Factorial Validity of the Job Expectations Questionnaire in a Sample of Mexican Workers

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The aim of this study was to examine the factorial validity of the Job Expectations Questionnaire (Cuestionario de Expectativas Laborales CEL) in a sample of Mexican workers. Following a cross validation approach, two samples were used in the study. The first sample consisted of 380 professionals who mainly performed administrative work in the Health Services in Puebla-Mexico. The second sample comprised 400 health professionals from the Hospital de la Mujer in Puebla-Mexico. Exploratory factor analysis yielded a three-factor solution, accounting for 51.8% of the variance. The results of confirmatory factorial analysis indicate that the three-factor model provided the best fit with the data (CFI = .96, GFI = .95, NNFI = .95, RMSEA = .04), maintaining the structure with 12 items. The reliability of the questionnaire and the diverse subscales showed high internal consistency. Significant correlations were found between job expectations and autonomy, vigor, dedication, and absorption, providing evidence of its construct validity. The evaluation of the psychometric qualities confirms this questionnaire as a valid and specific instrument to measure job expectations.
Keywords: job expectations questionnaire, Mexico, cross validation, factorial validity.

El objetivo de este estudio consistió en analizar las propiedades psicométricas y la validez del Cuestionario de Expectativas Laborales (CEL) en trabajadores mexicanos. Con el objetivo de realizar una validación cruzada se emplearon dos muestras en el estudio. La primera está compuesta por 380 profesionales que realizaban principalmente tareas administrativas en el sector salud del estado de Puebla-México. La segunda fueron 400 profesionales de la salud del Hospital de la Mujer Puebla-México. El análisis factorial exploratorio mostró una solución de tres factores que explican el 51,8% de la varianza total. Los resultados del análisis factorial confirmatorio indican que el modelo de tres factores, con una estructura de 12 ítems, se ajusta satisfactoriamente a los datos (CFI=0,96, GFI=095, NNFI= 0,95, RMSEA=0,04). El nivel de fiabilidad del cuestionario global y de las diferentes sub escalas muestra una alta consistencia interna. Se encontraron correlaciones significativas entre el CEL y diversas variables como: percepción de apoyo del supervisor, autonomía, vigor, dedicación y absorción, lo que apoya su validez convergente. La evaluación de las propiedades psicométricas confirma al CEL como un instrumento válido y específico de las expectativas laborales y se sugiere para poder ser utilizado en futuras investigaciones.
Palabras clave: cuestionario de expectativas laborales, México, validación cruzada, validez factorial.

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Over the past years, there has been renewed and increasing interest in the role of workers' job expectations in various indicators of good organizational functioning (see, for example, Schaubroeck, Shaw, Duffy, & Mitra, 2008). As revealed in diverse investigations, job expectations are closely related to motivation (Mathieu, Tannenbaum, & Salas, 1992), organizational commitment (Arnold, 1990; Klein & Wright, 1994; Tannenbaum, Mathieu, Salas, & Canon-Bowers, 1991), job satisfaction (Porter & Steers, 1973), productivity (Shepperd, 1993), and intention to quit work (Wanous, Poland, Premack, & Davis, 1992) and actually quitting (Summers & Hendrix, 1991), among others.

All these studies share a common basis: the theory of expectations (Vroom, 1964). According to this theoretical proposal, an expectation is a subjective probability of an action or effort leading to an outcome or performance. That is, therefore, the anticipation of future events. The match of expectations and reality will determine the worker's functioning within the organization. For example, Wanous et al., (1992) found that people are better prepared to face unexpected difficulties when their initial expectations are low or matching reality.

From this perspective, the motivational aspects at the workplace have traditionally been studied with regard to issues such as job performance (e.g., Vroom, 1964, 1995). However, these motivational factors are not only related to performance variables but also to occupational health variables. One of the most outstanding cases is the syndrome of burnout. A cognitive aspect has been present ever since the formulation of this problem. For example, Maslach, Jackson, and Leiter (1996) analyzed professional burnout as a crisis in the individual's relation with his or her work, or a *"loss of references."* Previously, Cherniss (1980) had indicated that expectations persist and are transmitted in the organization and an imbalance between expectations and daily reality can lead to professional burnout. However, Edelwich and Brodsky (1980) proposed a model of phases, in which burnout is the result of disillusionment and/or the deprivation of expectations, going from a state of initial idealistic *enthusiasm* to one of *apathy*. Schaufeli and Buunk (2003) follow the same argumentative line, stating that burnout is the result of the discrepancy between expectations and individual ideals on the one hand and, on the other, the harsh daily reality in one's professional life. Moreno (2007) has contributed to this, differentiating between cognitive exhaustion, characterized by mental weariness, loss of reflexes, inability to make decisions or solve problems, all of them aspects included in mental fatigue and the loss of enthusiasm or deprivation of professional expectations. The latter two are the target of this study.

Despite the fact that this line of research has awakened great interest, there are no specific assessment elements, and attempts to assess expectations have been addressed indirectly. Hackman and Oldham (1975) included in their well-known assessment instrument some items to assess expectations but this questionnaire is no longer used because it was found to have clear psychometric limitations upon testing its validity in diverse samples. Likewise, Bacharach, Bamberger, and Conley (1991) included some items about expectations in their Job Satisfaction Scale, assessing the degree of match between the perceived reality of some aspects of the job and the expectations held about them. However, specific assessment—not just generic assessment—seems to provide more content validity and discrimination capacity. Taking into account the limited experience in specific scales to measure this construct, Moreno-Jiménez, Gálvez Herrer, and Rodríguez Carvajal (2003) examined the study of expectations, considered "*the individual's conscious or unconscious personal anticipation of the organization, the coworkers, the users, and the personal costs the job might require,*" and they developed a project to assess expectations in medical doctors. Thereby, they generated a pool of items of job expectations concerning diverse aspects of the labor environment: (a) *Professional Development*, a dimension that assesses aspects such as the tasks performed, the variety and relevance of the activities carried out, the autonomy with which they are performed, feedback obtained from the task; (b) The *User-relation*, assessing contact, acknowledgement, communication, and feedback between the worker and the user; and (c) *Compensation*, related to the possibility of promotion, economical and occupational stability. In contrast to other assessment instruments, these items assess the degree to which the initial expectations about the above-mentioned dimensions are met. Although it seems an interesting proposal, there are no studies that support the psychometric properties and validity of this questionnaire.

Therefore, the present study aims to analyze the psychometric properties and validity of the Job Expectations Questionnaire [Cuestionario de Expectativas Laborales] in a large sample of Mexican workers. To validate this questionnaire, we followed the cross validation procedure, using two samples. We performed exploratory factor analysis (EFA) with the first sample. The second sample was used to conduct confirmatory factor analysis (CFA). Various authors recommend this procedure as a mean to replicate the factor structure of the EFA (Gerbing & Hamilton, 1996).

Method

Participants

In order to validate the instrument, two samples were used. The first sample was made up of 380 workers who mainly performed administrative tasks (81.3%) in the Health Services of the state of Puebla-Mexico, of whom 254 were women (64%). Mean age was 39.18 years (SD = 11.66, range = 20-81), whereas the mean job tenure was 9.35 years (SD = 8.74, range = 1-43). Most of them (62%) had a stable

partner. Slightly more than one half (51.6%) held a bachelor´s degree. Questionnaire administration was anonymous and voluntary. A total of 500 questionnaires were distributed. Response rate was 76%.

The second sample comprised 400 health professionals from the Hospital de la Mujer of the Health Services of the State of Puebla-Mexico. Of them, 72.6% were women, with mean age of 34.20 years (SD = 8.37) and an average work experience of 8.10 years (SD = 6.83). The majority of them (48.8%) had a bachelor´s degree, whereas 30% had technical studies. Of the sample, 40% were nurses, followed by 22.1% who performed administrative tasks. A total of 600 questionnaires were distributed and the response rate was 67%. The data of both samples were collected during 2008 and 2009.

Instruments

Job Expectations Questionnaire (Moreno-Jiménez et al. 2003). This instrument measured three different kinds of expectations: Professional Development, Users Relationship, Compensation, with 15 items rated on a 5-point Likert-type response format, ranging from 0 (*I never had that expectation*) to 4 (*My expectation was totally met*). The specific description of this questionnaire is the aim of this article.

We measured diverse variables to assess convergent validity. *Emotional Exhaustion* and *Cynicism* were measured using Maslach Burnout Inventory-General Survey (MBI-GS; Schaufeli, Leiter, Maslach, & Jackson, 1996) Five-item measure of cynicism (e.g. "I have been loosing entusiasm in my work"). Cronbach´s alpha was .58. Five-item measure of emotional exhaustion (e.g. "I feel emotional exhausted for my work"). Cronbach´s alpha was .83. Each item had seven response choices ranging from 0 (never) to 6 (every day). Higher scores indicated greater perceived cynism and emotional exhaustion.

Autonomy was assessed using Thompson and Prottas' (2005) four-items measure (e.g. "In my job, I decided when I take a rest"). Each item has four response choices ranging from 1 (Totally disagree) to 4 (Totally agree). Higher scores indicated greater perceived autonomy. Cronbach's alpha was .69.

Supervisor´s Support was measured with Voydanoff (2004) five ítems measure (e.g. "My supervisor is understanding with me when I talk about family or personal problems that affect my job") Each item has four response choices ranging from 1 (Totally disagree) to 4 (Totally agree). Higher scores indicated greater perceived supervisor´s support. Cronbach's alpha was .87.

Vigor, Dedication and Absortion were assed with the Utrecht Work Engagement Scale (UWES; Schaufeli, Bakker, & Salanova, 2006). Five-item measure of vigor (e.g. "I can continue working for long periods of time"). Cronbach´s alpha was .73. Five-item measure of dedication (e.g. "My

work is challenger"). Cronbach´s alpha was .82. And, five-ítem measure of absortion (e.g. "I´m happy when I´m absorbed in my job") Cronbach´s alpha was .75. Each item had seven response choices ranging from 0 (never) to 6 (every day). Higher scores indicated greater perceived vigor, dedication and absortion.

Procedure

The validation of the Job Expectation Questionnaire was carried out following the established requirements of the International Test Commission (ITC) (Hambleton, 1994; Van de Vijver & Hambleton, 1996). The data were collected at the participants' workplace; for the first sample, in the central offices of the Health Services, and for the second sample, in the Hospital de la Mujer, both of them in the State of Puebla-Mexico. The questionnaire was administered with pencil and paper, individually and voluntarily. This work was carried out within the framework of a doctoral thesis project on cognitive variables and burnout.

Results

Exploratory Factor Analysis

First of all, following the recommendations of Dziuban and Shirkey (1974), we explored the psychometric adequacy of the items. Bartlett's (1950) sphericity test indicated that the items were dependent (p < .0001), whereas the Kaiser-Meyer-Olkin (Kaiser, 1970) index was higher than the value of .60 recommended by Tabachnik and Fidell (2001) (KMO = .89). Therefore, the data showed good sample adequacy

Table 1
Factor Loading Matrix (n = 380).

Items	Professional Development	Compensation	User-relationship
9	**0.76**	0.29	0.46
13	**0.73**	0.30	0.31
12	**0.73**	0.42	0.40
14	**0.67**	0.37	0.24
7	**0.66**	0.35	0.33
10	**0.65**	0.30	0.23
2	0.23	**0.73**	0.12
15	0.32	**0.69**	0.12
3	0.35	**0.63**	0.22
1	0.34	**0.59**	0.28
4	0.42	**0.59**	0.33
6	0.32	0.19	**0.82**
5	0.33	0.26	**0.82**
11	0.38	0.19	**0.72**
8	0.34	0.15	**0.66**

Table 2
Goodness-of-fit Indexes for each Proposed Model (n = 400).

Factor model	χ^2	*df*	CFI	GFI	NNFI	RMSEA	AIC
1. One factor	267.98	54	0.85	0.83	0.82	0.10	315.89
2. Three independent factors	655.05	86	0.77	0.72	0.69	0.12	723.00
3. Three factors, with a second-order factor	174.32	82	0.95	0.94	0.94	0.04	250.32
4. Shortened three factors, with a second-order factor	100.99	78	0.96	0.95	0.95	0.04	160.99

and suitable correlations of the items, which indicates they were appropriate for factor analysis.

As we expected the factors to be related, factor analysis was performed using principle components and oblique rotation (oblimin Kaiser). We applied the Kaiser criterion (Eigenvalue higher than 1) to extract the number of factors and, to assign the items to the factors, we considered factor loadings equal to or higher than .40 (Cliff & Hamburger, 1967). Cattell's scree test or sedimentation test clearly showed a three-factor test structure, which accounted for 51.8% of the total variance.

The interpretability of the factor structures obtained suggested considering a three-factor structure as provisionally viable. Factor 1 included Items 7, 9, 10, 12, 13, and 14, which assess professional development expectations, and mainly refer to displaying skills, being autonomous and free to organize one's work, and to how dynamic and creative one's professional practice may be. Factor 2 included Items 1, 2, 3, 4, and 15, which assess expectations of compensation related to the possibility of promotion in the post, the match between the salary and dedication and hours of work performed, the increase in spending power due to the profession, and the economical retributions that accompany the increase in responsibility. In Factor 3 were the Items 5, 6, 8, and 11, which assess expectations about the user-relationship, and are related to the way the individual expects to be treated by the users, and the skills to communicate with them in a comfortable environment of respect, controlling any possible attitudes of complaint or grievance through dialogue. The scale with the highest factor loading is Professional Development expectations, which accounted for 34.02% of the total variance, whereas Compensation expectations explained 10.75%, and User-relationship expectations accounted for 7.08%. Moreover,
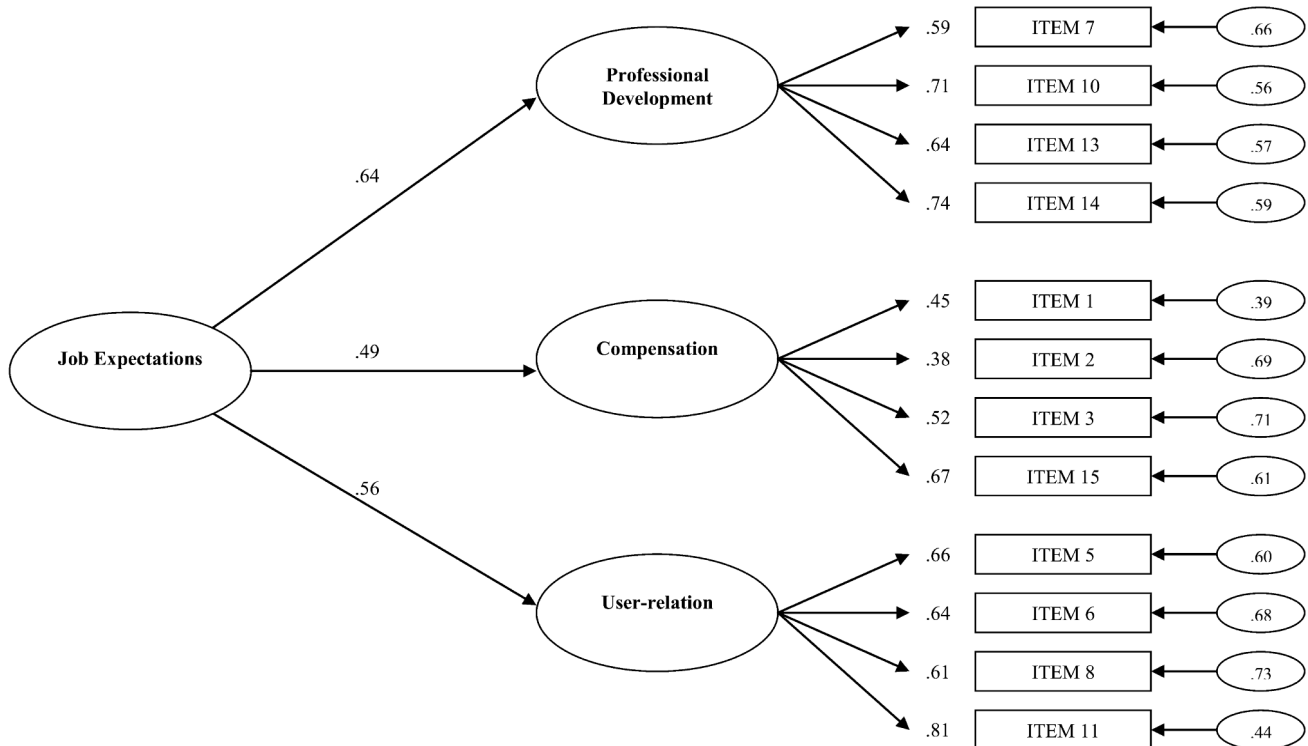

Figure 1. Path diagram with standardized weights and measurement errors for each one of the items.

Table 3
Job Expectations Questionnaire (Cuestionario de Expectativas Laborales).

The present questionnaire has a list of possible job expectations that you may have had when beginning your professional practice. Please choose just one number to represent what you think about each one of them, writing an X under that number according to the following response scale:

0	1	2	3	4
I never had this expectation	It was not met at all	It was partially met	It was pretty much met	It was fully met

When beginning to work in this profession, I thought that the likelihood of promotion in this post would pretty much depend on me
I had the idea that my salary would match my dedication and the hours of work I carry out
I assumed that my profession would facilitate a rapid increase of my spending power
I expected that more responsibility for the outcomes of my work would lead to more autonomy
I expected to find respect and good manners in the interaction with clients/users
I was convinced that I could control clients'/users' attitudes of complaint or grievance through dialogue
I hoped for fair treatment within the work team
I hoped to have more contact with the clients/users of my work
When I began, I expected to have opportunities to display my knowledge and skills
I thought I would have more freedom to organize my work
I expected to feel comfortable in the interaction with the clients/users
I expected to be able to develop professionally
I thought I would carry out dynamic and creative work
I expected my job autonomy to be appropriate to reconcile my family and work life
I expected economical retributions to accompany any increase in responsibility

Note. The items eliminated from the final 12-item version are in boldface.

Spanish Version

Al empezar a trabajar en esta profesión creía que la posibilidad de ascenso en este puesto de trabajo dependería bastante de uno mismo
Tenía la idea de que mi salario se ajustaría a la dedicación y horas de trabajo que realizo
Suponía que mi profesión facilitaría un rápido incremento de mi poder adquisitivo
Esperaba que a mayor responsabilidad sobre las consecuencias de mi trabajo hubiera mayor autonomía
Esperaba encontrar respeto y educación en la interacción con los clientes / usuarios
Estaba convencido de que podría controlar con el diálogo actitudes de queja o agravio de los clientes / usuarios
Deseaba un tratamiento equitativo dentro del equipo de trabajo
Esperaba tener un mayor contacto con los clientes / usuarios de mi trabajo
Cuando empecé esperaba tener oportunidades de demostrar mis conocimientos y habilidades
Creía que iba a tener mayor libertad para organizar mi trabajo
Esperaba sentirme cómodo en la interacción con los clientes / usuarios
Esperaba poder crecer bastante en mi desarrollo profesional
Creía que realizaría trabajos dinámicos y creativos
Esperaba que la autonomía en mi trabajo fuera la adecuada para conciliar vida familiar y laboral
Esperaba retribuciones económicas parejas al aumento de la responsabilidad

Nota: Los ítems eliminados de la versión final de 12 ítems aparecen resaltados en negrita.

as can be seen in Table 1, all the items of the scale presented high factor loadings, ranging from .82 to .59.

Confirmatory Factor Analysis

In order to ratify the model obtained through EFA, a CFA was conducted on the items. We used the maximum likelihood method to analyze the correlation matrix. The analyses were performed with the structural equations program AMOS 7.0. Four different models were tested. Model 1 proposes the null hypothesis. That is, there is a single factor on which all the items load. Model 2 replicates the three-factor model found in the EFA without any kind of relation among the factors. Model 3 proposes the same structure as the EFA structure but with a second-order factor that groups all three dimensions. Lastly, a reduced model was proposed, with

Table 4

Descriptive Statistics, Reliability, and Correlations of the Global Score with the Dimensions of the Job Expectations Questionnaire in the Total Sample (N = 780).

	M	SD	α	2	3
1. Professional Development	2.35	.81	.73	.49**	.56**
2. Compensation	1.78	.73	.63		.37**
3. User-relation	2.62	.81	.77		

** *p* < .01

four items for each dimension, after eliminating the items that presented factor ambiguity (factor loadings higher than .40 on more than one dimension). Specifically, Items 4, 9, and 12 were excluded from this last model.

Goodness of fit of the proposed models was assessed by means of diverse fit indicators. Specifically, we used: chi-square and the degrees of freedom, the root mean square error of approximation (RMSEA), the goodness-of-fit index (GFI), the comparative fit index (CFI), Tucker and Lewis' (1973) non-normed fit index (NNFI), and Akaikes' information criterion (AIC). The goodness-of-fit indexes of the empirically contrasted models are presented in Table 2.

The results of the diverse fit indexes used confirmed that Model 4, with three factors grouped into a second-order factor and four items in each factor, is the one that best fit the data. It can be seen that the CFI, GFI, and NNFI values are higher than .90, whereas the RMSEA index has a value of .05. The AIC of the fourth model is considerably lower than in the rest of the models. Although Model 3 also presents a good fit, the difference of χ^2 suggests that the last model fits the data significantly better than the third model (M_4 vs. M_3, $\Delta\chi^2 = 73.33$, $\Delta df = 4$, $p < .001$), the model of three independent factors (M_4 vs. M_2, $\Delta\chi^2 = 544.0$, $\Delta df = 8$, $p < .001$), and the one-factor model (M_4 vs. M_1, $\Delta\chi^2 = 166.01$, $\Delta df = 24$, $p < .001$). Figure 1 shows the path diagram with the standardized weights and measurement errors. The final instrument is presented in Table 3.

Reliability Analysis

We also examined the reliability of the three dimensions of the questionnaire by calculating the internal consistency with Cronbach's alpha. For this analysis, we used the total sample (*n* =780). Table 4 shows the internal consistency values obtained for the total sample. It can be seen that two of the dimensions have values higher than the recommended value of .70 (Nunnally & Berstein, 1994), whereas the dimension of Compensation is slightly lower. As suggested by previous investigations (Mackenzie, Podsakoff, & Jarvis, 2005), construct reliability was also calculated, obtaining the values of .84, .63, and .75 for Professional Development, Compensation, and User-relations, respectively. Table 4 shows the means and correlations among the dimensions of the questionnaire.

Construct Validity

Construct validity was studied by means of analysis of the correlations between the scale dimensions and other constructs to which they are theoretically related. The calculations were made with the sample of health professionals (*n* = 400). As seen in Table 5, the correlational analyses indicate, as expected, that the diverse types of fulfilled expectations presented significant and positive relationships with vigor, dedication, and absorption—all of them components of Engagement—and with Autonomy and the perception of the Supervisor's Support. However, the dimensions of the questionnaire present significant and negative relations with emotional exhaustion and cynicism. The highest correlations found were between the expectations of Professional Development and the perception of Supervisor's Support (*r* = .37, *p* < .01), and with Autonomy (*r* =.36, *p* < .01).

Discussion

The aim of the present study was to analyze the psychometric properties and validity of the Job Expectations

Table 5

Pearson Correlations among the Job Expectations Questionnaire Dimensions and other Constructs (N = 400).

	Professional Development Expectations	Compensation Expectations	User-relation Expectations
Emotional exhaustion	−.17	−.19	−.16
Cynicism	−.22	−.15	−.28
Autonomy	.36	.23	.28
Supervisor's Support	.37	.22	.29
Vigor	.28	.18	.28
Dedication	.26	.16	.27
Absorption	.19	.16	.16

Note. All the values of the correlations are statistically significant at the *p* < .01 level.

Questionnaire. The results clearly indicate three dimensions, with a second-order factor that groups them. However, the CFA did not exactly corroborate the structure found in the EFA. The results of the CFA show that the model with the best fit is the three-factor model, with four items in each dimension.

With regard to reliability of the dimensions of the questionnaire, both Professional Development and User-relations presented consistency indexes higher than the recommended level. However, the Compensation dimension presented a slightly lower reliability. According with this, Aron and Aron (2003, p. 607) indicated that Cronbach's alpha values higher than .60 are adequate. Likewise, Clark and Watson (1995, p. 316) suggest that the inter-item correlation coefficient is just as important as the alpha coefficient to assess internal consistency. These authors recommend that the values range between .15 and .50, as an indicator of the good consistency of an instrument. In our study, the means of the inter-item correlations were .41, .29, and .46 for Professional Development, Compensation, and User-relations, respectively. Therefore, it seems that the low alpha value in the Compensation factor is no problem for the current investigation.

With regard to construct validity of this questionnaire, as expected, since we found significant and positive correlations among the diverse met expectations and the various components of engagement (vigor, and dedication, and absorption), as well as with the perception of the supervisor's support and autonomy. We also found significant and negative correlations with emotional exhaustion and cynicism, both of them components of burnout, which corroborates the findings of other authors (Cherniss, 1980; Edelwich & Brodsky, 1980; Meier, 1983, Pines, 1993; Schaufeli & Buunk, 2003; Zabel, Boomer, & King, 1984). In a similar vein, in a study with a Mexican sample, Moreno-Jiménez, Villa-George, Rodríguez-Carvajal, and Villalpando (2009) found that job expectations were significant predictors of job satisfaction, interest, and job commitment. Likewise, they found that un met expectations at work were positively related to a poor work performance and to psychosomatic problems. These studies stress the importance of continuing to study the role of expectations and other cognitive variables in the process of burnout and engagement.

Despite the fact that this investigation presents some strong points, such as the use of the cross validation method or the sample size, there are, however, some limitations. A possible limitation is that, despite collecting diverse dimensions of job expectations, some significant factors may have been left out. Fulfillment of job expectations is a dynamic process. Future studies should assess through longitudinal studies the stability of expectations, and complement the self-report measures of the job expectations questionnaire with other assessment methods, for example, interviews. Lastly, we should examine the structure of the questionnaire in other samples more heterogeneous, in order to assess the invariance of the questionnaire across diverse populations.

Summing up, the results indicate that the 12-item version of the Job Expectations Questionnaire, tested in a Mexican sample, presents satisfactory psychometric properties, so we can consider it a valid and reliable measure to be used in further studies.

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