

# Psychometric properties of the Turkish version of the Decent Work Questionnaire and its effect on job satisfaction

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## Abstract.

**BACKGROUND:** Work to develop a universal tool for the psychological evaluation and measurement of decent work is relatively new. In addition, the Decent Work Questionnaire, which evaluates decent work using a psychological approach, has not yet been adapted and validated in the Turkish sample group.

**OBJECTIVE:** To adapt and validate the Turkish version of the Decent Work Questionnaire and to evaluate the effect of decent work on the job satisfaction among knowledge workers.

**METHODS:** The study sample consisted of 906 knowledge workers. In the process of adapting and validating the Decent Work Questionnaire, the structural validity, internal consistency, convergent validity, divergent validity, and compatibility of the sample group data were tested. The effect of decent work on job satisfaction of knowledge workers was examined using structural equation modeling.

**RESULTS:** The Decent Work Questionnaire was validated in the Turkish sample. The results showed that the reliability coefficients and dimensions of the Decent Work Questionnaire were highly satisfactory and consistent with the scale developers' study. According to another result of the study, decent work was found to have a significant and positive effect on Turkish knowledge workers' job satisfaction.

**CONCLUSIONS:** This study will fill gaps in the literature and will also contribute to the evaluation of decent work in all areas of the labor market, identifying its shortcomings and contributing to the development of effective human resource policies.

Keywords: Occupational health, job satisfaction, workplace stress, workload, psychometrics, surveys and questionnaires

## 1. Introduction

Decent work has been defined by the International Labour Organization (ILO) as productive work with protection of rights, adequate income, and social protection [1]. Over time, this concept has evolved to

become a notion that covers and evaluates all aspects of life [2]. Barriers to decent work led to a reduction in employment opportunities (both in terms of the availability and quality of jobs) and negatively affect individuals' well-being and living standards [3]. Therefore, it is necessary to evaluate decent work in different work environments using various psychosocial variables. Conducting these studies is important for effective wage and performance evaluation, ensuring organizational justice, and pro-

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viding appropriate training and career opportunities [4].

Various tools have been used to measure the concept of decent work and to develop policy tools. Criticisms have been made about these measurement tools regarding their inadequacy in measuring the direct target [5], the lack of consensus on the measurements [6], the lack of attention to psychological factors [7, 8] and the inadequacy of proper job measurement methods at the individual level [7]. Based on these criticisms, various measurement tools (questionnaires) have been developed at regional, national, and organizational levels to measure decent work and develop policy tools [7, 9, 10]. Among these measurement tools, the Decent Work Questionnaire (DWQ) is a decent work measurement tool developed by Ferraro et al. [7] to evaluate employees' perceptions of their jobs and working conditions within the context of the "Work, Organizational and Personnel Psychology (WOPP)" perspective. Decent work is considered an integrative concept with an individual and psychological approach. It was developed using the ILO's decent work concept [11, 12] and covers the entire decent work agenda [7]. The DWQ aims to evaluate employees' perceptions of their jobs and working conditions with an individual approach and a psychological perspective [7].

In the 21st Century, the economy is undergoing a transformation due to various factors such as globalization, technological advancements, and management systems. The shift is taking place from traditional production systems to a knowledge-based economic system [13]. The most important stakeholders in this economic system are knowledge workers (KWs). The concept of KWs was first expressed by Drucker [14] as "workers who use non-tangible resources." Over the years, there have been many studies on KW, but there is no clear consensus on a single definition in the literature. Different definitions of KWs include employees working in specific organizations or sectors [15], individuals with significant theoretical knowledge and education [16], highly skilled workers [17], or educated individuals working in a specialized field [18]. In this study, the definition of KWs by Drucker [16] and Brinkley [15] was jointly interpreted when selecting the sample. Therefore, the sample group of the study consists of educated individuals with significant theoretical knowledge working in certain sectors.

As previously stated, decent work is not just a concept related to employment, but rather a concept that encompasses all aspects of life [2]. Job satisfaction is

also important as a measure of the individual's quality of life [19] and individual well-being [20]. Employees with high job satisfaction seem to have lower absenteeism and turnover intention [21], lower levels of stress and burnout [22, 23], and higher levels of job performance [24–26]. However, job satisfaction is not limited to these effects. Beyond these effects, it covers many dimensions of socio-economic life for both employees and organizations [27]. Job satisfaction is an important component of an individual's quality of life [28].

Therefore, it is important to evaluate the effect of decent work on job satisfaction, particularly for the group of workers who will become the dominant workforce with the expansion of the knowledge economy, known as the KWs. A limited number of studies have been conducted in the literature to measure job satisfaction in KWs [29–31]. However, among these studies, there is no study on the effect of decent work on job satisfaction in KWs. Furthermore, studies on decent work have generally focused on unskilled/low-skilled workers or occupations. However, decent work is a concept that encompasses all jobs and all workers [32]. Therefore, we believe that decent work analyses are necessary for high-skilled workers, such as KWs. In the Italian and Spanish DWQ adaptation studies, KWs are the sample group. This point acted as a further motivation for us to consider KWs to populate the present study's sample group. Furthermore, a review of the literature revealed that no study that uses a measurement tool to evaluate decent work from the perspective of the WOPP has yet been conducted using an adapted and validated scale applied to a Turkish sample group.

In accordance with these results and reasons, this study is based on the following questions: "Is the DWQ a suitable measurement tool for the Turkish language? Does decent work have an effect on the job satisfaction of KWs?" According to these questions, the aim of this study is to develop a Turkish version of the DWQ and evaluate the effect of decent work on job satisfaction in KWs.

Decent work standards, as determined by the ILO, are included in the 2023 targets of the Turkish labor market under the title of "targets and plans" in the "Türkiye 11th Development Plan (2019–2023)" [33]. While planning for these targets, the headings included in the "Decent Work and Economic Growth" target of the UN 2030 Sustainable Development Goals were taken into consideration. However, despite this planning, as of 2023, the only positive development in the labor market compared to

2018 has been in the field of occupational health and safety [34]. Another noteworthy aspect of the “Türkiye 11th Development Plan” is its focus on technology in economic development and its support for technological advancements. This indicates that KWs in Türkiye will become an increasingly important employee group.

Türkiye is located between the continents of Asia and Europe and is the most populous country among European countries with a population exceeding 85 million. It is also the country with the highest proportion of young people in Europe [35]. It is the 19th largest economy in the world and the 8th largest economy in Europe [36]. The service sector in Türkiye is the sector that provides the most employment with 56.5% [37]. The most important problems of the Turkish labor market are low labor force participation, precarious employment and unemployment. In 2022, the general unemployment rate in Türkiye was 10.4%, and the unemployment rate among the youth population was 19.4%. The labor force participation rate is 52.6%. The rate of informal employment is 28.1%. According to ILO data, Türkiye is listed as having one of the highest levels of gender discrimination and precarious work in working life among European countries. Türkiye is also one of the 20 countries with the highest fatality accidents among ILO countries [38].

In Türkiye, the pursuit of decent work continues as a public policy. There is a need for decent work measurement tools to support these efforts and to generate individual-level solutions for the existing labor market issues. DWQ, which has not yet been adapted and validated in Turkish, will be a measurement tool that can make a significant contribution to decent work efforts in Türkiye.

The Turkish version of the DWQ will provide solutions to these and similar problems in Turkish working life. Additionally, this study will fill any gaps in the literature regarding the Turkish adaptation and validation of DWQ and the evaluation of decent work-job satisfaction among KWs. The Turkish version of the DWQ will contribute to the evaluation of decent work in all areas of the Turkish labor market and to the development of human resources policies. In this way, the Turkish version of the DWQ can help identify and resolve any gaps in decent work in Türkiye’s labor market. However, the impact of the DWQ Turkish adaptation is not limited to the Turkish working life. This is because decent work has an importance that potentially affects all aspects of social life, such as ensuring social justice in society [39]. The fact that

the United Nations (UN) has included decent work as one of the 17 main “Sustainable Development Goals” (SDGs) also supports this situation [40].

The first part of the study provides information on the theoretical background of the topic, while the following section describes the methodology, the validation of the DWQ in a Turkish KWs sample, and the results of the decent work-job satisfaction evaluation. The final section discusses the results, limitations, and future research recommendations.

## 2. Theoretical background

In the 18th century, with the influence of technological developments, the traditional mode of production changed and mass production emerged with mechanization. With mass production, small workshops were closed, there was intense migration from rural areas to cities, and unemployment occurred. This situation has reduced the importance and value of the workforce. Therefore, in the beginning of the industrial age, a working environment emerged where there was no occupational health and safety, poverty wages were applied, long working hours were present, and children and women were employed in heavy work. However, the International Labour Organization was established in 1919 as an organization affiliated with the League of Nations, with the claim that it would not be possible to run the working environment in this way and that world peace would become permanent by ensuring social justice. The purpose of the establishment is to ensure social justice and raise the standards of the working environment. Since its establishment, it has published 191 contracts and 208 recommendations, 8 of which are mandatory, in order to raise standards in working life [41].

With the influence of globalization and technological developments in the 21st century, having a job is no longer enough to provide a basic standard of living. Employment conditions have changed and new working conditions such as wages, job security and career expectations have emerged [42]. In order to adapt to all these changes and raise labor standards to a certain level again, the concept of “Decent Work” was introduced at the 87th International Labour Conference of the ILO in 1999. Decent work was defined in this conference as a concept that includes the importance of social justice, employment in development, gender equality, the fight against child labor, social protection and social dialogue [1]. A broader definition was made in the “Declaration of Social Justice

for a Fair Globalization” published by the ILO in 2008. Decent work is defined as social protection, adapting and developing measures for the protection of the workforce in a sustainable manner to national conditions, strengthening employment and the tripartite structure, ensuring social dialogue, respecting, implementing and improving fundamental rights in working life [43].

According to the ILO, decent work’s purpose is best expressed from the perspective of individuals. From the perspective of the individuals, decent work refers to working conditions, future work prospects, balancing work and family life, sending children to school and/or freeing them from child labor, gender equality, equal rights and opportunities, protection against discrimination, keeping up with new technological skills, developing entrepreneurial skills, fair pay, and having a voice in the workplace [32].

Initiatives are underway in the ILO and UN to better understand and implement decent work. In 2007, decent work was added as a new sub-target to the first goal of the UN’s Millennium Development Goals (MDGs), which covers the years 2000–2015, under the name of the “Eradicate extreme poverty and hunger” [44]. Following the MDGs, the UN declared SDGs [40] in 2015, which will conclude in 2030. The Sustainable Development Goals provide a broader and more detailed scope than the MDGs [45]. One of these main objectives of the SDGs, which consists of 17 main objectives, is called Decent Work and Economic Growth. This goal is clearly defined as “promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all” [46]. In addition, the ILO, which celebrated its centennial in 2019, determined its centennial theme as “advancing social justice, promoting decent work” [39]. The ILO’s centennial theme is built on decent work and the inclusion of decent work as a sub-goal of the MDGs, but its inclusion as a main goal in the SDGs shows that the importance of decent work has increased.

Decent work has become one of the most important issues to be addressed using different dimensions in terms of both concept and scope. Working conditions that have an important place in decent work include both physical factors and also psychological factors [47]. Psychological conditions are as important as physical conditions for employees. Jobs that lack decent work standards negatively affect employees’ psychological approaches to their jobs [48, 49]. Therefore, it is crucial to evaluate individual psychological approaches within the context of decent work.

In this regard, in 2018, Ferraro et al. [7] developed the DWQ within the scope of the WOPP to measure decent work with a psychological approach. The WOPP focuses on the historical development, conceptualization, and functionalization of the decent work concept. The DWQ was designed by considering the decent work concept created by the ILO in 2008 and 2013. Initially, it was applied to KWs from Brazil and Portugal, who share the same language but have different cultures. The WOPP consists of seven subscales and 31 items. Despite being from different cultures, the validity of the DWQ was accepted in both countries [7].

Apart from the Portuguese version of the DWQ, the Questionnaire has also been adapted and validated in Italian [4] and Spanish [50]. In addition, the DWQ is used in many studies to determine variables that affect employees in different occupational groups. The DWQ was used as a measurement tool to determine the effects of decent work on work motivation in lawyers [51]; work motivation and psychological capital in KWs [52]; work motivation, work engagement, and burnout in physicians [53]; job and life satisfaction in managers [54]; and work engagement, psychological [55], and burnout in academics [56].

Many studies have found that decent work has positive effects on employee job satisfaction [57–59]. Therefore, decent work also plays an important role in increasing individual well-being [59]. Despite all these studies, there is a lack of research that evaluates decent work as an integral part of work life and its effect on job satisfaction.

KWs are the most important human resource that an organization possesses. Companies that have KWs and understand their importance have a strong competitive advantage [60]. An organization’s ability to attract and retain KWs lies at the center of that organization’s current and future success [61]. In knowledge-based organizations, job satisfaction of KWs is crucial for their organizational performance. The higher the job satisfaction levels of KWs, the more their organizational contributions will be. It is highly beneficial for an organization to have its KWs happy, comfortable, appreciated [62] and motivated [63].

Limited studies have been conducted on job satisfaction in KWs to identify factors that affect KWs’ job satisfaction [29, 30] and to compare job satisfaction between blue-collar workers and KWs [64]. The results of these studies have shown that motivating job characteristics (recognition, promotion, etc.) affect job satisfaction in KWs, and job satisfaction

affects their intention to leave [49]. Non-financial job characteristics have a more significant effect on job satisfaction in KWs [29, 30] and KWs' job security has a more significant effect on job satisfaction than all other work factors [31].

This study aims to fill this gap in the literature by evaluating the effect of decent work on KWs' job satisfaction levels using the DWQ and Job Satisfaction Scale (JSS). It is believed that this study can contribute to the development of human resources management and national employment policies, as well as decent work measurement studies from the perspective of the WOPP.

### 3. Method

#### 3.1. Adaptation procedures

The adaptation process proposed by Hambleton and Patsula [65] was used in the adaptation of the DWQ to Turkish. The adaptation process was conducted in five stages. Firstly, the scale developers, Ferraro et al. [7] decided to adapt the DWQ into Turkish after obtaining the necessary permissions. In the second stage, three academics who were fluent in the original language of the scale, Portuguese, translated it into Turkish. The differences between the translations were examined, and the most appropriate expressions were identified. In the third stage, two different academics translated the Turkish version back to Portuguese, and its compatibility with the original scale was evaluated. Based on the evaluation, the most appropriate sentence structures for Turkish were determined and a revised scale was created and developed. In the fourth stage, a Turkish language expert reviewed the scale and found no grammatical issues. In the fifth stage, the Questionnaire was distributed to 30 postgraduate students to test the comprehensibility of the scale items. The items were read aloud in a classroom environment, and the participants' opinions gathered. Two items that were found to have semantic issues were revised, and the final version of the scale was produced.

#### 3.2. Sample and procedure

This study is cross-sectional in nature. The study sample group comprises Turkish KWs. In the study, convenience sampling technique was used and the number of participants in the sample group was determined using the power analysis program

Table 1  
Descriptive information of the participants

Variable	Sub-variable	N	%
Gender	Female	462	51.0
	Male	444	49.0
Age (years)	18–24	33	3.60
	25–34	255	28.1
	35–44	345	38.1
	45–54	187	20.6
	55 and older	86	9.50
Education level	High school	34	3.70
	University	505	55.7
	Master	191	21.1
	Doctoral	176	19.4
Occupation	Researchers	160	17.6
	Physician	163	18.0
	Lecturer	123	13.6
	Financial analyst	177	19.6
	Engineers	150	16.6
	Pharmacist	133	14.6
Working time	6 months –1 years	116	12.8
	1–5 years	166	18.3
	5–10 years	172	19.0
	10–15 years	156	17.2
	15 years and over	296	32.7

G.Power-3.1.9.2 [66]. As a result of the analysis performed at a confidence level of 0.99 [67] it was determined that 287 participants ( $\alpha=0.01$ ,  $1-\beta$  err prob = 0.95,  $df=5$ ) would be sufficient for the study sample group.

The data collection process began after informing the KWs about the conditions of their potential participation. The study included KWs who had been actively working for at least six months and received a salary for their work. From 5 October 2022 to 18 March 2023, survey forms were sent to those who met the conditions and agreed to participate using online methods. All participants voluntarily participated in the research without receiving any incentives. A total of 906 participants took part in the study, with 462 (51.0%) being female and 444 (49.0%) being male. All participants were over the age of 18 and most had a bachelor's degree or higher education level. Detailed information about the participants is presented in Table 1.

#### 3.3. Measurements

##### 3.3.1. Decent Work Questionnaire (DWQ)

The DWQ, developed by Ferraro et al. [7], was used in this study. The DWQ consists of seven dimensions and 31 items, with all dimensions related to the ILO's core decent work indicators [9]. The dimensions are given as follows: first, Fundamental Principles and Values at Work (FPVW); second, Ade-

quate Working Time and Workload (AWTW); third, Fulfilling and Productive Work (FPW); fourth, Meaningful Remuneration for the Exercise of Citizenship (MREC); fifth, Social Protection (SP); sixth, Opportunities (OP); and seventh, Health and Safety (HS) [7].

The first, Fundamental Principles and Values at Work (FPVW), covers those components stated by the ILO: “employment opportunities”, “work that should be abolished”, “equal opportunity and treatment in employment”, and “social dialogue”. The FPVW comprises six items including statements on discrimination in the workplace (gender, religion, race, etc.), freedom of opinion and expression at work, participation in decisions, and interpersonal trust. The second, Adequate Working Time and Workload (AWTW), covers the ILO components of “adequate earnings and productive work”, “decent working time”, “combining work, family, and personal life”, “safe work environment”, and “social security”. The AWTW comprises four items including statements that measure the pace of their work pace and work–life harmony. The third, Fulfilling and Productive Work (FPW), includes the ILO components of “employment opportunities”, “adequate earnings and productive work”, and “economic and social context for decent work”. The FPW comprises five items including statements related to occupational satisfaction, value creation, and contributing to future generations. The fourth, Meaningful Remuneration for the Exercise of Citizenship (MREC), covers the ILO components of “adequate earnings and productive work”, and “equal opportunity and treatment in employment”. The MREC comprises four items including statements on wage adequacy and satisfaction. The fifth, Social Protection (SP), includes only the “social security” component. The SP comprises four items including statements about whether the individual and their family are covered by social protection against risks such as illness and unemployment. The sixth, Opportunities (OP), includes the ILO components of “employment opportunities” and “adequate earnings and productive work”, and comprises four items. These items include questions that measure the existence of career opportunities and new job opportunities. The seventh, Health and Safety (HS), includes only the “safe work environment” component and comprises four items that include statements that assess occupational health and safety [7].

In the DWQ, responses to each item are given according to a five-point Likert scale ranging from

1 = “I do not agree” to 5 = “I completely agree”. Cronbach’s  $\alpha$  coefficient was considered when determining the reliability of the scale dimensions. According to the results of the study, the Cronbach’s  $\alpha$  coefficients of the scale dimensions are as follows: 0.93 for FPVW, 0.87 for AWTW, 0.86 for FPW, 0.82 for MREC, 0.90 for SP, 0.72 for OP, and 0.85 for HS. The model fit values obtained by confirmatory factor analysis (CFA) were considered when determining the structural validity of the scale. The results of the analysis show that the factor structure of the scale has been confirmed and validated in two different countries [7].

### 3.3.2. Job Satisfaction Scale (JSS)

The JSS was originally developed by Brayfield and Rothe (1951) [68] and later a shortened version was created by Judge, Locke, Durham, and Kluger (1998) [69]. The JSS was adapted into Turkish and validated by Başol and Çömlekçi [70] who assessed the internal consistency of the single-dimension, five-item scale through total item correlation and Cronbach’s  $\alpha$  coefficients. Results of the validity study indicate that item correlation values ranged from 0.756 to 0.886 and the Cronbach’s  $\alpha$  coefficient of the unidimensional structure was 0.929.

## 4. Results

The validity analysis results of the Turkish adaptation study of the DWQ, which consists of 31 items and seven factors, are presented in Table 2.

In this study, an internal consistency analysis of the scale and its individual factors was conducted using total item correlation. The purpose of the analysis was to determine the association between the items and the overall scale. According to Mukaka [71], a value of 0.30 or above is generally accepted in the literature for this analysis. The results of the analysis indicated significant correlations between the items and the overall scale, suggesting good internal consistency of the Turkish version of the scale used in this study. Other measures used to evaluate the internal consistency of the scale were Cronbach alpha reliability analysis to test the reliabilities, and AVE and CR to evaluate the validity of the variables. The literature suggests that CR and Cronbach’s  $\alpha$  values should be greater than 0.70 and AVE values should be greater than 0.50 [72]. In this study, the CR values of the seven-factor structure in the DWQ ranged from 0.82

Table 2  
Standardized item loadings, AVE, CR and validity analysis results

Scale	Factor	Item no.	Factor loading CFA	M	(SD)	Corrected item-total correlation	AVE	CR	Cronbach alpha
DWQ	FPVW	DW11	0.72	3.12	1.25	0.66	0.66	0.92	0.92
		DW16	0.83	3.08	1.24	0.79			
		DW21	0.88	3.28	1.27	0.81			
		DW22	0.88	3.24	1.28	0.80			
		DW24	0.73	3.65	1.22	0.65			
	AWTW	DW28	0.81	3.01	1.27	0.74	0.68	0.89	0.89
		DW3	0.72	3.19	1.39	0.60			
		DW15	0.87	3.06	1.22	0.78			
		DW18	0.83	3.15	1.26	0.69			
	FPW	DW27	0.87	3.17	1.24	0.77	0.61	0.89	0.89
		DW12	0.72	3.51	1.23	0.61			
		DW13	0.82	3.50	1.16	0.73			
		DW19	0.84	3.25	1.20	0.80			
		DW29	0.80	3.46	1.23	0.72			
	MREC	DW30	0.72	3.91	1.12	0.62	0.77	0.93	0.92
		DW7	0.89	2.82	1.31	0.71			
		DW9	0.92	2.82	1.28	0.72			
		DW10	0.93	2.71	1.28	0.73			
	SP	DW31	0.75	2.87	1.35	0.72	0.53	0.82	0.84
		DW2	0.74	2.39	1.40	0.60			
		DW5	0.66	2.12	1.28	0.51			
	OP	DW6	0.69	2.52	1.31	0.56	0.61	0.86	0.86
		DW8	0.81	3.02	1.25	0.69			
DW14		0.69	3.46	1.19	0.62				
DW17		0.80	2.96	1.32	0.75				
HS	DW25	0.79	3.12	1.28	0.70	0.66	0.89	0.90	
	DW26	0.85	3.23	1.31	0.76				
	DW1	0.74	3.47	1.25	0.67				
	DW4	0.81	3.21	1.27	0.74				
	DW20	0.90	3.15	1.22	0.83				
		DW23	0.81	3.31	1.19	0.74			
Total Cronbach's $\alpha$ coefficient									0.97

to 0.93, and the AVE values ranged from 0.53 to 0.77. The overall Cronbach's  $\alpha$  coefficient of the DWQ was 0.97, and the  $\alpha$  coefficients of all dimensions examined in this study were well above the accepted value in the literature (FPVW 0.92, AWTW 0.89, FPW 0.89, MREC 0.92, SP 0.84, OP 0.86, and HS 0.90). All standardized factor loadings were significant ( $p < 0.001$ ) and greater than 0.60. However, the fact that some factor loadings were greater than 0.90 may indicate issues with the correlation between the variables. To explore this possibility, a discriminant validity test was conducted.

The square root of the AVE and the correlation of the variables, two important components of discriminant validity, are presented in Table 3. The requirement for discriminant validity is that the  $\sqrt{\text{AVE}}$  value of the variables should be greater than the correlation coefficient value of the other variables in the horizontal row and vertical column [72]. In this study, the  $\sqrt{\text{AVE}}$  values of the variables were greater

than the correlation coefficients of other variables in the horizontal row and vertical column, indicating that the measurement model ensures discriminant validity. The normality of the data was tested by examining skewness and kurtosis values. The skewness values of all items in the DWQ ranged from  $-0.877$  to  $0.895$ , and the kurtosis values ranged from  $-1.209$  to  $-0.028$ , indicating a normal distribution of the measurement model [73]. Therefore, the validity of the factor structure of the Turkish version of the DWQ was ensured using data obtained from 906 participants. After conducting validity and reliability analyses, a CFA was conducted to verify the structure of the Turkish version of the scale and the compatibility of the data [74]. The resulting construct model included "standardized regression" values of the items, data on latent variables, error terms, and three different covariances, as shown in Fig. 1. No paths in the construct model were deleted, and all paths to both latent variables and observed variables

Table 3  
The square root of AVE (shown as bold) and correlations of variables

	FPVW	AWTW	FPW	MREC	SP	OP	HS
FPVW	<b>0.812</b>						
AWTW	0.709	<b>0.824</b>					
FPW	0.764	0.736	<b>0.781</b>				
MREC	0.646	0.607	0.597	<b>0.877</b>			
SP	0.558	0.590	0.507	0.694	<b>0.728</b>		
OP	0.760	0.669	0.756	0.691	0.573	<b>0.781</b>	
HS	0.809	0.673	0.705	0.651	0.606	0.695	<b>0.812</b>

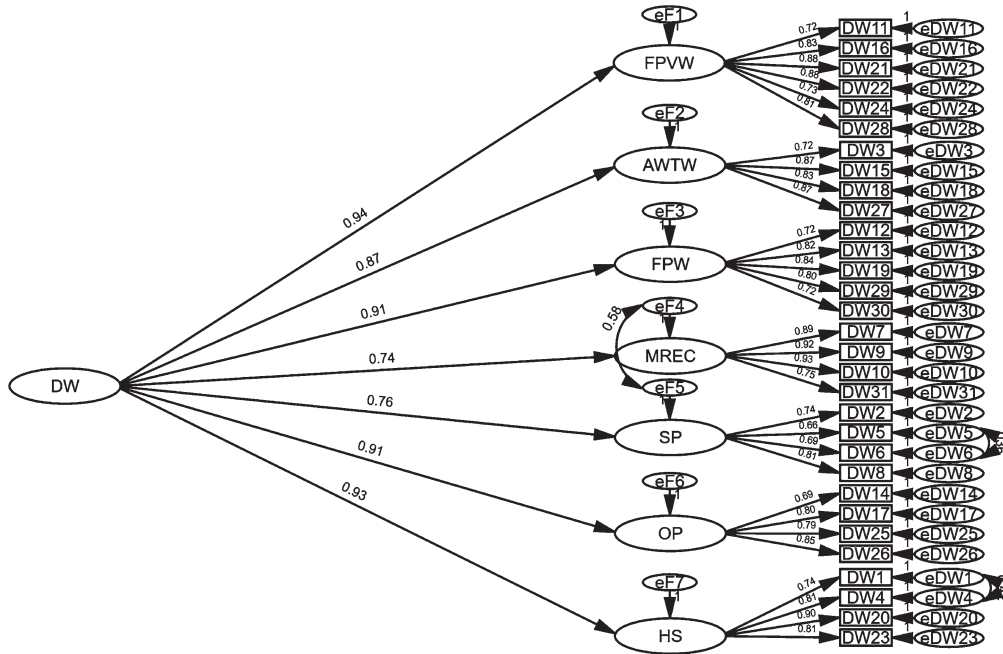


Fig. 1. The measurement model of the seven-factor structure of DWQ.

were found to be both positive and statistically significant ( $p < 0.001$ ).

In this study, modifications were made to the original structure of the DWQ by adding covariances between the residuals based on modification index values, theoretical background, and the original scale. The first covariance was added between eF4 and eF5 of MREC and SP latent variables (MI = 148.045), which was expected due to similar results found in the original, Italian, and Spanish adaptations and validations of the DWQ. Covariances were also added between eDW5-eDW6 (MI = 58.901) and eDW1-eDW4 (MI = 113.296). These adjustments were necessary during the adaptation of the original scale into a different language, as participant perceptions required changes to the residual terms. The results of the study, as shown in Fig. 1, indicate that the standardized regression item weights of

the latent variables of the DWQ fall within the following ranges: FPVW 0.72–0.88, AWTW 0.72–0.87, FPW 0.72–0.84, MREC 0.75–0.93, SP 0.66–0.81, OP 0.69–0.85, and HS 0.74–0.90. Additionally, the path coefficients of the latent variables all have statistically significant values ( $p < 0.001$ ).

Table 4 presents the goodness of fit indices of the Turkish validity of the seven-factor structure of the DWQ, which was formed as a result of testing the measurement model. The Table includes values before and after each adjustment process, as well as values of both seven-factor and one single-factor models. The results showed that the three-adjustment high order model was high, and the seven-item scale was a good fit for the study participants. After verifying the compatibility of the DWQ using the data collected from Turkish KWs, the effect of participants' perceptions of decent work on their job



Table 4  
Goodness-of-fit indices of the DWQ in the Turkish sample ( $n = 906$ )

Model	$\chi^2$	df	$\chi^2/df$	CFI	NFI	IFI	SRMR	RMSEA (CI 90%)
High order model 1- without adjustment	2802.7*	427	6.56	0.90	0.88	0.90	0.06	0.078 (0.076–0.081)
High order model 2- two adjustments	2512.4*	425	5.91	0.91	0.90	0.91	0.05	0.074 (0.071–0.076)
High order model 3- three adjustments	2419.4*	424	5.71	0.92	0.90	0.92	0.05	0.072 (0.069–0.075)
Seven factors	2442.1*	413	5.91	0.92	0.90	0.92	0.05	0.072 (0.071–0.077)
One single factor model	7662.1*	436	17.57	0.70	0.68	0.70	0.19	0.135 (0.133–0.138)
Cutoff value				$\geq 0.90$	$\geq 0.90$	$\geq 0.90$	$< 0.08$	$< 0.08$

Note = \* $p < 0.001$ .

satisfaction was tested. On examination of the model fit values in the structural model, it was found that all values are within those limitations mentioned in the literature, and that these overlap with the data collected from the study participants. The test results revealed that all path coefficients seem to be significant and that regression weights are positive ( $p < 0.001$ ). In terms of standardized regression weights ( $\beta$ ), decent work has a significant and positive effect on job satisfaction ( $\beta = 0.622$ ;  $p < 0.001$ ).

## 5. Discussion

Changes both in the economy and in social life as a whole have accelerated recently. Some of these changes that organizations will undergo in terms of working life are planned, while others are disruptive and even unexpected. These changes affect all employees in the labor market positively or negatively [50]. To eliminate these negative effects on these Employees, decent work is an important tool. However, decent work is a topic that remains current and needs to be studied and discussed more.

Decent work is a factor that influences both individuals' professional and personal lives. It is a multi-dimensional construct that can vary across cultures. Decent work has a direct impact on various psychological factors that play a significant role in employee performance, including attendance, belonging, satisfaction, and well-being. Effective human resource policies can support decent work and contribute to national employment policies through the use of the DWQ. This study has two aims: (1) to adapt, validate, and evaluate the Turkish version of the DWQ, and (2) to use the DWQ to investigate the association between decent work and job satisfaction levels among KWs. The results are consistent with both the original DWQ study [7] and other adapted and validated studies in the literature [4, 50]. The DWQ original study adapted and validated 1681 knowledge workers (636 Portugal, 1045 Brazil), 1465

for the Italian version, and 1528 for the Spanish version. The findings in this study and previous studies show that the DWQ has a consistent structure presenting the same decent work dimensions in five different cultures.

Table 2 indicates that the Turkish version of the DWQ possesses sufficient psychometric properties in terms of validity and reliability. The reliability values for all dimensions exceed the accepted value in the literature, and all seven factors have adequate reliability. The overall item correlation and internal consistency of all scale factors have been achieved, according to the results of the present study.

According to another result of the present study, decent work has a significant and positive effect on the job satisfaction levels of Turkish KWs. The path coefficients in Table 4 have positive and significant values, which shows that KWs' perception of decent work has a significant and positive effect on their job satisfaction levels. The better decent work conditions are, the more positive the effect they will have on job satisfaction levels. People working in decent works think that what they do is meaningful [75] and, therefore, that their job satisfaction levels are high [76]. These results are consistent with other studies in the literature on decent work and job satisfaction [76, 77]. Previous studies show that employees with high job satisfaction have lower rates of absenteeism and turnover intentions [78], lower stress and burnout levels [79], and higher levels of job performance [80]. Furthermore, and far beyond these effects, job satisfaction covers many dimensions of socioeconomic life for both employees and organizations [81] and is important for businesses to develop effective human resources policies.

### 5.1. Limitations and future directions

Despite their strengths and valuable insights, the results of this study should be evaluated considering various limitations. Firstly, due to the use of cross-sectional data in this study, causal interpreta-

tions between decent work and job satisfaction among knowledge workers cannot be made. While the Turkish version of DWQ allows for the measurement of access to decent work for knowledge workers, it is limited in providing the necessary knowledge to fully understand the conceptual foundations of decent work. In the future, the development of data collection and analysis methods with longitudinal designs rather than cross-sectional approaches can contribute to a more comprehensive understanding of decent work overtime and bring new perspectives.

Secondly, it relates to the relatively new nature of DWQ as a measurement tool. Therefore, studies conducted with DWQ are limited. Testing the applicability of DWQ in many different cultures and examining its effect on other variables is important for the stability of decent work measurement. Additionally, studies conducted with DWQ have the potential to bring different perspectives to decent work.

Thirdly, the sample of knowledge workers included different professional groups, lecturers, researchers, physician, engineers, pharmacists, and financial analyst. The research group consists of participants with high education and income level. These situations require caution in generalizing the results. Evaluating decent work specifically in different groups of employees can lead to different results.

Despite these limitations, the results of this study demonstrate that the Turkish version of the DWQ is a valid and reliable decent work measurement tool that considers the psychological dimension of decent work. Furthermore, it highlights the importance of decent working conditions for knowledge workers' job satisfaction. Further research should be conducted on different research groups in other countries to demonstrate both the effectiveness of DWQ in Türkiye and its validity as a universal decent work measurement tool.

## 6. Conclusion

Although decent work has been the subject of many researches since 1999, individual measurement is a relatively new and highly necessary subject to investigate. Because the perception of decent work at the individual level is necessary for understanding the differences or deficiencies of decent work. From this point of view, the validity and reliability of the DWQ for Türkiye was tested and confirmed in this study. In addition to this confirmation, another analysis also showed that decent work has an effect on job satisfaction among knowledge workers. In addition, unlike

most of the previous studies, attention was drawn to the importance of proper work for knowledge workers in this study.

Decent work encompasses only the workers in the narrow sense, whereas, in the broad sense, the presence/absence of decent work affects society, regardless of sector, worker group, or working/non-working. Because decent work is also a measure of society's welfare, with opportunities such as fair wages, safe working conditions, participation in employment, social protection, fundamental rights, and principles. When a research result is useful and broadly applicable, other scholars develop the research, or ideally, people outside academia, such as administrators and policymakers, put the research results into practice [82].

It is seen that the research results clearly answer the study questions in line with the literature. However, these results contain a due diligence. There is no context on how to implement decent work. Achieving permanent, comprehensive and successful results in decent work applications is not easy due to reasons such as the socio-political structures of the countries. Therefore, in order to achieve this success in decent work, it is important that social dialogue mechanisms are effective in all business processes and decent work is presented as a public policy. DWQ Turkish verification will also significantly contribute to new research and policies. In addition, we still believe DWQ should be evaluated in different cultures and working environments with different worker groups and contexts.

## Ethical approval

This study has been approved by the Artvin Çoruh University Rectorate Ethics Committee (letter dated 20.09.2022 and numbered E.62789).

## Informed consent

Informed consent has been obtained from all participants.

## Conflict of interest

The authors declare that they have no conflicts of interest in this study.

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## References

- [1] ILO. Decent Work. Report of the Director-General, International Labour Conference, 87th Session, Geneva: 1999 [cited 2022 April 14]. Available from: <https://www.ilo.org/public/english/standards/relm/ilc/ilc87/rep-i.htm>
- [2] Çolakoğlu C, Toygar A. The psychological effect of compensation on decent work dimensions: a research on public and private school teachers in Turkey. *Int J Soc Econ*. 2021;48(8):1191-212. <https://doi.org/10.1108/IJSE-04-2020-0236>.
- [3] ILO. What works: promoting pathways to decent work, studies on growth with equity, International Labour Office, Geneva: 2019 [cited 2022 April 14]. Available from: [https://www.ilo.org/global/publications/books/WCMS\\_724049/lang-en/index.htm](https://www.ilo.org/global/publications/books/WCMS_724049/lang-en/index.htm)
- [4] Ferraro T, dos Santos NR, Pais L, Zappalà S, Moreira JM. The Decent Work Questionnaire: Psychometric properties of the Italian version. *International Journal of Selection and Assessment*. 2021;29(2):293-302. <https://doi.org/10.1111/ijsa.12328>.
- [5] Pereira S, Santos N Dos, Pais L. Empirical Research on Decent Work: A Literature Review. *Scandinavian Journal of Work and Organizational Psychology*. 2019;4(1).
- [6] Berten J. Producing decent work indicators: contested numbers at the ILO. *Policy Soc*. 2022;41(4):458-70.
- [7] Ferraro T, Pais L, Rebelo Dos Santos N, Moreira JM. The Decent Work Questionnaire: Development and validation in two samples of knowledge workers. *Int Labour Rev*. 2018;157(2):243-65. <https://doi.org/10.1111/ilr.12039>.
- [8] Blustein DL, Olle C, Connors-Kellgren A, Diamonti AJ. Decent work: A psychological perspective. Vol. 7, *Frontiers in Psychology*. Frontiers Research Foundation; 2016.
- [9] Webster E, Budlender D, Orkin M. Developing a diagnostic tool and policy instrument for the realization of decent work. *Int Labour Rev*. 2015;154(2):123-45. <https://doi.org/10.1111/j.1564-913X.2015.00017.x>.
- [10] Duffy RD, Allan BA, England JW, Blustein DL, Autin KL, Douglass RP, et al. The development and initial validation of the decent work scale. *J Couns Psychol*. 2017;64(2):206-21. <https://doi.org/10.1037/cou0000191>.
- [11] ILO. Measurement of decent work, Discussion paper for the Tripartite Meeting of Experts on the Measurement of Decent Work, Geneva. International Labour Office, 2008. [cited 2022 April 14]. Available from: [https://www.ilo.org/wcmsp5/groups/public/-dgreports/-stat/documents/meetingdocument/wcms\\_100335.pdf](https://www.ilo.org/wcmsp5/groups/public/-dgreports/-stat/documents/meetingdocument/wcms_100335.pdf)
- [12] ILO. Decent work indicators: Guidelines for producers and users of statistical and legal framework indicators. Geneva. ILO Manual, second version (Dec.). 2013. [cited 2022 April 14]. Available from: [https://www.ilo.org/wcmsp5/groups/public/-dgreports/-integration/documents/publication/wcms\\_229374.pdf](https://www.ilo.org/wcmsp5/groups/public/-dgreports/-integration/documents/publication/wcms_229374.pdf)
- [13] Muzam J. The Challenges of Modern Economy on the Competencies of Knowledge Workers. *Journal of the Knowledge Economy*. 2022. <https://doi.org/10.1007/s13132-022-00979-y>.
- [14] Drucker PF. Landmarks of tomorrow: A report on the new post-modern world. New York: Harper & Row Publishers. 1959.
- [15] Brinkley I, Fauth R, Mahdon M, Theodoropoulou S. Is knowledge work better for us? Knowledge workers, good work and wellbeing. London: Knowledge Economy Progr. 2010.
- [16] Drucker PF. They're not employees, they're people. *Harvard Business Rev*. 2002;80(2).
- [17] Olsen KM. The power of workers: Knowledge work and the power balance in Scandinavian countries. *Employee Relations*. 2016;38(3):390-405. <https://doi.org/10.1108/ER-10-2014-0121>.
- [18] Paton S. In search of the knowledge worker, Working Paper Labour Process Conference. 2005 [cited 2022 May 23]. Available from: [www.hrm.strath.ac.uk/ILPC/2005/conf-papers/Paton.pdf](http://www.hrm.strath.ac.uk/ILPC/2005/conf-papers/Paton.pdf).
- [19] Oh YI, Kim H, Kim KH. Factors affecting Korean physician job satisfaction. *Int J Environ Res Public Health*. 2019;16(15). <https://doi.org/10.3390/ijerph16152714>.
- [20] Clark AE. Job satisfaction in Britain. *Br J Ind Relat*. 1996;34(2):189-217. <https://doi.org/10.1111/j.1467-8543.1996.tb00648.x>.
- [21] Autry CW, Daugherty PJ. Warehouse operations employees: linking person-organization fit, job satisfaction, and coping responses. *Journal of Business Logistics*. 2003;24(1):171-97.
- [22] Judge TA, Weiss HM, Kammeyer-Mueller JD, Hulin CL. Job attitudes, job satisfaction, and job affect: A century of continuity and of change. *Journal of Applied Psychology*. 2017;102(3):356-74.
- [23] Stavrou G, Siskou OCH, Talias MA, Galanis P. Assessing Job Satisfaction and Stress among Pharmacists in Cyprus. *Pharmacy*. 2022;10(4):89.
- [24] Spagnoli P, Haynes NJ, Kovalchuk LS, Clark MA, Buono C, Balducci C. Workload, workaholism, and job performance: uncovering their complex relationship. *Int J Environ Res Public Health*. 2020;17(18):1-20.
- [25] Wijngaards I, Burger M, van Exel J. Unpacking the Quantifying and Qualifying Potential of Semi-Open Job Satisfaction Questions through Computer-Aided Sentiment Analysis. *Journal of Well-Being Assessment*. 2020;4(3):391-417.
- [26] Kosec Z, Sekulic S, Wilson-Gahan S, Rostohar K, Tusak M, Bon M. Correlation between Employee Performance, Well-Being, Job Satisfaction, and Life Satisfaction in Sedentary Jobs in Slovenian Enterprises. *Int J Environ Res Public Health*. 2022;19(16).
- [27] Edgar F, Geare A. HRM practice and employee attitudes: Different measures - Different results. *Personnel Review*. 2005;34(5):534-49.
- [28] Rumrill, SP, Bishop, ML. The Role of Employment Status, Change, and Satisfaction for People Who Have Completed Substance Use Disorder Treatment. *Work*. 2023;74(2):355-69. <https://doi.org/10.3233/WOR-236012>.

- [29] Torrent-Sellens J, Velazco-Portocarrero J, Viñas-Bardolet C. Knowledge-Based Work and Job Satisfaction: Evidence from Spain. *Journal of the Knowledge Economy*. 2018;9(2):575-612. <https://doi.org/10.1007/s13132-015-0349-1>.
- [30] Viñas-Bardolet C, Torrent-Sellens J, Guillen-Royo M. Knowledge Workers and Job Satisfaction: Evidence from Europe. *Journal of the Knowledge Economy*. 2020;11(1):256-80. <https://doi.org/10.1007/s13132-018-0541-1>.
- [31] Wilczyńska A, Batorski D, Sellens JT. Employment Flexibility and Job Security as Determinants of Job Satisfaction: The Case of Polish Knowledge Workers. *Soc Indic Res*. 2016;126(2):633-56. <https://doi.org/10.1007/s11205-015-0909-6>.
- [32] ILO. Reducing the decent work deficit - a global challenge. Report of the Director-General: International Labour Conference, 89th Session. Geneva.2021 [cited 2022 April 14]. Available from: <https://www.ilo.org/public/english/standards/reim/ilc/ilc89/rep-i-a.htm>
- [33] Türkiye Cumhuriyeti Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı. 11. Kalkınma Planı(2018-2023). [cited 2023 November 1]. Available from: [www.sbb.gov.tr/wp-content/uploads/2022/07/On.Birinci\\_Kalkinma\\_Plani-2019-2023.pdf](http://www.sbb.gov.tr/wp-content/uploads/2022/07/On.Birinci_Kalkinma_Plani-2019-2023.pdf).
- [34] Sustainable Development Report Türkiye, 2023. Decent Work and Economic Growth. [cited 2023 November 1]. Available from: <https://dashboards.sdindex.org/map/goals/sdg8>.
- [35] Word Bank, Population-total 2022 [cited 2023 july 24]. Available from: [https://data.worldbank.org/indicator/SP.POP.TOTL?most\\_recent\\_value\\_desc=true](https://data.worldbank.org/indicator/SP.POP.TOTL?most_recent_value_desc=true)
- [36] Word Bank, GDP [cited 2023 july 24]. Available from: [https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?most\\_recent\\_value\\_desc=true](https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?most_recent_value_desc=true)
- [37] Turkish Statistical Institute, labor statistics, [cited 2023 july 24]. Available from: <https://data.tuik.gov.tr/Bulten/Index?p=Isgucu-Istatistikleri-2022-49390#:~:text=%C4%B0%C5%9Fsizlik%20oran%C4%B1%20erkeklerde%20%258%2C9,13%2C4%20olarak%20tahmin%20edildi.&text=%C4%B0stihdam%20edilenlerin%20say%C4%B1s%C4%B1%202022%20y%C4%B1%C4%B1nda,%30%2C4%20olarak%20ger%C3%A7ekle%C5%9Fti>
- [38] ILO, ILOSTAT explorer, [cited 2023 july 24]. Available from: [https://www.ilo.org/shinyapps/bulkexplorer40/?lang=en&segment=indicator&id=SDG\\_0111\\_SEX\\_AGE\\_RT\\_A](https://www.ilo.org/shinyapps/bulkexplorer40/?lang=en&segment=indicator&id=SDG_0111_SEX_AGE_RT_A)
- [39] ILO. The 100th Anniversary of the ILO: Advancing Social Justice, Promoting Decent Work, ILO Jakarta Office. 2019.
- [40] Union Nations. United Nations Sustainable Development Goals (SDGs): 2015. [cited 2023 July 14]. Available from: <https://www.un.org/development/desa/disabilities/envision2030.html>
- [41] ILO. About the ILO. [cited 2023 November 1]. Available from: <https://www.ilo.org/global/about-the-ilo/history/lang-en/index.htm>
- [42] Burchell B, Sehnbuch K, Piasna A, Agloni N. The Quality of Employment and Decent Work: Definitions, Methodologies, and Ongoing Debates. *Cambridge Journal of Economics*. 2004;38(2):459-77.
- [43] ILO. Declaration on Social Justice for a Fair Globalization. [cited 2023 November 1]. Available from: [https://www.ilo.org/global/about-the-ilo/mission-and-objectives/WCMS\\_099766/lang-en/index.htm](https://www.ilo.org/global/about-the-ilo/mission-and-objectives/WCMS_099766/lang-en/index.htm)
- [44] Union Nations. The Millennium Development Goals Report: 2000. [cited 2023 July 14]. Available from: [www.un.org/millenniumgoals/2015\\_MDG\\_Report/pdf/MDG%202015%20rev%20\(July%201\).pdf](https://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20(July%201).pdf)
- [45] Anholon, R, Simon RI, Dibbernd T, Serafime MP. COVID-19 and Decent Work: A Bibliometric Analysis. *Work*. 2022;(71):833-41. <https://doi.org/10.3233/WOR-210966>.
- [46] Union Nations. Sustainable Development Goals. [cited 2023 November 1]. Available from: [https://www.undp.org/sustainable-development-goals/decent-work-and-economic-growth?gclid=CjwKCAjw15eqBhBZEiwAbDomEsrlaKXhxCSsEcc79AvwYT8MqfCDAFWOV88BXn0OC74bAR\\_xYxfzpRoCHokQAvD\\_BwE](https://www.undp.org/sustainable-development-goals/decent-work-and-economic-growth?gclid=CjwKCAjw15eqBhBZEiwAbDomEsrlaKXhxCSsEcc79AvwYT8MqfCDAFWOV88BXn0OC74bAR_xYxfzpRoCHokQAvD_BwE)
- [47] Gerber PD, Nel PS, Van Dyk. PS. *Human Resource Management* (4th ed.). Cape Town: Southern Book Publishers. 1998.
- [48] Baron SL, Beard S, Davis LK, Delp L, Forst L, Kidd-Taylor A, et al. Promoting integrated approaches to reducing health inequities among low-income workers: Applying a social ecological framework. *Am J Ind Med*. 2014;57(5):539-56. <https://doi.org/10.1002/ajim.22174>.
- [49] Reineholm, C. Psychosocial work conditions and aspects of health. Linköping University Electronic Press. 2013. pp. 58.
- [50] Ferraro T, Pais L, Dos Santos NR, Martinez-Tur V. The Decent Work Questionnaire: adaptation and validation of the Spanish version. *Management Research*. 2023;21(2):167-93.
- [51] Ferraro T, dos Santos NR, Pais L, Moreira JM. Decent Work and Work Motivation in Lawyers: An empirical research. *Revista Psicologia: Organizações e Trabalho*. 2017;17(4):192-200.
- [52] Ferraro T, Pais L, Moreira JM, Dos Santos NR. Decent Work and Work Motivation in Knowledge Workers: the Mediating Role of Psychological Capital. *Appl Res Qual Life*. 2018;13(2):501-23.
- [53] Ferraro T, dos Santos NR, Moreira JM, Pais L. Decent Work, Work Motivation, Work Engagement and Burnout in Physicians. *Int J Appl Posit Psychol*. 2020;5(1-2):13-35.
- [54] Cipriani RL, Ferraro T, Oderich CL. Trabalho Digno, Satisfação Com o Trabalho e com a Vida em Administradores. *Revista Psicologia: Organizações e Trabalho*. 2021;21(3).
- [55] Bolito C. Decent Work and Psychological Capital: A profile study with academic personnel. Master Thesis. University of Coimbra & University of Barcelona.
- [56] Dinis AC, Ferraro T, Pais L, dos Santos NR. Decent Work and Burnout: A Profile Study With Academic Personnel. *Psychol Rep*. 2022. <https://doi.org/10.1177/00332941221100454>.
- [57] Rossier J, Ouedraogo A. Work volition, decent work, and work fulfilment, in the formal and informal economy in Burkina Faso. *Br J Guid Coun*. 2021;49(2):255-71.
- [58] Atitsogbe KA, Kossi EY, Pari P, Rossier J. Decent Work in Sub-Saharan Africa: An Application of Psychology of Working Theory in a Sample of Togolese Primary School Teachers. *J Career Assess*. 2021;29(1):36-53.
- [59] Kim HJ, McNeil-Young VA, Wang D, Duffy RD, Underhill BD. Women of Color and decent work: An examination of psychology of working theory. *Career Development Quarterly*. 2022;70(2):125-37.
- [60] Ramona T, Delia B. Stimulating the productivity of the knowledge workers. *Studies in Business and Economics*. 2002;17(2):282-99. <https://doi.org/10.2478/sbe-2022-0039>.
- [61] Templer AJ, Tupper C, Cawsey F. Rethinking career development in an era of portfolio careers. *Career Development International*. 1999;4(2):70-6.

- [62] Bregenzer A, Jim'eneza P, Milfelner B. Appreciation at work and the effect on employees' presenteeism. *Work*. 2022;73:109-120. doi:10.3233/WOR-210766.
- [63] Sobocka-Szczapa H. Acquiring knowledge workers in organizations. *Ekonomia i Prawo*. 2020;19(1):119. <https://doi.org/10.12775/EiP.2020.009>.
- [64] Huang TP. Comparing motivating work characteristics, job satisfaction, and turnover intention of knowledge workers and blue-collar workers, and testing a structural model of the variables' relationships in China and Japan. *International Journal of Human Resource Management*. 2011;22(4):924-44.
- [65] Hambleton RK, Patsula L. Increasing the validity of adapted tests: Myths to be avoided and guidelines for improving test adaptation practices. *Journal of Applied Testing Technology*. 1999;1:1-30.
- [66] Faul F, Erdfelder E, Buchner A, Lang AG. Statistical power analyses using G\* Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*. 2009;41(4):1149-60. <https://doi.org/10.3758/BRM.41.4.1149>.
- [67] Cohen J. *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Routledge.1988. <https://doi.org/10.4324/9780203771587>.
- [68] Brayfield AH, Rothe HF. An index of job satisfaction. *Journal of Applied Psychology*. 1951;35(5):307-11. <http://dx.doi.org/10.1037/h0055617>.
- [69] Judge TA, Locke EA, Durham, CC, Kluger, AN. Dispositional effects on job and life satisfaction: The role of core evaluations. *Journal of Applied Psychology*. 1998;83(1):17-34. <https://doi.org/10.1037/0021-9010.83.1.17>.
- [70] Başol O, Çömlekçi MF. İş tatmini ölçeğinin uyarlanması: Geçerlik ve güvenilirlik çalışması. *Kırklareli Üniversitesi Sosyal Bilimler Meslek Yüksekokulu Dergisi*. 2020;1(2):6-29.
- [71] Mukaka MM. A guide to appropriate use of correlation coefficient in medical research. *Malawi Medical Journal*. 2002;24(3):69-71.
- [72] Fornell C, Larcker DF. Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*. 1981;18(1):39-50. <https://doi.org/10.2307/3151312>.
- [73] Mardia KV. Measures of multivariate skewness and kurtosis with applications. *Biometrika*. 1970;57(3):519-30.
- [74] Brown TA. *Confirmatory factor analysis for applied research* (2nd ed.). The Guilford Press. 2006.
- [75] Rosso BD, Dekas KH, Wrzesniewski A. On the meaning of work: A theoretical integration and review. Vol. 30, *Research in Organizational Behavior*. 2010:91-127. <https://doi.org/10.1016/j.riob.2010.09.001>.
- [76] Wan W, Duffy RD. Decent Work and Turnover Intention Among New Generation Employees: The Mediating Role of Job Satisfaction and the Moderating Role of Job Autonomy. *Sage Open*. 2022;12(2). <https://doi.org/10.1177/21582440221094591>.
- [77] Kim HJ, McNeil-Young VA, Wang D, Duffy RD, Underhill BD. Women of Color and decent work: An examination of psychology of working theory. *Career Development Quarterly*. 2022;70(2):125-37. <https://doi.org/10.1002/cdq.12291>.
- [78] Autry CW, Daugherty PJ. Warehouse Operations Employees: Linking person-organization fit, job satisfaction, and coping responses. *Journal of Business Logistics*. 2003;24(1):171-97. <https://doi.org/10.1002/j.2158-1592.2003.tb00036.x>.
- [79] Stavrou G, Siskou OCh, Talias MA, Galanis P. Assessing job satisfaction and stress among pharmacists in Cyprus. *Pharmacy*. 2002;10(4):89. <https://doi.org/10.3390/pharmacy10040089>.
- [80] Spagnoli P, Haynes NJ, Kovalchuk LS, Clark MA, Buono C, Balducci C. Workload, workaholism, and job performance: uncovering their complex relationship. *Int J Environ Res Public Health*. 2020;17(18):1-20. <https://doi.org/10.3390/ijerph17186536>.
- [81] Edgar F, Geare A. HRM practice and employee attitudes: Different measures- Different results. *Personnel Review*. 2005;34(5):534-49. <https://doi.org/10.1108/00483480510612503>.
- [82] Gérard PC. What Is Interesting in Operations Management?. *Manufacturing & Service Operations Management*. 2012;14(2):166-69. <https://doi.org/10.1287/msom.1110.0375>.