

COPSOQ-TR-Core: Turkish translation and validation study

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Introduction

- COPSOQ has been developed for
 - Research and collaboration
 - Psychosocial risk assessment in the workplace
- COPSOQ has three form as long, standard and core questionnaire

The core questionnaire: 32 items and 7 dimensions

- Demands (6 items)
 - Work pace-2 items
 - Quantitative demands-2 items
 - emotional demands-2 items
- Influence and development (4 items)
 - Influence at work-1 item
 - Possibilities for development-2 items
 - Meaning of work-1 item
- Relations and leadership (11 items)
 - Predictability-2 items
 - Recognition-1 item
 - Role clarity-1 item
 - Role conflict-2 items
 - Quality of leadership-2 items
 - Social support-2 items
 - Sense of community-1 item
- Job insecurity (3 items)
 - Quantitative job insecurity-2 items
 - Qualitative job insecurity-1 item
- Work life conflict (2 items)
- Social capital (4 items)
 - Trust -2 items
 - Justice and respect -2 items
- Job satisfaction (2 items)

Objective

- Validation of the core form of the COPSOQ to Turkish language.

Methods

- Methodologic study.
- The translation process; including **two forward translations and one back translation each by three bilingual translators.**
 - English COPSQQ version was translated in Turkish by two bilingual translators from different specialities who had no knowledge about COPSQQ.
 - The two translated versions were compared with each other and checked for disagreement of the translators and relevant revisions and corrections were completed.
 - COPSQQ-TR was translated back into English language to compare with the original COPSQQ form.

Methods

- Participants were asked to evaluate each item for **their understandability** and **meaning**.
- **A minor changes** were maden in accordance to the participants suggestions and established the final translated Turkish COPSOQ form.

Methods

- The study was conducted with employees at four workplaces (**call center, hospital, plastic manufacturing, and metal industry**)
- Between August 1, 2016 and December 1, 2017.

Methods

- **KMO** and **Bartlett's Test of Sphericity** were used
- Validity of the dimensions were investigated with **confirmatory factor analysis**.
- **The principal component analysis** and **Varimax rotation methods** used to identify the factor structure.
- **The internal consistency of dimensions** were assessed by the **Cronbach's alpha coefficient**.
- **Ceiling and floor effects** of each dimensions were evaluated by computing the percentages of minimum and maximum values of the each domain.

Results

- ✓ Participation rate 82.6%
- ✓ 1076 participants
- ✓ 53.9% were female
- ✓ 57.5% were white-collar employees
- ✓ The mean age of participants was 31.1 ± 7.7 years and the median age was 30.
- ✓ 14.9% of the participants were secondary school or primary school graduates,
- ✓ 34.9% were high school graduates,
- ✓ 50.1% had junior college degrees or higher degree

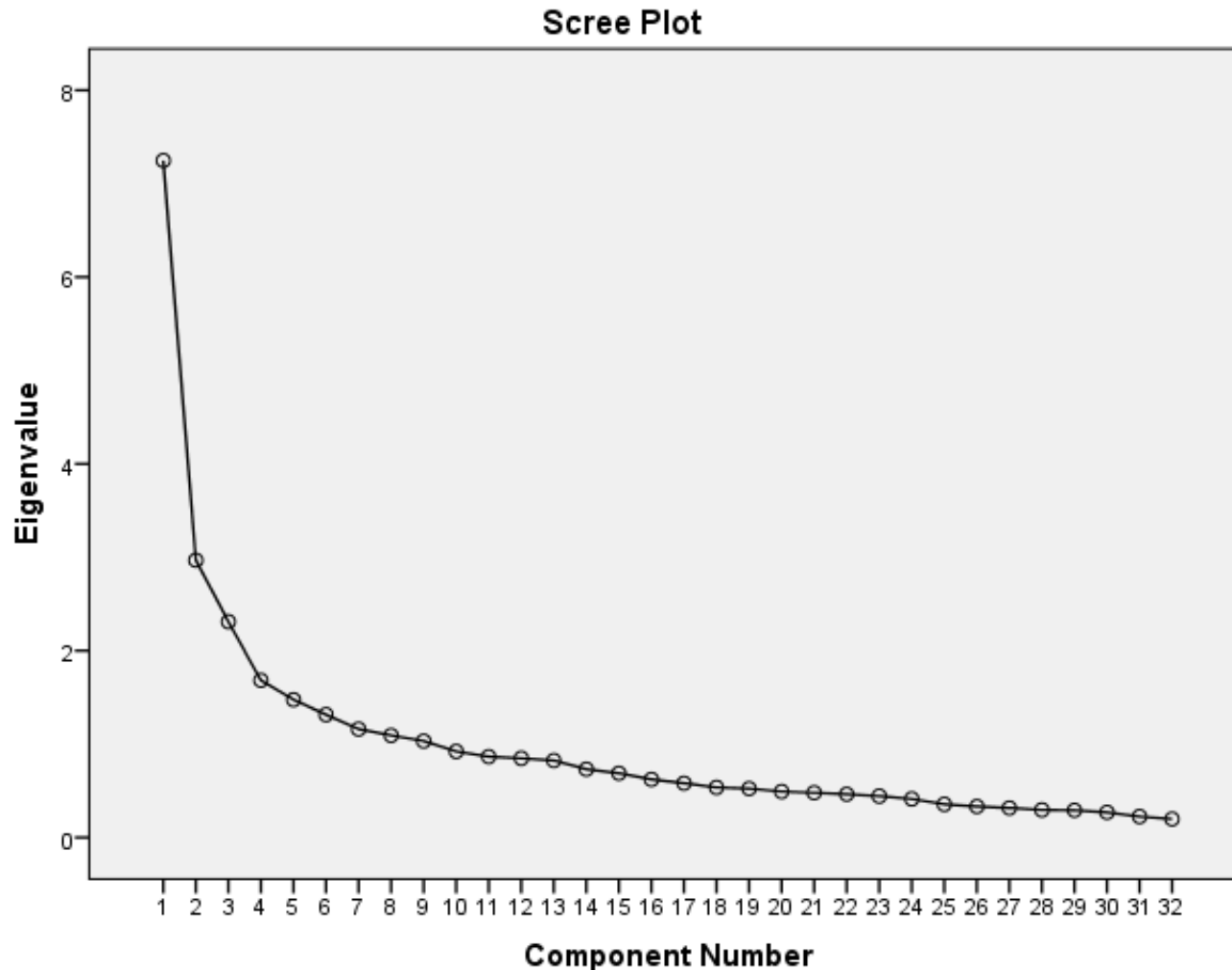
Results

- Sampling adequacy was considered adequate (**KMO=0.851**).

Results of the suitability of the sample for factor analysis	
Keiser-Meyer-Olkin coefficient	0.851
Bartlett test	
Chi-square	13063.65
df	496
p	<0.0001

Results

- The factor analysis of COPSOQ-TR-Core identified 9 factors with eigenvalue higher than one and explained **%63.4** of the total variance.



		Component								
		1	2	3	4	5	6	7	8	9
Demands	Workpace1	-,125	,768	-,015	,050	,070	,130	,098	-,113	-,107
Demands	Workpace2	-,117	,768	,033	,008	,054	,101	,138	-,112	-,116
Demands	Quantitativedemands1	-,149	,703	,008	,009	-,002	-,259	,145	-,001	,194
Demands	Quantitativedemands2	-,153	,722	,035	-,033	-,021	-,220	,185	-,035	,146
Demands	Emotionaldemands1	-,113	,324	-,035	,059	,054	-,012	,692	-,166	-,013
Demands	Emotionaldemands2	-,218	,351	-,003	,004	,065	-,010	,683	-,128	-,047
Influence and development	Influenceatwork1	,309	,085	-,115	,335	-,031	-,064	,373	,021	,165
Influence and development	Possibilitiesfordevelopment1	,147	-,063	,004	,772	-,060	-,027	,003	-,033	,136
Influence and development	Possibilitiesfordevelopment2	,096	,008	-,028	,777	-,019	,064	,134	-,015	,002
Influence and development	Meaningofwork1	,152	,104	,036	,637	-,183	,140	-,122	,084	,014
Relations and leadership	Predictability1	,644	-,214	,080	,148	-,080	,008	,230	-,036	,113
Relations and leadership	Predictability2	,490	-,164	,097	,250	,044	,237	,003	-,025	,020
Relations and leadership	Recognition1	,703	-,149	-,009	,055	-,011	,085	,032	,026	,128
Relations and leadership	Roleclarity1	,417	-,002	,147	,284	,100	,327	-,216	,152	-,094
Relations and leadership	Roleconflict1	,134	-,080	-,019	,023	-,033	,088	-,103	,848	-,048
Relations and leadership	Roleconflict2	,161	-,160	,006	,012	-,138	,022	-,087	,816	,023
Relations and leadership	Qualityofleadership1	,389	-,060	,056	,101	-,184	,705	,011	,097	,130
Relations and leadership	Qualityofleadership2	,401	-,096	,022	,059	-,121	,702	,033	,101	,130
Relations and leadership	Socialsupport1	,066	,017	,050	,116	,082	,025	-,037	-,019	,821
Relations and leadership	Socialsupport2	,301	,032	,096	,026	-,059	,269	,048	-,015	,695
Relations and leadership	Senseofcommunty	,211	-,017	,015	,095	,086	,396	-,343	-,115	,335
Job insecurity	Quantitativejobinsecurity1	,119	,024	,809	,015	,039	-,001	-,076	,022	,026
Job insecurity	Quantitativejobinsecurity2	,119	,035	,858	-,054	-,005	-,035	-,051	,011	,096
Job insecurity	Qualitativejobinsecurity1	-,012	-,012	,775	,038	,078	,105	,038	-,040	,004
Worklife conflict	Worklifeconflict1	-,066	,022	,083	-,108	,910	-,079	,005	-,111	,031
Worklife conflict	Worklifeconflict2	-,088	,077	,047	-,119	,907	-,066	,070	-,056	,028
Social capital	Trust1	,745	,013	,027	,063	-,036	,151	-,106	,060	,059
Social capital	Trust2	,766	,005	,074	,083	-,031	,140	-,153	,123	,006
Social capital	Justiceandrespect1	,752	-,105	,022	,038	-,101	,221	-,071	,131	,121
Social capital	Justiceandrespect2	,691	-,167	,011	,000	-,025	,221	-,051	,113	,090
Job satisfaction	Jobsatisfaction1	,576	-,096	,073	,263	-,007	-,009	-,324	,123	-,013
Job satisfaction	Jobsatisfaction2	,545	-,111	,101	,099	-,113	-,221	-,382	-,019	,041

Results of reliability analysis

Subscales / Items DEMANDS	Mean ±SD	Floor	Ceiling	Cronbach's Alpha	Corrected item- total correlation coefficients	If item deleted Cronbach's Alpha
		%	%			
1-Work pace	3.79±0.85	0.3	1.0	0.80	0.56	0.78
2-Work pace	3.66±0.94				0.57	0.77
3-Quantitative demands	2.58±1.04				0.55	0.77
4-Quantitative demands	2.58±0.99				0.59	0.76
5-Emotional demands	2.73±1.35				0.56	0.78
6-Emotional demands	2.72±1.33				0.60	0.77

Results of reliability analysis

Subscales / Items INFLUENCE AND DEVELOPMENT	Mean ±SD	Floor	Ceiling	Cronbach's Alpha	Corrected item- total correlation coefficients	If item deleted Cronbach's Alpha
		%	%			
1-Influence at work	2.77±1.20	0.5	2.8	0.64	0.30	0.66***
2-Possibilities for development	3.65±1.21				0.49	0.52
3-Possibilities for development	3.64±1.23				0.52	0.50
4-Meaning of work	3.88±0.97				0.40	0.59

Results of reliability analysis

Subscales / Items RELATIONS AND LEADERSHIP	Mean ±SD	Floor	Ceiling	Cronbach's Alpha	Corrected item- total correlation coefficients	If item deleted Cronbach's Alpha
		%	%			
1-Predictability	2.72±1.29	0.0	0.4	0.78	0.47	0.76
2-Predictability	3.59±1.19				0.49	0.75
3-Recognition	2.77±1.32				0.55	0.75
4-Role clarity	3.93±0.97				0.45	0.76
5-Role conflict	3.35±1.23				0.26	0.78
6-Role conflict	3.14±1.18				0.29	0.78
7-Quality of leadership	3.54±1.13				0.59	0.74
8-Quality of leadership	3.42±1.23				0.61	0.74
9-Social support	3.41±1.05				0.23	0.78
10-Social support	3.14±1.13				0.47	0.76
11-Sense of community	4.08±0.98				0.34	0.77

Results of reliability analysis

Subscales / Items JOB INSECURITY	Mean ±SD	Floor	Ceiling	Cronbach's Alpha	Corrected item- total correlation coefficients	If item deleted Cronbach's Alpha
		%	%			
1-Quantitative job insecurity	3.12±1.40	9.1	5.5	0.76	0.60	0.68
2-Quantitative job insecurity	2.67±1.35				0.67	0.60
3-Qualitative job insecurity	2.92±1.38				0.52	0.76

Results of reliability analysis

Subscales / Items WORK LIFE CONFLICT	Mean ±SD	Floor	Ceiling	Cronbach's Alpha	Corrected item- total correlation coefficients	If item deleted Cronbach's Alpha
		%	%			
1-Work life conflict	3.09±1.53	19.1	18.3	0.88	0.79	-
2-Work life conflict	2.99±1.52				0.79	-

Results of reliability analysis

Subscales / Items SOCIAL CAPITAL	Mean ±SD	Floor	Ceiling	Cronbach's Alpha	Corrected item- total correlation coefficients	If item deleted Cronbach's Alpha
		%	%			
1-Trust	3.24±1.04	2.1	3.1	0.86	0.70	0.83
2-Trust	3.35±1.05				0.72	0.81
3-Justice and respect	3.00±1.12				0.75	0.80
4-Justice and respect	3.10±1.15				0.66	0.84

Results of reliability analysis

Subscales / Items JOB SATISFACTION	Mean ±SD	Floor	Ceiling	Cronbach's Alpha	Corrected item- total correlation coefficients	If item deleted Cronbach's Alpha
		%	%			
1-Job satisfaction	2.82±0.75	4.6	0.1	0.65	0.24	-
2-Job satisfaction	2.33±0.85				0.24	-

Results of Confirmatory Factor Analysis

INDEX	EXCELLENT FIT	ACCEPTABLE FIT	RESULT	CONCLUSION
χ^2/df	0-2	2-3	7.21	Not *** ACCEPTABLE
RMSEA (Root Mean Square Error of Approximation)	≤ 0.05	≤ 0.08	0.08	ACCEPTABLE
RMR (Root Mean Square Residual)	≤ 0.05	≤ 0.08	0.06	ACCEPTABLE
SRMR (Standardized RMR)	≤ 0.05	≤ 0.08	0.06	ACCEPTABLE
CFI (Comparative Fit Index)	≥ 0.95	≥ 0.90	0.90	ACCEPTABLE

CFA of demands

		Error variance	Standardized beta value
Demands1	1-Work pace	0.587	0.643
Demands2	2-Work pace	0.554	0.668
Demands3	3-Quantitative demands	0.557	0.666
Demands4	4-Quantitative demands	0.513	0.698
Demands5	5-Emotional demands	0.667	0.577
Demands6	6-Emotional demands	0.611	0.624

CFA of Influence and developments

		Error variance	Standardized beta value
Influence and development1	1-Influence at work	0.843	0.397
Influence and development2	2-Possibilities for development	0.556	0.666
Influence and development3	3-Possibilities for development	0.582	0.647
Influence and development4	4-Meaning of work	0.674	0.571

		Error variance	Standardized beta value
Relations and Leadership1	1-Predictability	0.653	0.589
Relations and Leadership2	2-Predictability	0.545	0.675
Relations and Leadership3	3-Recognition	0.574	0.653
Relations and Leadership4	4-Role clarity	0.712	0.537
Relations and Leadership5	5-Role conflict	0.926***	0.272
Relations and Leadership6	6-Role conflict	0.910***	0.300
Relations and Leadership7	7-Quality of leadership	0.531	0.685
Relations and Leadership8	8-Quality of leadership	0.523	0.691
Relations and Leadership9	9-Social support	0.937	0.251

CFA of Job Insecurity

		Error variance	Standardized beta value
Job insecurity1	1-Quantitative job insecurity	0.490	0.714
Job insecurity2	2-Quantitative job insecurity	0.260	0.860
Job insecurity3	3-Qualitative job insecurity	0.646	0.595

CFA of Work-life Conflict

	Error variance	Standardized beta value
Work life conflict1	0.292	0.842
Work life conflict2	0.119***	0.939

CFA of Social Capital

		Error variance	Standardized beta value
Socialcapital1	1-Trust	0.419	0.762
Socialcapital2	2-Trust	0.371	0.798
Socialcapital3	3-Justice and respect	0.313	0.829
Socialcapital4	4-Justice and respect	0.451	0.741

CFA of Job Satisfaction

	Error variene	Standardized beta value
Jobsatisfaction1	0.394	0.778
Jobsatisfaction2	0.606	0.628

Discussion

Core structure?

- DEMANDS
 - Emotional demands?
- INFLUENCE AND DEVELOPMENT
- RELATIONS AND LEADERSHIP
 - Predictability
 - Recognition
 - Role clarity
 - Role conflict ???
 - Quality of leadership
 - Social support ???
 - Sense of community ???
- JOB INSECURITY
- WORK-LIFE CONFLICT
- SOCIAL CAPITAL

Strenghts

- The study was conducted with people who were in **different social class** and **sector**.

Conclusions

- Turkish version of the COPSOQ-TR-Core is a **reliable and valid instrument** that can be considered useful tool to measure the psychosocial risks in Turkish population.

- Thank you for your attention...

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<http://www.copsoq-network.org/>