



Meaningful work, work and life satisfaction: Spanish adaptation of Work and Meaning Inventory Scale

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Abstract

Meaningful work is the subjective experience that work has meaning and is understood as an avenue for personal development, from a eudaimonic point of view. The aim of this study is to adapt the WAMI scale of meaningful work to Spanish, as well as to explore its relationship with job and life satisfaction. Two independent studies were developed. A first study analyzed the consistency of the original factorial model using a sample of Spanish varied workers (N = 350) through a confirmatory factor analysis. Results show an adequate replication of the original model and the validity of the Spanish version. A second study addressed the predictive capacity of the scale in relation to two satisfaction measures in a sample of Spanish health workers (N=312), through a mediation analysis. The relationship between meaningful work and job satisfaction is mediated by life satisfaction. The idea of meaningful work as a eudaimonic construct discards it as a variable resulting from or consequence of work, as it is an inherent part of occupational activity itself.

Keywords meaningful work · job satisfaction · life satisfaction · mediation

Work plays a central role in the lives of individuals and, therefore, has a clear impact on their health (World Health Organization, 2007). Given the uncertainty and insecurity that characterizes today's labor market (Sora et al., 2014), fostering positive work environments should be a priority for organizations to ensure the well-being of workers (Ward & King, 2017). In the words of Di Fabio (Di Fabio, 2017a, p. 2), "the focus is on making the organization a more efficient and happy place to work in and more competitive in the global world of work". From positive psychology, one of the keys to achieve this is eudaimonic well-being and the concept of "meaningfulness" (Seligman, 2003). Experiencing meaningfulness at work allows workers to have a purposeful awareness of their tasks and intrinsically motivates them to develop and complete their projects (Di Fabio, 2017b). When organizations generate work environments that promote meaningfulness, they get their employees to perceive support from the company and in turn organizational commitment increases (Kim et al., 2018). This commitment is

also observed in the tendency of employees to stay with their work teams if there is collective meaningfulness (Walumbwa et al., 2019).

Considering this, meaningful work analysis has been consolidating itself as a relevant investigation field in work and organizational psychology over the last few decades, whether it be in terms of life goals, working environment adjustments or the updating of an individual's capacities (e.g., Fairlie, 2011; Lee, 2015; Rosso et al., 2010; Steger et al., 2012). Its applicability covers everything from job orientation to the improvement of intra-organizational relationships (Martela & Pessi, 2018) and has been studied, to a lesser extent, as a decisive factor for personal wellbeing (Ward & King, 2017).

Two lines of research can be identified as close precedents to meaningful work analysis: Meaning Of Working studies (e.g., MOW International Research Team, 1987) and Job Characteristics Model (e.g., Hackman & Oldham, 1975, 1980). Based on the MOW International Research Team's studies about the meaning of work, the present study focuses on the specific role that individuals attribute to work in their lives, such as financial support, oppression, duty, means of self-fulfilment, among other aspects (Pratt & Ashforth, 2003; Rosso et al., 2010). The meaning of work varies at individual and sociocultural levels (Zhou et al.,

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2012), insofar as it is made up of the subject's individual work experiences, the psychosocial environment, economic policies and even technological development (Bendassolli & Borges-Andrade, 2011).

On the other hand, Oldham and Hackman's Job Characteristics Model (1975; Rosso et al., 2010) proposed five characteristics, of which three are considered to be key for the analysis of meaningful work: i) the variety of personal skills and/or talents the person must use during the execution of their job; ii) task identity, understood as the possibility of detecting specific tasks from beginning to end during the whole work process; and iii) task significance, referring to the impact of work on other people and/or society as a whole. Those who experience meaningful work would have personal motivation to perform their tasks correctly and, even when their performance was adequate, wouldn't be satisfied if their job lacked meaning (Oldham & Hackman, 2010).

Lepisto and Pratt (2016) discerned two perspectives that define the concept of meaningful work: On the one hand, as the product or result of the satisfaction of needs and desires of personal progress through occupational activity; and, then again, as the subjective experience that work is worth it on its own and has/responds to a larger life goal. Integrating both considerations, Both-Nwabuwe et al. (2017) defined meaningful work as "the subjective experience of existential significance resulting from the fit between the individual and work" (p. 7). Thus, the concept of meaningful work is explicitly associated with a positive value and to work as purpose (Lepisto & Pratt, 2016). This positive nature is not related, however, to pleasure in hedonic terms, but as various eudaimonic phenomena associated with self-fulfilment (Bailey et al., 2019; Martela & Pessi, 2018).

Meaningful work metrics are as heterogeneous as the attempts to define the construct, so it is possible to find scales based on various approaches. Both-Nwabuwe et al. (2017) concluded that, among the multidimensional scales, the Comprehensive Meaningful Work Scale (CMWS) by Lips-Wiersma and Wright (2012) and the Work and Meaning Inventory (WAMI) by Steger et al. (2012) are the ones that reveal better psychometric properties and gave advice on which scale to use depending on the research objective. The CMWS focuses on analyzing the individual's and their job's characteristics, aiming to test the adjustment; therefore, it is used to analyze what aspects of the person and the working environment favor meaningful work. The WAMI is designed from a eudaimonic perspective and aims to capture the experience of signification itself, advisable to be used in studies on precedents and results of meaningful work.

We prefer an emphasis on the eudaimonic view when studying the meaning of work. Thus, we have chosen to utilize the WAMI. The objective of this research is to adapt and verify the WAMI scale to the Spanish working population, in

order to make a reliable meaningful work metric available, considering that most studies focus on English-speaking contexts and the fact that not many empirical studies are developed in Europe (Bailey et al., 2019), in addition to the scarcity of instruments on the construct in Spanish.

The WAMI scale, developed by Steger et al. (2012), is comprised of ten items that measure to what extent the person perceives their work as meaningful using general statements related to an occupational activity. The authors built on the ideas of Rosso et al. (2010) to develop a theoretical model that distinguished three first-order factors -positive meaning in work, meaning making through work and greater good motivations- grouped under the second-order factor "meaningful work". The instrument was originally tested on a sample of university workers (N = 370), including a wide variety of work occupations within the institution. The scale shows adequate adjustment indicators (CFI = .96, $X^2/df = 2.00$, RMSEA = .09) and correlates with variables related to work -organizational compromise, occupational satisfaction, absenteeism- and wellbeing -signification and life satisfaction- (Steger et al., 2012).

Some of the studies that use the WAMI scale have explored the moderation role that meaningful work plays between occupational stress and life meaning (Allan et al., 2015), between holding a job position for which the individual is overqualified and wellbeing (Allan, Rolniak, & Bouchard, 2018b), or between feeling a calling towards a job and occupational compromise (Sawhney et al., 2020). It has also been used in studies on meaningful work as a predictor and mediator between occupational satisfaction and the working intention (Duffy et al., 2015); its relationship with the belief that work contributes to others (Allan, 2017; Allan, Duffy, & Collisson, 2018a); or the importance of adjustment conditions between the person and the occupation to foster a meaningful work experience (Tims et al., 2016). In their review, Bailey et al. (2019) also mentioned certain evidence which relates wellbeing and meaningful work (see Allan et al., 2016; Gazica & Spector, 2015; Gloria & Steinhardt's, 2016; Soane et al., 2013), however, as pointed out by them, "the research on wellbeing outcomes was sparse" (p. 13).

In this paper, we develop two studies concerning the construct of meaningful work. The first one shows the adaptation of the WAMI scale into Spanish, in order to have an instrument available in non-English speaking environments. The study aims to explore the validity of the WAMI translated scale based on its internal structure, for what we used a sample of workers from different sectors. We conducted the research in Spain for several reasons. On the one hand, we wanted to follow the research tradition in work psychology in Spain (Gil-Monte, 2010), where previous studies on constructs similar or related to meaningful work have been already made (Coo & Salanova, 2018; Salanova et al., 2011).

This ensure an adequate understanding of the scale by participants at a cultural level, as cultural values may be an important aspect of meaningfulness. Moreover, studies such as the MOW already conducted questionnaires regarding work in Spain (Gracia et al., 1990; Gracia et al., 2001) and, given that they are a reference for our research, we opted to adapt the scale for the same country.

On the second hand, we explore concurrent validity of the meaningful work in relation with job satisfaction. We use a sample of healthcare workers, who are involved in a high commitment profession. Healthcare plays a very important role in Spanish society, since it is provided free of charge by the state (de Nadal, 2016). This means that the healthcare system is highly recognized by the population and its workers, in addition to the significant presence of Spanish healthcare workers in the rest of Europe (Sánchez-Sagrado, 2003; Souto Camba et al., 2016). In fact, we used two different samples which answered the possible differences among work environments and this may influence meaningfulness or not. This research adds evidence to the scarce research on well-being outcomes pointed out by Bailey et al. (2019), what is decisive as there is a clear relationship between meaningful work and workers' well-being (Timmermann, 2018).

To sum up, our main contribution is to fill the absence of instruments about meaningful work in Spanish, because there is none to date in this language nor in the country of Spain. To have a meaningful work metric would expand the research in Spanish-speaking groups, as it is concentrated in English non-european contexts (Bailey et al., 2019). As we pointed out before, our studies also explore meaningful work in relation with subjective wellbeing, so we provide evidence of two variables barely covered in previous research (Duffy et al., 2011; Littman-Ovadia & Steger, 2010).

Study 1

The objective of the first study is to explore the consistency and validity of the scale in Spanish, based on internal structure. Specifically, the original factor structure proposed by Steger et al. (2012) is sought to be replicated through a confirmatory factor analysis (CFA).

Based on a review of the available literature on meaningful work, Steger et al. (2012) proposed a structure with three first-order factors: i) positive meaning in work, ii) meaning making through work and iii) greater good motivations. Positive meaning is the subjective experience that the work performed matters and has a purpose, whereas meaning making corresponds to the contribution the work performed makes towards the perception of signification in the person's life. Greater good motivations are the perception that, through work performed, others have been considered, both

at a general and a direct social level. These three factors would be grouped under the second-order factor of meaningful work as a global construct.

Participants and procedure

The study collected a total of 363 participants; those who failed to meet the inclusion requirement of occupying a work post were excluded from further analysis. Those who didn't answer the whole instrument were discarded, so the final sample has no missing data. The final sample was made up of 350 active workers (42.3% males, 57.7% females). All participants lived in Spain at the time of their participation in the study and had an average age of 37.39 ($SD = 11.24$, range = 21–67 years of age).

Regarding the occupational characteristics, the subjects were active in various occupational groups, amongst which administration (17.1%), education (11.4%) and healthcare (8.6%) stood out. The rest of the participants were distributed in other areas with lower representation, such as hotel & catering business (7.7%), tourism (6.6%) or transport (7.2%).

It is worth mentioning that most of the work posts did not require more than a year's worth of previous experience to be performed (53.7%) and a large percentage of the participants pointed out a good adjustment between their training and their work post's demands (67.7%); versus those who felt overqualified (26.3%) and those who perceived insufficient training (1.7%). A small group of participants (4.3%) indicated the need of a different type of training to that which they had received to perform their job adequately. Regarding the education level, the subjects were distributed among the following categories: basic/primary education (8.3%), secondary education (4.6%), baccalaureate (15.1%), medium-level education cycle (10.9%), higher education cycle (17.1%), university studies (27.7%) and postgraduate studies (16.3%).

The average seniority at the current work post was 7.26 years ($SD = 8.54$), whereas the average seniority in the organization was 8.13 years ($SD = 9.48$) and as an active worker was 10.58 years ($SD = 10.045$). Most of the participants were hired on a full-time indefinite basis (43.1%) and fell under the category of employee (76%).

Regarding sociodemographic characteristics of the sample, most of the participants did not have children (62%) nor dependent family members under their care (86.6%). The civil status was indicated as: single (33.7%), in a relationship (30.3%), married (28.9%), divorced (6.6%) and widowed (0.6%).

Participants were recruited through the students of the Degree in Psychology of La Laguna University, who were commended to look for participants that met the inclusion criteria of being currently working. The students contacted the participants through their relatives, friends and

co-workers. The instrument was available online and during a period of three weeks, using the survey software Google Forms. We used the option forcing responses, so participants could not move forward with the instruments if they left questions unanswered. The participation in the study was voluntary, after accepting the informed consent. The PhD Program Committee of the Faculty of Psychology of La Laguna University gave the ethics approval to conduct this study. The procedures followed the principles of the 1964 Declaration of Helsinki and its later addenda. The study was conducted in Spanish.

Instruments

Sociodemographic data questionnaire Self-produced to collect descriptive measures of the sample and verify the inclusion criteria, such as sex, age and job position.

Work and Meaning Inventory (WAMI) by Steger et al. (2012). This instrument gauges to what degree the subjects perceive their job as meaningful using 10 items related to work. It is divided in three first-order factors: 1) Positive meaning in work, the experience of work having a purpose, with four items, like “I have found a meaningful career”; 2) Meaning making through work, the degree of signification that work contributes to life in general and personal growth in particular, with three items, like “My work helps me better understand myself”; and 3) Greater good motivations, to what extent work has a positive impact on others or on society, with three items, like “The work I do serves a greater purpose”. The answer scale is a seven-point Likert type (1: completely disagree, 7: completely agree).

For the translation and adaptation of the scale to Spanish (Table 1), Muñoz et al. (2013) guidelines were followed, as in other Spanish studies (e.g., Burgueño et al., 2019; Flores-Kanter & Medrano, 2018; Martínez-López et al., 2014; Vicente et al., 2019), in such a way that a double translation was performed: from the original to Spanish and from Spanish back to English. Both translations were done by

two independent professionals (a native English speaker and a Spanish advanced-level English teacher). To verify the correspondence of the items, we compared both English versions, the original and the translation from Spanish to English. There were no inconsistencies among them because of the straightforward and short sentences, therefore, it was a literal translation and no adaptations were necessary (Byrne, 2006).

Preliminary Data Analysis

Before proceeding to the analysis, the normality of the variables was verified. They all met the univariate normality criteria, since both the asymmetry and the kurtosis are between -2 and +2 (Ho, 2014), as can be observed in Table 2. Thus, data transformation was not required. No outliers were removed.

As for the reliability of the instrument, in Steger et al. (2012) original study, the scale showed high internal consistency ($\alpha = .93$). The translated scale also shows a comparable consistency ($\alpha = .928$), as well as in the subscales for positive meaning ($\alpha = .907$) and meaning making ($\alpha = .871$). The greater good motivations factor shows a not as high internal consistency ($\alpha = .651$). If item 3 were to be removed the consistency of this factor would increase to .81.

To determine whether effects on the variables existed due to the interaction of sociodemographic metrics, *t* tests were performed. No differences were found based on sex for the global WAMI score ($p = .270$) nor the three subscales (positive meaning, $p = .689$; meaning making, $p = .235$; and greater good motivations, $p = .095$). Pearson correlations analysis doesn't show a significant link between the metrics for meaningful work and the age of the subjects ($r_{wami} = -.001$; $r_{positive} = .041$; $r_{making} = .005$; $r_{ggmotiv} = -.067$).

Table 1. Original WAMI items and translation to Spanish

Original version (Steger y cols., 2012)	Spanish version
1. I have found a meaningful career	1. He encontrado una carrera profesional llena de sentido.
2. I view my work as contributing to my personal growth.	2. Considero que mi trabajo contribuye a mi crecimiento personal.
3. My work really makes no difference to the world.	3. Mi trabajo realmente no produce ningún cambio en el mundo.
4. I understand how my work contributes to my life's meaning.	4. Entiendo cómo mi trabajo contribuye al sentido de mi vida.
5. I have a good sense of what makes my job meaningful.	5. Tengo una buena idea de lo que hace que mi trabajo tenga sentido.
6. I know my work makes a positive difference in the world.	6. Sé que mi trabajo tiene un impacto positivo en el mundo.
7. My work helps me better understand myself.	7. Mi trabajo me ayuda a comprenderme mejor.
8. I have discovered work that has a satisfying purpose.	8. He descubierto un trabajo que tiene un propósito satisfactorio.
9. My work helps me make sense of the world around me.	9. Mi trabajo me ayuda a dar sentido al mundo que me rodea.
10. The work I do serves a greater purpose.	10. El trabajo que hago tiene un propósito mayor.

Table 2. Descriptive statistics and correlations between items

	1	2	3	4	5	6	7	8	9	10
1. Item 1	1									
2. Item 2	.735**	1								
3. Item 3R	.162**	.202**	1							
4. Item 4	.665**	.735**	.112*	1						
5. Item 5	.659**	.665**	.111*	.744**	1					
6. Item 6	.557**	.561**	.290**	.608**	.603**	1				
7. Item 7	.599**	.661**	.128*	.712**	.634**	.601**	1			
8. Item 8	.706**	.764**	.226**	.765**	.741**	.665**	.706**	1		
9. Item 9	.633**	.662**	.193**	.736**	.627**	.672**	.752**	.704**	1	
10. Item10	.588**	.628**	.193**	.692**	.605**	.684**	.697**	.692**	.771**	1
<i>M</i>	4.70	5.01	4.77	4.78	5.22	4.83	4.50	4.90	4.29	4.64
<i>SD</i>	1.799	1.792	2	1.736	1.571	1.889	1.889	1.841	1.914	1.893
<i>Sk</i>	-.539	-.698	-.481	-.535	-.943	-.587	-.389	-.644	-.196	-.429
<i>Ku</i>	-.602	-.458	-1.008	-.545	.365	-.715	-.864	-.646	-1.084	-.867

** $p < .01$

Results

A confirmatory factor analysis was performed using the structural equations software AMOS, v.23. to verify the adjustment of the meaningful work model proposed by Steger et al. (2012) on a sample of Spanish workers. Two models were tested: the authors' original and a second adjusted model.

The first model follows the original model of the WAMI scale developed by Steger et al. (2012). It consists of three first-order factors -measured through the subscales of positive meaning, creation of meaning and greater good motivations- and a second-order factor -the global scale for meaningful work-. According to Hu and Bentler's (1999) criteria, this model shows an inadequate adjustment, with rates such as $X^2/df = 4.601$, CFI = .957 and RMSEA = .102. Even though CFI and X^2/df may be considered acceptable, the RMSEA is above the .06 established in the criteria. Because of that, we tested a second model adjusted following the testing factorial validity of theoretical constructs guidelines, which yielded the following fit indices: X^2/df lower than 3, CFI above .90 and RMSEA lower than 0.10, (Byrne, 2016; Ho, 2014; Shanti, 2019).

Specifically, in the second model, we made a variation of the original model to get better indexes of adjustment. After verifying the modification indices (M.I.) related to the covariances, we correlate intra-factor errors whose M.I. were superior of 10.0, because it points out misspecified error covariances in the model (Byrne, 2016). We chose those pairings of errors whose MIs were larger, since the improvement in the model is greater when M.I. are larger. This version shows a better adjustment, with adequate rates: $X^2/df = 3.935$, CFI = .967 and RMSEA = .092 (Shanti, 2019). In Fig. 1 the second model with

standardised factorial loads from the confirmatory factor analysis is represented.

All items have loads on their factor above .78, which points to a good grouping of items per factor. The only exception is item 3, with a load of .22 and an explained variance of 5%. This same item is the only one with correlations below .50 with the rest of the scale, damaging the consistency of the factor, and has a factorial weight under .30, sufficient grounds for removing it from the instrument (Shanti, 2019). A third model is tested removing item 3 and the obtained rates are $X^2/df = 4.455$, CFI = .970 and RMSEA = .100. Compared with the second model, two of the rates worsen, so it is decided to maintain the item with the errors correlation.

Discussion of Study 1

The aim of the study was to verify the factorial structure proposed by Steger et al. (2012) when translated into Spanish. The confirmatory factor analysis shows a positive adjustment of the model, with adequate rates, similar to those obtained during the original scale's development. The three first-order factors -positive meaning in work, meaning making through work and greater good motivations- and one second-order factor -meaningful work- structure is maintained.

The positive meaning factor shows positive consistency, so it adequately captures an individual's subjective perception of whether their work is meaningful or not. This factor is, to quote its authors, the "flagship indicator of the overall construct of meaningful work" (Steger et al., 2012, p. 12), as it shows if signification is experimented. Nevertheless, this factor is complemented by another two to get the full picture on meaningful work.

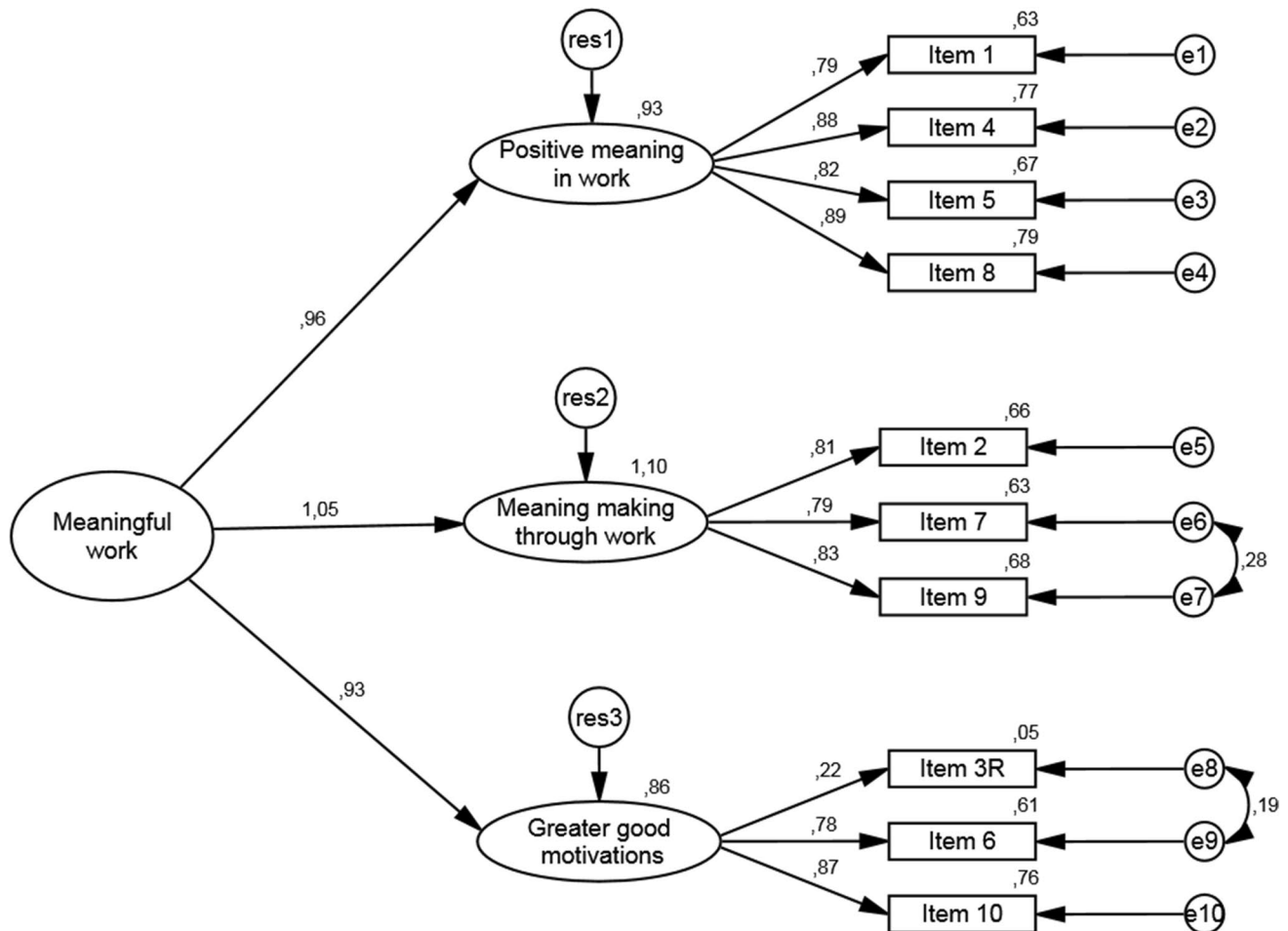


Fig. 1. Factorial loads from the second adjusted model. All loads are significant at $p < .001$

The meaning making through work factor also works correctly, allowing for exploration of the contribution of work signification to life, in other words, to what degree work is understood as a source of signification for the person's life.

Lastly, the greater good motivations factor refers to the intention of contributing to the community through work, either favoring a positive impact on others directly or contributing towards a greater cause. In this factor item 3 is problematic ("My job doesn't really produce any change in the world"). Maybe, the problem with this item is its wording as a negative phrase, specifically a double negation. In fact, it is the only inverse item of the whole instrument, both in the original and the translated versions, which may hamper its correct interpretation.

Notwithstanding, the model is adequate and indicates that the adaptation to Spanish is suitable to be used on the Spanish working population. In further studies, it would be interesting to address convergent and discriminant validity in relation to constructs like Meaning in life and Calling. These variables share aspects such as meaningfulness and

purpose with Meaningful Work that would allow to have a bigger picture of the construct and to contribute to the original study of the WAMI scale.

Study 2

The objective of this second study is to explore the WAMI scale's relation with two satisfaction metrics through a mediation analysis. Both metrics correspond to subjective wellbeing, which has also been neglected in meaningful work studies, when compared to the number of studies that explore personality or work environment variables (Bailey et al., 2019). The hypothesis is that meaningful work is linked to occupational satisfaction, through a measuring of life satisfaction.

The study uses a sample of healthcare workers, experimenting a higher degree of signification at work than professionals in other sectors (Faro et al., 2014). Meaningful work is identified as a key factor to cope with the exhaustion that

healthcare workers go through (Malloy et al., 2015), and it has been observed that nurses that perceive their job as meaningful show better performance (Tong, 2018). Therefore, as the healthcare sector is perceived as a source of meaningful work, it is the chosen one to test the hypothesis.

Participants and Procedure

Answers were collected from a total of 384 participants, of which those who failed to meet the inclusion requirements -occupying a post in the healthcare sector-. Those who didn't answer the whole instrument were discarded, so the final sample has no missing data. The final sample is made up of 312 participants (12.2% male, 87.8% female), workers lived in Spain with an average age of 33.80 years ($SD = 8.881$, range 21-62 years).

All workers occupied a post in the field of healthcare, as displayed in Table 3, amongst which auxiliary nurse (22.8%), nurse (37.2%) and doctor (8.3%) stood out. Most participants were hired (85.9%) and fell under the category of employee (91.7%). Concerning work experience, the average seniority at the work post was 5.69 years ($SD = 6.646$, range = 0.08 – 40 years), whereas the average seniority in the organization was 5.49 years ($SD = 6.628$, range = .08 – 40 years) and as an active worker was 8.09 years ($SD = 7.465$, range = .42 - 40 years).

Regarding education level, 43.6% held university studies and 27.9% held postgraduate studies; to a minor degree, there were also participants held medium-level education cycle (15.7%), higher education cycle (12.2%), or held basic/primary, secondary education or baccalaureate degree (0.6%).

Participants were recruited for the study through online professionals' groups and social media, where the link to the instrument was shared during three weeks. We contacted the administrator of private groups via Facebook and LinkedIn, which only admits certified professionals. The data was collected online using the Qualtrics survey software, after the informed consent of the participant workers and their voluntary collaboration with the study. As in the first study, we used the option forcing responses of the software in order to avoid unanswered questions. The PhD Program Committee of the Faculty of Psychology of La Laguna University gave the ethics approval to conduct this study. The procedures followed the principles of the 1964 Declaration of Helsinki and its later addenda. The study was conducted in Spanish.

Instruments

Sociodemographic data questionnaire Self-produced to collect metrics related to the participants' work situation, to describe the sample and verify the inclusion criteria. We collected data such as gender, age and job position.

Table 3. Socio-occupational data of the sample. Frequency and descriptive data

	Frequency	Percentage
Job post		
Auxiliary Nurse	71	22.8
Nurse	116	37.2
Physiotherapist	26	8.3
Oral Hygienist	16	5.1
Doctor	26	8.3
Odontologist	5	1.6
Health Clinic Psychologist	21	6.7
Chemist	9	2.9
Speech Therapist	3	1
Nutritionist	3	1
Optician	2	.6
Laboratory/X-ray/Pharmacy Technician	8	2.6
Porter	3	1
Occupational Therapist	3	1
Total	312	100
Professional category under the organisation's hierarchy		
Employee – Worker	286	91.7
Middle-level management	17	5.4
Director	1	.3
Top management – Directorate-General	8	2.6
Total	312	100
Contract Type		
Self-employed	24	7.7
Hired	268	85.9
Both	20	6.4
Total	312	100

Work and Meaning Inventory (WAMI) by Steger et al. (2012) Instrument translated previously in Study 1.

Satisfaction with life Scale (SWLS) by Diener et al. (1985), translated and adapted to Spanish by Atienza et al. (2000). The instrument adds a metric on the degree of satisfaction the subject feels towards their life on a general scale, meaning it is a subjective wellbeing variable. It is made up of 5 items on a seven-point Likert type answer scale (1: completely disagree, 7: completely agree), like "In most ways my life is close to my ideal". The original scale shows high internal consistency ($\alpha = .87$), as well as the Spanish translation ($\alpha = .84$).

Job Diagnostic Survey (JDS) by Hackman and Oldham (1975), translated and adapted to Spanish by Fuertes et al. (1996). The instrument is a subscale of the JDS scale, on the general degree of satisfaction with the current job position. It is made up of 5 items on a seven-point Likert type answer scale (1: completely disagree, 7: completely agree), like "In general, I'm very satisfied with this job". Both, the original

instrument ($\alpha = .76$) and the Spanish translation ($\alpha = .76$) show high internal consistency, so it is a suitable measure.

Results

The normality of the variables was tested before proceeding to the data analysis. They all met the univariate normality criteria, as the asymmetry and kurtosis values were around -2 and +2 (Ho, 2014), as can be observed in Table 4. Thus, data transformation was not necessary. No outliers were removed.

Table 4 collects the bivariate correlations of the metrics, all of which are significant at 0.1. The correlation between the meaningful work subscale and the global scale score is high, above .60, which highlights the strong link between the items and the correct functioning of the single meaningful work metric. Regarding the other two variables, it is worth mentioning that the correlations between meaningful work and work satisfaction metrics are higher, in all cases, than between meaningful work and life satisfaction.

Concerning the internal consistency of the instrument, all variables show a Cronbach alpha rate above or around .70. Satisfaction with life shows a $\alpha = .84$ and work satisfaction has a $\alpha = .80$. Meaningful work scale also shows high internal consistency, in the total scale ($\alpha = .91$) and in the subscales: 1) positive meaning ($\alpha = .85$); 2) meaning making ($\alpha = .81$); and 3) greater good motivations ($\alpha = .68$). Once again, greater good motivations is the factor with the lowest reliability, but it is considered acceptable at around .70 (Taber, 2018).

To determine whether effects on the variables existed due to the interaction of sociodemographic metrics, *t* tests were performed. No meaningful differences were found based on sex for total meaningful work scale ($p = .503$), nor for any of the three subscales (meaningful work, $p = .960$; creation of meaning, $p = .415$; and greater good motivations, $p =$

.184). Pearson correlations analysis doesn't show a meaningful link between the meaningful work and education level metrics ($r_{wami} = .036$; $r_{positive} = -.012$; $r_{making} = .024$; $r_{ggmotiv} = .100$). Regarding age, only a weak negative correlation can be appreciated with the greater good motivations subscale ($r = -.131, p < .05$).

A structural equations model was tested, using the AMOS v.23 statistics software, to verify the hypothesis of life satisfaction mediation between meaningful work and work satisfaction.

This model shows an adequate adjustment, following Hu and Bentler's (1999) criteria, with rates of $X^2/df = 1.797$, CFI = .962 and RMSEA = .051. In Fig. 2 the model's graphical representation with standardized factorial loads can be observed.

Regarding the mediation effects, a meaningful partial mediation effect is found, (*Indirect effect*: $b = .169, p < .001$; *Direct effect* $b = .509, p < .001$; *Total effect* $b = .678, p < .001$). Mediation explains 58% of the work satisfaction's variance, as opposed to 47% explained by meaningful work independently.

When performing the mediational analysis with the various meaningful work factors separated as independent variables, the following results are obtained: the link between the positive meaning in work factor and work satisfaction is mediated by life satisfaction (*Indirect effect*: $b = .166, p < .001$; *Direct effect* $b = .547, p < .001$; *Total effect* $b = .713, p < .001$). Mediation explains 61% of the variance, as opposed to 55% explained by positive meaning independently. In the case of the other two factors, the effects of mediation are also significant, but the explained variance percentage is slightly lower. Mediation between the meaning making factor and work satisfaction is significant (*Indirect effect*: $b = .162, p < .001$; *Direct effect* $b = .486, p < .001$; *Total effect* $b = .648, p < .001$) and explains 57% of work satisfaction variance, as opposed to 52% without mediation. As for the greater good motivations factor (*Indirect effect*: b

Table 4. Descriptive statistics and correlations between items

	1	2	3	4	5	6
1. Meaningful work Total	1					
2. Positive Meaning	.938**	1				
3. Meaning making	.908**	.787**	1			
4. Greater good motivations	.840**	.688**	.646**	1		
5. Life satisfaction	.407**	.443**	.335**	.292**	1	
6. Work satisfaction	.501**	.535**	.423**	.363**	.508**	1
<i>M</i>	5.66	5.65	5.52	5.81	4.52	4.66
<i>SD</i>	.9647	1.077	1.169	.9587	1.240	1.251
Sk	-1.189	-1.345	-1.129	-.966	-.569	-.436
Ku	2.312	2.592	1.153	1.342	-.418	-.208
Cronbach Alpha	.91	.85	.81	.68	.84	.80

** $p < .01$

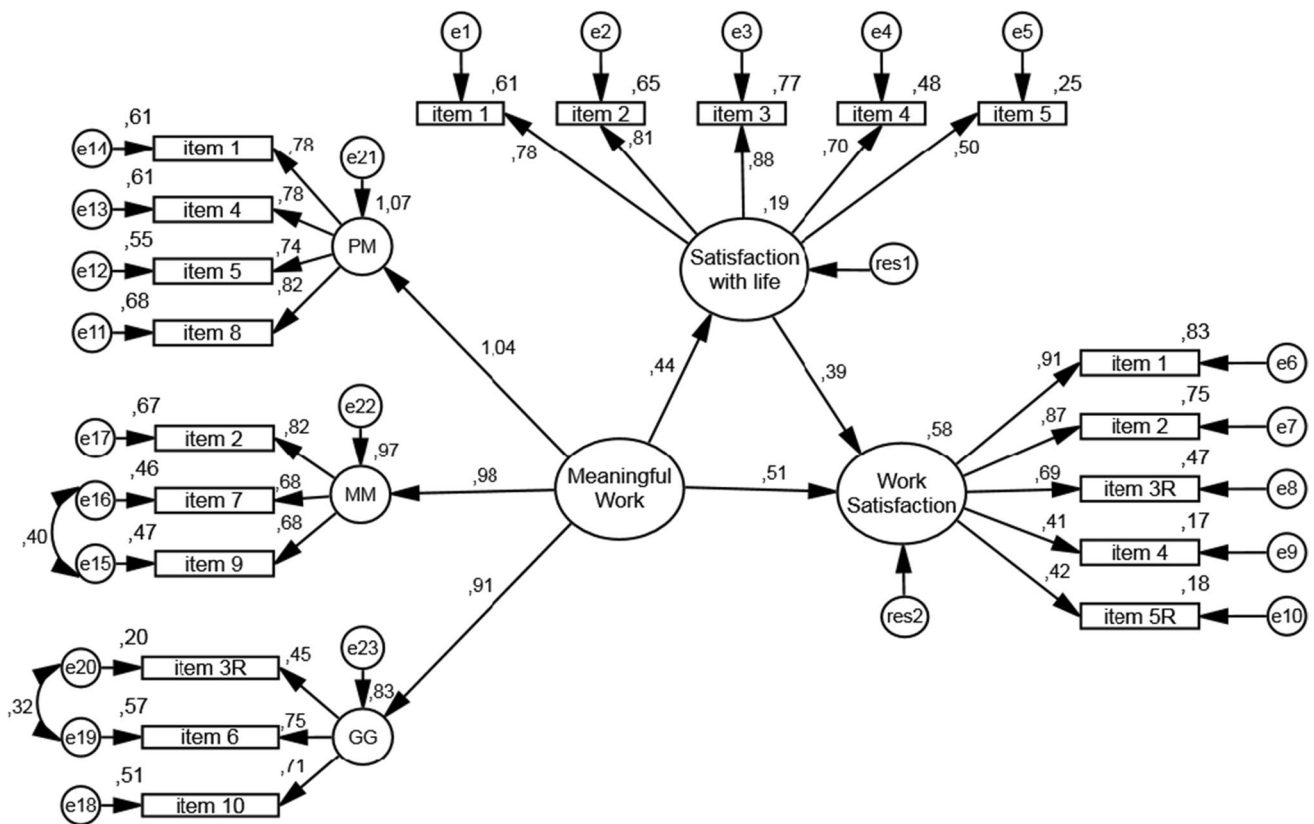


Fig. 2. Mediation model with standardised factorial loads

= .162, $p < .001$; Direct effect $b = .407$, $p < .001$; Total effect $b = .568$, $p < .001$), mediation explains 52% of the variance, as opposed to 69% independently.

All mediations are positive and partial, meaning they establish a positive link between meaningful work and work satisfaction and expose that the link, despite being mediated by life satisfaction, is also maintained during the mediation process.

Discussion of study 2

Study 2 aimed to explore the WAMI’s validity on a sample of workers from the same professional sector, as well as to test meaningful work’s concurrent validity in relation with job satisfaction.

Results show that the scale is suitable to be used on workers of a specific professional sector, belonging to different organizations, as well as on intra-organizational samples, as the one from Steger et al.’ (2012) original study. Our results match with those obtained in previous studies that point towards the importance of meaningful work for professionals in the healthcare sector (e.g., Faro et al., 2014; Malloy et al., 2015; Tong, 2018).

Alternatively, it is verified that meaningful work explains part of work satisfaction, a wellbeing variable derived from work. It is revealed that the link between meaningful work and work satisfaction is mediated by life satisfaction, in such a way that professionals are more satisfied by their job when they perceive it as meaningful and, moreover, are satisfied with their life as a whole.

More precisely, mediation is found to be more intense and have more descriptive power for the positive meaning factor, which matches the importance that the scale’s authors attribute to this factor (Steger et al., 2012). Thus, it is the perception that life has a positive connotation to the individual the one with the greatest impact on work satisfaction, when it appears in combination with life satisfaction.

This study was developed within positive psychology frame, which focus on wellbeing and growing constructs instead of discomfort and solving problems (Seligman, 2003). Therefore, we use positive constructs as measures -like satisfaction- according to this positive perspective and follow the steps of WAMI’s authors, who spotlighted positive variables too. In addition, we wanted to fill a gap in the research field as subjective wellbeing is barely used as a metric in relation to meaningful work (Bailey et al., 2019). However, it would be interesting to incorporate negative

metrics in further studies and explore meaningful work as a protective factor.

General discussion

The main objective of this research was to adapt the WAMI, an instrument of meaningful work evaluation, to the Spanish working population. For this purpose, two studies were performed: the first study aimed to verify the factorial structure proposed by Steger et al. (2012). The second study aimed to explore the link between meaningful work and two workers' wellbeing indicators -work satisfaction and life satisfaction-.

The results show a positive adjustment of the factorial model with the version adapted to Spanish, which shows that meaningful work is kept unaltered in regard to the dimensions that it is made up of, in a different cultural and work context than the one that served for its original design. The second study confirmed meaningful work's predictive capacity, which has a meaningful influence on individuals' wellbeing. In terms of satisfaction, those who perceive their job as meaningful are more satisfied with their professional life. Furthermore, work satisfaction increases more if, at the same time, there is life satisfaction, in combination with the perception of meaningful work. This matches the research that links meaningful work with work satisfaction (Duffy et al., 2015; Faro et al., 2014; Gazica & Spector, 2015) and life satisfaction.

Prior to this study there was no meaningful work measuring instrument adapted to the Spanish-speaking working population. On an applicability level, these results are crucial for organizational policy, because promoting meaningful work appears to be the first step to increase workers' wellbeing (Timmerman, 2018).

Adaptation of the instrument not only allows for research on meaningful work in Spanish, but also complement English-speaking studies results. The study contributes to the early growth of empirical literature on the matter (Bailey et al., 2019) and proves the WAMI's usability on a sample organizationally different to the original. While Steger et al. (2012) developed the scale in a single organization -a university-, both present studies opt for an inter-organizational approach and achieve the replication of the factorial structure. Both in a heterogeneous sample made up of workers from different organizations and professional sectors, and in a group of workers from one sector: healthcare.

The results from this research empirically support one of the meaningful work theoretical approaches, the concept of work from a eudaimonic approach (Lepisto & Pratt, 2016). The occupational activity is transformed into a means of self-fulfillment, not only mere economical support, which allows for the individuals' growth (Seligman, 2003). Despite the various definitions of meaningful work from different approaches, most concur on the possibility of the individual's potential development through contribution to others, self-capacity

updating or the discovery of purpose (Fairlie, 2011; Lips-Wiersma & Wright, 2012; Steger et al., 2012). The positive adjustment of the WAMI on a sample different to the original reveals that this scale is adequate. Steger et al.'s (2012) model proposed meaningful work as a compendium of three factors: the belief that a professional career makes sense, the feeling of purpose and signification at a global level thanks to work and the perception of contributing to society through work.

The idea of meaningful work as a eudaimonic construct discards it as a variable resulting from or consequence of work, as it is an inherent part of occupational activity itself. This explains its capacity to predict variables such as satisfaction, which are outcome variables (Bailey et al., 2019).

Limitations and suggestions for future studies

Despite obtaining a large enough sample to perform robust analysis, one of the research's limitations is the lack of representation of certain professional groups. In study 1, there is a wide and heterogeneous sample of workers from various sectors, but the representation of these sectors is unbalanced, with an abundance of participants from the administration sector, a few from the tourist sector and barely any from the transport sector. Something similar happens in study 2 with healthcare workers, with a high number of participants being nurses and barely any opticians or speech therapists. Additionally, even though control questions were included to filter the data and remove those who failed to meet the inclusion criteria, the on-site collection of information would ensure a higher reliability of the data source. For future studies, collaboration with specialized work centers -hospitals, health centers and/or clinics- or professional unions could be sought in order to ensure a suitable level of representation.

On a methodological level, it would have been convenient to include a metric to verify the convergent and divergent validity of meaningful work. An example would be meaningful life, which is closely linked with meaningful work, but measures different aspects of reality (Ward & King, 2017). Another interesting variable to include would be the calling, a construct encompassed within meaningful work (Steger et al., 2012) and corresponding to vocational aspects of work. Additionally, for future studies, it would be convenient to explore alternatives for item 3 of the scale, which is the only one with a lower factorial load and negative wording. A possibility would be to re-write the item using positive wording, to test if it continues to cause problems because of its meaning or if it is indeed the wording that hampers its comprehension.

Finally, it would be interesting to study meaningful work in relation to negative variables, such as job discomfort or stress. Meaningful work has been studied mainly within the framework of positive psychology, but it would be important to situate it with other variables to see if it is a protective factor of discomfort or what its role is in negative concepts.

Authors' contribution statements All authors contributed substantially to the design of the research, acquisition and analysis of the data. Also, all authors participated drafted the manuscript, revised it and all approved the version to be published.

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Code availability The code generated during and/or analyzed during the current study are available in the Harvard Dataverse repository, <https://doi.org/10.7910/DVN/KC4UJI>

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Declarations

Conflicts of interest All authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

Ethics approval – Compliance with ethical standards The research presented in this paper has been conducted in accordance with the principles of the Declaration of Helsinki for research with human beings. This paper is also part of the PhD Thesis Research of the first author, developed in the Psychology PhD program at the University of La Laguna, having the approval of the Academic Committee of this PhD Program, in relation to research ethical principles. Members of the Academic Committee of this PhD Program are: PhD María José Rodrigo López, PhD. Pedro Prieto Marañón, PhD. Juan E. Jiménez González, PhD. Horacio Barber Friend, PhD. Armando Rodríguez Pérez, and Ph.D. Pilar Matud Aznar.

Consent to participate Informed consent was obtained from all individual participants included in the study.

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