



Original

## The Work Design Questionnaire: Spanish version and validation

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## ABSTRACT

The purpose of this study is to validate the Spanish version of the Work Design Questionnaire (WDQ; Morgeson & Humphrey, 2006). Employees from three Colombian samples completed the questionnaire ( $N=831$ ). Confirmatory factor analyses revealed a 21-factor structure ( $\chi^2/df$  ratio = 2.40, SRMR = .06, RMSEA = .04, CFI = .90) with adequate levels of convergent and discriminant validity. Additional support for construct validity was found from significant differences among different occupational groups (professional and nonprofessional, health-focused, commercial, and manufacturing workers). Furthermore, knowledge, social, and work context characteristics showed incremental validity over task characteristics on job satisfaction and perceived performance. Possible interpretations of these relationships are offered. It is concluded that the study provides evidence for the validity of a Spanish version of the scale, and presents further support for the generalization of the 21-factor structure of work design characteristics in different cultural settings.

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## Validación española del Work Design Questionnaire

## RESUMEN

El propósito de este estudio es validar la versión española del Work Design Questionnaire (WDQ; Morgeson y Humphrey, 2006). Tres muestras de empleados colombianos completaron el cuestionario ( $N=831$ ). El análisis factorial confirmatorio reveló una estructura de 21 factores (razón  $\chi^2/gl = 2.40$ , SRMR = .06, RMSEA = .04, CFI = .90) con adecuados niveles de validez convergente y discriminante. Se encontraron diferencias significativas entre diferentes grupos ocupacionales (profesionales, no profesionales, trabajadores de la salud, comerciales y de producción). También se encontró que las características del conocimiento, sociales y contextuales aportaron validez incremental sobre la satisfacción laboral y el desempeño percibido. Se ofrecen posibles interpretaciones de estas relaciones. Se concluye que el estudio proporciona evidencia suficiente sobre la validez de la versión española de la escala, lo que presenta más apoyo para la generalización de la estructura del modelo de características del trabajo de 21 factores en diferentes contextos culturales.

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## Palabras clave:

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Work Design “describes how jobs, tasks, and roles are structured, enacted, and modified, as well as the impact of these structures, enactments, and modifications on individual, group, and organizational outcomes” (Grant & Parker, 2009, p. 319). From the

early studies on task attributes (Turner & Lawrence, 1965) to the interdisciplinary approach to work design (Campion, 1988), it has been a demand, from both scientists and practitioners, to have a valid and reliable instrument assessing work characteristics in organizational settings. During the last 30 years questionnaires such as the *Job Diagnostic Survey* (JDS; Hackman & Oldham, 1975) and the *Multimethod Job Design Questionnaire* (MJJDQ; Campion, 1985) have been developed to assess work design characteristics; however, these instruments generally have suffered from two

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drawbacks: (a) questionable psychometric properties related with the low internal consistency of the JDS (Kulik, Oldham, & Langner, 1988; Taber & Taylor, 1990) and problems with the factor structure of the MJDQ (Edwards, Scully, & Brtek, 1999, 2000); and (b) a mismatch between the work characteristics assessed by the instruments and the real characteristics presented in nowadays organizational settings, that is represented in a shift from manufacturing economies to service and knowledge economies that had altered the nature of work in organizations (Grant & Parker, 2009). Due to these limitations, Morgeson and Humphrey (2006) developed the *Work Design Questionnaire* (WDQ), that presents both high reliable psychometrics and takes into account current models of work design (Grant, Fried, & Juillerat, 2010; Humphrey, Nahrgang, & Morgeson, 2007).

This need for a valid and reliable instrument is especially relevant in non-English speaking countries, where work dynamics have changed during the last 20 years and old work design instruments are no longer appropriate for these new organizational settings. Thus, the purpose of the present study is to validate a Spanish version of the WDQ with a sample of Colombian workers.

### Work Characteristics Assessment

From the early work of Turner and Lawrence (1965), work characteristics have been assessed mainly through self-report questionnaires that ask workers to rate their personal evaluation of the presence of certain work attributes. Using this approach, two major work design questionnaires have been developed: the Job Design Survey (JDS) and the Multimethod Job Design Questionnaire (MJDQ).

Richard Hackman and his colleagues developed the JDS as an instrument to assess the *job characteristics model* (JCM) (Hackman & Lawler, 1971; Hackman & Oldham, 1975, 1976), which has been the standard model in work design for both academics and practitioners during the last 40 years. The JDS is a self-reporting instrument meant to diagnose the motivational properties of a job prior to a redesign procedure. The major contribution of the JCM and JDS was that it established that core job characteristics are associated with favorable attitudinal and behavioral reactions (Grant et al., 2010). However, the main criticisms to JCM were: (a) the treatment of within-person relations as person-situation relations, (b) the model structure, due to some inconsistencies in the role of the moderator and mediators, (c) the small subset of characteristics included in the model, (d) concerns about the convergent and divergent validity of the JDS, and (e) the theoretical and mathematical justification of the composite job characteristics index (Fried & Ferris, 1987; Johns, Xie, & Fang, 1992; Roberts & Glick, 1981).

Taking into account some of these criticisms, a new model of work design emerged: the *interdisciplinary model of job design* (Campion, 1988; Campion & Thayer, 1985) which aimed to develop a new taxonomy of work design that included 48 different job characteristics with a 48-item questionnaire. The major strengths of this approach were: (a) the inclusion of new work characteristics that were relevant to the work context and (b) the discovery that different job design approaches influence different outcomes. On the other side, the major weakness of the interdisciplinary model lay in the psychometric proprieties of the MJDQ, especially the construct validity, since every dimension was assessed by only one item (Edwards et al., 1999).

From these previous models, Frederick Morgeson and Stephen Humphrey developed an inductively generated collection of work design characteristics that integrated the work design literature into four major work characteristics: (a) Task Characteristics, which include work scheduling autonomy, decision-making autonomy, work methods autonomy, task variety, task significance, task

identity, and feedback from job; (b) Knowledge Characteristics, which include job complexity, information processing, problem solving, skill variety, and specialization; (c) Social Characteristics, which include social support, initiated interdependence, received interdependence, interaction outside the organization and feedback from others; and (d) Work Context Characteristics, which include ergonomics, physical demands, work conditions, and equipment use (Morgeson & Humphrey, 2006). This taxonomy integrated some elements of previous models but included new characteristics that are present in today's organizations (i.e., knowledge characteristics that reflect the current *knowledge work* and social characteristics that reflect the emphasis on service organizations that rely more deeply on social interactions).

The construction of the WDQ was developed through five stages: (a) review of job characteristics in the literature and grouping of the resulting characteristics into a 21 characteristics proposal, (b) literature review to search items that evaluate each job characteristic, (c) adapting items and creating new items for the 21 characteristics proposal, (d) statistical analyses of the 21 job characteristics proposal using confirmatory factor analysis (CFA), and (e) construct validity analyses using O\*NET database and checking relationship between occupations and various outcome measures (Morgeson & Humphrey, 2006). The results of this procedure gave support to a 21-factor structure with a high reliability and convergent and discriminant validity, which in turn resolved two of the major criticisms of previous work design instruments: the limited number of job characteristics considered (JDS) and the weak psychometrics (MJDQ).

### Work Design in Spanish Speaking Countries

All preceding models were developed within the North American context, with research on work design in Spanish speaking countries dealing mainly with: (a) the validation of work design instruments in their cultural settings or (b) the use of a work design instrument as a measure within a broader research.

The research on work design in Spanish speaking countries from a validation perspective includes a couple of JDS validations (Dávila & Chacón, 2003; Fuertes, Munduate, & Fortea, 1996; Martínez-Gómez & Marín-García, 2009) which confirmed the 5-factor dimension structure but with some reliability problems, especially in the skill variety, autonomy, and identity dimensions. From the second perspective, the work design research on those countries was particularly associated with the use of JCM. In Spain there had been a number of studies using the JDS, as in a study of burnout, organizational climate, and work motivation (Boada, Vallejo, & Agulló, 2004), in which three out of five JCM dimensions were associated with different burnout outcomes (autonomy, skill variety, task significance). Other research studied the influence of communication skills on work teams management (Ramis, Manassero, Ferrer, & García-Buades, 2007), in which no direct effect of job characteristics was associated with leader communication skills. Finally, a study on the redesign of tasks in the Spanish automotive industry concluded that all JCM dimensions were related with attitudinal outcomes (especially autonomy and feedback), but not with any performance outcomes (Osca & Urien, 2001). In Latin America, research on work design was more limited: two studies, including the JDS, were conducted in Perú, one that sought to explore the utility of the socio-technical systems theory in that country, which reported a significant influence of feedback on the degree of technology implementation (Salas & Glickman, 1990); the other study, by Solf (2006), used a section of JDS (employee growth need strength) to investigate labor intrinsic motivation and personality in a sample of Peruvian workers.

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