Psychosocial risk factors identification in Mexican workers and RGIII validation

Julio César Cano-Gutiérrez[a], Jesús Everardo Olguín-Tiznado[a], Claudia Camargo-Wilson[a], Juan Andrés López Barreras[b], Blanca Rosa García-Rivera[c] and Jorge Luis García-Alcaráz[d,*]

[a] *Faculty of Engineering, Architecture and Design, Universidad Autónoma de Baja California, Ensenada, Mexico*
[b] *Faculty of Chemical Sciences and Engineering, Universidad Autonoma de Baja California, Tijuana, Mexico*
[c] *Faculty of Administrative and Social Sciences, Universidad Autónoma de Baja California, Ensenada, Mexico*
[d] *Departament of Industrial Engineering and Manufacturing, Universidad Autónoma de Ciudad Juárez, Ciudad Juárez, Mexico*

Abstract.
BACKGROUND: Since 2018, NOM-035-STPS-2018 has been applied in Mexico, focused on measuring psychosocial risk factors (PRFs) in workers and the Reference Guide III (RGIII) has been presented, however, research focused on its validation has been scarce, in very specific sectors and with small samples.
OBJECTIVE: Determine the levels of PRFs of five work centers and reliability and validity aspects of RGIII.
METHOD: The RGIII was applied to 1458 workers (806 women and 652 men) from five workplace in the industrial sector of Ensenada (Mexico), and the level of risk of the PRFs was analyzed, as well as their reliability and validity through Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA).
RESULTS: The PRFs with medium, high and very high-risk levels are *Workload*, *Lack of control over work* and *Workday*. The RGIII presents adequate reliability with Cronbach's α, Alpha ordinal RHO and Omega of 0.93, 0.95 and 0.95, respectively. The EFA shows all five subscales maintain factor loadings greater than 0.43, although *Leadership and relationships at work* has better saturation values, and *Work environment* ended with only three items. The CFA indicates *Leadership and work relationships* with a Root Mean Square Error of Approximation (RMSEA) goodness of fit index of 0.072.
CONCLUSION: The RGIII allows the identification and evaluation of the level of risk of PRFs. It complies with sufficient internal consistency. It does not have a clear factorial structure, because it does not meet the minimum values of goodness-of-fit indexes that would allow confirming the structure proposed in RGIII.

Keywords: Psychosocial risk factors, reliability, validity, industry, NOM035

1. Introduction

Psychosocial risk factors (PRFs) at work have interested academics and practitioners for more than 40 years. In 1984 the World Labour Organization established that PRFs at work are "complex and difficult to understand" since they are predictive of organizational situations that need to be improved and focus on the negative effects they can have on the health and well-being of the worker, acting as triggers of work-related stress and strain, among other conditions such as burnout, bullying and even turnover [1–4].

The concept of PRFs at work has been developed from the set of perceptions and experiences that the worker experiences [5], and includes aspects such as the interactions between work, its environment, satisfaction and organizational conditions [6–8], although the worker's capabilities, needs, culture and personal

*Address for correspondence: Jorge Luis García-Alcaráz, Departament of Industrial Engineering and Manufacturing, Universidad Autónoma de Ciudad Juárez, Ciudad Juárez, Mexico. E-mail: jorge.garcia@uacj.mx; ORCID: 0000-0002-7092-6963.