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# Job and life satisfaction of apprentices: the effect of personality, social relations, and decent work

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## Abstract

Based on the social cognitive model and on the psychology of working theory, this research aims to study the job and life satisfaction of apprentices, considering proactive personality, person-supervisor and person-group fit, occupational self-efficacy, and decent work as antecedents. The participants were 530 Swiss apprentices enrolled in a three-year VET program with the Federal VET Diploma. The results show that proactivity is directly linked with person-supervisor and person-group fit, occupational self-efficacy, and job and life satisfaction. Decent work is related positively with job satisfaction. Person-supervisor and person-group fit seem to directly influence occupational self-efficacy. Decent work, in turn, seems to mediate the relationship between person-supervisor and person-group fit and job satisfaction. In conclusion, this study suggests that encouraging apprentices' proactivity, person-supervisor and person-group fit at work could be crucial to improving their perceptions of decent work and increasing their job and life satisfaction.

**Keywords** Apprentices, Proactivity, Occupational self-efficacy, Decent work, Job satisfaction

## Introduction

In recent years, while job and life satisfaction have been extensively examined in adult workers (Zammiti et al. 2022; Zhang et al. 2020), only limited research concerned apprentices. The term “apprentice” refers, specifically, to young adolescents who, after finishing compulsory school, have decided to enroll in a dual training program, called Vocational Education Training (VET), characterized by school-to-work alternation. In Switzerland, initial vocational training (secondary level II with apprentice typically aged between 16 and 20) allows the acquisition of certified vocational qualifications; it can be achieved through a Federal VET Certificate, taking 3 or 4 years, or through Federal VET Diploma which has a duration of 2 years. In this type of training, the apprentice is involved in school and in the workplace, where practical learning of the profession takes place. An alternative for acquiring a certified vocational qualification is full-time

vocational schools offering both practical/professional and theoretical/general learning. The Federal Vocational Baccalaureate completes the initial vocational training (Federal VET Diploma) and allows access to tertiary-level education. Concerning the well-being of apprentices, Cortini (2016) identified a positive influence of workplace identity on apprentices' job satisfaction, whereas other studies found that their life satisfaction is predicted by personality traits (Volodina et al. 2019) and career adaptability (Hirschi 2009). Job and life satisfaction of apprentices are important to examine for different reasons. Firstly, an apprentice satisfied with his job and life will tend to be more committed to workplace tasks and studies at school (Seidel 2019; Lüthi et al. 2021). Secondly, apprentices' satisfaction with their work and life will help establish the basis for a successful professional integration and career development, and future career success, which is known to lead to positive outcomes in terms of job and life satisfaction. Lastly, one of the best known and most cited outcomes of an unsatisfied apprentice is the early termination of the apprenticeship contract, which we know from the literature enhancing the risk of remaining without qualifications, unemployment, and experience poverty and healthy problems (Stalder and Schmid 2012).

Job and life satisfaction are the crucial outcomes of Lent and Brown's social cognitive model of job and life satisfaction (SCM-JS; 2006, 2008). This model includes occupational self-efficacy, participation in goal-directed activities, personality traits, perceived work conditions, prospected outcomes and external support and barriers and explains the way in which these variables associate and serve to associate and sustain life and job satisfaction. According to SCM-JS, goal- and efficacy-relevant contextual support and constraints, goal-directed behaviours, occupational self-efficacy, and personality traits affect job satisfaction, which is expected to influence life satisfaction. Within our study, following this multifactorial model, we included the measurement of occupational self-efficacy, proactivity (a personality trait), person-supervisor fit and person-group fit (external support and barriers). As for the reference SCM-JS model, these variables are assumed to be linked with life satisfaction and job satisfaction. In addition to the antecedents suggested by the SCM-JS, this study also considers the notion of decent work as a measure of apprentices' work conditions. Decent work is the central construct of the Psychology of Working Theory (PWT). Duffy et al. (2016) suggest that decent work predicts well-being at work and in life in general, through the satisfaction of three types of needs (i.e., survival, social connection, and self-determination needs). In our model, decent work is assumed to predict life and job satisfaction.

Inspired by these theories, the aim of the research was to study the relation between apprentices' proactivity, perception of person-supervisor and person-group fit, occupational self-efficacy, decent work perception, and job and life satisfaction by testing a model in accordance with the Lent and Brown (2006, 2008) SCM-JS and PWT (Duffy et al. 2016). Combining these two theories allowed studying a model including a large variety of work-related variables that are supposed to impact job and life satisfaction. Therefore, we constructed a structural equation model (SEM) that included the variables of proactivity, person-supervisor and person-group fit, occupational self-efficacy, decent work perception, and job and life satisfaction. This model was tested on the responses given to a questionnaire by 530 apprentices from the Canton of Ticino.

### Life and job satisfaction

Life satisfaction has been assumed by research to be one of the three components of subjective well-being, in addition to the positive affect and negative affect components (Diener 1984; Arthaud-Day et al. 2005). The life satisfaction component has been conceptualized by Diener (1984, p. 550) as a “[...] cognitive evaluation of one’s life”. Later, Veenhoven (1996) stated that “life-satisfaction is the degree to which a person positively evaluates the overall quality of his/her life as-a-whole. In other words, how much the person likes the life he/she leads”.

Many variables are associated with life satisfaction. For example, De Neve and Oswald (2012) observed, in their longitudinal study, that a high score of life satisfaction predicts a major level of income. In other studies, life satisfaction was associated with other psychological and social outcomes, such as success at work (Boehm and Lyubomirsky 2008; Luhmann et al. 2013) or quality of relations at work (Oishi et al. 2007). Therefore, a measure of present well-being is life satisfaction, that should be probably considered an important resource for the future well-being of apprentices. Bozgeyikli et al. (2010) studied the demographic variables that are expected to predict life satisfaction in students enrolled in apprenticeship training. They found a difference in life satisfaction according to parents’ educational level, income level, and satisfaction with their jobs. In a sample of Swiss apprentices, Hirschi (2009) found that supporting career adaptability and positive development in adolescence predicted an augmentation in the feeling of power and life satisfaction experience over time. Thus, one’s life satisfaction is an important indicator of his or her present well-being and lays the foundations for his or her future well-being.

A second important measure of psychological health in the workplace is job satisfaction. Davis and Nestrom (1985, p. 109) defines job satisfaction as “a combination of positive or negative feelings that workers have towards their work. Meanwhile, when a worker employed in a business organization, brings with it the needs, desires, and experiences which determinates expectations that he has dismissed. Job satisfaction represents the extent to which expectations are and match the real awards.” Job satisfaction is also described as “a worker’s sense of achievement and success on the job. It is generally perceived to be directly linked to productivity as well as to personal well-being.” (Kaliski 2007, p. 446). Previous literature has proven that job satisfaction is affected by work conditions (Fairbrother and Warn 2003) as well as individual characteristics such as personality traits (Perera et al. 2018). In the context of apprentices Cortini (2016) showed that organisational learning climate influences personal work identity, which successively affected job satisfaction. Concerning the possible consequences of job satisfaction, Vital and Alves (2010) highlighted that job satisfaction has a positive impact on the organisational engagement of apprentices.

Life satisfaction and job satisfaction have been extensively studied as components of the PWT model and outcomes of decent work. Masdonati et al. (2019), for example, inspired by the PWT model, observed on a sample of workers in Switzerland, that life satisfaction and job satisfaction can be considered as outcomes of perceived decent working conditions. More recently, Kim and Kim (2022) also found a significant link between decent work and job and life satisfaction in their study: perceiving one’s job as decent would lead to greater job and life satisfaction.

In the PWT and the studies inspired by it, job and life satisfaction are seen as distinct outcomes of decent work that covary and other related variables. In Lent and Brown’s

model (2006, 2008), on the other hand, job satisfaction and life satisfaction are supposed to influence each other. This bidirectional link was also suggested by earlier studies (Schmitt and Pulakos 1985), where it was also specified that the path from life satisfaction to job satisfaction may be the strongest (Bowling et al. 2010; Unanue et al. 2017; Bialowolski and Weziak-Bialowolska 2020). Recently, Marcionetti and Castelli (2022), inspired by the SCM-JS model, tested the link between job and life satisfaction on a large sample of Swiss teachers and found that the link from job to life satisfaction was a slightly stronger than the opposite one. To date, no study has tested the relationship between job and life satisfaction in apprentices. In the present study, job satisfaction is understood as influencing life satisfaction.

### **Decent work**

Decent work is defined, according to the Psychology of Working Theory (PWT) by Duffy and colleagues (2016), by five components: (1) physical and psychological safe working conditions (e.g., nonexistence of physical, mental, or emotional mistreatment), (2) hours that allow free time and appropriate repose, (3) organizational values complementary to family and social values, (4) adequate compensation, and (5) access to health care. In PWT, there are some antecedents, mediators, moderators, and results of decent work. Marginalization processes and economic difficulties are considered by Duffy et al. (2016) as two antecedents of decent work; career adaptability and work volition, respectively, as two mediators of the relationship between these precursors and decent work. It was assumed that the previously explained relationships are mediated by the following variables: critical consciousness, proactive personality, perceived social support, and economic situation.

Last, in PWT, achievement of survival, social connection, and self-determination needs are proposed as results of attaining decent work. The satisfaction of these three types of needs is expected to positively influence work fulfilment and general well-being. In this study, we considered decent work as a measure of work conditions. The study by Masdonati and colleagues (2019) conducted in Switzerland, as well as the studies realised by Duffy et al. (2017) in Portugal and Vignoli et al. (2020) in France, have shown that decent work predicts greater life and job satisfaction. The last cited studies are conducted on adult samples, and until today, there are no studies that have investigated this topic in apprentices.

### **Occupational self-efficacy**

Bandura (1997) defined self-efficacy as an important self-perception enhancing human accomplishment and personal well-being in many ways. According to him, individuals with an elevated level of assurance in their abilities approach difficult tasks as challenges to be mastered rather than as threats to be avoided. According to Schyns and Von Collani (2002), occupational self-efficacy is the individual's belief in being able to engage in meaningful and relevant behaviours in his or her own work. The higher levels of occupational self-efficacy an individual has, the more likely he or she will focus on positive opportunities and less on possible losses due to this decision (Krueger and Dickson 1994).

Subsequently, it is assumed that individuals with a high level of self-efficacy are more likely to engage in challenging and stimulating situations, which may result in greater

success in their jobs and lives. Zammiti and colleagues (2021) found that Italian adolescents with a great level of self-efficacy tend to consider work and decent work in a more composite and in-depth way. More related to apprentices' reality, Masdonati and colleagues (2022), in adapting the PWT model to the transition from school to work, consider self-efficacy as one of the psychological resources that lead to a successful transition to the active professional life and consequently augment the possibility of attaining decent work. Hence, in line with the mentioned studies and according to Lent and Brown (2006, 2008), apprentice's level of self-efficacy may have a good influence on decent work consideration.

### **Person-supervisor and person-group fit**

In their model, Lent and Brown (2006, 2008) include social support as an important element impacting both job satisfaction and its antecedents, such as self-efficacy and perception of work conditions. In this research, we use two variables to operationalise apprentices' social support: person-supervisor fit, and person-group fit. Person-supervisor fit in the literature was treated as a component of person-organisation fit (Van Vianen et al. 2011; Astakhova 2016; Kwon and Kang 2019). Colbert (2004) and Krishnan (2002) described person-supervisor fit as an element based on value congruence between employee and supervisor, Schaubroeck and Lam (2002) as a dimension based on personality similarity between employee and supervisor, and Witt (1998) as based on goal congruence between manager and employee. Person-supervisor fit has been illustrated as positively linked to a sense of pleasure at work, approval and satisfaction from the leader, and the status of the relation with the supervisor (Kristof-Brown et al. 2005). Person-group fit is defined most broadly as "the compatibility between individuals and their work groups" (Kristof 1996). For person-supervisor fit, person-group fit has been positively associated with work engagement, better performance at work, and job satisfaction (Seong et al. 2015; Abdalla et al. 2018; Cai et al. 2018). In line with the SCM-JS, in the case of apprentices, social support, operationalised with variables of person-supervisor fit and person-group fit, might be influenced by proactive personality, and might directly affect occupational self-efficacy, decent work perception, and job satisfaction.

### **Proactivity**

Today, a rapidly changing labour market and new career paths imply that individuals need to be highly flexible and able to manage multiple job roles. In this sense, people should show a high level of proactivity: they should be agents of change, acting in an anticipatory way, showing self-initiative and being oriented to improve their own working conditions.

Research has repeatedly demonstrated that proactive individuals have fewer problems adjusting themselves to the work situation and the expectations imposed by their work because they are able to shape the situation to fit their desires and needs (Crant 1995). Proactive orientation also has a positive effect on insecurity and anxiety (Saks and Ashforth 1996), consequently improving job satisfaction and reducing turnover intention (Wanberg and Kammeyer-Mueller 2000). Dikkers et al. (2010) established that proactivity was linked to an augmentation in future job implication. Cooper-Thomas and Burke (2012) have found that newcomers in organisations, such as apprentices, who are engaged in proactive behaviours, have more opportunities to develop positive

relationships at work. Mohammadi (2016) found that proactive behaviours eliminate uncertainty for employees and diminish the negative impact of role unclarity on job performance and gratification. Li et al. (2010) showed that employees with proactive personality had a greater tendency to establish quality exchange relationships with their superiors and that consequently these established exchange relationships were associated with higher job satisfaction and organisational citizenship behaviours. Maurer and Champan (2018) identified a link between proactivity and life satisfaction in recent retirees, and Siebert and colleagues (2020) demonstrated that adopting proactive behaviour renders decision-making more effective, which, in turn, increases decision satisfaction and life satisfaction. Finally, Li et al. (2017) found that occupational self-efficacy mediates the link between proactivity and job satisfaction. Thus, according to previous studies and the SCM-JS model, in apprentices, we might observe an influence of proactivity on occupational self-efficacy, job satisfaction and life satisfaction.

### **Current study**

The present study was performed in the Italian-speaking part of Switzerland. Concerning the organization of Swiss educational systems: the competencies concerning post-compulsory education are divided between the cantons and the confederation, the latter having particularly strong influence on how vocational education and training (VET) is organized with a specific Federal Act on Vocational and Professional Education and Training (VPETA). Concerning vocational education, a distinction must be made between full-time training at professional school and training that is provided as a part of a “dual system”, namely a combination of vocational education at school and apprenticeship in a company. In this study, we focused on apprentices attending the dual vocational education system because they have a quite specific challenge to find a balance between work, school, and life. The main characteristic of the dual vocational training system is its orientation towards the workplace. In addition, training is divided into three settings: vocational school, training company, and cross company introductory training courses. In the vocational school, vocational knowledge as well as general culture are taught. At work in the company, on the other hand, apprentices acquire professional knowledge and skills in an active manner by participating in the process of production. Finally, cross company introductory training courses complement the training provided in organization and schools and are set up by the professional branches themselves to give all apprentices access to all the know-how of a professional branch, beyond the specificities of their company.

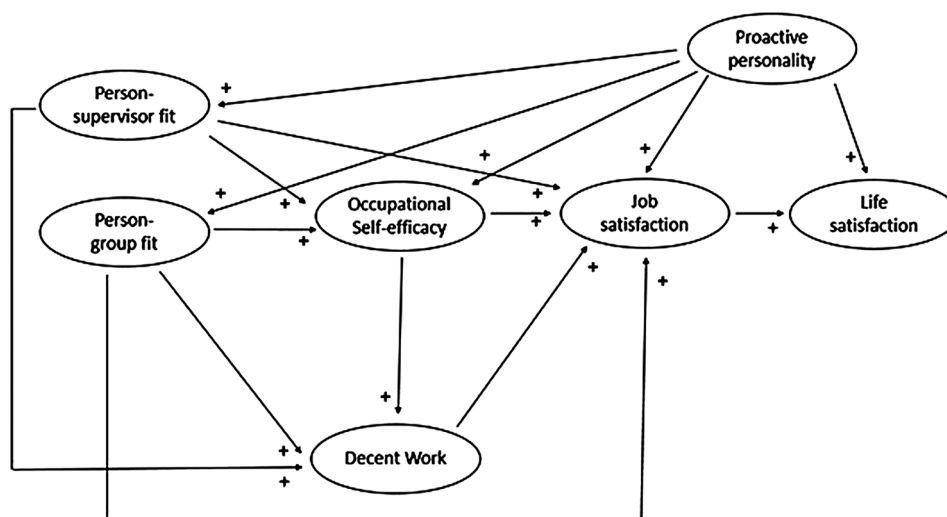
As earlier noted, very few studies have examined apprentices’ well-being by considering different personal and contextual variables, including the important construct of decent work, as antecedents of job and life satisfaction. The concept of decent work has been considered in work and organizational studies only recently, and even newer is to consider it in the specific case of apprentices. Measuring perceptions of working conditions with a measure of perceptions of decent work allows even more of a test of the relevance of this construct in assessing well-being in life in general. Indeed, by demonstrating that decent work impacts well-being, practical interventions can be designed to encourage the importance of perceiving a work as decent due to its impact on variables such as job satisfaction and life satisfaction. Hence, we choose to test a model adapted from Lent and Brown’s (2006, 2008) social cognitive model of the relationship between

sources of job and life satisfaction by including decent work as a measure of professional conditions. Then, according to the Lent and Brown (2006, 2008) SCM-JS, in our model, it was examined which potential source of support (the supervisor or the working team) has the greatest impact on apprentices' occupational self-efficacy, decent work perception, and job satisfaction by including all these links between the variables. There is limited research in the literature on decent work regarding the impact of the quality of social relations in the workplace, and even less research when considering those on apprentices. Therefore, the present study certainly has added value in terms of research on decent work and its antecedents. In addition, occupational self-efficacy was set as a precursor of both decent work and job satisfaction, and proactivity was an antecedent of person-supervisor fit and person-group fit, occupational self-efficacy, and of job and life satisfaction. Differently to Lent and Brown's (2006, 2008) SCM-JS, but in line with PWT and empirical studies based on this theory, proactivity was also set as a predictor of decent work, which itself was identified as a predictor of life satisfaction. Finally, job satisfaction was set as a predictor of life satisfaction (see a summary of the hypothesised links in Fig. 1).

## Method

### Participants

The present study involved apprentices enrolled in a three-year VET program with the Federal VET Diploma. To start a VET program these apprentices have finished compulsory school (middle school) and found an employer with whom they signed an employment contract. Apprentices were asked to complete an online questionnaire (administered via Qualtrics survey software). The group of chosen apprentices were in the middle-end of their 1st year and completed the questionnaire from March to May in 2021 (i.e., at T1). For each of the two data collections, the students were personally reached out to in their IT classrooms, and both the topic of this study and how to open and complete the questionnaire were explained. The first section of the survey included sociodemographic questions. This section also contained questions about their academic



**Fig. 1** A model to predict apprentices job and life satisfaction with reference to Lent and Brown (2006, 2008) model. Note + supposed positive relationship; – supposed negative relationship

situation, i.e., if they had to repeat some of their VET training years, and questions about the education they received before starting the apprenticeship. Then, some questions concerned the size of their company and their salary (that is defined at the state level for each profession). At the end of this first section, we presented some questions about the linearity of their career and academic path, i.e., it was asked if another apprenticeship in another profession had previously been achieved and if the respondent had plans for the next year (e.g., abandoning the current apprenticeship for another, starting a new job or a new school). The second section of the questionnaire included several psychometric scales that were used to assess the variables and the concepts mentioned in the hypothesis.

The sample was selected from five public vocational schools and chosen to achieve a balanced representation in terms of regions. Informed consent was requested from those who agreed to complete the questionnaire. Data from 530 apprentices were obtained. Their mean age was 19.46 years ( $SD=3.54$ ), and the modal value was 18; 244 were females (46%), and 286 were males (54%). Apprentices were engaged in different trainings: heating systems installer (2.3%), veterinary practice assistant (3%), hairdresser (7.9%), retailing worker (8.3%), office worker (9.4%), plumber (10%), pharmacist's assistant (11.5%), employee in logistics (12.1%), medical practice assistant (15.8%), and bricklayer (19.6%).

## Measures

### *Life satisfaction*

In order to measure life satisfaction, it was used the Satisfaction with Life Scale (Diener et al. 1985), validated and translated in Italian by Di Fabio and Palazzeschi (2012). The scale consists of 5 items, with a 7-point Likert response scale, with intervals ranging from 1 (strongly disagree) to 7 (strongly agree). An example item is "If I could re-live my life, I would change almost nothing" (p. 12). The value of Cronbach's alpha was 0.87 for the original Diener et al. (1985)'scale and 0.88 for the Italian-version of the scale (Di Fabio and Palazzeschi 2012).

### *Job satisfaction*

To measure job satisfaction, we used the Job Satisfaction Scale developed by Judge et al. (1998) through an Italian translation of the questionnaire. The scale included 5 items to be answered on a 7-point Likert scale, with a response range from 1 (Don't agree at all) to 7 (Totally agree) An example item is "I really take pleasure in doing my job" (p. 8). The value of Cronbach's alpha was 0.88 for the original scale (Judge et al. 1998) and 0.79 for the translated version (Masdonati et al. 2019).

### *Decent work*

In this study, the Decent Work Scale (Duffy et al. 2017) was intended to assess decent work. Specifically, we used the Italian version translated and validated by Masdonati et al. (2019). In the scale, there are 15 items to which people answer by a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). The questionnaire includes five 3-item subscales: Safe working conditions (e.g., "At work, I feel safe from any form of emotional or verbal attack"), Access to health care (e.g., "The options offered by the Swiss health care system are acceptable"), Adequate compensation (e.g., "I am not



paid enough relative to my qualifications and experience”), Free time and rest (e.g., “I do not have enough time for non-work activities”), and Complementary values (e.g., “The values of my organisation match my circle (friends, relatives, etc.) values”) (p. 10). The Cronbach’s alpha value was 0.86 for both the original scale (Duffy et al. 2017) and for its translated version (Masdonati et al. 2019).

### **Occupational self-efficacy**

In this study, we employed the Occupational Self-Efficacy Scale (Schyns and von Collani 2002) to assess occupational self-efficacy. Specifically, we used the Italian version translated and validated by Tani et al. (2009). We chose the short version composed of 6 items assessed using a 6-point Likert-type scale, with possible answers ranging between 1 (not at all true) and 6 (completely true). An example item is, “If an unexpected situation appears in my work, I always know what to do” (p. 7). The Cronbach’s alpha was 0.87 for the English scale (Schyns and von Collani 2002) and 0.84 for the Italian scale (Tani et al. 2009).

### **Person-supervisor and person-group fit**

In quality of indicators of social support of apprentices at work, we used a selection of items from the Perceived Person-Environment Fit Scale (Chuang et al. 2016). A translation to Italian of the selected items was performed. The original scale consisted in 27 items to which the participant answers on a 7-point Likert-type scale from 1 (strongly disagree) to 7 (strongly agree): 19 items are assumed to measure the Person-Job fit while the 8 remaining items are supposed to measure the Person-Supervisor fit and the Person-Group fit. In our model, we used only six items: one half to assess the person-supervisor fit and the three others to evaluate person-group fit. In fact, it was decided to use only the six items measuring fit with one’s supervisor and work group in the questionnaire because the interest was to measure only the social aspect of P-E fit. Therefore, it was decided not to include the other scale items that measure other aspects of P-E fit.

An example of an item that measures person-supervisor fit is “The things that are important to me are the same as those of my supervisor” (p. 18). Conversely, an example item for the measure person-group fit is “My personality and that of my match group members”. The Cronbach’s alpha was .91 for the English original Person-Environment fit scale (Person-Supervisor and Person-group fit items’) (Chuang et al. 2016) and 0.90 for the Italian version of this subscales.

### **Proactivity**

The Proactive Personality Scale (PPS) by Bateman and Crant (1993) is a scale that measures proactive personality with 17 items. Responses are given on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). For this study, we employed the Italian version translated and validated by Di Fabio (2016). Two item examples are “If I believe in an idea, nothing can stop me from realising it” and “I could recognize a good opportunity long before other people”. The Cronbach’s alpha was 0.82 for the Bateman and Crant (1993)’s scale and 0.81 for the translated version (Di Fabio 2016).

### Data analysis

In the questionnaire, it was decided to not apply Qualtrics's option of forcing response but for each question that the person missed, the number of missing answers was indicated, while leaving the possibility of proceeding with the questionnaire by leaving the answer unanswered.

All the information collected with questionnaires was directly downloaded from Qualtrics. Database cleaning was performed, excluding questionnaires with implausible answers, and questionnaires of students who took an excessively short time to complete the questionnaire. After that, different procedures to implement data cleaning was applied. Firstly, the data relating to responses for a specific scale when the apprentice did not provide a response for more than two items (i.e., when the missing responses for a scale were more than two) were eliminated. Secondly, the responses for each scale that diverged excessively from the distribution of the mean of the respondents were discarded, applying the Mahalanobis distance calculation and eliminating the resulting outliers. Finally, when an apprentice gave answers to a scale that were only in the neutral range (e.g., "neither agree nor disagree"), the data associated with his/her answers were eliminated.

Cronbach's alpha index was used to assess the internal consistency of the scales. After, means, standard deviations, and correlations between the variables were calculated. To run the structural equation models (SEM), a covariance matrix was generated. We first run a measurement model and then an SEM. For both kinds of models, we used items as observed variables except for decent work, for which we considered each subscale as observed variables. The Amos software, which was used to implement the SEM models, uses the maximum-likelihood method. To measure the appropriateness of the models, we used the comparative fit index (CFI) and the Tucker–Lewis's index (TLI), which confirm an appropriate fit when their values equal or exceeds 0.90 (Medsker et al. 1994). We also used the root mean square error of approximation (RMSEA) value as an index of model fit, which is considered acceptable when it is equal to or below 0.08 (Byrne 2010). In addition to the already mentioned CFI, TLI and RMSEA, we refer to the  $\chi^2$  per degrees of freedom ( $\chi^2/df$ ), which indicates a good fit when the value is equal to or below 3 (Kline 2005). Finally, on the last SEM, a multiple-group analysis was computed to assess if the relations between variables were equivalent for women and men. To perform this, measurement invariance was analysed by examination of fit differences across the configural, weak invariance, and structural models. As suggested by Chen (2007), the presumption of invariance across models was judged to be viable if differences between CFI and RMSEA are smaller than respectively 0.01 and 0.015.

### Result

Descriptive statistics and correlations are exposed in Table 1. Cronbach's alpha values were between 0.79 (for job satisfaction) and 0.93 (for proactive personality), indicating adequate reliability of the measures used. The totality of correlations between variables were significant and of positive sign. The highest correlations were between person-group fit and person-supervisor fit ( $r=.65$ ) and between job satisfaction and life satisfaction ( $r=.52$ ). Life satisfaction correlated moderately with decent work, person-group fit, proactive personality, and person-supervisor fit and weakly with occupational self-efficacy. Similar values were obtained for the correlations of job satisfaction with these

**Table 1** Cronbach's alpha, mean, standard deviation, and pearson correlation coefficients

	$\alpha$	M	SD	1	2	3	4	5	6
1 Life satisfaction	0.89	3.70	0.91						
2 Job satisfaction	0.79	4.95	1.60	0.52					
3 Proactive personality	0.93	4.94	0.76	0.34	0.36				
4 Person-supervisor fit	0.90	4.12	0.72	0.32	0.35	0.15			
5 Person-group fit	0.91	4.96	1.16	0.36	0.43	0.31	0.65		
6 Decent work	0.81	4.77	2.22	0.44	0.45	0.25	0.46	0.57	
7 Occupational self-efficacy	0.91	4.16	0.63	0.28	0.29	0.39	0.31	0.38	0.23

Note A=Cronbach's alpha; M=mean; SD=standard deviation. All correlation coefficients are significant at  $p < .001$

**Table 2** Results of SEM analysis related to model 1

Link		B	SE	$\beta$	
Proactive personality	→	Person-supervisor fit	0.34	0.10	0.19**
Proactive personality	→	Person-group fit	0.43	0.07	0.35***
Proactive personality	→	Occupational self-efficacy	0.27	0.52	0.35***
Proactive personality	→	Job satisfaction	0.19	0.05	0.31***
Proactive personality	→	Life satisfaction	0.13	0.76	0.10
Person-supervisor fit	→	Occupational self-efficacy	0.56	0.24	0.12*
Person-supervisor fit	→	Decent work	0.11	0.02	0.25***
Person-supervisor fit	→	Job satisfaction	0.00	0.02	0.02
Person-group fit	→	Occupational self-efficacy	0.11	0.03	0.18**
Person-group fit	→	Decent work	0.41	0.04	0.64***
Person-group fit	→	Job satisfaction	-0.58	0.06	-0.11
Occupational self-efficacy	→	Decent work	0.13	0.07	0.13
Occupational self-efficacy	→	Job satisfaction	-0.04	0.05	-0.05
Decent work	→	Job satisfaction	0.45	0.14	0.56**
Job satisfaction	→	Life satisfaction	1.21	0.20	0.58***

Note. B=unstandardized beta; SE=standard error;  $\beta$ =standardized beta. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

same variables, aside from the relationship with person-group fit, which was higher with job satisfaction. Proactive personality correlated moderately with occupational self-efficacy and person-group fit and weakly with decent work; the relation between proactive personality and person-supervisor fit was the weakest ( $r = .15$ ). Decent work had a higher correlation with person-group fit. Aside from job and life satisfaction, it also had a moderate correlation with person-supervisor fit and a weaker correlation with occupational self-efficacy. This last variable was also moderately correlated with person-supervisor fit and (strongly) with person-group fit. A series of t tests permit us to analyse the influence of gender on each variable. Gender had a significant influence on person-supervisor fit,  $t(456) = -2.23$ ,  $p = .013$ , person-group fit,  $t(438) = -2.55$ ,  $p = .005$ , and decent work,  $t(522) = -2.16$ ,  $p = .016$ . For the three variables, men scored higher than women.

Before computing the SEMs, the measurement model was assessed, which included all variables as first-order latent factors except for decent work, which was set as a second-order latent factor. It was associated with acceptable fit indices,  $\chi^2(485) = 856.879$ ,  $p < .001$ , TLI=0.929, CFI=0.935, and RMSEA=0.051. Then, a first SEM including all relations illustrated in Fig. 1 was performed. The model, which results are represented in Table 2, had an adequate fit,  $\chi^2(546) = 966.942$ ,  $p < .001$ , TLI=0.925, CFI=0.931, and RMSEA=0.051. In this model, person-group fit directly impacts occupational self-efficacy and decent work, which directly influences job satisfaction. Proactivity also directly affects person-group fit and person-supervisor fit, occupational self-efficacy,

and job satisfaction. Finally, an indirect impact of person-group fit on job satisfaction via the mediation role of decent work emerged. The model explained 44% and 42% of the variance of job satisfaction and life satisfaction, respectively. Nevertheless, the links between person-group fit, person-supervisor fit and occupational self-efficacy with job satisfaction were nonsignificant. Even the relation between occupational self-efficacy and decent work and the relation between person-supervisor fit and occupational self-efficacy were nonsignificant. Therefore, a second SEM (Model 2) was tested where all the nonsignificant paths were eliminated. Model 2 fit was similar to the fit of the first model,  $\chi^2(552)=978.521$ ,  $p<.000$ , TLI=0.925, CFI=0.930, and RMSEA=0.051. This second model explained 43% of job satisfaction and 42% of life satisfaction variance. Hence, we considered Model 2 as our final model (see Fig. 2).

In Model 2, gender invariance was tested to verify if the model was acceptable for both women and men. Initially, weak factorial invariance was analysed to test for divergences between the weak and configural models. The fit of the configural model was not acceptable,  $\chi^2(1104)=2637.903$ ,  $p<.001$ , TLI=0.857, CFI=0.868, and RMSEA=0.052; hence, correlations between errors were added following modification indices, and Item 3 of the Job Satisfaction Scale was eliminated because factor loading was  $>0.40$ . The fit of this second model was acceptable,  $\chi^2(1024)=2156.884$ ,  $p<.001$ , TLI=0.892, CFI=0.901, and RMSEA=0.046, and almost the same as the one of the weak invariance models,  $\chi^2(1053)=2198.616$ ,  $p<.001$ , TLI=0.893, CFI=0.900, and RMSEA=0.046. A weak factor invariance ( $\Delta\text{CFI}=0.001$  and  $\Delta\text{RMSEA}<0.001$ ) was thus confirmed by this analysis. The model constraining pathways to be equal,  $\chi^2(1060)=2207.039$ ,  $p<.001$ , TLI=0.894, CFI=0.900, and RMSEA=0.046, was not significantly worse than the weak invariance model,  $\Delta\text{CFI}=0.000$ ,  $\Delta\text{RMSEA}<0.001$ , which showed that the model is applicable for both women and men.

## Discussion

In the present study, a model based on SCM-JS (Lent and Brown) model and the PWT was tested, which defines the relation between apprentices' proactivity, person-supervisor and person-group fit, occupational self-efficacy, decent work, and job and life



**Fig. 2** Structural equation model predicting apprentices job and life satisfaction with reference to Lent and Brown (2006, 2008) model, model 2. Note \*\*  $p<.01$  \*\*\*  $p<.001$

satisfaction. We also tested the model for gender invariance. The goal of the present contribute was to offer further information about the relations theorised in Lent and Brown (2006, 2008) SCM-JS (see Fig. 1) and on additional relationships supported by empirical studies. The results are exposed by examining the hypothesised relationships.

### **The relationships between decent work, job satisfaction, and life satisfaction**

First, in conformity with Lent and Brown's (2006, 2008) model and with our hypothesis (Fig. 1), apprentices' satisfaction with their own work seems to increase their satisfaction with their lives in general (Rode 2004). Second, our hypothesis proposes that decent work is directly linked to job satisfaction (Blustein et al. 2016; Duffy et al. 2017) and indirectly associated with life satisfaction (Masdonati et al. 2019; Chen et al. 2020; Ksim et al. 2021). To the best of our knowledge, the connection between decent work, job satisfaction and life satisfaction has infrequently been evaluated in apprentices. The existing research on decent work and these two variables have thus far mostly been conducted with adult workers (Di Fabio and Kenny 2016; Masdonati et al. 2019): in these studies, it was highlighted that the perception of decent work was indeed linked to a higher well-being condition, in terms of life satisfaction and job satisfaction. The findings suggest the presence of a direct impact of decent work on the job satisfaction of apprentices and that job satisfaction act as a mediator of the relation between decent work and life satisfaction. Therefore, based on our results, it is possible to assume that the decent work variable should be relevant to explain a reduced job satisfaction in apprentices and could be included in models clarifying the process intrinsic to apprentices' well-being. Indeed, the well-being of apprentices has been studied in previous literature (Jenni et al. 2017; Deady et al. 2020; Ross et al. 2022) but has not been directly associated with apprentices' perceptions of decent work until now. The significant result of this study attesting the link between decent work and job (and indirectly life) satisfaction could expand current knowledge about the variables influencing the well-being of apprentices in training.

Lastly, the results showed the importance of the idea of decent work also advanced by the United Nations, which included decent work in the goals of Agenda 2030. Specifically, the importance of decent work in achieving sustainable development is highlighted by Goal 8 which aims to "promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all" (sustainable development goals human rights). In this case, the results obtained are in line with what the United Nations reported and make it even more evident, in their connection with the well-being variables, the importance of decent work for the lives of adults and young people.

### **The function of occupational self-efficacy**

In contrast to the Lent and Brown (2006, 2008) model, in our study, there was neither a direct association between occupational self-efficacy and job satisfaction nor an indirect association between these two variables through decent work. Previous studies had shown a different result regarding the role of occupational self-efficacy. Yeves and colleagues (2019) for example highlighted in their study that there was a direct (and indirect) relationship between occupational self-efficacy and job satisfaction. Maggiori et al. (2016) also observed a significant link in their model between feelings of job self-efficacy and job satisfaction. Concerning the link between occupational self-efficacy and decent work, there are no results that have showed it. From a qualitative perspective, the study

conducted by Zammiti and colleagues (2021), in relation to this link, only showed how a deeper and more complex view of decent work was associated with higher levels of self-efficacy.

The results of our study, conducted on a sample of Swiss apprentices, however, showed, contrary to previous studies, that occupational self-efficacy does not influence their decent work perception or their professional satisfaction (Bong et al. 2009; Federici and Skaalvik 2012). Hence, Swiss apprentices' occupational self-efficacy is less likely to change their perception of decent work and their job satisfaction.

#### **The function of person-supervisor and person-group fit**

In our model, it resulted that apprentices' occupational self-efficacy was directly affected by the perception of a good person-group fit, and decent work was directly affected by the perception of a good person-group and person-supervisor fit. These findings correspond to those of SCM-JS. These results are also congruent with previous literature, which showed that positive relations at work positively affect employees' self-efficacy (Karademas 2006; Lundberg et al. 2008; Coffman and Gilligan 2002). Additionally, in line with previous studies' results (i.e., Wang and Lei 2021; Masdonati et al. 2022), our model showed that person-group fit at work influences the perception of having decent work. Based on our results, it also seems that only person-group fit has a significant influence on occupational self-efficacy, while person-supervisor fit, and person-group fit influence decent work perception. These associations should be explained by the specific context in which the study was conducted.

First, an apprentice is most likely to spend more time with colleagues than with his or her supervisor in small or medium-sized companies (which are more numerous in the Ticino context). It is, therefore, from the other team members that he or she learns (not only from the supervisor), and they have a more important effect on his or her perception of occupational self-efficacy. Afzal and colleagues (2019), in this regard, have shown that the perception of support from colleagues and in particular the supervisor influences the employees' perceived occupational self-efficacy and their intention to leave the company (turnover intention). Second, it is precisely the relationship with the team and the work climate created by it that directly impacts some dimensions of decent work, particularly the physical and interpersonally safe working conditions and the perception of organisational values that are in line with family and social values. In contrast, for apprentices, it is neither up to the supervisor nor the team to decide the number of working hours, salary or access to health care, which are governed by specific rules to be applied to the apprentices' contracts.

#### **The function of proactivity**

Consistent with both the Lent and Brown (2006, 2008) model and the results of previous studies (Kim et al. 2005; Cooper-Thomas and Burke 2012; Wang and Lei 2021), proactive personality affected the variables that we used to assess perceived support from others, i.e., person-supervisor and person-group fit. It seems that a proactive personality has a stronger impact on person-group fit than on person-supervisor-fit perception. The stronger influence of a proactive personality on the perceived fit with colleagues might be clarified by the simple reason that, in the context where the study was conducted, the apprentice spends more time with the team. Moreover, the relationship with the

supervisor might be perceived as less important compared to the relationship with colleagues who are probably closer to the apprentice in terms of age, habits, and behaviours. Thus, on the one hand, the apprentice might invest less actively the relationship with the superior compared to the relationship with the colleagues, and on the other hand, the proactive work-related behaviours enacted in working with the team would facilitate the establishment of a good apprentice-team relationship (Cooper-Thomas and Burke 2012). This link between proactivity and person-group fit might help explain the impact of proactivity in reducing insecurity and anxiety found in other studies (Mohammadi 2016; Saks and Ashforth 1996). In addition, as also stated by other authors (Douglas et al., 2020; Marcionetti and Castelli 2022; Sheng and Zhou 2021), our study also indicates that an indirect relation between proactivity (personality) and decent work (work conditions) via person-supervisor fit and person-group fit can be included in SCM-JS.

Our results, in accordance with previous studies (e.g., Kim and Park 2017; Lin et al. 2014), also showed a significant impact of proactive personality on perceived occupational self-efficacy. This result thus seems to confirm the importance of a proactive personality for engagement in learning activities that enhance the specific abilities requested by the apprentice, which was also found in working adults (Dikkers et al. 2010).

Finally, personality, in SCM-JS, is expected to influence job and life satisfaction; in our model, however, just the relation through proactivity (personality) and job satisfaction was demonstrated. The established link of proactive personality and job satisfaction is congruent with what previous literature indicated: that proactive behaviour leads to greater satisfaction at work (Wanberg and Kammeyer-Mueller 2000; Wang and Lei 2021). However, unlike previous studies (e.g., Greguras and Diefendorff 2010), the link with life satisfaction was not confirmed. In the case of apprentices, this could be due to a greater influence of the perception of having a fulfilling life and of other variables as well (e.g., friendship relationships outside work, love relationships, etc.). However, we can assume that proactivity is important for apprentices' professional well-being. Indeed, our findings suggest that even among apprentices, as already demonstrated in more experienced workers, proactive workers have greater occupational self-efficacy than less proactive workers (Lin et al. 2014; Kim and Park 2017), better social relations at work (Thomas et al. 2010; Gong et al. 2012), are more likely to view their work as decent (Douglass et al. 2020; Wei et al. 2022), and have greater job satisfaction (Wanberg and Kammeyer-Mueller 2000; Li et al. 2017).

#### **Limits and suggestions for future investigations**

The contribution of this study to the understanding of well-being of apprentices is to take into consideration decent work and the SCM-JS model. Secondly, it permits us to explain how apprentices' proactivity, conception of person-supervisor and person-group fit, occupational self-efficacy, decent work, and job and life satisfaction relate. Nevertheless, the way in which this study is structured does not allow us to have definitive answers concerning the causality of the links observed. However, these links seem in accordance with our theoretical framework that combines SCM-JS (Lent and Brown) model and the PWT. Moreover, the sample consisted of apprentices from a particular region of Switzerland, the Canton of Ticino, which, apart from the language spoken, Italian, which is different from that of the other regions, has a school culture that is more inclined towards high school and academic studies and less towards vocational training

compared to most of the other Swiss cantons (Marcionetti 2023). For this reason, the contextual specificity of Canton Ticino should be considered before generalizing the results to other context and cultures. For this reason, our model should be verified with adolescents in education in different economic and cultural contexts. For example, the apprentice's relationship with the supervisor may be more important in cantons where there are more large companies than small ones. Therefore, it could be considered in the future to use a sample of apprentices coming from different Swiss cantons. In addition to Ticino, which is smaller and has fewer urban centers, apprentices could also be added from canton Zurich or canton Geneva where the economic reality is made up of large urban agglomerations and large companies. Thinking instead of the international context, it can be assumed that some cultural differences related to work culture may cause differences in the reported effects found. Indeed, if one thinks of U.S. or, conversely, Asian work culture, there will be differences in the results found especially with respect to the conception of decent work and well-being. However, the coherence of the relations that resulted in our study with those theorised by Lent and Brown (2006, 2008) and with those demonstrated by previous research makes it possible to assume good reliability and validity for the findings of our research.

### ***Practical implications***

Concerning practical implications, the findings of our study show that promoting apprentices' proactivity, person-supervisor, and person-group fit might be decisive in increasing, aside from occupational self-efficacy, their job and life satisfaction. Despite the development of a personality trait like proactivity is not simple, studies have demonstrated that it is possible; for example, Robertson and colleagues (2021) have developed some practices (PMB-Proactive Behaviour Management) to increase proactive behaviours in organisations. Indeed, as shown by Cooper-Thomas and Burke (2012) in their study concerning organisational socialisation and suggested by our study, it is important for a newcomer, as an apprentice, to be engaged in proactive behaviours that positively affect the chance of developing positive relations at work. In addition, also Zammitti and colleagues (2020) have developed a training aimed at providing adolescents with resources of professional curiosity and self-efficacy, which would also increase their representation of the concepts of work and decent work. Effectively, they have found that career counselling activities developed to stimulate career adaptability can help increase adolescent personal resources and increase their chances of finding a qualitatively good (decent) job.

### **Conclusions**

In our model, the perception of person-supervisor and person-group fit has been linked to apprentices' job satisfaction via the mediation of decent work. Hence, creating a good match between apprentices and their supervisors and teams might increase their consideration of having decent work, which, conversely, might increase their job and life satisfaction. In this sense, socialisation and team building activities organised in enterprises might be useful. A work environment where the apprentice has the possibility of having constructive discussions with colleagues and supervisors about daily work matters and problems and where social relationships are positive and personally enriching has a positive effect on apprentice's feelings of having decent work. The increase in decent work



perception may be important for enhancing job and life satisfaction and thus, indirectly decreasing the risk of early rescission of apprenticeship contracts.

### Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s40461-024-00157-1>.

Supplementary Material 1

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#### Data availability

Not applicable.

#### Declarations

##### Competing interests

The authors have no competing interests to declare that are relevant to the content of this article.

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