and other mental health problems than their employed counterparts (McKee-Ryan, Song, Wanberg, & Kinicki, 2005; Paul & Moser, 2009; Wanberg, 2012; Winkelmann & Winkelmann, 1998). The adverse effect of unemployment on well-being has been shown to persist even after reemployment (referred to as "scarring") (Lucas et al., 2004) and to negatively contaminate the well-being of unemployed individuals' close ones (Luhmann, Weiss, Hosoya, & Eid, 2014) and of entire communities (De Neve & Ward, 2017).

While the negative effect of unemployment on life satisfaction has received strong empirical support in existing studies, the role of life satisfaction in the process of reemployment remains relatively understudied, with existing studies providing mixed findings (Gielen & van Ours, 2014; Krause, 2013). Therefore, herein, we explored whether life satisfaction affects the likelihood of re-employment among unemployed individuals. Our expectations are informed by three different perspectives – motivation theories (Carver & Scheier, 1990), positive psychology (Lyubomirsky, King, & Diener, 2005), and the literature on the optimum level of well-being (Oishi, Diener, & Lucas, 2007) – that make different predictions regarding the effect of life satisfaction on reemployment.

Most motivation theories suggest that a discrepancy between a current and a desired state represents a source of motivation and,

* Corresponding author at: Cologne Graduate School, University of Cologne, Albertus-Magnus-Platz, 50923 Cologne, Germany.
E-mail address: damaris.rose@alumni.uni-koeln.de (D. Rose).

https://doi.org/10.1016/j.joep.2018.12.008
Received 27 July 2017; Received in revised form 18 December 2018; Accepted 19 December 2018
Available online 24 December 2018
0167-4870/

consequently, behaviors directed at changing existing circumstances (Carver & Scheier, 1990; Higgins, 1987). Low life satisfaction is often seen as a consequence of such discrepancies (Michalos, 1985) and a potential source of behaviors aimed at alleviating them. Indeed, a series of recent studies showed higher levels of life satisfaction to be negatively associated with the desire to change one's life circumstances (Luhmann & Hennecke, 2017). Consistent with this line of reasoning, the literature on job mobility showed that higher levels of job satisfaction are associated with a lower likelihood of looking for a new job (Green, 2010). Finally, the idea that higher levels of life satisfaction in unemployed individuals might highjack their motivation to change their current circumstances, ultimately leading to a lower likelihood of reemployment has been endorsed in the economic literature as well (Mavridis, 2015). Hence, according to the motivational perspective, higher levels of life satisfaction in unemployed individuals will result in a lower likelihood of reemployment.

In contrast to the motivation theories, the positive psychology perspective (Lyubomirsky, King, et al., 2005) predicts that higher levels of life satisfaction will be associated with a higher (rather than lower) likelihood of reemployment. The benefits of happiness and life satisfaction for occupational success have been shown in multiple studies (Roberts, Caspi, & Moffitt, 2003; Staw, Sutton, & Pelled, 1994). Satisfied individuals are more likely to earn higher incomes (Marks & Fleming, 1999), to be evaluated more positively by their supervisors (Staw et al., 1994), to get promoted (Roberts et al., 2003) and are less likely to lose their jobs (Diener, Nickerson, Lucas, & Sandvik, 2002) compared to their less satisfied counterparts. Life satisfaction is associated with larger social networks (Watson, Clark, McIntyre, & Hamaker, 1992; Zhu, Woo, Porter, & Brzezinski, 2013) and higher perceptions of self-efficacy (Creed & Bartrum, 2008) – characteristics that have been shown to play an important role in the process of job search (Barbulescu, 2015; Eden & Aviram, 1993; Gee, Jones, Fariss, Burke, & Fowler, 2017). Satisfied with life individuals are more likely to take a proactive approach to life (Elliot & Thrash, 2002; Watson, Wiese, Vaidya, & Tellegen, 1999), as reflected in proactive job search behaviors and openness toward novel job opportunities. Overall, according to the positive psychology perspective, higher levels of life satisfaction in unemployed individuals will result in a higher (rather than lower) likelihood of reemployment.

Finally, the third perspective that is often referred to as "the optimum level of well-being" can potentially reconcile the different expectations put forward by the motivational and the positive psychology perspectives (Grant & Schwartz, 2011; Gruber, Mauss, & Tamir, 2011; Oishi et al., 2007). It proposes that life satisfaction will contribute to a higher reemployment likelihood up to a certain point, after which, further increases in life satisfaction will backfire and result in lower (rather than higher) reemployment chances. In other words, "the optimum level of well-being" perspective advocates for a non-linear relationship between life satisfaction and reemployment, suggesting that moderate rather than high or low levels of life satisfaction are expected to result in most positive outcomes.

Indeed, even though multiple studies in positive psychology revealed linear positive associations between life satisfaction and different measures of occupational success (for a review, see Lyubomirsky, King, et al., 2005), they rarely explored the possibility of a non-monotonic relationship. At the same time, studies that tested for a non-linear relationship quite often revealed inverted-U-shaped effects, showing that at very high levels, life satisfaction might be associated with less rather than more positive outcomes. For example, while moderate levels of cheerfulness promote healthy behaviors and longevity, extreme cheerfulness is associated with risk-taking behaviors and higher mortality risks (Friedman et al., 1993; Martin et al., 2002). Social perception studies provided support for the benefits of moderate, rather than high levels of happiness showing that extremely happy people are perceived as being naïve and are more likely to be exploited by others (Barasch, Levine, & Schweitzer, 2016). In large-scale longitudinal studies, moderate rather than high levels of life satisfaction were prospectively associated with higher earnings (Oishi et al., 2007). In the work context, moderate rather than high levels of positive affect were shown to promote creative performance (Davis, 2009; Rego, Sousa, Marques, & Cunha, 2012) and moderately rather than extremely happy individuals were shown to be more likely to engage in proactive behaviors at work (Lam, Spreitzer, & Fritz, 2014).

Too much happiness can be costly because it can result in unrealistically high expectations and promote risky choices (Dunning, Heath, & Suls, 2004; Milam, Richardson, Marks, Kemper, & McCutchan, 2004; Vancouver & Kendall, 2006). Research on unrealistic optimism and overconfidence showed that at moderate levels, optimism and self-efficacy beliefs promote thorough preparation and planning, while at extreme levels, they lead to overestimating one's ability and underestimating the efforts one needs to exert for a successful task completion (Taylor & Brown, 1994). On the job market, this might lead to applying for positions above one's qualification level, insufficient search effort and preparation, and ultimately lower one's reemployment chances. To sum up, according to the optimum level of well-being perspective, life satisfaction will have an inverted-U-shaped effect on reemployment likelihood with moderate rather than high or low levels of life satisfaction being associated with the highest chances of reemployment.

2. Overview of previous empirical findings

Existing studies on the effect of life satisfaction as well as mental health on reemployment have produced mixed findings so far. For example, Clark (2003) and Mavridis (2015) showed that an increase in depressive symptoms following job loss is associated with a shorter unemployment duration. However, in a study of Ginexi, Howe, and Caplan (2000), the level of depressive symptoms in unemployed individuals did not predict their reemployment success. Two further studies focused specifically on life satisfaction rather than depression. Krause (2013) explored whether life satisfaction in unemployed individuals was associated with increased odds of reemployment within the following year. She found that higher life satisfaction in unemployed men (but not women) predicted a higher likelihood of finding a job. On the contrary, Gielen and van Ours (2014) did not detect any association between a drop in life satisfaction after becoming unemployed and reemployment success, even though their analyses suggested that satisfied, vs. less satisfied, unemployed individuals were more likely to engage in job search behavior. Importantly, none of these studies explored the possibility of an inversed u-shaped association between life satisfaction and reemployment.

In the present paper, we add to this literature by testing the (linear and non-linear) effect of life satisfaction on reemployment success in a large sample of unemployed individuals in Germany. This study extends and contributes to existing literature in a number of ways. First, we examined the effect of life satisfaction on reemployment over a considerably longer time period (10 years) than typically studied before (e.g., one year). This allowed us to study potential long-term effects of life satisfaction and helped reducing the number of censored cases. Second, while previous studies looked at a single reemployment event, we examined multiple labor market re-entries using a multi-level discrete-time event history analysis, which additionally allowed us to account for time-varying confounding variables (e.g., annual changes in household income, childbirth etc.). Finally and most importantly, in contrast to previous studies that only tested a linear association between life satisfaction and reemployment, we proposed and empirically tested the optimum level of well-being perspective by examining whether moderate rather than high or low levels of life satisfaction result in a highest reemployment likelihood.

To rule out potential confounding with basic personality characteristics and other socio-demographic factors, our analyses included a large number of control variables. First, as basic personality traits, such as the Big Five, constitute the strongest predictors of life satisfaction (Lyubomirsky, Sheldon, & Schkade, 2005) and have also been shown to predict reemployment (Kanfer, Wanberg, & Kantrowitz, 2001), we statistically controlled for individual differences in the Big Five in our analyses. We also controlled for individual differences in education, (the lagged value of) work experience, migration background, (lagged) household income and further socio-economic and demographic characteristics associated with reemployment probabilities (Brouwer, Bakker, & Schellekens, 2015; Kanfer et al., 2001; Koen, Klehe, & Van Vianen, 2013; McArdle, Waters, Briscoe, & Hall, 2007; Wanberg, 2012; Wanberg, Hough, & Song, 2002; Wanberg, Kanfer, Hamann, & Zhang, 2016). Finally, we took into account contextual characteristics, such as region of residence (East vs. West Germany) and the national average unemployment rate in each particular year (Bundesagentur für Arbeit, n.d.).

3. Method

3.1. Participants and data

We used the data of the German Socio-Economic Panel (GSOEP),[1] a nationally representative longitudinal study of the German population which has been carried out since 1984 (Wagner, Frick, & Schupp, 2007) and currently samples about 20,000 individuals. The interviews are conducted annually and include detailed information on demographics, socio-economic characteristics, personality and annual measures of life satisfaction. As the Big Five have been assessed in GSOEP for the first time in 2005, our analyses are based on the data from 2005 till 2014. Our sample consisted of individuals officially registered as unemployed with the unemployment office at the time of the interview. Participants remained in the sample until they either became reemployed, dropped out of the labor force (e.g., retired) or dropped out of the study. We discarded cases with missing information about the duration of registered unemployment (left-truncation), resulting in a loss of about 15% of the sample. Because our focus is on reemployment, we further discarded respondents with no prior working experience, thereby discarding unemployed who were looking for their first employment opportunity, leading to a further loss of about 10% of our sample. The final sample consists of 5363 individuals (M_{age} = 44.23, SD_{age} = 12.00, 48.35% male), followed over ten years, and 2942 reemployment events (see Table 1 for reemployment statistics per year and Table S1 for descriptive statistics). The number of reemployment events per individual ranged between 0 and 4, with 7.51% of individuals having experienced reemployment more than once during our observation period (see Table 2). The median survival time until reemployment was about 2 years.

3.2. Analytic strategy

As life satisfaction data were collected annually, we explored the effect of life satisfaction at any given year (t − 1) on the likelihood of reemployment the following year (t0). We used a discrete-time event history analysis, which represents the best approach to examine duration data and account for censoring and time-varying covariates, when time is discrete (e.g., measured in years) (Singer & Willett, 1993). We modelled the variation in the likelihood of reemployment due to time-invariant (e.g., gender, migration background) and time-varying (e.g., life satisfaction the year prior to the potential reemployment event, work experience, income) individuals' characteristics. Analyzing data using a discrete-time hazard model, we can assume a basic logistic function for the dependent variable, *i.e.*, log of the odds of reemployment:

$$\log(p_{ijt}/1 - p_{ijt}) \tag{1}$$

where p_{ijt} represents the probability that reemployment occurs at time t during episode i for individual j. The model can be written as

$$\log(p_{ijt}/1 - p_{ijt}) = \beta_{0j} + \beta_1 X_{ij} + \beta_2 Z_{ijt} + \beta_3 t \tag{2}$$

where β_{0j} is the constant, β_1 represents the coefficient for a time-constant covariate X (not varying across unemployment duration, but across reemployment events), β_2 being a coefficient for time-varying covariate Z (varying across unemployment duration as well as reemployment events), and β_3 being a coefficient for time (Teachman, 2011). Time in unemployment begins with the first year of

[1] The data can be requested from the German Institute for Economic Research (DIW) and the computer code can be accessed from (removed for review, 2017).

Table 1
Number of unemployed and reemployed cases per year.

Year	Unemployed, N	Reemployed, N	Total, N
2005	1170	325	1495
2006	1086	344	1430
2007	1009	316	1325
2008	838	295	1133
2009	786	234	1020
2010	792	240	1032
2011	1048	225	1273
2012	1186	305	1491
2013	1122	364	1486
2014	1321	294	1615
Total	10,358	2942	13,300

Table 2
Reemployment statistics.

Number of reemployment events per individual	Reemployed individuals between 2005 and 2014
0	2899 (54.06%)
1	2061 (38.43%)
2	337 (6.28%)
3	57 (1.06%)
4	9 (0.17%)
Total	5363 (100%)

registered unemployment and ends with reemployment or censoring. If an individual re-entered the labor market multiple times during the observation period, the time dummies were reset. Time in unemployment varied between 1 and 19 years (*Mdn.* = 2). An examination of the baseline hazard estimates showed the baseline hazard rate to have a non-parametric functional form. Therefore, we divided the time variable into discrete units. In each of these units, the hazard rate is assumed to be constant. That is, we modelled time t as a piecewise constant function. Based on the functional form of our baseline hazard and the fact that only a very small number of cases stayed unemployed longer than 6 years (n = 373), we included time as yearly dummies indicating one, two, three, four or five years of unemployment, and two dummies indicating 6–10 years and 11–19 years, respectively.

Because the same individuals in our dataset could become unemployed and thus enter "the risk set" for reemployment multiple times during the observed 10 years, we have recurrent events data. Multiple reemployment events experienced by the same individual are not independent of each other as some individuals will be at a higher risk of experiencing repeated reemployment than others. As it is unlikely that the reasons for this higher risk will be fully captured by the covariates, this represents a source of unobserved heterogeneity. As a solution, we extended our discrete-time event history analysis toward a multi-level discrete-time history analysis (Teachman, 2011) by introducing a random effect into the regression equation, taking into account individual-specific unobservables. This resulted in a two-level structure, with the first level of analysis representing annual intervals that are nested (or clustered) within individuals who represent the second level of analysis. Therefore, the Level 2 model can be represented by the following equation:

$$\begin{aligned} \beta_{0j} &= \gamma_{00} + \upsilon_{oj} \\ \beta_1 &= \gamma_1 \\ \beta_2 &= \gamma_2 \\ \beta_3 &= \gamma_3, \end{aligned} \tag{3}$$

which can then be combined with the Level 1 model (2) to:

$$\begin{aligned} &\log(p_{ijt}/1 - p_{ijt}) = \gamma_{00} + \gamma_1 X_{ij} + \gamma_2 Z_{ijt} + \gamma_3 t + \upsilon_{oj} \\ &\upsilon_{oj} \;\; N(0, \sigma_u^2) \end{aligned} \tag{4}$$

with γ_{oo} being the overall intercept term and υ_{oj} as the person-specific random error term with variance and γ_1, γ_2, γ_3 as fixed slopes for the time-constant and time-varying covariates (Teachman, 2011).

We examined the effect of life satisfaction at time t − 1 (e.g., 2004) on the likelihood of reemployment at time t0 (e.g., 2005). If reemployment did not occur at time t0 (e.g., 2005), we further examined the effect of life satisfaction at time t0 (e.g., 2005) on reemployment at time t + 1 (e.g., 2006), until either reemployment or censoring (in 2014) occurred.

3.3. Measurement

The dependent variable in our analysis is the event of reemployment, that is, a change in the employment status from "unemployed" to "full-time", "part-time" or "marginally employed" (1 = reemployed, 0 = not reemployed).

Life satisfaction was assessed with the question "How satisfied are you with your life overall?". Responses were given on an 11-point scale ranging from 0 = "completely dissatisfied" to 10 = "completely satisfied". This single-item measure of life satisfaction has been shown to strongly correlate with multi-item scales and have high external validity (Cheung & Lucas, 2014).

The Big Five personality traits were measured with the brief (15 items) version of Big Five Inventory (Gerlitz & Schupp, 2005). Responses were given on a 7-point scale ranging from 1 = "does not apply to me at all" to 7 = "applies to me perfectly". Internal consistencies ranged from Cronbach's $\alpha = 0.50$ (agreeableness) to Cronbach's $\alpha = 0.66$ (extraversion). Such low Cronbach's αs are considered acceptable for this brief instrument as it was developed to capture the maximum bandwidth of the underlying traits (Donnellan & Lucas, 2008; Stavrova, 2015). The Big Five were measured only in 2005, 2009 and 2013. As individuals' Big Five scores have been shown to be temporally stable (Lucas & Donnellan, 2011; Roberts & DelVecchio, 2000) and unaffected by the event of unemployment (Anger, Camehl, & Peter, 2017), they were entered as time-invariant predictors in the analyses (individuals were assigned the Big Five values they reported at the first measurement occasion, which, for about two third of the overall sample, was in 2005).

We included age, gender (1 = male, 0 = female), education ("low": upper secondary education or below; "medium": completed upper secondary or post-secondary, non-tertiary education; "high": completed tertiary education), years of full- and part-time labor market experience (one-year lagged), marital status (1 = married, 0 = not married), presence of children in the household (1 = yes, 0 = no), migration background (1 = yes, 0 = no) and the logarithm of the lagged annual household net income (adjusted for household size with OECD-modified equivalence scale[2]). We also included the information about the region of residence (former West Germany = 0, former East Germany = 1) and annual national unemployment rate.

4. Results

As shown in Fig. 1, respondents' life satisfaction mostly varied between 5 and 8, while in relatively few person-year cases life satisfaction lied below 5 or above 9.

Before proceeding with the survival analyses and testing whether the association between life satisfaction and reemployment indeed has an inverted u-shaped form, we computed the Intraclass Correlation Coefficient (ICC) of the null model (the model without any predictors). This analysis allowed us to see to what extent single reemployment events experienced by the same individual are independent of each other. The Intraclass Correlation Coefficient (ICC) of the null model (the model without any predictors) indicated that about 14.59% of the variation in the likelihood of reemployment stems from differences between individuals, highlighting the importance of accounting for the unobserved heterogeneity among individuals using a multi-level hazard analysis.

The results of the multilevel hazard analyses are reported in Table 3. Model 1 shows that life satisfaction is positively associated with the probability of reemployment (OR = 1.03, $p = .048$). That is, a one-unit increase in life satisfaction is associated with a 3% increase in the likelihood of reemployment, providing support to the positive psychology perspective. In Model 2, we included the quadratic term of life satisfaction. The quadratic effect was significant (OR = 0.98, $p < .001$), pointing at a non-monotonic relationship. Plotting the association between life satisfaction and the probability of reemployment showed an inverted-U-shaped functional form (Fig. 2). Consistent with the optimum level of well-being literature, moderate levels of life satisfaction were associated with a higher likelihood of reemployment than lower or higher levels.

We used Akaike (AIC) and Bayesian information criterion (BIC) to compare the overall fit of Model 1 (linear) and Model 2 (quadratic). Model 2 yielded lower values in both AIC and BIC than Model 1 and this difference was larger (12 for AIC and 4.6 for BIC) than the cutoff criteria proposed in the literature (Burnham & Anderson, 2003; Raftery, 1995). Therefore, the quadratic model (Model 2) provides a better fit to the data than the linear model (Model 1), giving further support to the optimum level of well-being perspective.

In Model 3, we added the Big Five personality traits. Among them, only the effects of neuroticism and openness reached significance. Neuroticism (OR = 0.89, $p < .001$) was negatively and openness (OR = 1.16, $p < .001$) positively associated with reemployment success. Importantly, the quadratic effect of life satisfaction remained significant ($OR_{linear} = 1.24$, $p < .001$; $OR_{quadratic} = 0.98$, $p < .001$), suggesting that the effect of life satisfaction cannot be explained by a potential confounding with basic personality traits.

In Model 4, we added socio-demographic and contextual control variables. The likelihood of reemployment was higher for younger (OR = 0.93, $p < .001$), better educated (OR = 2.88, $p < .001$) respondents from Western German states (OR = 0.78, $p < .001$) with more work experience (OR = 1.03, $p < .001$), married (OR = 1.19, $p = .023$), and with a higher household net income (OR = 1.58, $p < .001$). Higher unemployment rate at any given year was associated with lower reemployment chances (OR = 0.89, $p < .001$). Most importantly, the quadratic effect of life satisfaction remained robust against controlling for these variables ($OR_{linear} = 1.26$, $p < .001$; $OR_{quadratic} = 0.98$, $p < .001$).

To put our results into perspective, we calculated the predicted likelihood of reemployment in case of a one-standard-deviation increase and decrease in life satisfaction (relative to the median). The results indicate that, for an average respondent, a one-standard-deviation increase (vs. decrease) in life satisfaction is associated with a reduction in the likelihood of reemployment by about 5 (vs. 0.08) percentage points. While these estimates seem small, they are comparable to the substantive significance of other well-

[2] This scale adjusts household income according to differences in household size and composition by assigning a value of 1 to the head of household, 0.5 to each additional adult household member, and 0.3 to each child. The total (net) household income is then divided by the number of 'equivalized household members' (OECD, 2013).

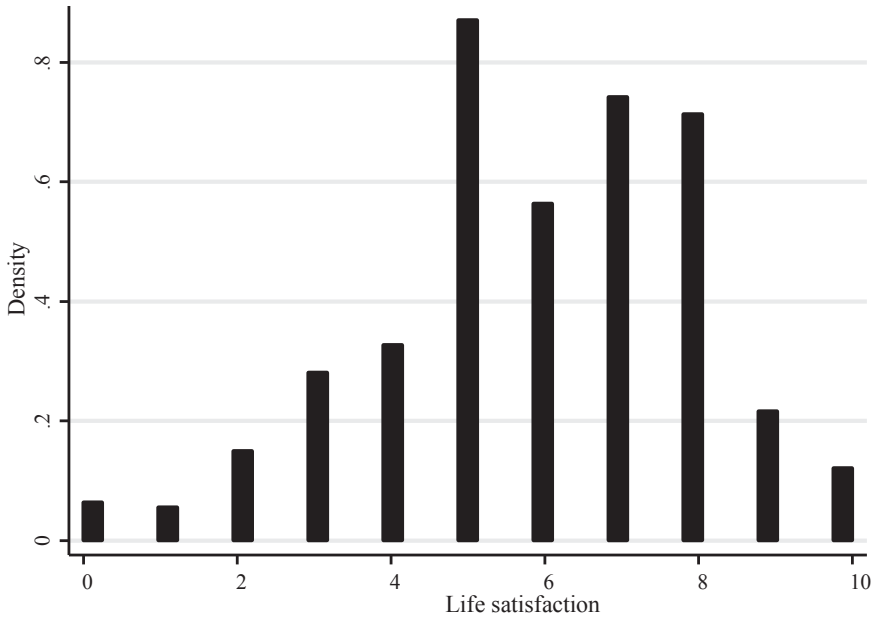

Fig. 1. Distribution of life satisfaction scores. N = 5363.

Table 3
Multi-level discrete-time hazard analysis on individual reemployment.

	Model 1		Model 2		Model 3		Model 4	
	OR	*SE*	OR	*SE*	OR	*SE*	OR	*SE*
Life satisfaction	1.03*	(0.01)	1.24***	(0.06)	1.24***	(0.07)	1.26***	(0.08)
Life satisfaction^2			0.98***	(0.00)	0.98***	(0.01)	0.98***	(0.01)
Agreeableness	–	–	0.94	(0.03)	0.96	(0.03)		
Neuroticism	–	–	0.89***	(0.02)	0.92**	(0.03)		
Extraversion	–	–	0.98	(0.03)	0.97	(0.03)		
Openness	–	–	1.16***	(0.03)	1.11***	(0.03)		
Conscientiousness	–	–	1.06	(0.04)	1.16***	(0.04)		
Male	–	–	–	0.93	(0.07)			
Age	–	–	–	0.93***	(0.01)			
Education: Medium	–	–	–	2.05***	(0.19)			
Education: High	–	–	–	2.88***	(0.35)			
Work experience	–	–	–	1.03***	(0.01)			
Children	–	–	–	1.01	(0.08)			
Income (log)	–	–	–	1.58***	(0.11)			
Marital status	–	–	–	1.19*	(0.09)			
Migration	–	–	–	0.86	(0.07)			
East Germany	–	–	–	0.78***	(0.06)			
Unemployment rate	–	–	–	0.89***	(0.02)			
N of level 1 units (person-year combinations)	13,124	13,124	10,427	10,075				
N of level 2 units (persons)	5329	5329	3816	3702				
Goodness-of-fit								
LL	−5292.999	−5285.945	−4443.322	−4046.261				
AIC	10,604	10,591.89	8916.643	8144.521				
BIC	10,671.34	10,666.71	9025.425	8332.184				

OR = exponentiated coefficients (odds ratios). Robust standard errors were used. Duration dependence modelled as piecewise constant.
* $p < .05$,
** $p < .01$,
*** $p < .001$.

established predictors of reemployment, such as work experience (e.g., in our data, a one-standard-deviation increase in work experience is associated with an 8-percentage-point increase reemployment likelihood).

As previous studies have shown that men and women experience unemployment differently (van der Meer, 2014) and that the effect of life satisfaction on reemployment might be stronger in men than in women (Krause, 2013), we examined whether the effect of life satisfaction on the likelihood of reemployment is moderated by gender in our sample. The interactions between life satisfaction

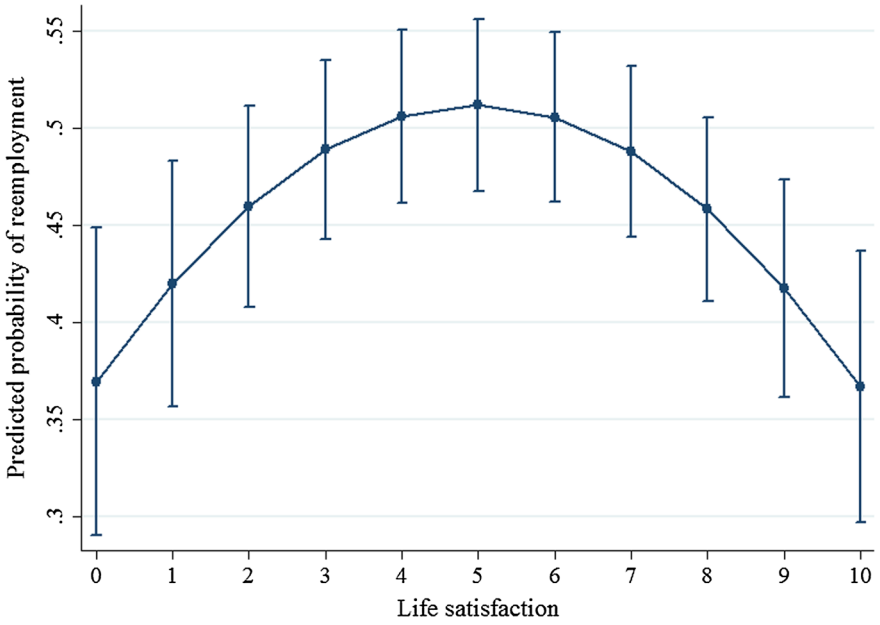

Fig. 2. Predicted probability of reemployment. Predicted probability for the following characteristics: male respondent, married, no children, medium education, West German, without migration background, registered unemployment is kept at the median (2), all other covariates kept at their means. 95% - confidence intervals.

and gender were insignificant ($OR_{linear} = 1.07$, $p = .561$; $OR_{quadratic} = 1.00$, $p = .876$). Nevertheless, we conducted subgroup analyses for male and female respondents (Table S2). These analyses revealed a significant linear and quadratic effects of life satisfaction on reemployment among both male ($OR_{linear} = 1.28$, $p = .003$; $OR_{quadratic} = 0.98$, $p = .004$) and female respondents ($OR_{linear} = 1.23$, $p = .023$; $OR_{quadratic} = 0.98$, $p = .004$).

5. Robustness-check

In our main analysis, we used life satisfaction at t − 1 to predict reemployment at t0. For some individuals in our risk set, life satisfaction at t − 1 happened to be measured while they were still employed.[3] This could have biased our results, as life satisfaction tends to be higher during employment than unemployment (Clark, Diener, Georgellis, & Lucas, 2008). To make sure that our conclusions are not affected by this aspect of the study's design, we repeated the analyses using only the observations for whom the lagged value of life satisfaction was measured while respondents reported to be in registered unemployment during the interview at t − 1 ($N_{persons} = 2923$). Our results ($OR_{linear} = 1.28$, $p < .001$; $OR_{quadratic} = 0.98$, $p < .001$) were robust against this change (Table S3).

Further, the main analyses included the Big Five personality traits as time-invariant predictors. That is, participants were assigned the Big Five values obtained during the first time that the Big Five traits were assessed (for most participants, it was in 2005). As the Big Five were also measured in 2009 and 2013, in an additional set of analysis we included them as time-varying predictors. That is, we still used the first available value per respondent, but the value changed once the respondent answered the questionnaire again. The analyses with the Big Five as time-varying predictors did not yield any different results (Table S4).

Next, we tested whether our conclusions depend on the inclusion of multiple re-entries into employment. Removing the respondents who reported multiple re-entries (7.5%, Table S5) did not substantially change our results in comparison to the original model ($OR_{linear} = 1.30$, $p < .001$; $OR_{quadratic} = 0.97$, $p < .001$).

In addition, we tested whether our results depend on the regional social norm to work. Existing literature (Clark, 2003; Stutzer & Lalive, 2004) has shown that both, life satisfaction of unemployed individuals and time until reemployment depend on the contextual social norm to work (operationalized as regional unemployment rate; the higher the unemployment rate, the more common it is to be unemployed, the weaker is the social norm to work). Therefore, in an additional set of analyses we explored whether the effect of life satisfaction on reemployment chances depends on regional unemployment rate. We estimated both the main effect of regional unemployment rate and its interaction with unemployed individuals' life satisfaction (Table S6). While the main effect of the regional unemployment rate was significant (suggesting that lower unemployment rate was associated with an increased reemployment probability), we found no significant interaction effect. Most importantly, the linear and quadratic effect of life satisfaction remained robust against controlling for the regional unemployment rate ($OR_{linear} = 1.27$, $p < .001$; $OR_{quadratic} = 0.94$, $p < .001$). These

[3] These individuals became unemployed at some point between t-1 and t0.

Table 4
Multi-level discrete-time hazard analysis on individual unemployment.

	Modell 1a		Modell 1b		Modell 2a		Modell 2b		Modell 3a		Modell 3b	
	OR	*SE*	OR	*SE*	OR	*SE*	OR	SE	OR	*SE*	*OR*	*SE*
Life satisfaction	0.74***	(0.01)	0.85**	(0.05)	0.76***	(0.01)	0.85**	(0.05)	0.83***	(0.01)	0.85**	(0.05)
Life satisfaction^2			0.99*	(0.01)			0.99*	(0.01)			1.00	(0.01)
Agreeableness					1.01	(0.03)	1.01	(0.03)	0.96	(0.03)	0.96	(0.03)
Neuroticism					1.10***	(0.02)	1.09***	(0.02)	1.07**	(0.02)	1.07**	(0.02)
Extraversion					1.03	(0.03)	1.03	(0.03)	1.03	(0.02)	1.03	(0.02)
Openness					0.93**	(0.02)	0.93**	(0.02)	1.00	(0.02)	1.00	(0.02)
Conscientiousness					1.08*	(0.03)	1.08*	(0.03)	1.04	(0.03)	1.04	(0.03)
Male									1.32***	(0.07)	1.32***	(0.07)
Age									1.05***	(0.00)	1.05***	(0.00)
Education: Medium									0.67***	(0.05)	0.67***	(0.05)
Education: High									0.40***	(0.04)	0.40***	(0.04)
Work experience									0.97***	(0.00)	0.97***	(0.00)
Household income (log)									0.36***	(0.02)	0.36***	(0.02)
Children									0.83***	(0.05)	0.83**	(0.05)
Marital status									0.70***	(0.04)	0.70***	(0.04)
Migration background									1.41***	(0.09)	1.41***	(0.09)
East Germany									1.80***	(0.10)	1.80***	(0.10)
Unemployment rate									1.13***	(0.02)	1.13***	(0.02)
N of level 1 units (person-year combinations)	96,884	96,884	85,773	85,773	84,337	84,337						
N of level 2 units (persons)	22,940	22,940	17,724	17,724	17,378	17,378						
Goodness-of-fit												
LL	−11,131.6	−11,128.21	−9687.25	−9685.277	−8911.074	−8911.014						
AIC	22,283.19	22,278.42	19,404.5	19,402.55	17,874.15	17,876.03						
BIC	22,378	22,382.71	19,544.89	19,552.31	18,117.06	18,128.28						

OR = exponentiated coefficients (odds ratios). Robust standard errors were used. Duration dependence modelled as piecewise constant.
* $p < .05$,
** $p < .01$,
*** $p < .001$.

results suggest that the impact of life satisfaction on reemployment does not depend on the regional unemployment rate and thereby the social norm to work.

Finally, we examined the relationship between life satisfaction and the likelihood of unemployment. Individuals with very low or high life satisfaction might have an overall looser labor market attachment, which can be reflected in both higher risks of unemployment and lower chances of reemployment. To understand whether our analysis is facing a potential endogeneity issue, we examined the effect of life satisfaction on the likelihood of unemployment using exactly the same procedure as in the analysis of reemployment, with the following exceptions: our sample consisted of full- and part-time employed (rather than unemployed) individuals and the focal event was the event of unemployment (rather than reemployment). As in the analysis of reemployment, we used the data from 2005 till 2014 and a multilevel discrete hazard analysis that allowed us to examine multiple unemployment events (for the same individuals). Individuals remained in the risk set until either the focal event (registered unemployment) or censoring (staying employed or dropping out of the labor force (e.g. due to retirement)) occurred. We discarded cases with missing information about the duration of registered unemployment (left-truncation). We explored the effect of life satisfaction at any given year (t − 1) on the likelihood of unemployment in the following year (t0).

Our sample (M_{age} = 44.48, SD_{age} = 11.47, 50.89% male) consisted of 30,208 individuals and 2255 unemployment events. Less than 1% of the sample experienced unemployment more than once (Table S7 for details). Time in employment varied between 1 and 30 years, with individuals spending on average 6.5 years (SD = 6.14) in employment. Similar to the analyses of reemployment, an examination of the baseline hazard estimates showed that they have a non-parametric form. Therefore, we modelled time as yearly dummies indicating one, two, three, four, five, 6–10, 11–14, 15–22 and more than 23 years of employment, respectively.

The results of the analyses are presented in Table 4. Model 1 included only the linear effect of life satisfaction and showed that life satisfaction has a negative association with the likelihood of unemployment (OR = 0.74, $p < .001$). In Model 2, we included the quadratic term of life satisfaction that reached significance as well (OR_{linear} = 0.85, $p = .006$; $OR_{quadratic}$ = 0.99, $p = .018$). That is, moderate levels of life satisfaction were associated with a lower likelihood of unemployment than lower or higher levels of life satisfaction. The quadratic effect was robust (OR_{linear} = 0.85, $p = .009$; $OR_{quadratic}$ = 0.99, $p = .070$) against controlling for Big Five personality traits (Model 3), but disappeared (OR_{linear} = 0.85, $p = .008$; $OR_{quadratic}$ = 1.00, $p = .746$) when socio-economic and demographic control variables were included (Model 4). In contrast, the linear effect of life satisfaction on the likelihood of

unemployment was robust against these controls (OR = 0.83, $p < .001$). That is, the more satisfied individuals are with their life, the lower are their chances of unemployment.

Why does the u-shaped effect disappear when the socio-economic controls are added? This might be explained by the fact that the event of unemployment in our data can reflect both involuntary and voluntary unemployment. For example, highly satisfied individuals tend to be wealthier and highly educated, which might give them the freedom to quit the job in search for a better one. As a result, we speculate that controlling for these socio-economic characteristics might make extremely satisfied individuals no longer more likely to become unemployed than moderately satisfied individuals (without affecting the difference between extremely dissatisfied and moderately satisfied individuals), making the u-shaped effect disappear.

Overall, these results suggest that, compared to their moderately satisfied counterparts, highly dissatisfied individuals have higher chances of unemployment and lower chances of reemployment – a pattern that potentially reflects their overall loser labor market attachment. In contrast, highly satisfied individuals are more likely to become reemployed but not less likely to become unemployed in the first place, compared to moderately satisfied individuals. Hence, the endogeneity problem might explain the difference between least and moderately satisfied individuals, but it is unlikely to explain the difference between most and moderately satisfied individuals.

6. Discussion

Life satisfaction has long been considered an important factor contributing to positive life outcomes across different domains, including occupational success (Lyubomirsky, King, et al., 2005). Life satisfaction has been shown to contribute to a higher income (Marks & Fleming, 1999), positive supervisor evaluations (Staw et al., 1994) and an increased likelihood of promotion (Roberts et al., 2003). Given these findings, one could expect higher levels of life satisfaction to be associated with an increased likelihood of reemployment among unemployed individuals as well. At the same time, research in motivation science hints at a possibility of a negative (rather than positive) association between life satisfaction and reemployment likelihood (Carver & Scheier, 1990). Higher life satisfaction might undermine individuals' motivation to change existing circumstances, e.g., via finding a new employment (cf. Luhmann & Hennecke, 2017). Similarly, economists have traditionally seen happiness and life satisfaction as measures of "utility" in the context of cost-benefit analysis (Frey & Stutzer, 2005). Using this terminology, lower (rather than higher) life satisfaction among the unemployed is considered "disutility" and is assumed to speed up the process of alleviating this unpleasant state, that is, getting a job (e.g., Gielen & van Ours, 2014). Finally, as proposed in an emerging stream of research on the optimum level of well-being (Diener, Gohm, Suh, & Oishi, 2000; Grant & Schwartz, 2011), the effect of life satisfaction on reemployment might be non-monotonic, with chances of reemployment being highest at moderate rather than low or high levels of life satisfaction.

In the present research, we explored these three possibilities using the data from 5363 individuals followed over 10 years. Our results demonstrated an inverted-U-shaped relationship between life satisfaction and reemployment, providing support to the optimum level of well-being hypothesis. The quadratic effect of life satisfaction was robust against controlling for the Big Five personality traits, education and labor market experience, as well as a host of other socio-demographic and macro-level characteristics. These findings are particularly important, given that the existing empirical research on the role of life satisfaction in reemployment (Gielen & van Ours, 2014; Krause, 2013) has been relatively scarce, produced mixed findings and has never considered a possibility of an optimum level of life satisfaction for reemployment success.

More generally, our finding of an inverted-U-shaped effect contributes to a small but rapidly growing literature on beneficial effects of a moderate, rather than too high or too low level of well-being (Grant & Schwartz, 2011; Oishi et al., 2007). Why are moderate levels of life satisfaction so beneficial? We speculate that a moderate level of life satisfaction allows for two important factors that contribute to reemployment: a strong enough motivation to change one's circumstances and a sense of self-efficacy needed to achieve this goal (cf. Norem & Chang, 2002; Oishi et al., 2007). Prior research has found a moderate level of life satisfaction to promote proactive work behaviors (Lam et al., 2014) and creativity (Davis, 2009). In a similar vein, moderately satisfied unemployed individuals might be more likely to engage in proactive job search activities and be more open towards alternative career options.

It is important to note that even though we found an inverted U-shaped association between life satisfaction and reemployment chances, providing support to the optimum well-being idea, this finding reflects an average effect in the sample. Yet, the specific form of the association between life satisfaction and reemployment might differ across individuals, being positive in some groups of the sample and negative in others. We encourage future work to explore these possibilities using fixed effects analysis as well as testing different moderator variables.

Even though the present study is based on a large sample and state-of-the-art statistical methods, it is not without limitations. We consider the discrete time scale the most important limitation, mainly as it does not represent the most natural time scale to register changes in employment status. Yet, we had to measure time in annual intervals, as GSOEP included only annual assessments of life satisfaction and there are currently no surveys known to us that would measure life satisfaction monthly or at least bi-annually. We hope that this problem will be overcome in future studies allowing researchers to follow changes in life satisfaction and reemployment success on a much narrower time scale (e.g., monthly).

In addition, it should be noted that our results are restricted to the context of the German labor market and social security system. While we could account for some aspects of the labor market context by controlling for regional unemployment rates, existing data does not allow us to explore whether the optimum level of well-being effect depends on the particularities of the German social security system. One such particularity is the workfare approach which makes unemployment benefits contingent upon job search effort. Previous research has shown unemployed individuals' life satisfaction to be positively associated with activating labor market

policies and generous unemployment benefits (Wulfgramm, 2011). Therefore, it appears worthwhile to explore whether these and other aspects of the institutional context might shape the association between life satisfaction and reemployment as well.

Importantly, even though our analyses are based on longitudinal data, they do not permit strong causal claims. Individuals with very low and very high life satisfaction might differ from moderately satisfied individuals in further dimensions not captured by our control variables. For example, they might have an overall looser labor market attachment, which can be reflected in both higher risks of unemployment and lower chances of reemployment. To explore this possibility, we examined whether individuals who are at the extremes of the life satisfaction scale are more likely to become unemployed in the first place. Our results showed that, although a u-shaped association between life satisfaction and unemployment emerged initially, it was not robust against personality and socio-economic control variables. We believe that including a broader spectrum of control variables and testing the specific mechanisms underlying the quadratic effect of life satisfaction on reemployment will provided a better indication of causality.

Our findings are particularly interesting in light of the approach to life satisfaction and unemployment commonly adopted in economics, where low life satisfaction during unemployment is seen as a "disutility" and is believed to drive more job search effort (Frey & Stutzer, 2005). Our results show that low life satisfaction among unemployed individuals is not associated with faster reemployment. At the same time, being at the opposite, upper spectrum of life satisfaction, is not associated with a higher probability of reemployment either. Instead, moderate levels of life satisfaction seem to represent an optimum, being associated with the highest probability of reemployment.

Unemployed individuals face a range of barriers to work, such as a lack of human capital and depleted networks. Our results suggest that both a too low and a too high level of life satisfaction might represent such a barrier as well. Overcoming these obstacles into reemployment is of high societal and political importance, as high unemployment rates increase the costs of social welfare systems and decrease economic productivity (Sinfield, 2015). Our results hint at the possibility that increasing the level of life satisfaction among the unemployed is only beneficial up to a certain threshold and that 'too much happiness' might be counter-productive and result in lower reemployment success compared to moderate happiness levels. While we cannot rule out reverse causality and strongly encourage future research to establish whether our findings can be reproduced with a causal claim, we want to carefully suggest the practical implications of our results. Several government programs and interventions have been launched in recent years aimed at improving the psychological health of unemployed individuals (Lonitz, 2017; e.g., "MehrWert 50plus" program (Universitaetsklinikum Leipzig, 2015)). Our findings hint at a possibility that such programs might be particularly beneficial if they specifically target unemployed individuals who are highly dissatisfied with life and possibly on the verge of depression. In contrast, programs attempting to boost the life satisfaction of the unemployed in a blanket manner could potentially be fruitless and might even backfire. We hope that future research will explore this and potential other practical implications of the present findings.

Conflict of interest

None.

Appendix A. Supplementary material

Supplementary data to this article can be found online at https://doi.org/10.1016/j.joep.2018.12.008.

References

Anger, S., Camehl, G., & Peter, F. (2017). Involuntary job loss and changes in personality traits. *Journal of Economic Psychology, 60*, 71–91.

Barasch, A., Levine, E. E., & Schweitzer, M. E. (2016). Bliss is ignorance: How the magnitude of expressed happiness influences perceived naiveté and interpersonal exploitation. *Organizational Behavior and Human Decision Processes, 137*, 184–206.

Barbulescu, R. (2015). The strength of many kinds of ties: Unpacking the role of social contacts across stages of the job search process. *Organization Science, 26*, 1040–1058.

Brouwer, S., Bakker, R. H., & Schellekens, J. M. H. (2015). Predictors for re-employment success in newly unemployed: A prospective cohort study. *Journal of Vocational Behavior, 89*, 32–38.

Bundesagentur für Arbeit (n.d.). Annual average unemployment rate in Germany from 1995 to 2017. Statista – the Statistics Portal. Retrieved from < https://www.statista.com/statistics/227005/unemployment-rate-in-germany/ > . Access date 19th July 2018.

Burnham, K. P., & Anderson, D. R. (2003). *Model selection and multimodel inference: A practical information-theoretic approach.* Springer Science & Business Media.

Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative affect: A control-process view. *Psychological Review, 97*, 19–35.

Cheung, F., & Lucas, R. (2014). Assessing the validity of single-item life satisfaction measures: Results from three large samples. *Quality of Life Research,* 1–10.

Clark, A. (2003). Unemployment as a social norm: Psychological evidence from panel data. *Journal of Labor Economics, 21*, 323–351.

Clark, A. E., Diener, E., Georgellis, Y., & Lucas, R. E. (2008). Lags and leads in life satisfaction: A test of the baseline hypothesis. *Economic Journal, 118*, F222–F243.

Creed, P. A., & Bartrum, D. A. (2008). Personal control as a mediator and moderator between life strains and psychological well-being in the unemployed. *Journal of Applied Social Psychology, 38*, 460–481.

Davis, M. A. (2009). Understanding the relationship between mood and creativity: A meta-analysis. *Organizational Behavior and Human Decision Processes, 108*, 25–38.

De Neve, J.-E., & Ward, G. W. (2017). Happiness at work. *Saïd Business School Research Papers,* 2017–2107.

Diener, E., Gohm, C., Suh, E., & Oishi, S. (2000). Similarity of the relations between marital status and subjective well-being across cultures. *Journal of Cross-Cultural Psychology, 31*, 419–436.

Diener, E., Nickerson, C., Lucas, R. E., & Sandvik, E. (2002). Dispositional affect and job outcomes. *Social Indicators Research, 59*, 229–259.

Donnellan, M. B., & Lucas, R. E. (2008). Age differences in the big five across the life span: Evidence from two national samples. *Psychology and Aging, 23*, 558–566.

Dunning, D., Heath, C., & Suls, J. M. (2004). Flawed self-assessment: Implications for health, education, and the workplace. *Psychological Science in the Public Interest, 5*, 69–106.

Eden, D., & Aviram, A. (1993). Self-efficacy training to speed reemployment: Helping people to help themselves. *Journal of Applied Psychology, 78*, 352–360.

Elliot, A. J., & Thrash, T. M. (2002). Approach-avoidance motivation in personality: Approach and avoidance temperaments and goals. *Journal of Personality and Social Psychology, 82*, 804–818.

Frey, B. S., & Stutzer, A. (2005). Happiness research: State and prospects. *Review of Social Economy, 63*, 207–228.

Friedman, H. S., Tucker, J. S., Tomlinson-Keasey, C., Schwartz, J. E., Wingard, D. L., & Criqui, M. H. (1993). Does childhood personality predict longevity? *Journal of Personality and Social Psychology, 65*, 176–185.
Gee, L. K., Jones, J. J., Fariss, C. J., Burke, M., & Fowler, J. H. (2017). The paradox of weak ties in 55 countries. *Journal of Economic Behavior & Organization, 133*, 362–372.
Gerlitz, J.-Y., & Schupp, J. (2005). Zur erhebung der big-five-basierten persoenlichkeitsmerkmale im soep. *DIW Research Notes, 4*, 2005.
Gielen, A. C., & van Ours, J. C. (2014). Unhappiness and job finding. *Economica, 81*, 544–565.
Ginexi, E. M., Howe, G. W., & Caplan, R. D. (2000). Depression and control beliefs in relation to reemployment: What are the directions of effect? *Journal of Occupational Health Psychology, 5*, 323–336.
Grant, A. M., & Schwartz, B. (2011). Too much of a good thing: The challenge and opportunity of the inverted u. *Perspectives on Psychological Science, 6*, 61–76.
Green, F. (2010). Well-being, job satisfaction and labour mobility. *Labour Economics, 17*, 897–903.
Gruber, J., Mauss, I. B., & Tamir, M. (2011). A dark side of happiness? How, when, and why happiness is not always good. *Perspectives on Psychological Science, 6*, 222–233.
Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review, 94*, 319–340.
Kanfer, R., Wanberg, C. R., & Kantrowitz, T. M. (2001). Job search and employment: A personality–motivational analysis and meta-analytic review. *Journal of Applied Psychology, 86*, 837–855.
Koen, J., Klehe, U.-C., & Van Vianen, A. E. M. (2013). Employability among the long-term unemployed: A futile quest or worth the effort? *Journal of Vocational Behavior, 82*, 37–48.
Krause, A. (2013). Don't worry, be happy? Happiness and reemployment. *Journal of Economic Behavior and Organization, 96*, 1–20.
Lam, C. F., Spreitzer, G., & Fritz, C. (2014). Too much of a good thing: Curvilinear effect of positive affect on proactive behaviors. *Journal of Organizational Behavior, 35*, 530–546.
Universitaetsklinikum Leipzig (2015). Psychosoziales Coaching - Klinik und Poliklinik für Psychiatrie und Psychotherapie - Universitaetsklinikum Leipzig. Retrieved from < http://psychiatrie.uniklinikum-leipzig.de/psychiatrie.site,postext,psychosoziales-coaching,a_id,2756.html > . Access date 19th July 2017.
Lonitz, M. (2017). Welche Maßnahmen gegen Langzeitsarbeitslosigkeit helfen könnten. Retrieved from < http://www.mdr.de/nachrichten/wirtschaft/regional/methoden-gegen-langzeitarbeitslosigkeit-100.html > . Access date 19th July 2017.
Lucas, R., Clark, A., Georgellis, Y., & Diener, E. (2004). Unemployment alters the set point for life satisfaction. *Psychological Science, 15*, 8–13.
Lucas, R. E., & Donnellan, M. B. (2011). Personality development across the life span: Longitudinal analyses with a national sample from Germany. *Journal of Personality and Social Psychology, 101*, 847–861.
Luhmann, M., & Hennecke, M. (2017). The motivational consequences of life satisfaction. *Motivation Science, 3*, 51–75.
Luhmann, M., Weiss, P., Hosoya, G., & Eid, M. (2014). Honey, I got fired! A longitudinal dyadic analysis of the effect of unemployment on life satisfaction in couples. *Journal of Personality and Social Psychology, 107*, 163–180.
Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin, 131*, 803–855.
Lyubomirsky, S., Sheldon, K. M., & Schkade, D. (2005). Pursuing happiness: The architecture of sustainable change. *Review of General Psychology, 9*, 111–131.
Marks, G. N., & Fleming, N. (1999). Influences and consequences of well-being among australian young people: 1980–1995. *Social Indicators Research, 46*, 301–323.
Martin, L. R., Friedman, H. S., Tucker, J. S., Tomlinson-Keasey, C., Criqui, M. H., & Schwartz, J. E. (2002). A life course perspective on childhood cheerfulness and its relation to mortality risk. *Personality and Social Psychology Bulletin, 28*, 1155–1165.
Mavridis, D. (2015). The unhappily unemployed return to work faster. *IZA Journal of Labor Economics, 4*, 2.
McArdle, S., Waters, L., Briscoe, J. P., & Hall, D. T. T. (2007). Employability during unemployment: Adaptability, career identity and human and social capital. *Journal of Vocational Behavior, 71*, 247–264.
McKee-Ryan, F., Song, Z., Wanberg, C. R., & Kinicki, A. J. (2005). Psychological and physical well-being during unemployment: A meta-analytic study. *Journal of Applied Psychology, 90*, 53–76.
Michalos, A. (1985). Multiple discrepancies theory (mdt). *Social Indicators Research, 16*, 347–413.
Milam, J. E., Richardson, J. L., Marks, G., Kemper, C. A., & McCutchan, A. J. (2004). The roles of dispositional optimism and pessimism in hiv disease progression. *Psychology & Health, 19*, 167–181.
Norem, J. K., & Chang, E. C. (2002). The positive psychology of negative thinking. *Journal of Clinical Psychology, 58*, 993–1001.
OECD (2013). *OECD framework for statistics on the distribution of household income, consumption and wealth.* Paris: OECD Publishing.
Oishi, S., Diener, E., & Lucas, R. (2007). The optimum level of well-being. Can people be too happy? *Perspectives of Psychological Science, 2*, 346–360.
Paul, K. I., & Moser, K. (2009). Unemployment impairs mental health: Meta-analyses. *Journal of Vocational Behavior, 74*, 264–282.
Raftery, A. E. (1995). Bayesian model selection in social research. *Sociological Methodology,* 111–163.
Rego, A., Sousa, F., Marques, C., & Cunha, M. P.e. (2012). Optimism predicting employees' creativity: The mediating role of positive affect and the positivity ratio. *European Journal of Work and Organizational Psychology, 21*, 244–270.
Roberts, B. W., Caspi, A., & Moffitt, T. E. (2003). Work experiences and personality development in young adulthood. *Journal of Personality and Social Psychology, 84*, 582–593.
Roberts, B. W., & DelVecchio, W. F. (2000). The rank-order consistency of personality traits from childhood to age: A quantitative review of longitudinal studies. *Psychological Bulletin, 126*, 3–25.
Sinfield, A. (2015). Unemployment and the wider society. *Handbook of Job Loss and Job Search,* 1–24.
Singer, J. D., & Willett, J. B. (1993). It's about time: Using discrete-time survival analysis to study duration and the timing of events. *Journal of Educational Statistics, 18*, 155–195.
Stavrova, O. (2015). How regional personality affects individuals' life satisfaction: A case of emotional contagion? *Journal of Research in Personality, 58*, 1–5.
Staw, B. M., Sutton, R. I., & Pelled, L. H. (1994). Employee positive emotion and favorable outcomes at the workplace. *Organization Science, 5*, 51–71.
Stutzer, A., & Lalive, R. (2004). The role of social work norms in job searching and subjective well-being. *Journal of the European Economic Association, 2*, 696–719.
Taylor, S. E., & Brown, J. D. (1994). Positive illusions and well-being revisited - separating fact from fiction. *Psychological Bulletin, 116*, 21–27.
Teachman, J. (2011). Modeling repeatable events using discrete-time data: Predicting marital dissolution. *Journal of Marriage and Family, 73*, 525–540.
van der Meer, P. H. (2014). Gender, unemployment and subjective well-being: Why being unemployed is worse for men than for women. *Social Indicators Research, 115*, 23–44.
Vancouver, J. B., & Kendall, L. N. (2006). When self-efficacy negatively relates to motivation and performance in a learning context. *Journal of Applied Psychology, 91*, 1146–1153.
Wagner, G. G., Frick, J. R., & Schupp, J. (2007). The german socio-economic panel study (soep)-evolution, scope and enhancements. *Schmollers Jahrbuch,* 139–170.
Wanberg, C. R. (2012). The individual experience of unemployment. *Annual Review of Psychology, 63*, 369–396.
Wanberg, C. R., Hough, L. M., & Song, Z. (2002). Predictive validity of a multidisciplinary model of reemployment success. *Journal of Applied Psychology, 87*, 1100–1120.
Wanberg, C. R., Kanfer, R., Hamann, D. J., & Zhang, Z. (2016). Age and reemployment success after job loss: An integrative model and meta-analysis. *Psychological Bulletin, 142*, 400–426.
Watson, D., Clark, L. A., McIntyre, C. W., & Hamaker, S. (1992). Affect, personality, and social activity. *Journal of Personality and Social Psychology, 63*, 1011–1025.
Watson, D., Wiese, D., Vaidya, J., & Tellegen, A. (1999). The two general activation systems of affect: Structural findings, evolutionary considerations, and psychobiological evidence. *Journal of Personality and Social Psychology, 76*, 820–838.
Winkelmann, L., & Winkelmann, R. (1998). Why are the unemployed so unhappy? Evidence from panel data. *Economica, 65*, 1–15.
Wulfgramm, M. (2011). Can activating labour market policy offset the detrimental life satisfaction effect of unemployment? *Socio-Economic Review, 9*, 477–501.
Zhu, X., Woo, S. E., Porter, C., & Brzezinski, M. (2013). Pathways to happiness: From personality to social networks and perceived support. *Social Networks, 35*, 382–393.