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Psychometric Properties of the Persian Version of the Copenhagen Psychosocial Questionnaire (COPSOQ III)

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Abstract

Background: Copenhagen Psychosocial Questionnaire is a reliable tool to measure the work-related psychosocial factors. The third version of this questionnaire was developed with the substantial changes in comparison with previous versions which would require the re-evaluation of psychometric properties. This study aimed to examine the validity, and reliability of the middle version and Persian translation of the COPSOQ III.

Materials & Methods: In this descriptive study, all workers of a number of industrial and production units in the northeast of Iran were invited during 2020 to 2022. Following a forward-backward translation of the COPSOQ III original form, 276 participants completed translated questionnaires. Alpha coefficient, content validity index (CVI), content validity ratio (CVR), confirmatory factor analysis (CFA), and Pearson's correlation test with 0.05 significance level, were employed to examine the psychometric properties and reliability of questionnaire.

Results: The average age of the subjects was 36.3 ± 5.9 years. Cronbach alpha coefficient for all dimensions was between 0.56 and 0.88 and for the total scale was 0.88. The team of 22 ergonomics and psychosocial experts reported that the mean of CVI and CVR were 0.97 and 0.78, respectively. The two-factor model fit was reasonable (RMSEA = 0.078; χ 2 = 590; χ 2/df = 2.694 ($p < 0.001$, df = 219); CFI = 0.89; and TLI = 0.85).

Conclusions: The finding indicated that the Persian version of the COPSOQ III is a valid and reliable tool to survey work related psychosocial factors.

Keywords: Questionnaire, Psychosocial Factors, Psychometrics

Introduction

Psychosocial factors at work are characterized as the social, organizational, and managerial facets, as well as the work-related design aspects that could potentially threaten physical and mental health [1]. The body of research demonstrates the significant impacts of work-related psychological variables on workers' well-being, mental health, organizational structure, and interpersonal connections with coworkers [2]. Numerousmodels and theories were developed to explain this association such as the Job Characteristics Model (JCM) [3], Demand–Control–(Support) Model [4,5], and the Effort–Reward–Imbalance model (ERI) [6].In these models, regardless of differences, the

value of skill and job variety, demand, and social (supervisor and peer) support as major psychosocial factors was emphasized [7].

There are different instruments to measure the work-related psychosocial factors at work. A review study by Tabanelli et al. [8] reported the characteristics of 33 tools, including objectives, measures, available languages, etc. The classification of job stress aspects -as an important psychosocial dimension- using the work system model indicated that diverse variety of individual, and job-related, organizational, technological, and environmental factors are used to assess psychosocial risks [9]. Therefore, the instruments are acknowledged as legitimate and well-founded for more reasons than only the relatedness of the components, which is required to assess work-related psychosocial risk. This includes the comprehensiveness of associated factors. Twenty-five years after introducing the first version of Copenhagen Psychosocial Questionnaire [10] following the need for a verified questionnaire for the Danish occupational health expert and researchers, it is observed that this instrument is broadly used for scientific research, and risk assessment purposes in different contexts. This survey was created in order to compare work environments, measure psychological risks, assess solutions, conduct research, and comprehend novel ideas and theories.The second iteration of the questionnaire was created in 2010 with the intention of adding and updating organizational characteristics (such as work engagement, justice, and management trust) [11].The first and second versions of questionnaire consist of three levels of long (research-based purpose), medium-length (professional-use purpose), and short (workplace assessment) [11,12]. The verified versions are available in 18 various languages which were used in 40 different countries [13].

The third version of the COPSOQ was developed by international networks(https://www.copsoq-network.org/)to modify the previous versions in terms of three reasons: Fundamental changes, and new trends in the workplace, new theories and models, and international cooperation and experiences [14]. In response to these changes, underlying improvements were made in the third version as follows: 1) Adding complementary core items to promote the flexibility and national, and international comparability; 2) considering new trends, and theories resulting in adding, renaming, or restoring new scales or items, such as Control over Working Time, Insecurity over Working Conditions, Work Engagement, Quality of Work, Emotional Demands and Influence at Work, etc. 3)considering international comments and experiences and related studies, such as validity and reliability of the tool which leads to eliminate or revise of some scales or items. Additionally, the developers proposed changing the intended use to allow for the usage of the medium version in research settings, which has suitable and trustworthy scales. As mentioned above, there are considerable changes in the third version, thus a tendency has begun to evaluate its validity and reliability. In recent years, the previous versions of COPSOQ were translated into Persian and validated by different researchers [15-17], thus this study aims to evaluate the psychometric properties of the Persian version of COPSOQ III.

Materials and Methods

The present study was conducted to assess the validity, and reliability of the Persian version of Copenhagen Psychosocial Questionnaire III (COPSOQ). To assess the psychometric properties, Terwee et al. recommended 4 to 10 participants per item, with minimum of 100 subjects [18,19]. All managers, supervisors, and workers of six production units in northeast of Iran were invented to enter the study. First, the objectives were explained, and then the participants who agreed to take part in the study completed the questionnaires. The individuals with at least 3 years of employment at present task or job which could understand the questionnaire items were included. Moreover, based on a series of questions, the subjects who were consuming psychiatric drugs were excluded the study. After removing incomplete questionnaires, 276 participants were selected in the analyses.

Copenhagen Psychosocial Questionnaire (COPSOQ) is one of the most recent tools to measure the psychosocial situations in the workplace, aims to assess “based on theory without specific theory”, and presented for two purposes: 1- Occupational risk assessment and 2- Work and health study [20-22]; developed and evaluated by Christensen and Borg at the Danish National Institute for the Occupational Health [23,24]. This questionnaire covers a wide range of the workplace demands, occupational organization, interpersonal and leadership behaviors, health, and personality health and well-being. The COPSOQ have been translated into 18 languages, evaluated, verified, and utilized in 400 papers for diverse research purposes and on a wide range of professions and nationalities [25–28]. They have also been used in 40 different nations. Based on the designer of the third edition

of this questionnaire, work environment changes in recent years (2010 to 2018), changes in job concepts and requirements in different industrial environments, and the international experience of COPSOQ caused the need for the third edition of the questionnaire, and made it published in accordance with the industrial up to date demands [29-33].

The scale reliability of questionnaire reflects the amount of variance in the scale, which is explained by the structure that the scale has taken in place to measure, despite random error [34]. By the initial publication of this tool in Denmark (2000), COPSOQ I and II versions were translated, and adapted into various languages, including French, English, German, and Spanish, in 2003. During the second edition of this questionnaire, there was no need to determine the job scope and only, the social support index and emotional demands were asked. These questionnaires were used in several studies [15, 35-38].

Translation of the COPSOQ III: First of all, two English experts and one of the authors separately translated the original version into Persian. Then, a single and agreed version was presented based on two Persian versions. The Persian version was then translated into English by two more English specialists who were not familiar with the original text's contents. The last phase was a comparison of the Persian and English versions by a team of a social science expert, two psychologists, an occupational health specialist, and three English experts, who then created the final version.

Cronbach's alpha was used to measure the internal consistency of the Persian version of the COPSOQ. Cronbach's alpha equal or greater than 0.7 of each dimension was considered as acceptable value[19]. A series of validity criteria, including content validity, convergent validity, and construct validity using confirmatory factor analysis were examined. To determine whether the instrument considered all aspects of construct, we assessed the validity content using Content Validity Index (CVI), and Content Validity Ratio (CVR). Twenty-two occupational health specialists and industrial psychologists analyzed and rated each item of the Persian version of COPSOQ III. CVI was calculated as each specialist scored items in a four-option format from 1 (not relevant, not simple, and not clear) to 4 (very relevant, very simple, and very clear). In the same way, CVR was calculated using a three-point system (1 = essential, 2 = useful but not essential, 3 = not essential).

Cronbach's alpha was used to measure the internal consistency of Persian version of the COPSOQ. The Cronbach's alpha equal or greater than 0.7 of each dimension was considered as acceptable value [19]. Examined were many validity criteria, such as construct validity by confirmatory factor analysis, convergent validity, and content validity. We used the content validity index (CVI) and content validity ratio (CVR) to evaluate the validity content of the instrument in order to ascertain if it took into account every facet of the construct. Fifteen occupational and industrial psychologists analyzed and rated each item of the Persian version of COPSOQ III. CVI was calculated in this way that each specialist scored items in a four-option format from 1 (not relevant, not simple, and not clear) to 4 (very relevant, very simple, and very clear). Thus, the CVR was calculated using a three-point system (1 = essential, 2 = useful but not essential, 3 = not essential). Multiple studies have been confirmed the association between psychosocial factors, and work ability. To assess the convergent validity, the correlation between the COPSOQ dimensions, and work ability score (WAS; the first scale of the Work Ability Index) was examined using Pearson's correlation coefficient. Confirmatory factor analysis (CFA) using maximum likelihood was employed to assess the construct validity. In this method, the goodness-of-fit of measurement model was estimated due to the root mean square error of approximation (RMSEA), the comparative fit index (CFI), and the chi-square/degrees of freedom ratio ($\chi 2/df$) [19]. A RMSEA of less than 0.08 was deemed acceptable, whereas a value of more than 0.1 was deemed to indicate a poor match [39]. When the index is near to 1, the good fit is the best match, and the CFI value of more than 0.8 or 0.9 is acceptable [40]. Furthermore, $\chi 2/df$ had tolerable values larger than 2 [41].Since it was difficult to draw a confirmatory model with 26 latent variables, and 60 observable variables, the variables were categorized based on Burr et al. s' study [14]. All dimensions were classified into five domains as follows: Demands at work [Quantitative Demands (QD), Work Pace (WP), Emotional Demands (ED), Demands for Hiding Emotions (HE)]; Work Organization and Job Contents [Influence at Work (IN), Possibilities for Development (PD), Control over Working time (CT), Meaning of Work (MW)]; Work-Individual Interface [Job Insecurity (JI), Insecurity over Working Conditions (IW), Quality of Work (QW), Work Life Conflict (WF), Job Satisfaction (JS)]; Interpersonal Relations and Leadership [Social Support from Supervisor (SS), Recognition (RE), Role Clarity (CL), Illegitimate Tasks (IT), Predictability (PR), Social Support from Colleagues (SC), Sense of Community at Work

(SW), Quality of Leadership (QL), Role Conflicts (CO)]; Social Capital [Horizontal Trust (TE), Vertical Trust (TM), Organizational Justice (JU)].
All statistical results obtained from this study with a significance level of less than 0.05 were analyzed using SPSS 21.0 software and all stages of this survey were approved by the ethics committees of Mazandaran University of Medical Sciences (Ethical code: IR.MAZUMS.REC.1400.9317). All participants signed an informed consent form and were assured that all data would be used confidentially.

Results

The socio-demographic, and job-related characteristics of study population are reported in Table 1. The average age (Standard Deviation, SD) of the participants was 36.3 (5.9), ranged between 21 and 61 years. The mean (SD) of job tenure was11.4 years (7.4) with a range from 4 to 24 years. The descriptive characteristics of the COPSOQ dimensions, and work ability score and inter-correlation coefficients are presented in Tables 2 and 3.

Table 1. Demographic and job-related characteristics of the study population (n=276)

Characteristics		n	(%)
Sex	Male	225	81.5
	Female	51	18.5
Age	<30	22	7.0
	30-39	187	64.5
	≥40	67	28.5
Marital status	Single	73	26.4
	Married	203	73.6
Working sector	Industrial worker	111	40.2
	Service worker	84	30.4
	Office worker	81	29.4
Job tenure	<3	51	18.5
	4-10	92	33.3
	11-15	62	22.5
	>15	71	25.7

Table 2. Descriptive statistics for the COPSOQ dimensions and WAS

Dimensions	Items	Mean	SD
Qualitative Demands	QD1	47.75	27.02
	QD2		
	QD3		
Work Pace	WP1	61.32	23.99
	WP2		
Emotional demands	ED1	48.8	25.72
	ED2		
	ED3		
Demands for Hiding Emotions	HE1	56.31	17.92
	HE2		
	HE3		
Influence at Work	IN1	58.75	24.29
	IN2		
	IN3		
	IN4		
Control Over Working Time	CT1	35.66	23.78
	CT2		
	CT3		
	CT4		
Social Support from Supervisor	SS1	62.95	26.21
	SS2		
Social Support from Colleagues	SC1	53.66	25.24
	SC2		

Sense of Community at Work	SW1	76.22	23.69
	SW2		
Possibilities for development	PD1	65.9	23.77
	PD2		
	PD3		
Meaning of Work	MW1	79.34	20.70
	MW2		
Predictability	PR1	64.40	22.04
	PR2		
Recognition *	RE	56.52	30.6
Role Clarity	CL1	76.20	18.60
	CL2		
	CL3		
Role Conflicts	CO1	50.92	22.96
	CO2		
Illegitimate Tasks	IT	46.19	30.80
Quality of Leadership	QL1	62.62	23.01
	QL2		
	QL3		
Job Insecurity	JI1	53.08	30.46
	JI2		
Insecurity over Work Conditions	IW1	50.90	26.69
	IW2		
	IW3		
Quality of Work	QW	62.77	25.45
Horizontal Trust	TE	56.43	27.56
Vertical Trust	TM1	67.72	21.27
	TM2		
	TM3		
Job Satisfaction	JS1	57.54	24.10
	JS2		
	JS3		
Organizational Justice	JU1	57.02	26.65
	JU2		
Work Life Conflict	WF1	58.74	31.04
	WF2		
General Health	GH	61.41	28.06
Work Ability Score	WAS	8.2	1.6

The finding confirmed the great internal consistency for the Persian translation of middle version COPSOQ III. The coefficient alpha of all dimensions were in the range of 0.56to 0.88 and for total scale was 0.88 (Table 4).

Table 3. The inter-correlation coefficient of COPSOQ dimensions

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1	QD	-																									
2	WP	**.631**																									
3	ED	**.451**	**.410**	-																							
4	HE	**.267**	**.392**	**.375**	-																						
5	IN	.057	.087	.081	**.243**	-																					
6	PD	*-.144*	-.041	*-.144*	**.179**	**.375**	-																				
7	CT	.099	-.115	.031	**.162**	**.355**	**.174**	-																			
8	MW	*-.143*	-.088	-.073	.111	**.466**	**.456**	.083	-																		
9	PR	*-.143*	.025	*-.150*	.086	**.432**	**.501**	*.126*	**.466**	-																	
10	RE	**-.217**	-.050	*-.149*	*.148*	**.272**	**.455**	**.243**	**.329**	**.592**	-																
11	CL	*-.178*	*-.050*	**-.190**	.105	**.412**	**.236**	-.020	**.521**	**.515**	**.433**	-															
12	CO	**.289**	**.252**	**.233**	**.243**	**.186**	.011	*.140*	.037	-.114	-.005	.033	-														
13	IT	**.434**	**.218**	**.240**	**.271**	**.158**	-.065	**.252**	-.040	-.091	-.060	-.073	**.580**	-													
14	QL	**-.230**	-.116	**-.209**	.035	*.155*	**.451**	.109	**.366**	**.578**	**.610**	**.352**	**-.161**	-**.165**	-												
15	SS	**-.211**	-.005	-.092	**.183**	**.318**	**.487**	**.184**	**.303**	**.557**	**.493**	**.278**	-.113	-.099	**.561**	-											
16	SC	-.061	-.008	-.060	*.144*	**.264**	**.335**	**.318**	**.288**	**.356**	**.348**	**.290**	-.012	.056	**.407**	**.560**	-										
17	SW	*-.125*	*-.119*	**-.300**	-.008	**.370**	**.385**	**.258**	**.365**	**.522**	**.555**	**.440**	**-.189**	-**.155**	**.427**	**.451**	**.566**	-										
18	JI	*.144*	**.196**	**.204**	*.143*	-.001	**-.171**	**-.315**	*.129*	-.060	-080	.028	**.270**	*.143*	-.062	-.093	-.075	-.092	-									
19	IW	**.237**	**.248**	**.237**	**.358**	.003	-.032	**-.157**	.041	.025	-.082	-.011	**.390**	**.331**	-.038	-.048	-.068	-**.181**	**.622**	-								
20	QW	**-.310**	**-.228**	**-.254**	.045	**.188**	**.279**	.076	**.354**	**.390**	**.432**	**.415**	**-.213**	-.048	**.475**	**.456**	**.328**	**.396**	-0.71	.033	-							
21	TE	-.118	.073	**-.189**	.118	**.276**	**.336**	**.192**	**.271**	**.474**	**.614**	**.323**	-.097	-.031	**.424**	**.397**	**.429**	**.503**	-.088	-.062	**.531**	-						
22	VE	**-.207**	-.017	**-.158**	.067	**.200**	**.289**	.108	**.319**	**.415**	**.558**	**.354**	-.101	-*.134*	**.495**	**.360**	**.288**	**.450**	.014	-.027	**.424**	**.560**	-					
23	JU	**-.183**	-.067	-.059	.092	**.272**	**.383**	**.262**	**.253**	**.542**	**.599**	**.224**	**-.187**	-.097	**.548**	**.490**	**.394**	**.495**	-.097	-.096	**.395**	**.555**	**.589**	-				
24	WF	**.544**	**.436**	**.382**	*.143*	-.034	**-.271**	**-.186**	*-.120*	-*.154*	**-.312**	-.054	**.309**	**.281**	-.207	-.278	-.258	-.264	**.283**	**.266**	-.385	-.237	-.157	**-.270**	**-**		
25	JS	**-.274**	**-.207**	**-.268**	.004	**.202**	**.364**	**.431**	**.295**	**.416**	**.520**	**.199**	*-.146*	-.044	**.497**	**.454**	**.400**	**.445**	-.256	-.237	**.433**	**.432**	**.447**	**.543**	-.400	**-**	
26	GH	**-.215**	*-.128*	-.116	.067	.044	**.295**	**.238**	**.174**	**.339**	**.431**	**.185**	**-.189**	-.094	**.385**	**.376**	**.294**	**.388**	-.125	-.129	**.362**	**.334**	**.317**	**.365**	-.338	**.541**	-

Bold style – Correlation is significant at the 0.001 level.
Italic style – Correlation is significant at the 0.05 level.
No style - No significant.

Table 4. Reliability and scale characteristics of the dimensions

Dimensions	Cronbach's Alpha	%C**	%F**
Qualitative Demands	0.87	18.5	9.4
		9.8	13.8
		15.6	25.4
Work Pace	0.73	20.7	5.8
		17.8	1.1
Emotional demands	0.76	15.2	18.8
		17.4	13.4
		10.5	12.3
Demands for Hiding Emotions	0.82	10.9	15.9
		13	10.5
		27.2	7.2
Influence at Work	0.81	15.6	6.9
		14.9	17.0
		14.9	18.8
		32.6	5.4
Control Over Working Time	0.77	10.9	17.8
		3.6	31.9
		6.5	21.7
		10.5	61.6
Social Support from Supervisor	0.72	29.7	5.4
		19.6	6.5
Social Support from Colleagues	0.70	13.0	8.7
		15.2	9.8
Sense of Community at Work	0.64	36.6	6.2
		50.7	4.3
Possibilities for development	0.76	25.7	6.2
		28.6	6.2
		21.7	8.0
Meaning of Work	0.66	38.0	4.7
		52.2	1.4
Predictability	0.75	13.8	7.2
		17.8	2.9
Recognition *	-	19.6	9.4
Role Clarity	0.67	34.8	5.1
		35.9	1.4
		35.5	3.6
Role Conflicts	0.56	11.2	11.2
		8.3	7.6
Illegitimate Tasks*	-	10.9	17.4
Quality of Leadership	0.80	16.7	7.2
		21.7	5.1
		19.9	5.4
Job Insecurity	0.77	20.7	14.5
		22.5	16.3
Insecurity over Work Conditions	0.73	19.6	17.0
		12.3	20.7
		21.4	13.4
Quality of Work*	-	14.5	5.1
Horizontal Trust*	-	8.7	9.8
Vertical Trust	0.78	20.3	3.3
		29.0	2.9
		17.4	7.2
Job Satisfaction	0.78	16.3	10.1
		16.3	6.5
		7.2	17.0
Organizational Justice	0.80	141	6.5
		17.0	12.3
Work Life Conflict	0.88	25.7	11.6
		23.6	11.6
General Health*	-	21.0	8.0

*Cronbach's alpha was not calculated for single-item dimensions.
**Fractions with ceiling and floor values.

Table 5. Correlation between the Persian version of COPOQ III and WAS

Dimensions	Pearson correlation	p
Quantitative demand	-.238	.000
Work pace	-.187	.002
Emotional demands	-.266	.000
Demands for hiding emotions	.082	.172
Influence at work	.090	.135
Possibilities for development	.208	.001
Control over working time	.124	.040
Meaning of work	.285	.000
Predictability	.302	.000
Recognition	.309	.000
Role clarity	.350	.000
Role conflicts	-.072	.234
Illegitimate tasks	-.078	.199
Quality of leadership	.292	.000
Social support from supervisor	.334	.000
Social support from colleagues	.128	.034
Sense of community at work	.301	.000
Job Insecurity	-.129	.032
Insecurity over working conditions	-.017	.780
Quality of work	.331	.000
Horizontal trust	.185	.002
Vertical trust	.223	.000
Organizational justice	.181	.003
Work life conflict	-.239	.000
Job satisfaction	.446	.000
General health	.472	.000

The statistical findings of 22 specialist answers showed the mean of CVI and CVR were 0.97 and 0.78, respectively, indicating the acceptable content validity. Twenty-one out of 26 dimensions were significantly correlated with WAS (Table 5). The coefficient correlations ranged from -0.266 to 0.446 ($p< 0.001$).

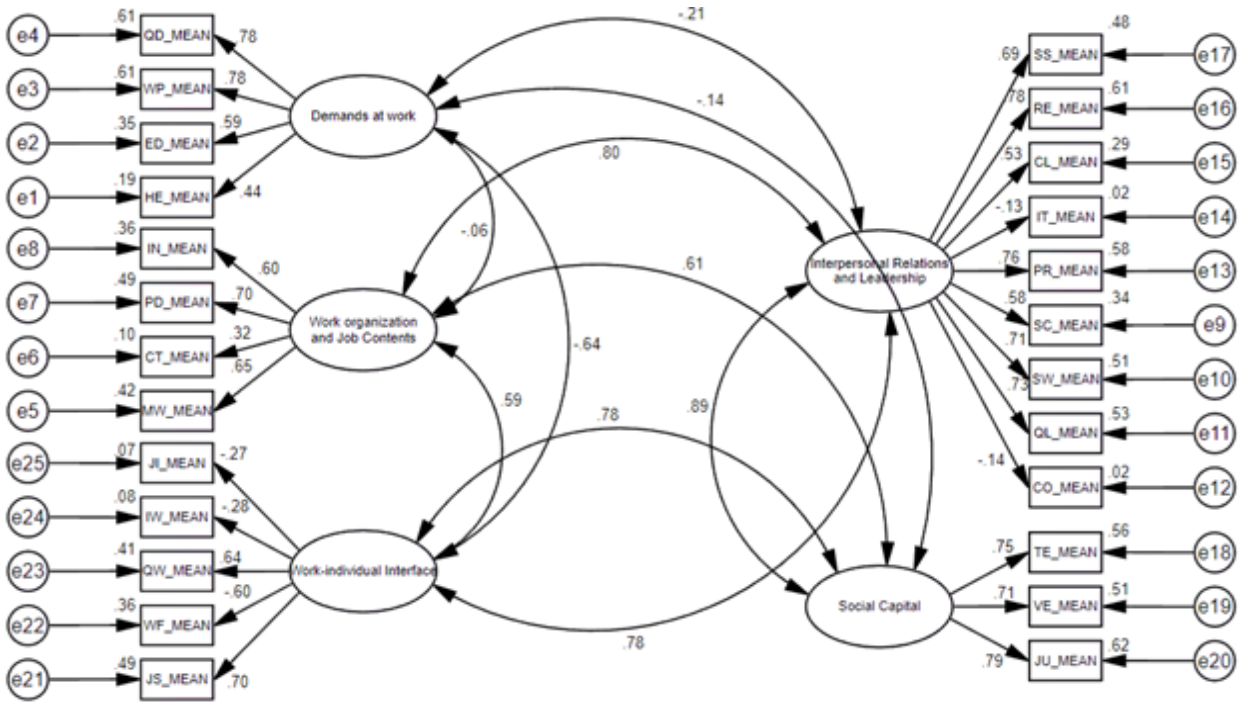

Fig. 1. The two-factor model of the middle version of COPSQ III

The paths, factor loadings, and measurement errors of confirmatory model are shown in Fig. 1. Examining the constructs of the Persian questionnaire by using CFA showed that the goodness-of-fit indices of the model were relatively satisfactory (Table 3). The values of the goodness-of-fit indices were as follows: RMSEA = 0.078; χ 2 = 590; χ 2/df = 2.694 ($p< 0.001$, df = 219); CFI = 0.89; and TLI = 0.85. Approximately all indices, except for TLI, indicated an acceptable goodness-of-fit.

Discussion

This study was conducted to evaluate the psychometric properties of middle version and Persian translation of the COPSOQ III.Prior to this study, two papers have reported the validity and reliability of the third version in Turkish and Portuguese languages [42,43].

The findings indicated an acceptable degree for internal consistency (α= 0.88) for the Persian translation of the COPSOQ III. This result is consistent with the reliability test in Turkish, Danish, German, and French versions [11,43-45].Şahan et al. reported that the value of coefficient alpha was greater than 0.70 for all factors in Turkish version (except the predictability dimension,α = 0.66).

The 60 questions in the middle edition of the COPSOQ III are organized into 26 dimensions; the single-item dimensions include overall health, illegitimate tasks, quality of labor, recognition, and horizontal trust. Based on the papers that introduced the third version of COPSOQ, all dimensions are categorized into 5 domains to analyze CFA [14].The results of CFA and model fits showed relatively satisfactory goodness-of-fit indices that were in line with similar studies [43,46]. While the model fit was good, it suggested that role conflicts, illegitimate tasks, job insecurity, and insecurity over work conditions with weak loading factors should be used with caution. In academic research all dimensions or items are not used and researchers choose appropriate items or dimensions based on the objectives of each study. In fact, flexibility is one of the advantages of the COPSOQ that provide a whole range of psychosocial factors. The developers of the questionnaire explained that middle version includes the items labelled core, and middle as well as related long items [13].

The Persian version of COPSOQ dimensions significantly correlated with work ability score (except in cases of HE, IN, CO, IT, and IW). This finding highlights a reasonable degree of convergent validity for the Persian translation of COPSOQ III. Numerous studies reported the significant association between WAS and psychosocial factors measured by COPSOQ and other tools [47-50]. In line with the current study's findings, it has been established that work capacity is negatively correlated with quantitative demands, emotional demands, and work-life conflict, and that work-life conflict is negatively correlated with influence at work, opportunities for professional growth, the significance of work, the caliber of leadership, social support from coworkers and supervisors, and job satisfaction[51–55]. Job Demand Resources model (JD-R model) is one of the most popular models to explain psychosocial factors such a way that Berthelsen et al. evaluated the validity and reliability of COPSOQ using JD-R model to describe the concept of work ability[50]. The JD-R model divides all work-related psychosocial factors into two groups of resources and demands and poor work ability indicates the imbalance between job demands and job resources [56,57].

Using self-report in cross-sectional studies is one of the most important limitations that causes reverse causality. From the statistical point of view, the sample size is sufficient; however, compared to other studies and the high number of items, the size can be considered larger. There is heterogeneity in the study sample due to gender which may bias the findings. As mentioned above, we had to categorize the dimensions into five domains which can affect the structural analysis.

Conclusion

While this is the first study that examines the validity, and reliability of Persian translation of the COPSOQ III. Although previous studies examined the psychometric properties of COPSOQ I and COPSOQ II, due to the significant changes in the third version, the present study has a higher value for using the questionnaire in work environments. The sample study was selected from different settings to improve the degree of generalizability as much as possible. The results of this research validated the validity and reliability of the Persian version of the COPSOQ III when it came to evaluating Iranian workers, and it can be used in a way that is appropriate for Iranian cultures across a range of large companies.

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