Work engagement during the COVID-19 pandemic: insights from a cross-sectional web-survey with path modelling analysis

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Submitted to: JMIR Mental Health
on: March 27, 2021

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Abstract

Background: Workers are being highly impacted by the current COVID-19 pandemic.

Objective: The present study aimed to identify the relationship between COVID-19 pandemic and work engagement among professionals who are working to offer living needs to people during the quarantine.

Methods: A total of 364 private and state sector employees were recruited for this study. The subjects are divided into 159 women and 205 men with mean age 34.33 years old ± 11.40; and live and in Tunisia. Occupational category includes administrative employees (n = 101), employees in factories and companies (n = 137) and small businesses (n = 126). Participants were administered Work engagement scale (UWES), Work Domain Satisfaction Scale (WDSS), Satisfaction With Life Scale (SWLS), Promis Global Health Scale, Perceived Stress Scale (PSS4), and COVID-19 Fear scale. Partial Least Square modeling method was performed.

Results: of the measurement model and the structural model confirmed the direct relationships between perceived stress, life satisfaction, and job satisfaction with Work engagement. Indirect links have also been highlighted between fear of CoviD-19 and overall health with engagement to work.

Conclusions: The established model can be used by researchers and management practitioners to act on constructs to increase engagement to work.

(JMIR Preprints 27/03/2021:29141)
DOI: https://doi.org/10.2196/preprints.29141

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Abstract:

Aims: The present study aimed to identify the relationship between COVID-19 pandemic and work engagement among professionals who are working to offer living needs to people during the quarantine. **Method:** A total of 364 private and state sector employees were recruited for this study. The subjects are divided into 159 women and 205 men with mean age 34.33 years old ± 11.40; and live and in Tunisia. Occupational category includes administrative employees (n = 101), employees in factories and companies (n = 137) and small businesses (n = 126). Participants were administered Work engagement scale (UWES), Work Domain Satisfaction Scale (WDSS), Satisfaction With Life Scale (SWLS), Promis Global Health Scale, Perceived Stress Scale (PSS4), and COVID-19 Fear scale. Partial Least Square modeling method was performed. **Results:** Results of the measurement model and the structural model confirmed the direct relationships between perceived stress, life satisfaction, and job satisfaction with Work engagement. Indirect links have also been highlighted between fear of CoviD-19 and overall health with engagement to work. **Conclusion:** The established model can be used by researchers and management practitioners to act on constructs to increase engagement to work.

Key Words: COVID-19 Fear -Partial Least Square model- Perceived Stress- Work engagement- Work Satisfaction-Satisfaction With Life

I. Introduction

Currently, the general public and especially workers are concerned about the emergence of a COVID-19 pandemic around the world. COVID-19 has a high potential for contagion. The lack of vaccines, drugs, and the exponential spread of the pandemic have led to insecurity and fear among the population (Shah et al., 2020). Besides, to reduce the risk of re-transmission of the disease, multiple necessary but socially disruptive community protections, such as quarantine, mobility restrictions, social isolation, school closings and from several public places, the isolation of sick

people, the suspension of public transport have been taken in dozens of countries around the world. The pandemic not only brought a high mortality rate but also psychological rest and mental catastrophe to the rest of the world (Xiao, 2020).

Despite this state, many workers are forced to practice their trades in several sectors. In times of fear and uncertainty, when threats to one's survival and that of others become one of the main problems of daily life, the commitment of these workers becomes very important to ensure the survival of populations through the supply of food rations, medicines, cleaning and hygiene supplies, administrative documents and various vital products.

Work engagement initially defined as a state of affective-motivational development that is persistent, omnipresent, and positive (Maslach, Schaufeli, and Leiter, 2001). This state opposed to burnout is characterized by vigor, dedication, and absorption (Schaufeli et al., 2002) becomes a means for organizations to measure investment in human capital (Chaudhary et al., 2012). This relatively recent concept has become very abundant in academic literature given its importance for the survival of societies and organizations. Indeed, it presents a good predictor of the performance of employees, work teams, and organizations. Work engagement is positively associated with work performance, production performance (Bakker and Bal, 2010), and financial results (Xanthopoulou, Bakker, Demerouti and Schaufeli, 2009). Engaged workers have more creative ideas and are more likely to innovate and undertake (Orth and Volmer, 2017) and therefore it is closely linked to financial benefits. Therefore, a better understanding of the concept and its operationalization remain necessary to increase performance within organizations.

Initial empirical studies in the context of work have attempted to operationalize the construct and explain the differences in work engagement according to the conditions of the professional environment, personal characteristics such as personality traits, and behavioral strategies such as positive emotions. While research over the past decade has shown that work engagement over time, can be linked directly to other constructs internal to the workplace such as satisfaction and external to that environment such as perceived stress and life satisfaction. Work engagement was positively linked to health, happiness, and life satisfaction (Hakanen, and Schaufeli., 2012). Indeed, it has been shown that the balance between professional and private life allows organizations to improve the performance of their employees. In this regard, strong links have been identified between the work environment and psychological well-being (Greenhaus and Powell, 2006). Lucas and Diener (2003) suggest that psychologically successful people do better (Wright and Cropanzano, 2004). Positive

psychological capital in their employees improves their creative performance (Hao, Wu, Liu, Li, and Wu, 2015). Thus, any link between the work-life balance of employees and work performance is largely linked to the psychological processes related to employee well-being. Thus, a better work-life balance is likely to improve positive psychological capital and the emotions that enhance an employee's professional performance by enhancing their psychological well-being.

Also, other situational variables such as fear, perceived stress, the general perception of health can have effects on this commitment (Pérez-Fuentes et al., 2019).

For example, an empirical examination of the relationships between work engagement and job satisfaction has shown strong evidence of links between the two constructed for employees in several areas of professional activity.

From another perspective, significant relationships have been shown between employee well-being and their work engagement.

Regarding the relationships between perceived stress, on the one hand, life satisfaction, job satisfaction, and work engagement, on the other hand, it is useful to evoke the most widespread concept of stress. This conception considers it as an uncomfortable condition where the individual perceives that the demands of the situation exceed their perceived resources and endangers well-being (Lazarus, 2000). Consequently, stress emerges from the relationship between the person and the environment, and researchers have concentrated on studying the process between the two constructs (Cooper et al., 2001). As a result, perceived stress and its impact on the psychological and physical health of workers have been increasingly studied and several pieces of evidence have argued that stress-related conditions are indeed associated with work-related psychosocial risk factors, which could lead to an increase in professional disengagement.

Fear of COVID-19 can present a considerable increase in perceived stress. Indeed, functional interactions between states of fear and stress in an extreme situation were justified in a recent study by Rozenova et al. (2020). The hierarchical functional development of the state of stress can be caused by fear in particular contexts such as that of the COVID-19 pandemic.

The objective of this study is to present a model that explains the relationship between fear of COVID-19, perceived stress, overall health, life satisfaction, job satisfaction, and work engagement during the COVID-19 pandemic.

II. Materials and methods

1. Participants

A total of 364 private and state sector employees were recruited for this study. The subjects are divided into 159 women and 205 men, the average age is 34.33 years old (SD = 11.40, min = 21, max = 59) and lives and in Tunisia. All of the study participants were professionally active during the study.

The distribution by occupational category includes administrative employees (n = 101), employees in factories and companies (n = 137) and small businesses (n = 126).

Business owners and healthcare workers were excluded from the study, as business owners have the freedom to work and the specific nature of the work of healthcare workers during the pandemic period.

2. Psychometrics Instruments

Ultra-Short Measure for Work Engagement (UWES-3;Schaufeli et al., 2019)

To assess work engagement, a short version of three items in French was used. These items have been reported from the Utrecht work engagement scale (UWES-9) which has shown the robustness of measurement through several studies (De Bruin & Henn, 2013; Balducci, Fraccaroli &Schaufeli, 2010) and in a Swiss population who speak the French language Zecca et al. , 2015).

The ultra-short version of 3 items of the Utrecht work engagement scale presented good reliability and validity across large samples from five countries:

Finland (N = 22117), Japan (N = 1968), the Netherlands (N = 38278), Belgium (N = 5.062) and

Spain (N = 10040). the UWES-3 shares 86 to 92% of its variance with the longer version with nine items.

The French versions of the perceived stress scale (PSS4)

An adapted version in French of the scale of measurement very responded to the perceived stress of Cohen, Kamarck, and Mermelstein (1983) was used to evaluate the construct. The initial instrument developed includes 14 items and assesses stress on a short scale by Lickert at 5 points. Shorter versions of ten items were subsequently developed and have proven their robustness of measurement in several languages. Lesage, Berjot, and Deschamps (2012) confirmed the possibility of measuring the construct by 4 items of the instrument. The psychometric properties of the French version of the Perceived Stress Scale PSS4 were examined among Five hundred and one randomly selected workers. The one-factor structure demonstrates a good psychometric properties: internal consistency (Cronbach is a values 0.84), factorial structure on exploratory factor analysis (EFA) (Standardized factor loadings were 0.74; 0.78; 0.69, and 0.76), and discriminative sensibility (significant differences by age, and parental status).

Satisfaction with Life Scale (SWLS) - 5 items (Blais, Vallerand, Pelletier &Brière, 1989)

The original SWLS was designed to measure the latent construct of life satisfaction and contains five items to which respondents self-report their level of agreement on a 7-point Likert scale.

The SWLS has excellent psychometric properties (test-retest reliability = .82, Cronbach's a = .87; Diener et al., 1985). Besides, the SWLS was found to be invariant across age groups. This suggested that an adaptation of this scale to the work domain would be likely to have similar psychometric properties.

The adapted French version of the instrument presented good internal consistency and adequate indices for confirmatory factor analysis (χ 2 = 10.5, RMSEA = .05; CFI = 1.00; TLI = .99). (χ 2 =10.5, $p<0.05$, RMSEA=.05 ; CFI=1.00 ; TLI=.99).

Work Domain Satisfaction Scale (WDSS; Bérubé et al., 2016)

The work domain satisfaction scale (WDSS) is a global measure of five items designed in two English and French versions to assess the level of well-being in the work field. Confirmatory factor analysis produced a single factor structure invariant across several samples and good psychometric indices (NNFI = .93; CFI = .94; RMSEA = .08). The temporal stability of the scale was excellent for 6 months (r = .77, p <.01.).

Global physical and mental health scales (Hays. et al., 2017).

The PROMIS Global Health two-item scale was used to assess overall health. The two items designed in French belonging to the PROMIS Global Health instrument of 10 items presenting five

categories (0 = 1; 1-3 = 2; 4-6 = 3; 7-9 = 4; 10 = 5) presented robust measurement in the overall health assessment for 21,133 people.

The two items that were assessed on a 5-point scale presented an acceptable internal consistency (alpha = 0.73) and satisfactory correlations with the PROMIS health domain scores, the EQ-5D-3L, and the conditions chronicles.

COVID-19 Fear scale (Ahorsu et al., 2019)

An adapted French version of the COVID-19 scale from Ahorsu et al., 2019 was used to illustrate the fear of COVID-19. The initial scale was examined with 717 Iranian participants. After examination using both the classic test theory and the Rasch model, the properties of the scale were satisfactory: internal consistency (α = 0.82) and test-retest reliability (ICC = 0.72) were acceptable.

3. Ethics Statement

The study protocol of the present investigation received ethical clearance from the UNESCO Chair "Health Anthropology Biosphere and Healing Systems," University of Genoa, Genoa (Italy), the Higher Institute of Sport and Physical Education of Sfax, Sfax (Tunisia), the Faculty of Letters and Human Sciences of Sfax, Sfax (Tunisia), and the Higher Institute of Sport and Physical Education of Kef, Kef (Tunisia). The Ethical Committee of the University of Sfax, Sfax, Tunisia, approved the project.

All participants in the present study provided written informed consent. Teachers were extensively informed about the purposes and procedure of the study and were advised that the results would be made available to them upon completion of the study only in aggregate form, with no possibility to trace back to the single teacher's scores, thus ensuring anonymity and preserving the privacy of each participant.

The present investigation was carried out following the ethical principles of the 1964 Helsinki declaration and its subsequent amendments.

4. Procedure:

The questionnaires were administered simultaneously and individually directly at the workplace. Precautions were taken for the investigators who brought masks and gloves to protect themselves from COVID-19. Questionnaire durations averaged 20-30 minutes. The entire procedure of questionnaires administration took over 2 months.

5. Statistical analysis:

The causal model presents a set of concepts linked by linear relations between them and difficult to measure directly. To study and confirm these relationships, we need to build a measurement scale for each concept. A scale is a set of observable variables linked to the concept, which can provide an indirect measure. Concepts are called constructs and variables on the scale are called indicators. Constructs are called latent variables and indicators are called manifest variables.

To model the relationships between observed variables and latent variables, we used the Partial Least Squares regression approach. The PLS approach is a component-based method for which causality is formulated in terms of linear conditional expectation. It is considered as a technique for analyzing a system of relationships between multiple blocks of variables. The PLS approach favors the search for predictive optimality of relations rather than that of the causal relation. It is oriented in a predictive way to test causation hypotheses.

A PLS approach model is described by the measurement model linking the observed variables to their associated latent variables and the structural model connecting endogenous latent variables to other latent variables. Generally, the researcher uses these models in studies where the objective is to examine the interrelated relationships between several dependent and independent variables (Hair et al., 2006).PLS path modeling is to be preferred when the primary aim of the study relates to causal-predictive analysis (e.g., Hair et al., 2012).

6. Statistical software:

All statistical analyses were carried out using the commercial software “Statistical Package for the Social Sciences” (IBM SPSS software for Windows, version 26.0, IBM Corp., Armonk, NY, United States, 2019) whereas the partial least squares path modeling were carried out using the ADANCO version 2.1.1 (GmbH & Co.KG, Germany; 2019) for modern approach variance-based structural equation modeling.

III. Results

The theoretical model consists of six constructs, all measured reflectively. Fig 1 shows the model relationships as well as the fit measures for the model.

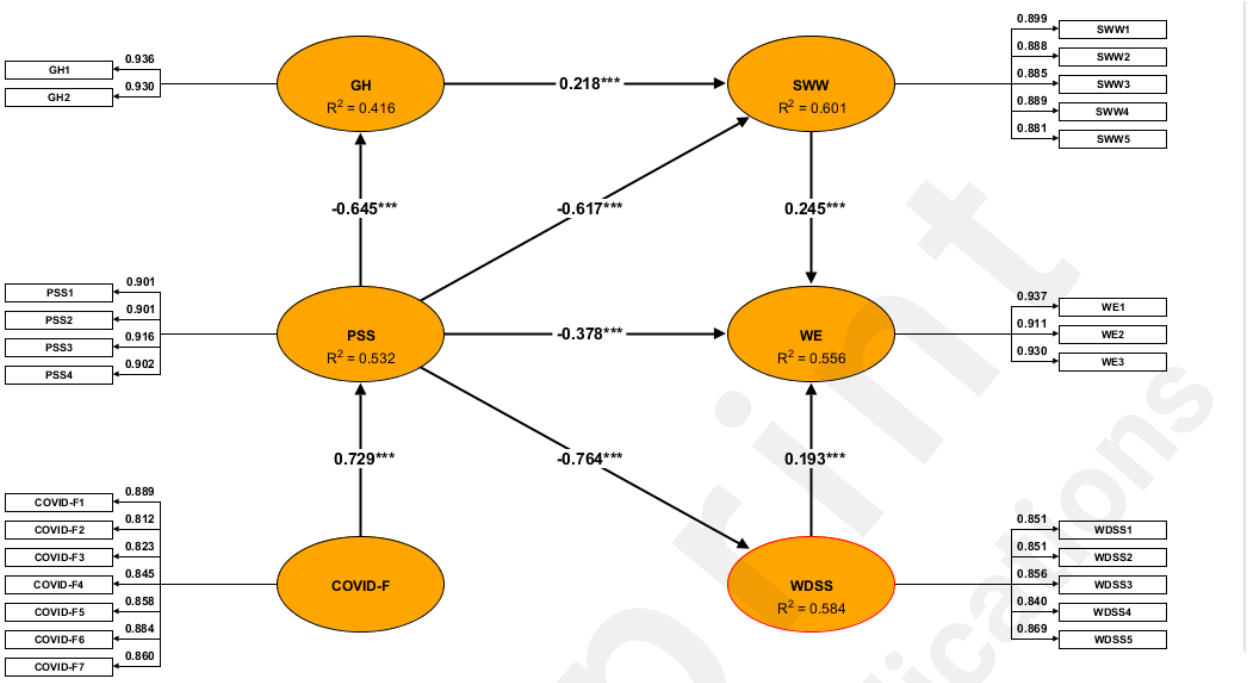

Figure 1. Partial least Square model of work engagement (ADANCO 2.1.1, 2019)

Assessment of the measurement model

To assess the measurement model construct Reliability, convergent validity, discriminant validity, and indicator reliability of all scales indicators were evaluated.

Construct reliability

Reliability coefficients, Dijkstra-Henseler's rho (ρA), Jöreskog's rho (ρC) (also known as Composite Reliability), and Cronbach's Alpha (α) were examined to assess Construct reliability.

Jöreskog's rho (ρC) and Cronbach's alpha values above 0.70, and lower than 0.95 indicated proper reliability. Additionally, the new reliability coefficient ρA (Dijkstra and Henseler 2015) present value between Cronbach's alpha and the composite reliability ρc is usually considered good indices for internal consistency reliability assessment and has a recommended cut-off value of 0.70 (Hair, 2017).

In Table 1, the result of construct reliability is shown. We found the values of reliability coefficients of all constructs above 0.7 threshold value, which demonstrated high levels of construct reliability.

Table 1. Construct Reliability

Construc	Dijkstra-Henseler's rho	Jöreskog's rho	Cronbach's

t	(ρ_A)	(ρ_c)	alpha(α)
WE	0,9178	0,9475	0,9168
PSS	0,9265	0,9477	0,9264
SWW	0,9344	0,9493	0,9332
COVID-F	0,9392	0,9493	0,9376
GH	0,8529	0,9309	0,8517
WDSS	0,9070	0,9306	0,9068

Convergent validity

Convergent validity is evaluated by examining the outer loadings of the indicators to determine the average variance extracted (AVE) from each construct. It should be 0.5 or higher (Hair et al., 2017). AVE value is shown in Table 4. The AVE values for all constructs are higher than0.5, which means the measure of all constructs, have a high level of convergent validity.

Table 2. Average variance extracted (AVE) of constructs

Construct	Average variance extracted (AVE)
WE	0,8574
PSS	0,8192
SWW	0,7892
COVID-F	0,7283
GH	0,8708
WDSS	0,7285

Discriminant validity

To ensure discriminant validity, Fornell and Larcker the widest criterion and HTMT criterion (Henseler 2015) were used, the AVE of each latent variable should be higher than the squared correlations with all other latent variables. For the Heterotrait-Monotrait Ratio (HTMT), values should be below 0.9, better even below 0.85(Hair et al., 2017).

Heterotrait-Monotrait Ratio of Correlations (HTMT)values for each combination of constructs in the model are shown in table 3 and provide evidence for the constructs' discriminant validity.

Table 3. Heterotrait-Monotrait Ratio of Correlations (HTMT)

Construct	WE	PSS	SWW	COVID-F	GH	WDSS
WE						
PSS	0,7715					
SWW	0,7132	0,8131				
COVID-F	0,7386	0,7814	0,7217			
GH	0,7674	0,7261	0,6896	0,7626		
WDSS	0,7066	0,8331	0,7237	0,7831	0,7179	

The square roots of the AVE coefficients presented in the correlation matrix along the diagonal

confirm the Fornell and Larcker criterion and discriminant validity of the model (See able4).

Table 4. Fornell-Larcker Criterion

Construct	WE	PSS	SWW	COVID-F	GH	WDSS	
WE	0,8574						
PSS	0,5061	0,8192					
SWW	0,4360	0,5735	0,7892				
COVID-F	0,4701	0,5320	0,4572	0,7283			
GH	0,4604	0,4165	0,3793	0,4659	0,8708		
WDSS	0,4165	0,5844	0,4440	0,5217	0,4000	0,7285	
Squared correlations; AVE in the diagonal.							

Indicator Reliability

As a part of the convergent validity test, the items loading indicator's reliability must be above the thumb rule of 0.7 to indicate a reliable indicator for a specific construct. If it is exploratory research, 0.4 or higher is acceptable (Hulland, 1999). Indicator reliability is acquired from squaring outer loadings of reflective constructs. Individual indicator's reliability. of Constructs is shown in Table 5 We found the indicator reliability of all constructs above 0.7 threshold value which demonstrated high levels of reliability for all eight reflective constructs.

Table 5. Indicator Reliability

Indicator	WE	PSS	SWW	COVID-F	GH	WDSS
PSS1		0,8121				
PSS2		0,8119				
PSS3		0,8382				
PSS4		0,8145				
SWW1			0,8083			
SWW2			0,7883			
SWW3			0,7829			
SWW4			0,7908			
SWW5			0,7755			
WDSS1						0,7243
WDSS2						0,7238
WDSS3						0,7324
WDSS4						0,7060
WDSS5						0,7559
COVID-F1				0,7902		
COVID-F2				0,6586		
COVID-F3				0,6772		
COVID-F4				0,7146		
COVID-F5				0,7364		
COVID-F6				0,7809		
COVID-F7				0,7400		
GH1					0,8766	
GH2					0,8650	

WE1	0,8775					
WE2	0,8303					
WE3	0,8644					

All model evaluation criteria have been met, providing support for the measures' reliability and validity.

Structural model assessement

Assessment of the structural model results enables us to determine the model's capability to predict one or more target constructs and examine the relationships between the constructs.

For assessing the structural model, it is recommended to test the significance of the path coefficients, the level of the R2 values, and the f2 effect size.

significance of the path coefficients

These path coefficients values are used for analyzing the strength of the relationships. The path coefficients values close to -1/+1 represent a strong relationship whereas a value near 0 represents a weak relationship. The signs (-) inform about an inverse or negative relation in the model. (See figure 1, table 6).

All path coefficients shown in table 6 are significant at the 0.001 level.

Table 6. Path coefficients values

Independent variable	Dependent variable				
	WE	PSS	SWW	GH	WDSS
PSS	-0,378		-0,617	-0,646	-0,76
SWW	0,245				
COVID-F		0,729			
GH			0,218		
WDSS	0,193				

The coefficient of determination (R2 value) depicts the structural model's predictive accuracy. The R2 values of the endogenous constructs are shown in table 7. Sanchez, et al. (2015) considered R2 values of >.60 as high, between 0.30 and 0.60 as moderate and below 0.30 as low (Hair et al., 2014). The R2 value of work engagement (dependent variable) for this study is 0.556. The combined effect of all variables can cause a 55.6% variation in work engagement.

Besides, fear of COVID-19 can explain 53% of perceived stress (PSS) which in turn explains 58% of WDSS, 60.01% of SWW, 41.6% of GH(see table 7).

Table 7.Coefficient of determination (R2) of the endogenous constructs

Construct	Coefficient of determination (R^2)
WE	0,556
PSS	0,532

SWW	0,601
GH	0,416
WDSS	0,584

The effect size (f 2)

The effect size f2 allows assessing an exogenous constructs contribution to an endogenous latent variables R2 value. The effect size of the predictor constructs is evaluated through Cohen's f 2 (Cohen, 1988). The effect size (f 2) is a measure used to assess the relative impact of a predictor construct on an endogenous construct (Cohen 1988). Effect Size can be calculated as f 2 = (R2 included – R 2 excluded)/(1- R 2 included), where R2 included and R2 excluded are the R2 values of the endogenous latent variable when a selected exogenous latent variable is included in or excluded from the model.

According to Cohen (1988), f 2 values of 0.35, 0.15, and 0.02 are considered large, medium, and small effect sizes respectively. Beta standardized regression coefficient, indirect effects, total effects, and Cohen's f2 are presented in table 8.

Table 8. Effect Overview

Effect	Beta	Indirect effects	Total effect	Cohen's f^2
PSS -> WE	-0,378	-0,333	-0,711	0,098
PSS -> SWW	-0,617	-0,141	-0,757	0,556
PSS -> GH	-0,645		-0,645	0,714
PSS -> WDSS	-0,764		-0,764	1,406
SWW -> WE	0,245		0,245	0,055
COVID-F -> WE		-0,519	-0,519	
COVID-F -> PSS	0,729		0,729	1,137
COVID-F -> SWW		-0,552	-0,552	
COVID-F -> GH		-0,471	-0,471	
COVID-F -> WDSS		-0,558	-0,558	
GH -> WE		0,054	0,054	
GH -> SWW	0,218		0,218	0,070
WDSS -> WE	0,193		0,193	0,033

The global indices of model fit in a PLS-SEM include an introduction of the following model fit measures: standardized root means square residual (SRMR) and goodness of fit index (GOF).

Standardized Root Mean Square Residual (SRMR)

Henseler and Sarstedt (2014) introduced the SRMR as a goodness of fit measure for PLS-SEM. The SRMR is the difference between the observed correlation and the predicted correlation. A value less than 0.10 and are considered a good fit (Hair et al., 2014). Our model has an adequate value of 0.335forSRMR.

The goodness of fit (GoF)

The goodness of fit (GoF) has been developed as an overall measure of model fit for PLS-SEM. Tenenhaus et al. (2005) defined GoF as the square root of the product between the average community index and the average R-square of the model. The GoF calculation formula proposed by Wetzels et al. (2009): GoF = square root of (average AVE) x (average R-square)

Wetzels et al. (2009) also proposed the following thresholds for GoF: small = 0.1, medium = 0.25 and large = 0.36. In our structural model the Gof=0.43. is large which reveals an adequate factor structure.

Effects

Our research Model proposes a total of 8 relationships for predicting the dependent variable (WE), First 3 relationships are direct relations from independent variables PSS, WDSS, SWW, and 5 indirect relationships. Running the PLS algorithm and Bootstrapping calculations in ADNCO software provided the path coefficients of these relations which denotes the strength of the relationships and P-value for verifying whether the relationships are statistically significant.

Bootstrapping procedure reports the significance of path coefficient values and statistically confirms the links between the concepts studied.

Table9 .Total Effects Inference

Effect	Original coefficient	Mean value	Standard error	t-value	p-value
PSS -> WE	-0,71	-0,71	0,030	-23,49	0,000
PSS -> SWW	-0,76	-0,76	0,025	-30,77	0,000
PSS -> GH	-0,65	-0,65	0,032	-20,34	0,000
PSS -> WDSS	-0,76	-0,77	0,026	-29,75	0,000
SWW -> WE	0,25	0,25	0,059	4,19	0,000
COVID-F -> WE	-0,52	-0,52	0,034	-15,45	0,000
COVID-F -> PSS	0,73	0,73	0,028	25,78	0,000
COVID-F -> SWW	-0,55	-0,55	0,031	-17,94	0,000
COVID-F -> GH	-0,47	-0,47	0,034	-13,73	0,000
COVID-F -> WDSS	-0,56	-0,56	0,033	-16,90	0,000
GH -> WE	0,05	0,06	0,019	2,75	0,006
GH -> SWW	0,22	0,22	0,046	4,71	0,000
WDSS -> WE	0,19	0,20	0,058	3,32	0,001

IV. Discussion

The objective of this study was to present a model to explain the work engagement during the COVID-19 pandemic. A structural model has been developed and tested applying regression analysis using the partial least squares method. The results of the measurement model and the structural

model confirmed the direct relationships between perceived stress, life satisfaction, and job satisfaction with work engagement. Indirect links have also been highlighted between fear of CoviD 19 and overall health with engagement to work.

In line with our results, a recent study by (Agarwal et al., 2020) in medical trainees highlighted a relationship between work engagement and burnout, perceived stress, and well-being. Statistical analysis revealed that work engagement is negatively correlated with burnout and perceived stress. Work engagement is negatively correlated with thoughts of giving up and questioning the decision to enter medical school. The study concluded that work engagement can be a useful measure for assessing well-being. Other results from Hunsaker, (2019) have linked employee satisfaction with life to burnout.

Also, the study by Chichra, Abhijnhan, and Tharyan, (2019) in three categories of medical teachers concluded that high stress and low job satisfaction were significantly associated with burnout (the opposite of work engagement).

Similarly, a Spanish cross-sectional study by Garwal et al. (2020), concluded that lack of exercise, anxiety, and social dysfunction were important predictors of the dimensions of burnout.

In another study by Li, JC, Cheung & Sun, (2019) on police officers, the results showed that conflicts between family and work, organizational and operational factors affected work stress and work engagement.

In contrast, the study by Khamisa et al. (2016) showed in a nursing population that burnout was associated with a lack of support patient care was associated with job satisfaction. Staff problems were associated with general health. Burnout is more strongly linked to job satisfaction than to general health.

The results of this study further suggest that, in addition to creating a supportive organizational environment that encourages work engagement, organizations should also focus on individual employee characteristics such as perceived stress, overall health, and satisfaction with life.

V. Conclusion and recommendations

The results provided a first demonstration of the important relationships between work engagement, job satisfaction, life satisfaction, perceived stress, and perception of overall health in a specific period such as the spread of a pandemic.

Overall, these relationships will have had several practical implications for organizations. Organizations should strive to understand what factors promote employee engagement. Managers interested in increasing employee engagement should, therefore, strive to create supportive environments where employee contributions are valued and where management cares about the well-being of employees.

Limits of the study

It should be noted that a large mass of workers does not leave their homes and work online during the pandemic phase. It is essential to examine their commitment to work and the psychological factors associated with work in this particular situation.

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