Original Article

Individual Work Performance Questionnaire: Translation and Validation in Greek

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Abstract

Background: Scholars should measure work performance with valid tools for improving understanding of employees' attitudes.

Aim: To translate and validate the "Individual Work Performance Questionnaire" (IWPQ) in Greek.

Methods: Study population included 233 nurses in Greece. We collected our data in December 2023. We employed the forward-backward method to translate and adapt the IWPQ in Greek language. We conducted confirmatory factor analysis to examine the construct validity of the IWPQ. We examined the reliability of the IWPQ by calculating Cronbach's alpha.

Results: The IWPQ showed very good psychometric properties. Our confirmatory factor analysis confirmed the three-factor structure of the IWPQ. All indices indicated an acceptable three-factor model. Cronbach's coefficient alpha for task performance scale, contextual performance scale, and counterproductive work behavior scale was 0.743, 0.872, and 0.769, respectively.

Conclusions: The Greek version of the "Individual Work Performance Questionnaire" is a reliable and valid tool to measure employees' work performance.

Keywords: Individual Work Performance Questionnaire; work performance; nurses; Greece

Introduction

Work performance is a multidimensional concept that is difficult to measure in a direct way. This is reflected in the results of a systematic review which found that there are 17 general frameworks and 18 job-specific frameworks for job performance (Koopmans et al., 2011). In this review, the job-specific frameworks are mainly referred to the army and sales sector. A framework for healthcare sector is developed by Greenslade and Jimmieson (Greenslade and Jimmieson, 2007). According to Koopmans et al. there are four dimensions of work performance: task performance, contextual performance, adaptive performance, and counterproductive work behavior (Koopmans et al., 2011).

Scholars identified a direct relationship between task performance and organizational technical core (Arvey and Murphy, 1998; Hattrup et al., 1997; Jawahar et al., 2008). Task performance includes direct activities (e.g. treating patients) and indirect activities (e.g. hiring nurses) as a formal part of employees' job (Conway, 1996). Contextual performance has a relationship with the broader social, psychological, and organizational environment and includes items such as peer team interaction, extra role performance, organizational citizenship behavior, and interpersonal behavior (Maxham et al., 2008; Wisecarver et al., 2007). Adaptive performance refers to the ability of employees to adapt to changes in their working environment or job role (Koopmans et al., 2011). Other terms are also used for the adaptive performance such as creative performance, adaptability and pro-activity (Griffin and Hesketh, 2003).

The dynamic nature of work environments in recent years has resulted on attention towards adaptive performance (Johnson, 2001).

Counterproductive work behavior is related with harmful behavior of workers to the performance of an organization (Abbey et al., 2012). Counterproductive work behavior includes items such as absenteeism, unruliness, and off-task behavior (Barker and Nussbaum, 2011; Greenslade and Jimmieson, 2011; Westbrook et al., 2011).

The "Individual Work Performance Questionnaire" (IWPQ) has been proven to be a valid tool to measure employees' work performance in several languages until now such as English, Italian, Swedish, and Polish (Dåderman et al., 2020; Jasiński et al., 2023; Koopmans et al., 2016; Platania et al., 2023). Since there are no studies that investigated the validity of the IWPQ in Greek, we conducted a study to examine the psychometric properties of the "Individual Work Performance Questionnaire" (Koopmans et al., 2014) in Greek language.

Methods

Study design

Study population included 233 nurses in Greece. We collected our data in December 2023. We employed the forward-backward method to translate and adapt the IWPQ in Greek language (Galanis, 2019). We conducted confirmatory factor analysis to examine the construct validity of the IWPQ (Galanis, 2013). We examined the reliability of the IWPQ by calculating Cronbach's alpha and performing a test-retest analysis.

Ethical considerations: We applied the guidelines of the Declaration of Helsinki to perform this study (World Medical Association, 2013).

Additionally, the study protocol was approved by the Ethics Committee of Faculty of Nursing, National and Kapodistrian University of Athens (approval number; 464, approval date; October 2023).

Statistical analysis: We performed confirmatory factor analysis (CFA) to examine the construct validity of IWPQ. In particular, we calculated chi-square/degree of freedom (x^2/df); root mean square error of approximation (RMSEA); goodness of fit index (GFI); adjusted goodness of fit index (AGFI); Tucker–Lewis index (TLI); incremental fit index (IFI); normed fit index (NFI); comparative fit index (CFI) (Baumgartner and Homburg, 1996; Hu and Bentler, 1998). Acceptable value for x^2/df is <5, for RMSEA is <0.10, and for all other measures in the CFA >0.90. We used the AMOS version 21 (Amos Development Corporation, 2018) to conduct the CFA. P-values less than 0.05 were considered as statistically significant. We used the IBM SPSS 21.0 (IBM Corp. Released 2012. IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp.) for the analysis.

Results

Study population included 233 nurses. In our sample, percentage of females was 55.8% (n=130) and percentage of males was 44.2% (n=103). Mean age of participants was 41.5 years with a standard deviation of 11.4 years.

We performed confirmatory factor analysis to examine the structure of the Individual Work Performance Questionnaire" and we found that the Greek version of the scale had a three-factor structure as the original version (Figure 1). Table 1 presents model fit indices for the confirmatory factor analysis of the IWPQ. All indices indicated an acceptable three-factor model. In particular, x^2/df was 1.234, RMSEA was 0.032, GFI was 0.945, AGFI was 0.908, TLI was 0.980, IFI was 0.987, NFI was 0.937, and CFI was 0.987. Correlation between the three factors ranged from 0.05 to 0.49 (Figure 1). Moreover, standardized regression weights for the 18 items ranged from 0.26 to 0.91.

Table 1. Confirmatory factor analysis for the Greek version of the "Individual Work Performance Questionnaire".

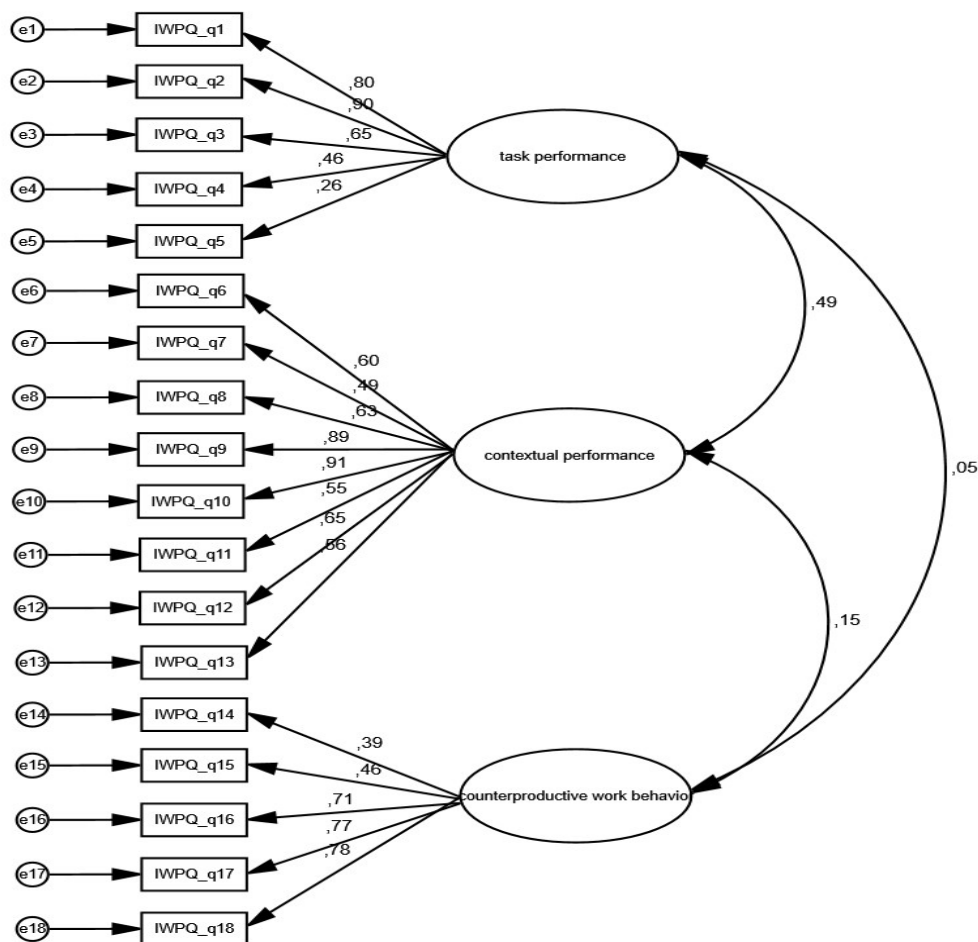| Model	x^2	df	x^2/df	RMSEA	GFI	AGFI	TLI	IFI	NFI	CFI
18 items	125.950	102	1.234	0.032	0.945	0.908	0.980	0.987	0.937	0.987

Figure 1. Confirmatory factor analysis for the Greek version of the "Individual Work Performance Questionnaire".

Cronbach's coefficient alpha for task performance scale, contextual performance scale, and counterproductive work behavior scale was 0.743, 0.872, and 0.769, respectively (Table 2).

Table 2. Cronbach's coefficient alphas for the "Individual Work Performance Questionnaire".

Factor	Cronbach's coefficient alpha
Task performance scale	0.743
Contextual performance scale	0.872
Counterproductive work behavior scale	0.769

Discussion

To the best of our knowledge, this is the first study that translates and validates the "Individual Work Performance Questionnaire" in a sample of workers in Greece. We found that the IWPQ is a reliable and valid tool to measure work performance among workers.

In particular, we found that Cronbach's coefficient alphas for task performance scale, contextual performance scale, and counterproductive work behavior scale was 0.743, 0.872, and 0.769, respectively. Similar studies in other countries confirm our results. The English version of the IWPQ showed Cronbach's coefficient alphas for the scales between 0.79 and 0.89 (Koopmans et al., 2016). Moreover, the Dutch version of the IWPQ showed Cronbach's coefficient alphas for the scales between 0.73 and 0.82 (Dåderman et al., 2020). Additionally, the Italian version of the IWPQ showed Cronbach's coefficient alphas for the scales between 0.75 and 0.88 (Platania et al., 2023). Finally, the Polish version of the scale showed very good internal consistency (Jasiński et al., 2023).

Also, we performed confirmatory factor analysis to examine the structure of the "Individual Work Performance Questionnaire" and we found that the Greek version of the scale had a three-factor structure as the original version. Our findings are supported from several other studies. In particular, the Italian version (Platania et al., 2023) and the Polish version (Jasiński et al., 2023) of the IWPQ confirm the three-factor structure of the scale. Parallel analysis revealed a four-factor structure of the Dutch version of the IWPQ, while Velicer's minimum average partial test revealed three or four factors (Dåderman et al., 2020). A new factor (probably called adaptive performance) may be considered according to this study.

Our study had important limitations. We performed a cross-sectional study with a convenience sample of nurses to validate the IWPQ in Greek. Additionally, we examined several types of reliability and validity but future studies should examine further the psychometric properties of the scale. For example, scholars should examine in the future the convergent validity and the criterion validity of the IWPQ.

In conclusion, the Greek version of the "Individual Work Performance Questionnaire" is a reliable and valid tool to measure work performance among workers.

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