Person-centred Approach to Assess Quality Perceptions of Role Stress in Dual Initial Vocational Education and Training Apprentices

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Abstract

In the Swiss dual initial vocational education and training (IVET) system, quality plays an important role. Among the quality characteristics are perceived role stress, which can differ depending on school and professional apprentices' experiences. The aim of this contribution is to highlight different dual apprentices' profiles based on their perceptions of role stress as a characteristic of their IVET's quality. Using latent profile analysis, we uncovered four apprentices' profiles reflecting different perceptions of role stress. We examined the profiles in terms of their sociodemographic composition, perceived satisfaction, and professional and school engagement. The results show that the profile in which apprentices report the lowest role stress is the one with the highest average levels of satisfaction and professional engagement. This contribution underlines the central aspect of role stress perceived by apprentices and informs about the importance of considering it in the quality of IVET.

Keywords

IVET quality, latent profile analysis, role stress

1   Introduction

In Switzerland, where two out of every three young people who complete compulsory schooling go on to initial vocational education and training (IVET), questions relating to the quality of this training are particularly salient (Stalder & Carigiet Reinhard, 2014). Indeed, many factors play a role, such as ensuring that school-based learning and training company-based learning are well articulated or hiring competent vocational teachers and in-company trainers. In addition to these elements, which mainly reflect the institutional aspects of dual VET, the subjective aspect of apprentices' experience is central to the definition of quality in vocational training. This includes the stress that apprentices may feel about the roles they assume at school and at the training company, which contributes to their perception of quality (Alves et al., 2010).

Role stress concept is largely used in the organisational context and can be adapted to understand apprentices' training experiences. It is defined as a form of dissonance between a role

one has to assume and the expectations linked to this role, which can be conflicting, ambiguous, or overloading (Örtqvist & Wincent, 2006). Due to the dual aspect of the VET system, apprentices can experience different role stress: between the vocational school and the training company, but also within the company and the school themselves. Hence, as apprentices' status is potentially ambiguous and ill-defined (Losa & Filliettaz, 2018), they might be confronted with these role stress (Alves et al., 2010). One facet of role stress in occupational contexts concerns illegitimate tasks, that is, tasks that are unreasonable or unnecessary to ask a person to perform (Semmer et al., 2010).

Role stress is therefore an important element to consider when accounting for quality in IVET. Accordingly, as role stress can be viewed as a form of job demand (Bakker & Demerouti, 2007), it can worsen the apprenticeship's quality (Alves et al., 2010). More generally, role stress would be related to negative professional outcomes, such as dissatisfaction, lack of engagement, or propensity to quit (Örtqvist & Wincent, 2006).

As apprentices are the main receivers of VET, it is necessary to look at their perceptions of VET quality, especially in terms of role stress. It is also important to consider that combinations of role stress might vary according to apprentices. Accordingly, this study illustrates different apprentices' profiles derived from responses to perceptions of role stress as characteristics of dual IVET quality.

1.1 Research Questions

Three research questions formed the basis of this study:

1. How many and which profiles reflect apprentices' perceptions of role stress?
2. If there are several profiles, are their sociodemographic compositions different?
3. If there are several profiles, how do these profiles differ in terms of apprentices' perceived satisfaction and professional and school engagement?

2 Methodology

2.1 Participants

Dual apprentices from six vocational schools in French-speaking Switzerland (95 classes; n = 1145) filled out an online survey about their perceptions of VET quality and the potential consequences of these perceptions, such as engagement or satisfaction. Apprentices were from four professional fields: a) construction (24 classes; 24.45% of the sample), b) hair and beauty (11 classes; 11.22%), c) commercial employees (40 classes; 40.82%), and d) retail (23 classes; 23.47%). The mean age was 19.33 years (*SD* = 3.28 years). The apprentices were equally distributed over the three training years as well as by the training company's size.

2.2 Procedure and Instruments

Apprentices took around 45 minutes to complete the questionnaire using school computers. One of the research team members was available to answer potential questions and to ensure the proper course of the survey.

Four dimensions reflecting some of the characteristics of IVET quality were used to perform the analyses: a) *be treated like an adult at school*, namely the perception of apprentices to feel considered as adults by teachers (five items, e.g., "At school, I feel treated as a responsible adult", α = .74); b) *tasks' diversity*, that is, the feeling of carrying out varied tasks in the training company (three items; e.g., "At work, I always do the same thing" [reversed item], α = .82); c) *perform thankless tasks*, that is, the feeling of having to do things that others in the training company do not want to do (four items, e.g., "I feel exploited by my colleagues to do the dirty work", α = .85); d) *be treated like an employee* (role overload), namely the perception of having

to accomplish the same tasks as the employees (six items, e.g., "At work, I am given too much responsibility", α = .77). Mean scores of the four stress role dimensions were used to carry out latent profile analyses (LPA) with MPlus.

We also assessed apprentices' satisfaction (five items, e.g., "I am satisfied of my apprentice's life", α = .88), professional engagement (three items, e.g., "I am passionate about my work", α = .83) and school engagement (12 items, e.g., "I stay focused during the lessons", α = .86)[1]. Answers were all provided on a 6-point Likert-type scale, except for apprentices' satisfaction and professional engagement, which were on a 7-point Likert-type scale.

Sociodemographic characteristics were sex, apprenticeship's year (from 1st to 3rd), and training company size was divided into four levels (from micro to large).

3 Findings

To answer the first research question, LPA were conducted according to the procedure suggested by Ferguson and colleagues (2020). We tested models assuming two to six profiles. The best fit indices were found for the four profiles solution (see Figure 1): the first profile, called "Minimal role stress" (n = 421), was characterised by the highest *tasks' diversity* at the training company, the lowest perception of *performing thankless tasks* and the lowest feeling of *being treated as an employee*. In the second profile (n = 335), "Modest role stress," apprentices indicated on average higher *tasks' diversity* than *thankless tasks*. With average scores on all four dimensions, the third profile (n = 262) was called "Medium role stress"; it included higher *thankless tasks* and a feeling of *being treated like an employee* than *tasks' diversity*. The last profile (n = 127) was named "Prominent role stress" mainly because of a relatively high average score for the dimension *perform thankless tasks*, as well as the dimension *be treated like an employee* and, on the contrary, a low average score for *tasks' diversity.*

We conducted ANOVAs to test the means' differences between profiles (see Table 1). One main result concerns the very close average scores in the four profiles for the dimension *be treated like an adult at school*. Although statistically different, the means were closer than for the other dimensions. Moreover, the effect size was negligible. This is very interesting because it indicates that, regardless of the experience at the training company, the experience at school does not seem to play a central role in the creation of different profiles. In other words, the perception of *being treated as an adult* at a vocational school does not have a significant impact on distinguishing the different apprentices' profiles in terms of role stress. The result probably reflects the fact that, at school, apprentices have a more similar experience, whereas at the training company, they are confronted with different professional realities. Post-hoc tests show statistically significant differences with moderate effect sizes for the dimensions *tasks' diversity* and *be treated like an employee*, and a large effect size for the dimension *perform thankless tasks*.

To answer the second research question, chi-square tests were conducted (see Table 1). Sociodemographic differences between the four profiles show that 1st year apprentices were over-represented in the "Minimal role stress" profile, whereas 3rd year's apprentices were over-represented in the "Prominent role stress" profile. This result is probably due to the longer experience of the latter as apprentices. On the contrary, 1st year's apprentices may have a "naiver" perception of their roles. Commercial employees were over-represented in the "Minimal role stress" profile. This is likely due to the fact that commercial employees are less prone to prematurely terminate their apprenticeship contracts (Federal Statistical Office, 2019). No significant differences were found in terms of sex or training company size.

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[1] Only part of the sample answered the questions about professional (n=810) and school (n=822) engagement.

Figure 1
Role stress LPA - Four profile solution
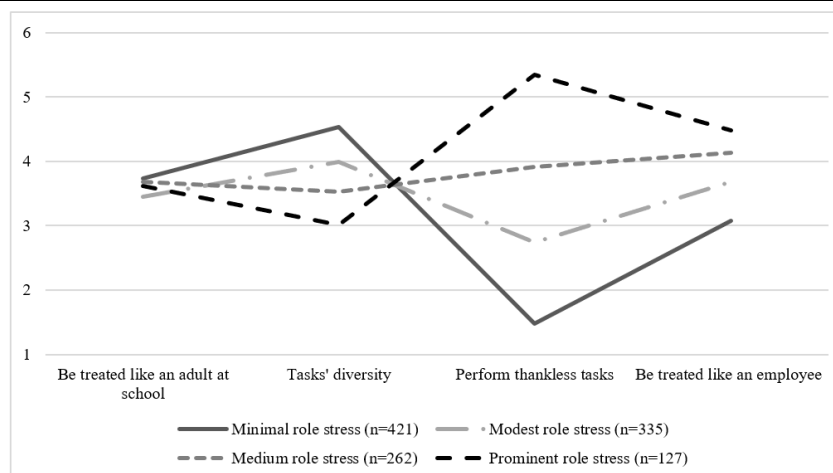
Table 1
Chi-square and ANOVA tests results

	Minimal RS (n = 421)	Modest RS (n = 335)	Medium RS (n = 262)	Prominent RS (n = 127)	X^2	V
		(% in profile)				
Training year					21.61***	.10
1st	172 (40.9%)	114 (34.0%)	83 (31.7%)	35 (27.6%)		
2nd	144 (34.2%)	113 (33.7%)	75 (28.6%)	44 (34.6%)		
3rd	105 (24.9%)	108 (32.2%)	104 (39.7%)	48 (37.8%)		
Professional field					26.08**	.09
Construction	66 (15.7%)	59 (17.6%)	59 (22.5%)	16 (12.6%)		
Hair and beauty	37 (8.8%)	33 (9.9%)	19 (7.3%)	20 (15.7%)		
Commercial employees	224 (53.2%)	159 (47.5%)	108 (41.2%)	49 (38.6%)		
Retail	94 (22.3%)	84 (25.1%)	76 (29.0%)	42 (33.1%)		
Sex[1]					n.s.	
Female	250 (59.5%)	178 (54.4%)	136 (52.9%)	74 (60.2%)		
Male	170 (40.5%)	149 (45.6%)	121 (47.1%)	49 (39.8%)		
Training company size[2]					n.s.	
Micro (<10 employees)	86 (20.6%)	78 (24.2%)	58 (23.1%)	37 (30.1%)		
Small (10-49 employees)	110 (26.4%)	82 (25.5%)	64 (25.5%)	31 (25.2%)		
Medium (50-249 employees)	102 (24.5%)	66 (20.5%)	61 (24.3%)	20 (16.3%)		
Large (>250 employees)	119 (28.5%)	96 (29.8%)	68 (27.1%)	35 (28.5%)		

	Minimal RS (n = 421)		Modest RS (n = 335)		Medium RS (n = 262)		Prominent RS (n = 127)		F	η^2_p
	M	SD	M	SD	M	SD	M	SD		
Be treated like an adult at school	3.73	1.28	3.41	1.26	3.75	1.23	3.64	1.30	4.80**	.01
Tasks' diversity	4.53	1.12	3.96	1.11	3.40	1.19	2.80	1.32	87.65***†	.20
Thankless tasks	1.46	.41	2.68	.48	3.81	.65	5.26	.67	1936.56***†	.85
Be treated like an employee	3.03	.94	3.45	.89	4.02	.87	4.59	1.10	105.92***†	.24
Apprentices satisfaction[3]	5.21	1.33	4.46	1.33	4.12	1.41	3.15	1.38	85.98***	.19
Professional engagement[3]	5.39	1.24	4.72	1.32	4.55	1.29	4.09	1.69	27.76***†	.10
School engagement	4.26	.90	4.05	.85	4.07	.88	4.16	.92	2.99*	.01

Note. RS: "role stress"; [1] eighteen participants didn't answer the question; [2]thirty-two participants didn't answer the question; [3]seven-point-Likert scale; † Welch's F.
*p < .05; ***p < .01; ***p < .001.

Regarding the third research question, ANOVAs showed the highest apprentices' satisfaction for the "Minimal role stress" profile and the lowest for the "Prominent role stress" profile. This result reflects the fact that role stress can be considered a form of demand at work, which negatively relates to satisfaction (Bakker & Demerouti, 2007). The same type of result was found for professional engagement: the "Minimal role stress" profile had a significantly higher mean score than the other profiles, and conversely, the "Prominent role stress" profile had the lowest score. These results suggest that the more positively the apprenticeship is perceived in terms of roles, the stronger the professional engagement (Alves et al., 2010).

Lastly, the scores of the four profiles on the school engagement dimension were very close. Only the difference between the "Minimal role stress" and the "Modest role stress" was statistically significant, but negligible given the very small effect size. Interestingly, better perceptions of roles did not seem to correspond to greater school engagement. This could be explained by the fact that role stress mainly concerns the workplace's experience and, to a lesser extent the school's experience. Thus, apprentices' school engagement is perceived independently of their levels of role stress (Alves et al., 2010).

4 Research Significance

Using a person-centred approach, this study analysed different apprentices' role stress profiles. The *thankless tasks'* dimension seems to be the most prominent in distinguishing the four profiles. Accordingly, what Semmer and colleagues (2010) call "illegitimate tasks" is particularly relevant in distinguishing the apprentices' experiences. Lastly, different perceptions of role stress are associated with varying degrees of satisfaction and engagement, pointing to the importance of considering role stress to account for apprentices' well-being during their IVET.

The LPA, a person-centred approach, allowed highlighting differences between and within the sample that a variable-centred approach would not have shown. Thus, the four profiles enrich the understanding of apprentices' IVET quality perceptions in terms of stress role and illustrate the specificities of each profile (Lüthi & Stalder, 2019). These results can inform VET professionals about differences in perceptions of quality, particularly in terms of sociodemographic features.

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