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Thriving or surviving at work: how workplace learning opportunities and subjective career success are connected with job satisfaction and turnover intention?

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Abstract

Purpose – The purpose of this study is to better understand factors related to turnover intention (TI) and job satisfaction (JS) in the information technology and engineering sectors. Specifically, this study investigates the role of workplace learning opportunities (WLO) afforded by the environment and individual's subjective career success (SCS). The connections between learning opportunities and career success are examined, as well as their connections to JS and TI.

Design/methodology/approach – The current research was based on self-report questionnaire data ($N = 153$). The questionnaire included existing instruments measuring WLO, SCS, JS and TI. The analyses of the data included Pearson product-moment correlations, path analysis (based on multiple regression) and analysis of relative importance (dominance analysis).

Findings – Results indicated that higher access to resources that support learning, more opportunities for professional growth and satisfactory career decisions made by employees were connected to lower TI. The processes of well-being and learning are strongly intertwined and mutually reinforce each other, reducing the willingness to change a job in the near future.

Originality/value – This study adds to the previous research by providing more detailed knowledge on the connections between the various dimensions of WLO and SCS. The findings of the present study can offer insights for developing work environments where employees wish to remain, learn and are satisfied with their job and careers, thus ultimately supporting their well-being.

Keywords Workplace learning opportunities, Subjective career success, Job satisfaction, Turnover intention

Paper type Research paper

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Introduction

Traditionally, careers have been judged externally by objective measures such as promotions and salary, allowing professional success being directly observable by others and measured in a standardized way (Arthur *et al.*, 2005). However, nowadays, individuals' views of their own self-directed and value-driven career orientation have become an important career gauge (Hall, 2002). The concept of subjective career success (SCS) incorporates what individuals value in their careers and whether they experience that they can achieve their aspirations within their work environment (Heslin, 2005). SCS is often operationalized as job or career satisfaction, but SCS covers a broader time frame and a wider range of outcomes, including work–life balance and access to learning (Arthur *et al.*, 2005; Heslin, 2005). Workplace learning can be perceived as an important means to achieve personal career goals (Harteis and Billett, 2008; Noe *et al.*, 2013). Career orientation, working toward certain career goals and self-directedness have also been connected with learning intentions and participation in learning activities (Kyndt and Baert, 2013; Sanders *et al.*, 2011). Although workplaces are not primarily structured with learning in mind (Eraut, 2004), it seems that organizations benefit from creating favorable conditions for learning (Fuller and Unwin, 2003). In a previous study organizational learning climate and environments fostering continuous learning have been found to be important predictors of SCS (Park, 2010). The present study aims at further investigating how SCS is connected to workplace learning opportunities (WLO). To add to the previous studies, the present study more closely investigates various dimensions related to these concepts.

In addition, the present study aims at examining how an individual's SCS and WLO afforded by the environment predict turnover intention (TI) and job satisfaction (JS). Employee retention is a challenge for many organizations, including those competing for skilled employees in the field of technology. High employee turnover may come costly through negative effects, including loss of tacit knowledge and social capital, as well as significant recruiting costs (Rubenstein *et al.*, 2017). Avoiding high employee turnover is often considered important for organizations, although it should be noted that turnover may also have some positive effects (Glebbeek and Bax, 2004). A contrasting concept to TI, i.e. a voluntary willingness to leave the organization, is (JS). JS is traditionally defined as an individual's perception of their job (Lu *et al.*, 2012), and it is based on the experience of how the actual work environment and the job meet the individual's expectations. Consequently, specific environments or events do not directly cause JS; rather, JS originates from individuals' perceptions, interpretations and appraisals of those environments and events (Fisher, 2010). Previous research has shown that the contrast between JS and TI is high: both intention to quit and actual turnover are negatively related to JS (Edwards-Dandridge *et al.*, 2020; Griffeth *et al.*, 2000; Kim and Kao, 2014; Labrague *et al.*, 2020; Lu *et al.*, 2005; Tett and Meyer, 1993; Tschopp *et al.*, 2014). Instead of further examining the relationship between JS and TI, the present study aims to examine factors related to TI and JS.

By exploring the different dimensions of SCS and WLO and by examining how they predict JS and TI, the present study provides knowledge to support the development of work environments where employees are satisfied with their careers and learn and wish to remain, thus ultimately supporting their well-being. Thereby, this study sets the following two main research questions:

RQ1. How are the dimensions of SCS and the WLO connected?

RQ2. How are the dimensions of SCS and the WLO related to JS and TI?

Theoretical background and hypotheses

Subjective career success and workplace learning

The changing nature of work and flat organizational structure have altered the way many employees view success: lifelong career trajectories within a single organization are not reality or even preferred by employees anymore (Shockley *et al.*, 2016). These structural and attitudinal changes highlight the role of nonobjective factors in career success (i.e. SCS; Sullivan, 1999). SCS is frequently defined as an employee's own evaluation and experience of achieving personally meaningful career outcomes (Shockley *et al.*, 2016); thus, it often reflects an employee's values and attitudes.

In today's changing environment, the opportunities for career development and workplace learning may be significant for career success (Martini and Cavenago, 2017). Fuller and Unwin (2003) have characterized the learning environments of workplaces as a continuum from expansive to restrictive: an expansive learning environment creates stronger, richer and more numerous learning opportunities, for example, through the organization of work and by providing opportunities for participation and personal development through reflection. The research has often highlighted the role of formal learning, but it has been shown that informal learning dominates organizational learning with a share of 70%–90% (Cerasoli *et al.*, 2018). In general, research on WLO focuses on both formal and informal aspects of learning. In the context of this study, WLO refers to environmental and task-related factors that contribute to the expansion and deepening of employees' professional and vocational knowledge (Pylväs *et al.*, 2020). In addition to the environment, learning and development are also influenced by social, situational and individual factors, which affect how employees construe, engage in and learn through workplace practices and affordances (Billett, 2008).

Previous studies have shown that there are connections between SCS and WLO. Although the concepts examine workplace learning and career development from different perspectives, both concepts include the aspect of social support and recognition offered by colleagues and supervisors (Shockley *et al.*, 2016; James and Holmes, 2012). The idea of the ability to influence one's own work, professional growth and development is also included in both concepts. SCS has been linked to opportunities for the development of new knowledge, skills and professional growth (Koekemoer *et al.*, 2019; Park, 2010; Shockley *et al.*, 2016). Accordingly, based on the empirical findings above, we formulated the following expectation:

H1. The dimensions of SCS and WLO are positively associated with each other.

Job satisfaction vs turnover intention

This study further examines how the dimensions of the WLO and SCS are related to JS and, in contrast, to TI. In comparison to restrictive environments with limited opportunities for learning, jobs offering more expansive learning are associated with higher levels of JS and job-related well-being (Felstead *et al.*, 2015). Jobs offering more expansive learning opportunities have been associated with higher levels of JS (Felstead *et al.*, 2015; Rose *et al.*, 2009; Ryu and Moon, 2019), whereas JS has been shown to have a positive connection to workplace learning (Rowden and Conine, 2005). For example, studies have shown a connection between overall JS and satisfaction on job training (i.e. planned activities to increase professional and vocational knowledge; Schmidt, 2007). Egan *et al.* (2004) found that learning culture had an indirect impact on TI, as the impact was mediated by JS. JS has been found to

influence individuals' job performance in the workplace (Judge *et al.*, 2001; Latham, 2012; Yousef, 2000), and on the other hand, when a person feels that he or she is performing better than usual, it also causes experiences of happiness (Fisher, 2010). In research, SCS has been assigned to be positively related to JS (Koekemoer *et al.*, 2019; Heslin, 2005). Work–family enrichment, (i.e. individuals simultaneously engaging in multiple work and family roles), which is one dimension of SCS, leads to JS through the indirect effect on SCS (Koekemoer *et al.*, 2019).

TI is seen as a coping strategy used by employees to escape an unsatisfactory situation (Petriglieri, 2011), and it can often lead to actual turnover behavior (Bothma and Roodt, 2013). One of the most notable theoretical models that have been developed to explain TI is the job demands-resources (JD-R) model (Bakker and Demerouti, 2007; Bakker *et al.*, 2004). Job demands are described as aspects of the job that require physical and/or psychological effort (Bakker and Demerouti, 2007). According to the JD-R model, high job demands with limited job resources causes TI (Bakker and Demerouti, 2007; Bothma and Roodt, 2013). However, job resources, such as strong relationships, feedback and opportunities for advancement, affect well-being and stimulate professional growth, learning and development (Bakker and Demerouti, 2007). Previous research has suggested that perceptions of career success relate negatively to intention to leave and that enhancing employees' perceptions of career success may have a role in reducing turnover (Tymon *et al.*, 2011). We posit the following hypotheses based on empirical findings and the theory above:

H2. The dimensions of SCS and WLO are positively associated with JS.

H3. The dimensions of SCS and WLO are negatively associated with TI.

Figure 1 presents the conceptual model of shared dimensions between WLO and SCS with study hypotheses (*H1–H3*).

Methods

Participants and procedure

The study participants were recruited from two large companies from the field of technology. Both companies are in the male-dominated engineering sector: company A is an engineering, architecture and consultancy company, and company B is in the field of software development and design. Both companies have been recognized as attractive employers in recent years in various employer branding competitions. The companies represent the Finnish engineering sector with respect to the industry, personnel (450–2,200 employees) and finances (turnover 45m–200m EUR in 2019).

The data were collected via an online self-report questionnaire. Prior to the data collection, the approval from the local ethics committee was acquired for this study. Study procedures followed the guidelines of the Finnish National Board on Research Integrity (2019). The respondents were able to choose the Finnish or English version. The questions were first translated into Finnish. Before conducting the study, both the translated and English versions were piloted. After this, the consistency of the answers was examined, and the translation was edited according to the examination. The management of the companies gave permission to conduct the research, and they shared the link to the questionnaire internally with their employees. Filling out the questionnaire was voluntary, and participants provided their consent to participate in the study by sending the questionnaire.

Regarding demographic information, the participants ($N = 153$) were asked to self-report the following information: *organization* (company A, $n = 105$, company B, $n = 48$), *gender* ($n = 149$, 54 females, 36.2%, and 95 males, 63.8%), *age* ($n = 152$, ranging from 19 to 61 years old; $M = 37.7$, $SD = 8.920$) and *total work experience* ($n = 148$, ranging from 1 to 40 years; $M = 14.1$, $SD = 8.724$). Typical titles ($n = 151$) were expert ($n = 51$, 34.0%), designer ($n = 35$, 23.3%) and project manager ($n = 18$, 12.0%), and the highest level of completed education ($n = 152$) was higher-degree level tertiary (higher university degrees such as master's degree; $n = 85$, 55.9%) or lower-degree level tertiary (polytechnic degrees and lower university degrees; $n = 49$, 32.2%).

Instruments

Subjective career success. Shockley *et al.* (2016) created the Subjective Career Success Inventory (SCSI) that measures how persons feel when they have reached their work-related goals during their career. The survey has 24 items on a five-point self-rating response scale (1 = totally disagree, 5 = totally agree) that measure eight areas (sample items in parenthesis; all statements start with "Considering my career as a whole [. . .]"):

(1) *recognition* ("[. . .] my supervisors have told me I do a good job.");

(2) *quality work* ("[. . .] I am proud of the quality of the work I have produced.");

(3) *meaningful work* ("[. . .] I think my work has been meaningful.");

(4) *influence* ("[. . .] decisions that I have made have impacted my organization.");

(5) *authenticity* ("[. . .] I have been able to pursue work that meets my personal needs and preferences.");

(6) *personal life* ("[. . .] I have been able to have a satisfying life outside of work.");

(7) *growth and development* ("[. . .] I have stayed current with changes in my field."); and

(8) *satisfaction* ("[. . .] I am enthusiastic about my career.").

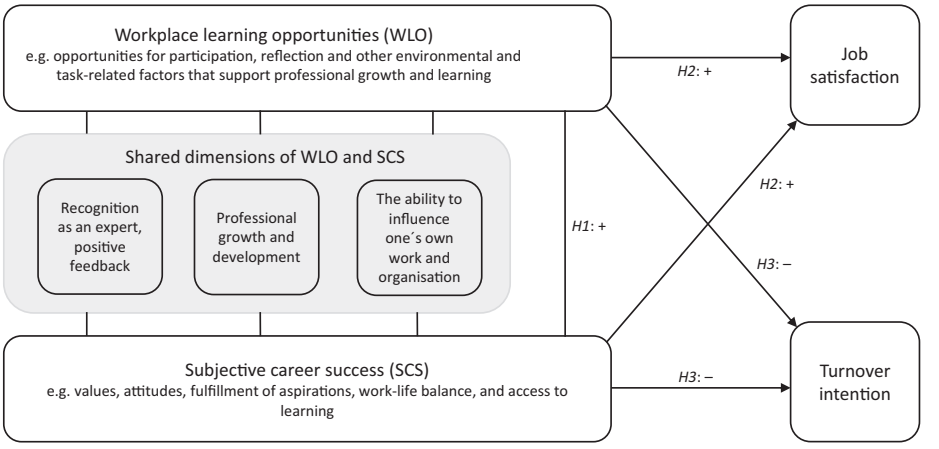

Figure 1.
Conceptual model and the hypotheses

In this study, we found that the internal consistency values (Cronbach's alpha) for these scales range from 0.80 to 0.89 (see Appendix for details).

Workplace learning opportunities. To investigate WLO in this study, we used a modified 18-item version of the workplace as a learning environment survey (WLES; James and Holmes, 2012) that originally contained 21 items. The number of items was reduced, and two new items were created to improve the psychometric properties of the survey. All items were presented with a five-point self-rating response scale (1 = totally disagree, 5 = totally agree). The modified version of WLES that was used retained the original seven-factor structure related to expansive learning environments (sample statements in parenthesis):

(1) *participation in and understanding of the workplace* ("I understand the goals and aims of the workplace.");
(2) *task performance* ("My work is not one-sided, I am expected to use a versatile set of skills in my work.");
(3) *access to resources to help to learn* ("I receive feedback/mentoring/coaching at work, for example from other workers.");
(4) *judgment, decision-making, problem-solving and reflection* ("I am allowed to make decisions of my own in my job"; "I have time to reflect on my work performance.");
(5) *experience and career progression* ("I am given time to work through tasks to develop my skills and knowledge.");
(6) *recognition as an expert* ("My colleagues or superior[s] recognize me as an expert of my field.");
(7) *organizational development* ("The business-related goals of the workplace are in line with my own goals to develop my professional skills.").

As the original survey was developed for studies in the field of apprenticeship training, for this study we rephrased some of the items and reduced their number to 18 according to findings of a previous study by Nokelainen *et al.* (2018) that used the original version of the instrument. The internal consistency values of the seven WLES components ranged from 0.59 to 0.79. Quite low alpha values reflect the low number of items per factor (2–4) and the inherent multidimensionality of the WLES factors four ($\alpha = 0.59$) and five ($\alpha = 0.62$). We suspect that multidimensionality might have more weight in this case, as the seventh factor focusing solely on the match between organizations' and employees' goals with only two items produced an alpha value of 0.79 (see Appendix for details).

Job satisfaction. In this study, we used a three-item subscale with a five-point self-rating scale (1 = totally disagree, 5 = totally agree) from the Michigan Organizational Assessment Questionnaire (MOAQ-JSS; see Bowling and Hammond, 2008). MOAQ-JSS is a shortened version of the MOAQ by Cammann *et al.* (1979) that had seven items. The three questions load on one factor as follows:

(1) "All in all I am satisfied with my job."
(2) "In general, I don't like my job."
(3) "In general, I like working here."

The second item was reverse coded before calculation of the average JSS score (α = 0.82, M = 4.1, SD = 0.691). Correlations between these items were all positive and between 0.51 and 0.61.

Turnover intention. Turnover Intention Scale (TIS; see Bothma and Roodt, 2013) has one factor that is measured with four items on a five-point self-rating scale (1 = never, 5 = always). The participants were asked to and respond to the following items based on their experiences over the past six months:

(1) "How often are you frustrated when not given the opportunity at work to achieve your personal work-related goals?"

(2) "How often are your personal values at work compromised?"

(3) "How often do you dream about getting another job that will better suit your personal needs?"

(4) "How often do you look forward to another day at work?"

The fourth item was reverse coded before calculation of the average TIS score (α = 0.80, M = 2.6, SD = 0.785).

Correlations between these items were all positive and between 0.33 and 0.54 (see Appendix for details).

Statistical analyses

The number of missing observations in the data was low (from one to five cases per variable), and the observations were missing at random. Missing data were not imputed; instead, casewise omission was applied in the following analyses (minimum sample size of 143 was reached with the path analysis model). Normality of the data was investigated against thresholds for skewness ($\mu_3 < 2$) and kurtosis ($\mu_4 < 7$) (Kim, 2013). No violations of these assumptions were found (μ_3 range from −2.050 to 1.205; μ_4 range from −1.617 to 6.366). Outliers for both SCSI (SPSS formula for eight dimensions: 1-CDF.CHISQ[MAH_1,8]) and WLES (7 dimensions: 1-CDF.CHISQ[MAH_2,7]) were investigated with Mahalanobis distances. No casewise deletion or winsorizing was needed as the co-occurring (respondent's SCSI and WLES) probability values were greater than 0.001 (Tabachnick and Fidell, 2013). The first research question (*RQ1*) examined the association between the SCSI and WLES dimensions with Pearson product-moment correlations. The second research question (*RQ2*) explored how SCSI and WLES are related to JS and TI using Pearson product-moment correlations. Analyses related to research questions were conducted with the IBM SPSS Statistics 25.0 program (IBM Corp., 2017). Regarding *RQ2*, path analysis (based on multiple regression) was used to further investigate the predicting power of SCS and WLO on JS and TI. Participants' organization, gender, age and total work experience were used as controlling variables. We used bootstrapping (Shrout and Bolger, 2002) with 5,000 iterations to generate confidence intervals. Path analysis was conducted with Mplus 8.3 software (Muthén and Muthén, 1998–2017). In addition, we conducted the analysis of relative importance (Stadler *et al.*, 2017) to learn how much variance each predictor (seven WLES and eight SCSI factors) explains in the outcome variables (JS and TI) by itself and in combination with other predictors. This is needed as bivariate correlations (*RQ1*) may ignore relations with other variables, and multiple regression analysis (*RQ2*) may produce results where the contribution of each predictor is not clear (Braun *et al.*, 2019). In this study, we analyze the importance of each predictor variable on dependent variables with dominance analysis (DA) (Azen and Budescu, 2003; Budescu, 1993). Dominance has three forms, starting with *general* and proceeding to *conditional* and, finally, to *complete*

dominance (Kraha *et al.*, 2012). In this study, we will focus our investigation on the highest form of dominance, complete dominance, for each criterion variable. The dominance weights were calculated with R 4.0.3 software (R Core Team, 2013) and packages "dominanceAnalysis" (Navarrete and Soares, 2020) and "yhat" (Nimon *et al.*, 2021).

Results

Descriptive statistics

To examine the overall levels of the variables as well as the suitability of the measures generally and in the model for the present sample, we first analyzed the central tendency indicators and the intercorrelations of the dimensions. Correlation analysis (Table 1) showed that all eight SCSI factors correlated positively (range from 0.12 to 0.67) with each other. According to the discussion related to effect sizes (Cohen, 1988), the strength of these correlations varies from small to large (small effect: $r = 0.1$, medium effect: $r = 0.3$, large effect: $r = 0.5$). The strongest correlation was between SCSI5 (authenticity) and SCSI8 (satisfaction) factors ($r = 0.67$). In other words, when employees feel responsible for their own career paths and have chosen it by themselves, the career is considered satisfying, inspiring and interesting. We found no correlations above 0.3 between the SCSI factors and participants' organization, gender, age or total work experience.

Investigation of the range of participants' answers (1 = totally disagree, 5 = totally agree) to eight SCSI dimensions shows that they responded to 24 survey items using the full response scale from one to five. Central tendency indicators show relatively high mean values on the eight dimensions (range from 3.4 to 4.1; see Appendix). Analysis of skewness (s^3) shows that the tail of the distribution on all eight factors is on the left side (skewness values are negative), indicating participants' response tendency of being more likely to use positive (e.g. 5 = totally agree) response values. Kurtosis (s^4) values of all eight factors are below 3, an indication of platykurtic (less outliers than in the normal distribution) shape in the probability distribution.

All seven WLES dimensions correlated positively (range from 0.18 to 0.58) with each other, the strongest correlation being between WLES3 and WLES5 dimensions (Table 1). One control variable (participants' organization) had a single above 0.3 correlation with WLES5 ($r = 0.46$) (see Puhakka *et al.*, 2020). Participants answered to four WLES dimensions (WLES2, WLES5, WLES6 and WLE7) using the full response scale from one to five, and to the remaining three dimensions (WLES1, WLES3 and WLES4), the answers tended to be positive (range from 1.3 to 5.0). Only WLES5 had moderate tendency values, whereas the other six dimensions had relatively high central tendency values (Appendix). Analysis regarding skewness and kurtosis indicated a tendency toward positive (e.g. 5 = *totally agree*) responses and platykurtic probability distributions for all dimensions except for WLES2, which had a leptokurtic distribution.

RQ1

In *H1*, we assumed that the dimensions of SCS and WLES are positively associated with each other. Table 1 shows that all correlations between the SCSI and WLES dimensions are positive, ranging from 0.10 to 0.62, which is congruent with our hypothesis. Notably, large correlations ($r > 0.50$) exist between the sixth WLES factor (recognition as an expert) and six SCSI factors: recognition ($r = 0.58$), quality work ($r = 0.50$), meaningful work ($r = 0.62$), influence ($r = 0.61$), authenticity ($r = 0.55$) and satisfaction ($r = 0.57$). Accordingly, if employees experience receiving acknowledgement in their job and are recognized as an expert in the field by colleagues and superiors, it has a significant positive effect on how employees evaluate their SCS.

Table 1.
Bivariate correlations (rho) among SCS, WLO, JS and TI

	SCSI1	SCSI2	SCSI3	SCSI4	SCSI5	SCSI6	SCSI7	SCSI8	WLES1	WLES2	WLES3	WLES4	WLES5	WLES6	WLES7	TIS	JSS
SCSI1	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SCSI2	0.53	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SCSI3	0.51	0.56	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SCSI4	0.49	0.35	0.58	1	–	–	–	–	–	–	–	–	–	–	–	–	–
SCSI5	0.54	0.42	0.52	0.58	1	–	–	–	–	–	–	–	–	–	–	–	–
SCSI6	0.21	0.12	0.12	0.13	0.24	1	–	–	–	–	–	–	–	–	–	–	–
SCSI7	0.18	0.24	0.32	0.27	0.33	0.20	1	–	–	–	–	–	–	–	–	–	–
SCSI8	0.48	0.45	0.59	0.54	0.67	0.31	0.39	1	–	–	–	–	–	–	–	–	–
WLES1	0.49	0.37	0.48	0.56	0.51	0.27	0.29	0.50	1	–	–	–	–	–	–	–	–
WLES2	0.30	0.38	0.36	0.41	0.37	0.17	0.19	0.36	0.47	1	–	–	–	–	–	–	–
WLES3	0.35	0.22	0.33	0.34	0.44	0.27	0.32	0.46	0.46	0.29	1	–	–	–	–	–	–
WLES4	0.39	0.24	0.33	0.46	0.47	0.25	0.33	0.39	0.44	0.34	0.33	1	–	–	–	–	–
WLES5	0.18	0.10	0.20	0.34	0.39	0.39	0.31	0.43	0.35	0.18	0.58	0.51	1	–	–	–	–
WLES6	0.58	0.50	0.62	0.61	0.55	0.17	0.26	0.57	0.50	0.43	0.39	0.51	0.28	1	–	–	–
WLES7	0.39	0.28	0.40	0.41	0.46	0.19	0.31	0.48	0.51	0.30	0.39	0.48	0.46	0.55	1	–	–
TIS	−0.42	−0.31	−0.30	−0.40	−0.52	−0.36	−0.18	−0.45	−0.36	−0.35	−0.47	−0.36	−0.44	−0.49	−0.39	1	–
JSS	0.48	0.39	0.43	0.44	0.58	0.40	0.23	0.64	0.52	0.44	0.53	0.35	0.45	0.52	0.49	−0.75	1

Notes: SCSI = 1. recognition, SCSI2 = 2. quality work, SCSI3 = 3. meaningful work, SCSI4 = 4. influence, SCSI5 = 5. authenticity, SCSI6 = 6. personal life, SCSI7 = 7. growth and development, SCSI8 = 8. satisfaction, WLES1 = 1. participation and understanding of the workplace, WLES2 = 2. task performance, WLES3 = 3. access to resources to help learning, WLES4 = 4. judgment, decision-making, problem-solving and reflection, WLES5 = 5. experience and task transition, WLES6 = 6. recognition as an expert, WLES7 = 7. organizational development, JSS = Job Satisfaction Scale and TIS = Turnover Intention Scale = Subjective Career Success Inventory

Next stage was to examine with DA how the seven WLES dimensions act as predictors on the eight SCSI scales. DA specifies the results of bivariate correlations by partitioning the contribution of predicted variance to a set of predictors (Braun *et al.*, 2019). Before proceeding into DA, we conducted eight linear regression analyses where each SCSI dimension acted as a criterion variable, and all seven WLES dimensions were predictors. Standardized weights (β) in Table 2 show that the first (participation and understanding of the workplace) and sixth (recognition as an expert) WLES dimensions were the strongest predictors of following SCSI dimensions: recognition; meaningful work; influence; authenticity; and satisfaction. Bolded values in Table 2 show that the "Recognition as an expert" dimension (WLES6) was the only completely dominant predictor in all these regressions (its average contribution ranged from 0.13 to 0.23). Its role was also important (complete dominance with an average contribution of $R^2 = 0.15$) alongside with the second (task performance) WLES dimension as a predictor of "Quality Work" (SCSI2). The strong predicting capacity of WLES6 on SCSI15 and SCSI8 supports the findings of correlational analysis presented earlier in Table 1 where the correlations ranged from 0.50 to 0.62. This conclusion is also present in Table 2: The total R^2 values accompanied with the complete dominance of WLES6 are quite high, ranging from 0.31 to 0.48. On the other hand, clearly lower total R^2 values related to DA of SCSI6 and SCSI7 dimensions (0.18 and 0.19, respectively) indicate that WLO play a less significant role with career experiences related to personal life and growth and development. Although Table 2 shows negative Beta weights between WLES predictors and SCS (DV) dimensions, our overall conclusion is that previously discussed *H1* still holds as the negative values are relatively small and nonsignificant compared to the strongest predictor's values and explain only a minor portion of DV's total variance.

RQ2

In the second hypothesis *H2*, we assumed that the dimensions of SCS and WLO are positively associated with JS. The first interpretation is made based on the correlations in Table 1, followed by a more detailed investigation with path analysis. Table 1 shows that all SCSI and WLES dimensions have positive correlations with JS (range from 0.23 to 0.67, see Table 1). Concerning our hypothesis *H2*, this is an expected finding. The strongest correlations to JS were found in the following factors: SCSI5 (authenticity) ($r = 0.58$), SCSI8 (satisfaction) ($r = 0.64$), WLES1 (participation and understanding of the workplace) ($r = 0.52$), WLES3 (access to resources) ($r = 0.53$) and WLES6 (recognition as an expert) ($r = 0.52$). Results of linear regression presented in Table 3 support these findings but show that also SCSI6 (personal life), WLES2 (task performance) and WLES5 (experience and task transition) are important predictors of JS. Interestingly, although WLES4 (judgment, decision-making, problem-solving and reflection), SCSI3 (meaningful work) and SCSI7 (growth and development) have positive correlations with JS (see Table 1), their predictive contribution to the variance of JS is negative (but small). Results of DA show that WLES dimensions explain together 48.0% of the variance related to JS. Table 3 shows that the strongest predictors of the variance of JS are WLES3 ($R^2 = 0.11$), WLES6 ($R^2 = 0.10$) and WLES1 ($R^2 = 0.09$). Two dimensions, WLES4 and WLES7, have a nonsignificant role compared to other predictors. None of the WLES dimensions has a complete dominance over all other predictors. SCS dimensions do a little better, explaining 51.0% of the variance of JS. The strongest predictors are SCSI8 ($R^2 = 0.15$), SCSI5 ($R^2 = 0.10$) and SCSI6 ($R^2 = 0.07$). Weakest predictors are SCSI2, SCSI3, SCSI4 and SCSI7 as their combined R^2 is only 0.11. "Satisfaction" (SCSI8) has complete dominance over all other SCSI predictors.

Table 2.
Linear regression and DA of predicted variance of workplace as learning environment (WLES1–7) on SCS (SCSI1–8)

WLES	SCSI1		SCSI2		SCSI3		SCSI4		SCSI5		SCSI6		SCSI7		SCSI8	
	β	R^2	*β*	R^2	*β*	R^2	*β*	R^2	*β*	R^2	*β*	R^2	*β*	R^2	*β*	R^2
WLES1	0.24**	0.10[a]	0.13	0.05[a]	0.21*	0.09[a]	0.28***	0.13[a]	0.19*	0.09[a]	0.13	0.03	0.07	0.03	0.17*	0.08[a]
WLES2	−0.04	0.02	0.18*	0.06[a]	0.05	0.04[a]	0.09	0.05a	0.05	0.04	0.05	0.01	0.01	0.01	0.07	0.04
WLES3	0.14	0.04a	0.01	0.01	0.05	0.03	−0.06	0.03	0.14	0.06	0.01	0.02	0.16	0.04	0.10	0.07[a]
WLES4	0.13	0.05a	−0.07	0.02	−0.01	0.03	0.07	0.06a	0.17	0.07	0.04	0.02	0.22*	0.05[a]	−0.04	0.04
WLES5	−0.16	0.01	−0.06	0.00	−0.04	0.01	0.11	0.03	0.08	0.04	0.32**	*0.09*[a]	0.07	0.03	0.22	0.07
WLES6	0.40***	*0.18*[a]	0.40***	*0.15*a	0.51***	*0.23*a	0.39***	*0.18*a	0.28***	*0.13*[a]	−0.03	0.01	0.04	0.02	0.37***	*0.15*[a]
WLES7	0.00	0.00	−0.09	0.01	0.11	0.01	0.00	0.00	0.09	0.01	0.06	0.00	0.13	0.01	−0.01	0.00
F	14.34	–	9.23	–	16.34	–	19.01	–	15.98	–	4.58	–	4.76	–	16.77	–
df	7,145	–	7,145	–	7,145	–	7,145	–	7,145	–	7,145	–	7,145	–	7,145	–
p	< 0.001	–	< 0.001	–	< 0.001	–	< 0.001	–	< 0.001	–	< 0.001	–	<. 001	–	< 0.001	–
Total R^2	–	0.41	–	0.31	–	0.44	–	0.48	–	0.44	–	0.18	–	0.19	–	0.45
Total adj. R^2	–	0.38	–	0.27	–	0.41	–	0.45	–	0.41	–	0.14	–	0.15	–	0.42

Notes: ***$p < 0.001$; **$p < 0.01$; *$p < 0.05$. [a]Complete dominance over at least one other predictor. Italicized values indicate that a predictor has complete dominance over all other predictors Subjective Career Success Inventory (SCSI); Workplace as a Learning Environment Scale (WLES)

WLES/ SCSI	JSS		TIS	
	β	R^2	β	R^2
WLES1	0.18*	0.09[a]	0.03	0.03
WLES2	0.18*	0.07[a]	−0.14	0.04[a]
WLES3	0.21*	0.11	−0.18*	0.08[a]
WLES4	−0.08	0.03	0.03	0.03
WLES5	0.20*	0.07[a]	−0.25**	0.08[a]
WLES6	0.26**	0.10[a]	−0.31***	0.11[a]
WLES7	0.05	0.01	0.04	0.01
F	19.01	–	12.49	–
df	7,145	–	7,145	–
p	< 0.001	–	< 0.001	–
Total R^2	–	0.48	–	0.38
Total adj. R^2	–	0.45	–	0.35
SCSI1	0.12	0.06[a]	−0.13	0.05[a]
SCSI2	0.05	0.03	−0.07	0.02
SCSI3	−0.01	0.03	0.10	0.02
SCSI4	0.05	0.04	−0.13	0.04[a]
SCSI5	0.19*	0.10[a]	−0.29**	0.10[a]
SCSI6	0.21***	0.07[a]	−0.22**	0.06[a]
SCSI7	−0.07	0.01	0.04	0.01
SCSI8	0.36***	*0.15*[a]	−0.10	0.06[a]
F	18.71	–	10.41	–
df	8,144	–	8,144	–
p	< 0.001	–	< 0.001	–
Total R^2	–	0.51	–	0.37
Total adj. R^2	–	0.48	–	0.33

Notes: ***$p < 0.001$, **$p < 0.01$ and *$p < 0.05$. [a]Complete dominance over at least one other predictor. Italicized value indicates that a predictor has complete dominance over all other predictors Subjective Career Success Inventory (SCSI); Job Satisfaction Scale (JSS)

Table 3. Linear regression and DA of predicted variance of workplace as learning environment (WLES1–7) and SCS (SCSI1–8) on job satisfaction (JSS) and turnover intention (TIS)

Table 1 shows that all SCSI and WLES dimensions correlated negatively with TI (range from −0.18 to −0.52), which is consistent with our hypothesis *H3*: the dimensions of SCS and WLO are negatively associated with TI. Regression and DA in Table 3 shows that the strongest predictors among the WLO dimensions (WLES6, WLES5, WLES3 and WLES2) have a negative relation to TI (combined $R^2 = 0.31$), whereas the weakest predictors have a positive relation (combined $R^2 = 0.07$). This finding supports *H3* as the total R^2 is 0.38. Similar interpretation can be made with the dimensions of SCS as the strongest predictors (SCSI1, SCSI4, SCSI5, SCSI6 and SCSI8) are negatively associated with TI and explain most (31.0%) of its total variance ($R^2 = 0.37$).

Path analysis with observed variables was conducted to further investigate how the eight SCSI factors and seven WLES factors are associated with JS and TI. Only statistically significant standardized estimates are presented in Figure 2. Figure 2 shows that regarding the WLES dimensions, WLES2 (task performance) ($\beta = 0.180$, $p = 0.007$, 90% CI = 0.026 to 0.338) and WLES3 (access to resources to help learning) were positively ($\beta = 0.167$, $p = 0.019$, 90% CI = 0.050 to 0.296) correlated with JS. WLES1 (participation and understanding of the workplace; $\beta = 0.219$, $p = 0.003$, 90% CI = 0.072 to 0.353) and WLES5 (experience and career progression; $\beta = -0.213$, $p = 0.010$, 90% CI = −0.354 to −0.068) was positively and negatively correlated, respectively, with TI. These findings indicate that employees feeling that they encounter complex problems and are expected to use a versatile set of skills at work (WLES2) are positively correlated with JS. In addition to this, there is a positive correlation between JS and the experience of getting access to resources that support learning (WLES3). What comes to the connection

between WLO and TI, employees understanding the work of colleagues and work processes and goals of the organization (WLES1) is negatively correlated with TI. Employees gaining experience across various work tasks and being given enough time to work through tasks to develop their professional competence (WLES5) are also negatively correlated with TI.

Dimensions SCSI6 (personal life; $\beta = 0.153$, $p = 0.011$, 90% CI = 0.039 to 0.266) and SCSI8 (satisfaction; $\beta = 0.322$, $p < 0.001$, 90% CI = 0.158 to 0.493) were correlated positively with JS. SCSI5 (authenticity) was negatively ($\beta = -0.211$, $p = 0.007$, 90% CI = −0.341 to −0.050) and SCSI8 (satisfaction) was positively ($\beta = 0.244$, $p = 0.005$, 90% CI = 0.112 to 0.400) correlated with TI. Results indicate that a higher level of satisfaction with one's career (SCSI8) and the experience of having a satisfying life outside of work (SCSI6) are positively related to JS. The experience of having an enthusiastic and interesting career (SCSI8), on the other hand, is also positively related to the desire to change jobs in the near future. TI, in turn, is negatively correlated with the experience of having a job that meets personal needs and preferences and feeling responsible for one's career path (SCSI5). The overall notion of the model is that the R squared values explaining the variance of the two dependent variables are quite high (JS: $R^2 = 60.6\%$; TI: $R^2 = 65.8\%$), indicating that the dimensions of SCSI and WLES are correlated to JS and TI.

Results indicate that JS increases with age ($\beta = 0.171$, $p = 0.044$, 90% CI = 0.019 to 0.322) and TI is higher in the field of software development and design (company B) than in the field of engineering, architecture and consultancy (company A) ($\beta = 0.143$, $p = 0.025$, 90% CI = 0.017 to 0.281).

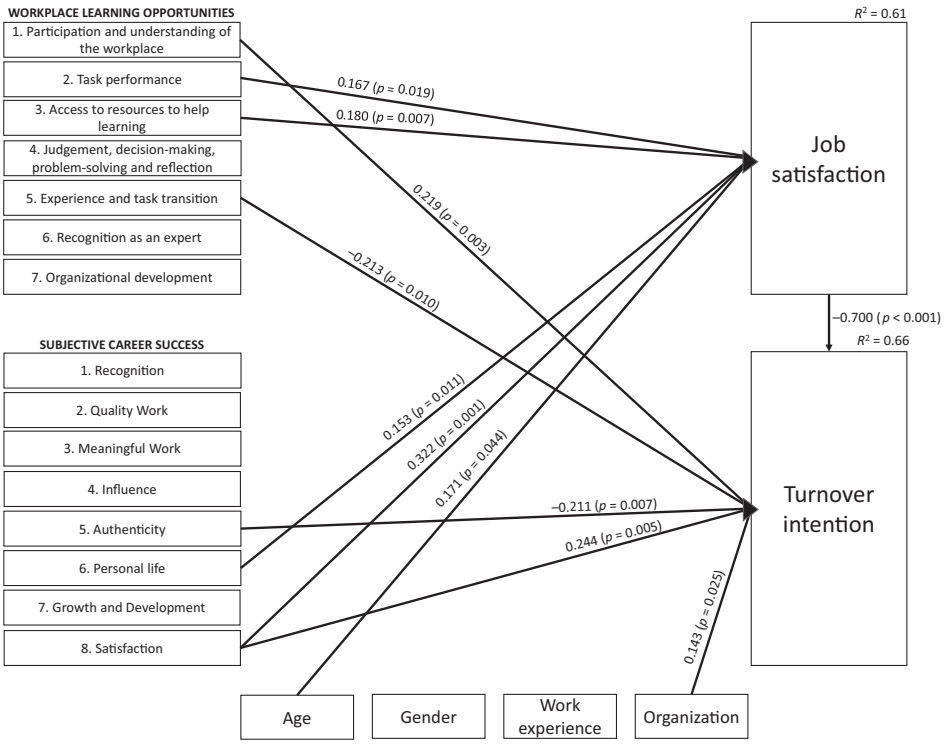

Figure 2.
Path analysis of the relationships among WLO, SCS, JS and TI after controlling for age (years), gender (0 = female, 1 = male), total work experience (years) and organization (0 = company A, 1 = company B)

Note: Only statistically significant ($p < 0.05$) standardized associations are presented

Discussion

The purpose of this study was to provide information on the connections between the dimensions of SCS and WLO, and how they are related to JS and TI. In addition to this, the intention was to provide new perspectives on the wider themes of well-being and learning at work. The first research question focused on links between the dimensions of SCS and WLO. Compared to Figure 1, the results were consistent regarding recognition and opportunities for influence and somewhat consistent with professional growth and development. As hypothesized, all correlations between the SCSI and WLES dimensions were positive. However, DA revealed that WLES dimensions contribute substantially to most SCSI dimensions (R^2 = 0.31–0.48) but less to personal life (SCSI6; R^2 = 0.18) and professional growth and learning (SCSI7; R^2 = 0.19). The lower predictive abilities of WLES dimensions to the aspects of personal life and work–life balance (SCSI6) make sense because SCSI6 items focus on the aspects outside of work. The results regarding SCSI7 dimension are more surprising due to shared conceptual links (Figure 1). A possible explanation for the result could be that the items of the WLES are focused on environmental and task-related factors that support professional growth and learning, to which the employee may have little influence on, whereas the claims of SCSI reflect more of the individual's active role in professional development. A previous study has highlighted the role of individual intentionality in learning (Billett, 2008). An active approach to learning and development is not necessarily dependent solely on the learning opportunities provided by the workplace. When an employee has a goal and purpose, the environment is not a determinant of learning, but a person can make an effort to develop the skills they consider important regardless of the learning environment.

Somewhat surprising was also that one dimension, WLES6, recognition as an expert, had a remarkable role in the formation of employees' positive SCS. High correlation values ($r > 0.50$) were found between the WLES6 and six of eight SCSI factors. Also, the DA confirmed this result. Thus, to promote the experience of positive SCS, it seems very important that employees receive acknowledgement in their job from colleagues and superiors, and they can feel they are recognized as experts in their field. Social support has been shown to be related with SCS in previous studies (Ng and Feldman, 2014). WLO in general seemed to have a strong connection to the feeling of having an influence on the organization and the people who work there.

The second research question examined how SCS and WLO are related to JS and TI. The DA demonstrated that WLO and SCS have a stronger predictive ability for JS than TI. Recognition as an expert (WLES6) was a particularly significant dimension explaining higher JS and lower TI. Satisfaction with one's career was found to be positively correlated to JS, which is an expected finding, as JS is seen as an individual's perception of his or her job (Lu *et al.*, 2012). What is surprising is that satisfaction with one's career was also positively correlated to TI. Furthermore, willingness to change jobs seems to be lower if employees experience responsibility for their career choices and have a feeling that they have chosen their career paths by themselves. A possible explanation for this is that career satisfaction is associated with an active approach to one's own career choices. Even if the career is perceived as satisfying, it is important to experience that career decisions are actively made. Also, an interesting finding was that satisfaction with personal life emerges as an important factor in the formation of JS. Hence, it is important that employees have an experience of being a good and competent employee and at the same time have the opportunity to spend enough time with friends and family as well as live a satisfying life outside of work. The result is congruent with the previous study, whereby being

simultaneously engaged in multiple work and family roles can indirectly have an effect on JS via SCS (Koekemoer *et al.*, 2020).

In terms of WLO, an unanticipated finding was that important learning opportunities, such as a broad understanding of colleagues' work, as well as employees' understanding of workplace processes, goals and aims, are positively correlated to a desire for a change in workplace in the near future. Nevertheless, this should not lead to the conclusion that it would be worthwhile for a company to limit the employees' participation. Instead, the findings also suggest that when an employee is given an opportunity to perform a variety of work tasks and enough time to develop knowledge and skills in those tasks, it supports the commitment to the organization and reduces the willingness to leave. What comes to the connections between WLO and JS is that JS is higher when an employee is given challenging and versatile work tasks. This is an expected finding, as it has been shown that, in general, jobs offering more expansive learning are associated with higher JS (Felstead *et al.*, 2015). Besides the tasks that bring about professional development, it is also important to enable access to resources that support learning, such as feedback, mentoring, professional networks and courses. This is in line with the JD-R model (Bakker and Demerouti, 2007) highlighting that high job demands also require considerable resources that support the achievement of goals.

This study is not without limitations. The main limitation is that the data were collected via a self-report questionnaire. Although data collection was anonymous and the phenomena covered were less sensitive than, for example, health issues and behavior, a social desirability bias cannot be ruled out. The questionnaire was based on existing instruments and items. The content validity of the existing instruments should also be considered. For example, workplace learning is a complex phenomenon influenced by social, organizational, cultural and other contextual factors. Previous research has established that both context and individual factors (such as personal factors and demographic variables) and the interrelationships between them shape learning in the workplace (Billett, 2008; Hager, 2011; Kyndt and Baert, 2013). Thus, it may be questioned whether the questionnaire of this study reaches all aspects of workplace learning. The second methodological limitation of this study is the cross-sectional design that only allows noncausal investigation of the relations between factors of interest. On the other hand, this study is part of a larger study design that also involves interview, psychophysiological and experience sampling data in later stages with a smaller number of participants. Thus, results obtained from this study phase contribute to a large extent to later phases of the study. The third methodological limitation relates to a quite low response rate from two participating companies (company A: 28%, company B: 11%). Although management of the companies expressed their interest in the study, several calls for personnel to participate were needed to reach even these response rates. When examining the data, we were satisfied to see that the distributions of different job titles, age and gender groups reflected quite well those of the two target companies.

In addition, the decision to stay or leave the organizations does not depend solely on the person's own choice. It is influenced by many personal and contextual factors such as employability and labor market conditions (Bothma and Roodt, 2013). The research does not take into account, for example, the situation in the labor market. On the other hand, the mere desire to change jobs is a significant signal of dissatisfaction or willingness to change some aspects of work. As both companies have been recognized as attractive employers in recent years in various employer branding competitions, it may be asked whether or not the sample describes the general situation in the field of technology. However, to succeed and retain skillful employees in the organization, any company has been forced to pay attention to these issues in recent years.

Conclusions and practical implications

The creation of expansive work environments where employees learn, wish to remain and are satisfied with their careers requires attention and input from organizations. The findings of this study have a number of practical implications.

The results indicate that the organizations should be able to respond to the needs of employees who actively manage their careers. Career satisfaction is associated with an active approach to one's own career choices. Even if the career is perceived as satisfying, it is important to experience that career decisions are actively made. Opportunities for professional growth and satisfactory careers should be provided, but access to resources that support learning should also be ensured and enabled. Employees should have sufficient time to both perform demanding tasks and develop their skills and knowledge. The evidence from this study suggests also that the balance is important not only between work challenges and learning resources but also between work and leisure. Employees' experiences of their SCS are individualized. To support the formation of positive SCS, it is important for organizations to develop a culture of feedback as well as positive feedback practices at the level of both colleagues and supervisors. Experience in being recognized as an expert promotes JS and reduces the willingness to change jobs.

An interesting and personally satisfying career is not enough; employees should also have the experience that work responds to their personal needs and preferences and that they have chosen their own career paths. An open dialogue between employer and employee is important. It provides the employer with information on individual factors behind the experience of SCS. Employees take a great responsibility for what they learn and how and tailor the career path according to their own criteria by themselves. At best on the basis of discussions, organizations could provide opportunities for professional growth and individual career choices within a company. In future studies, a detailed qualitative study of the experiences that are related to WLO, SCS, JS and TI would provide a deeper understanding of the personal perceptions and connections between those concepts.

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Appendix

Scales, subscales and items	*M* (*SD*)	Skewness (*S.E.*)	Kurtosis (*S.E.*)
Subjective career success			
1. Recognition (α = 0.826)	*[4.1 (0.770)]*	*[−0.948 (0.196)]*	*[1.349 (0.390)]*
My supervisors have told me I do a good job	4.1 (0.934)	−0.920 (0.196)	0.499 (0.390)
The organizations I worked for have recognized me as a good performer	4.2 (0.866)	−1.291 (0.196)	1.902 (0.390)
I have been recognized for my contributions	4.0 (0.881)	−0.877 (0.196)	0.869 (0.390)
2. Quality work (α = 0.817)	*[3.9 (0.687)]*	*[−0.463 (0.196)]*	*[0.140 (0.390)]*
I am proud of the quality of the work I have produced	4.0 (0.756)	−0.587 (0.196)	0.324 (0.390)
I have met the highest standards of quality in my work	3.9 (0.799)	−1.347 (0.196)	3.420 (0.390)
I have been known for the high quality of my work	3.9 (0.851)	−0.706 (0.196)	1.695 (0.390)
3. Meaningful work (α = 0.762)	*[3.6 (0.809)]*	*[−0.716 (0.196)]*	*[0.663 (0.390)]*
I think my work has been meaningful	4.0 (0.843)	−0.735 (0.196)	0.844 (0.390)
I believe my work has made a difference	3.4 (1.047)	−0.386 (0.196)	−0.401 (0.390)
The work I have done has contributed to society	3.4 (1.044)	−0.551 (0.196)	−0.261 (0.390)
4. Influence (α = 0.809)	*[3.4 (0.855)]*	*[−0.484 (0.196)]*	*[0.258 (0.390)]*
Decisions that I have made have impacted my organization	3.1 (1.065)	−0.079 (0.196)	−0.629 (0.390)
The organizations I have worked for have considered my opinion regarding important issues	3.6 (0.980)	−0.649 (0.196)	0.205 (0.390)
Others have taken my advice into account when making important decisions	3.6 (0.970)	−0.952 (0.196)	1.248 (0.390)
5. Authenticity (α = 0.797)	*[3.9 (0.775)]*	*[−0.666 (0.196)]*	*[0.121 (0.390)]*
I have been able to pursue work that meets my personal needs and preferences	3.9 (0.819)	−0.570 (0.196)	0.026 (0.390)
I have felt as though I am in charge of my own career	3.7 (0.958)	−0.772 (0.196)	0.428 (0.390)
I have chosen my own career path	3.9 (0.972)	−0.978 (0.196)	1.176 (0.390)
6. Personal life (α = 0.820)	*[3.7 (0.914)]*	*[−0.308 (0.196)]*	*[−0.686 (0.390)]*
I have been able to spend the amount of time I want with my friends and family	3.5 (1.135)	−0.410 (0.196)	−0.587 (0.390)
I have been able to have a satisfying life outside of work	4.0 (0.917)	−0.985 (0.196)	1.535 (0.390)
I have been able to be a good employee while maintaining quality nonwork relationships	3.5 (1.130)	−0.324 (0.196)	−0.786 (0.390)
7. Growth and development (α = 0.827)	*[3.9 (0.693)]*	*[−0.508 (0.196)]*	*[0.721 (0.390)]*
I have expanded my skill sets to perform better	4.1 (0.831)	−0.775 (0.196)	0.594 (0.390)
I have stayed current with changes in my field	3.8 (0.773)	−0.413 (0.196)	0.460 (0.390)
I have continuously improved by developing my skill set	3.9 (0.807)	−0.326 (0.196)	−0.385 (0.390)
8. Satisfaction (α = 0.894)	*[3.9 (0.819)]*	*[−0.889 (0.196)]*	*[1.024 (0.390)]*

(*continued*)

Table A1.

Scales, subscales and items	*M* (*SD*)	Skewness (*S.E.*)	Kurtosis (*S.E.*)
My career is personally satisfying	3.8 (0.894)	−0.904 (0.196)	1.215 (0.390)
I am enthusiastic about my career	3.8 (0.964)	−0.639 (0.196)	0.097 (0.390)
I have found my career quite interesting	4.1 (0.843)	−1.099 (0.196)	1.746 (0.390)
Workplace as learning environment			
1. Participation and understanding of the workplace (α = 0.747)	*[4.0 (0.663)]*	*[−0.884 (0.196)]*	*[1.264 (0.390)]*
I participate in and understand a variety of situations and processes in my workplace	3.8 (0.877)	−0.642 (0.196)	0.168 (0.390)
I know at the general level what work my colleagues in this workplace do	4.2 (0.741)	−0.641 (0.196)	0.274 (0.390)
I understand the goals and aims of my workplace	4.1 (0.815)	−1.326 (0.196)	2.701 (0.390)
2. Task performance (α = 0.717)	*[4.4 (0.681)]*	*[−2.057 (0.196)]*	*[6.366 (0.390)]*
I tackle complex problems in my work	4.4 (0.748)	−1.700 (0.196)	4.631 (0.390)
My work is not one-sided; I am expected to use a versatile set of skills in my work	4.5 (0.794)	−2.192 (0.196)	7.687 (0.390)
3. Access to resources to help learning (α = 0.738)	*[3.6 (0.802)]*	*[−0.338 (0.196)]*	*[−0.051 (0.390)]*
I receive feedback/mentoring/coaching at work (for example from other workers)	3.4 (1.018)	−0.287 (0.196)	−0.592 (0.390)
I have access to necessary resources to help me learn (for example other workers, materials, customers, competitors, suppliers and professional networks)	3.9 (0.836)	−0.754 (0.196)	0.987 (0.390)
I am encouraged to gain qualification(s)	3.6 (1.100)	−0.278 (0.196)	−0.928 (0.390)
4. Judgment, decision-making, problem-solving and reflection (α = 0.588)	*[4.0 (0.555)]*	*[−0.245 (0.196)]*	*[−0.149 (0.390)]*
I assess my own performance at work	4.0 (0.756)	−0.495 (0.196)	0.063 (0.390)
I am allowed to make decisions of my own in my job	4.2 (0.730)	−0.693 (0.196)	0.221 (0.390)
Solving problems related to my area of expertise is an essential part of my work	4.3 (0.912)	−1.966 (0.196)	5.659 (0.390)
I have time to reflect on my work performance	3.4 (0.902)	−0.102 (0.196)	−0.627 (0.390)
5. Experience and task transition (α = 0.623)	*[3.3 (0.892)]*	*[−0.088 (0.196)]*	*[−0.579 (0.390)]*
I gain experience across various work tasks in the workplace	3.4 (1.044)	−0.412 (0.196)	−0.443 (0.390)
I am given time to work through tasks to develop my skills and knowledge	3.1 (1.050)	0.147 (0.196)	−0.732 (0.390)
6. Recognition as an expert (α = 0.679)	*[3.5 (0.820)]*	*[−0.415 (0.196)]*	*[−0.083 (0.390)]*
I receive acknowledgement in my job from colleagues or superior(s) (for example in the development of my expertise and my achievements)	3.4 (0.963)	−0.313 (0.196)	−0.453 (0.390)
My colleagues or superior(s) recognize me as an expert of my field	3.6 (0.922)	−0.294 (0.196)	−0.479 (0.390)
7. Organisational development (α = 0.794)	*[3.6 (0.820)]*	*[−0.636 (0.197)]*	*[0.694 (0.391)]*

Table A1. (*continued*)

Scales, subscales and items	*M* (*SD*)	Skewness (*S.E.*)	Kurtosis (*S.E.*)
My own vision of how the field I am working on (e.g., "bridge construction", "software development") should develop in the future is in line with the vision of this workplace	3.7 (0.925)	−0.878 (0.196)	1.592 (0.390)
The business-related goals of the workplace (for example what kind of projects to take part in) are in line with my own goals to develop my professional skills	3.4 (0.978)	−0.787 (0.196)	0.561 (0.390)
Job satisfaction (α = 0.820)	*[4.1 (0.691)]*	*[−1.243 (0.196)]*	*[2.109 (0.390)]*
All in all. I am satisfied with my job	3.9 (0.812)	−1.073 (0.196)	1.830 (0.390)
In general. I do not like my job. (reverse coded)	1.7 (0.856)	1.436 (0.196)	2.017 (0.390)
In general. I like working here	4.2 (0.744)	−0.686 (0.196)	0.306 (0.390)
Turnover intention (α = 0.779)	*[2.6 (0.785)]*	*[0.482 (0.196)]*	*[−0.135 (0.390)]*
How often are you frustrated when not given the opportunity at work to achieve your personal work-related goals?	2.5 (0.939)	0.424 (0.196)	−0.396 (0.390)
How often are your personal values at work compromised?	2.3 (0.993)	0.622 (0.196)	−0.126 (0.390)
How often do you dream about getting another job that will better suit your personal needs?	2.7 (1.154)	0.097 (0.196)	−1.020 (0.390)
How often do you look forward to another day at work? (reverse coded)	3.2 (0.949)	−0.375 (0.196)	−0.178 (0.390)

Note: Indicator values that are in square brackets represent sub-scale average values (factors)

Table A1.

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