The Impact of the COVID-19 pandemic on Psychosocial Risks in the Fast-Food Sector: A Two-Wave Study with a Diversity Approach
El impacto de la pandemia de COVID-19 en los riesgos psicosociales del sector fast-food: un estudio en dos oleadas con perspectiva de diversidad

Germán Cañavate
Universidad Internacional de la Rioja

Isabella Meneghel
Universitat Internacional de Catalunya

Marisa Salanova
Universitat Jaume I

ABSTRACT

This study analyzes the impact of the COVID-19 pandemic on psychosocial risks and work engagement in a fast-food franchise, comparing pre- (2018–2019) and post-pandemic (2021–2022) data. Using the FPSICO 4.0 risk assessment and the UWES-9 engagement survey, the study also examines the moderating role of demographic (sex, age) and job-related (position) variables. ANOVA results revealed a significant post-pandemic increase in psychosocial risks, particularly in working time, autonomy, variety and content, participation, and supervision. Women and younger workers experienced a greater negative impact on psychosocial risks and well-being. In contrast, older employees showed reduced risk levels. Team members were more affected than managerial staff. The findings highlight the psychosocial consequences of the pandemic in high-turnover, low-autonomy work environments, and identify key vulnerability and resilience factors that can inform organizational interventions and public policy focused on occupational mental health in post-crisis contexts.

Keywords: **Psychosocial Risks; COVID-19; Catering Industry; Diversity**

Resumen

Este estudio analiza el impacto de la pandemia de la COVID-19 en los riesgos psicosociales y el *engagement* laboral en una franquicia de comida rápida, comparando los períodos pre y postpandemia. Mediante la evaluación FPSICO 4.0 y el cuestionario UWES-9, se examina también el papel moderador de variables demográficas (sexo, edad) y laborales (puesto). Los análisis ANOVA revelaron un aumento significativo de los riesgos psicosociales tras la pandemia, especialmente en tiempo de trabajo, autonomía, variedad y contenido, participación, y supervisión. Las mujeres y jóvenes mostraron mayor impacto negativo. En cambio, las personas mayores presentaron niveles de riesgo más bajos. El personal operativo resultó más afectado que el directivo. Los hallazgos evidencian las consecuencias psicosociales de la pandemia en entornos de alta rotación y baja autonomía, e identifican factores de vulnerabilidad y resiliencia que pueden orientar intervenciones organizativas y políticas públicas centradas en la salud mental laboral en contextos posteriores a crisis.

Palabras clave: **Riesgos Psicosociales; Covid-19; Industria de la Restauración; Diversidad**

Introduction

The COVID-19 pandemic has emerged as one of the world's biggest health emergency, with a devastating social and economic impact (World Health Organization, 2021). Studies triggered by the pandemic have shown that COVID-19 has had a psychological impact on the general population (González-Sanguino et al., 2020; Planchuelo-Gómez et al., 2020; Salari et al., 2020; Sandín et al., 2020; Vindegaard & Benros, 2020; Wang et al., 2020; Xiong et al., 2020), increasing stress and reducing its subjective well-being (Kelly, 2020). Studies show that a large part of the population has suffered adaptive responses due to fear of contagion, confinement, and isolation (Wang et al., 2020). However, there is less evidence regarding how the pandemic affected perceptions of work-related psychosocial risks. Psychosocial risks refer to those aspects of work design, organization, and management, as well as the broader social context, that have the potential to cause psychological or physical harm, including factors such as excessive workload, lack of control, job insecurity, and poor communication (Cox & Griffiths, 2005; EU-OSHA, 2014).

The Job Demands–Resources (JD-R) model is a well-established framework for understanding how job characteristics influence employee well-being and performance through two distinct yet complementary psychological mechanisms: the health impairment process and the motivational process (Bakker & Demerouti,

2007; Demerouti et al., 2001). The health impairment process describes how excessive or chronic job demands—such as high workload, emotional labor, or conflicting roles—require sustained psychological and physical effort, which may eventually deplete individual resources and lead to stress, fatigue, burnout, and health deterioration (Bakker & de Vries, 2021; Schaufeli & Bakker, 2004). Prolonged exposure to such demands can also increase detachment from work and turnover intentions. In contrast, the motivational process emphasizes the role of job resources—such as autonomy, social support, task significance, and developmental opportunities—in fostering work engagement, intrinsic motivation, and optimal functioning. These resources can buffer the negative impact of demands while actively promoting positive outcomes like organizational commitment and performance (Bakker et al., 2023). Thus, the JD-R model offers an integrative perspective that captures both risk and resilience dynamics in the workplace, making it particularly suitable for understanding how employees respond to disruptive contexts like the COVID-19 pandemic.

This research constitutes a significant advancement over prior studies by analyzing, through a two-wave design, the impact of the COVID-19 pandemic on psychosocial risks and work engagement in the fast-food sector—a specific subsector within the broader food service industry. To our knowledge, this is the first empirical study to examine psychosocial risk in this occupational group using data collected both before and after the pandemic. The relevance of this contribution is reinforced by recent systematic reviews, which emphasize the disproportionate focus of COVID-19-related research on frontline healthcare workers while highlighting a striking absence of studies targeting low-wage service sectors such as fast food or restaurant services (Sigahi et al., 2021). Likewise, a broader systematic review of historical pandemics confirms that the occupational consequences of pandemics have been vastly understudied outside the health sector, particularly in economically vital yet precarious labor contexts (Doran et al., 2024). This omission is particularly significant in the Spanish context, where the restaurant and hospitality industry accounted for 6.4% of GDP and 9.8% of total social security affiliations in 2019. It was also one of the most affected sectors during the pandemic, experiencing a 13.7% drop in employment between 2019 and 2021, with only partial recovery beginning in 2022 (Martínez López, 2021). This study thus addresses a critical research gap with both theoretical relevance and practical implications.

While the pandemic increased job demands significantly in other sectors, such as healthcare (Tong et al., 2023), in the fast-food sector, long periods of closure and inactivity led to staff reductions, salary cuts, and suspended benefits. These conditions resulted in widespread job insecurity within an unstable work

environment (Karatepe et al., 2022), which has been associated with increased perceptions of job demands, reduced work engagement, and heightened emotional exhaustion (Cao et al., 2023). Importantly, this study also considers diversity as a factor to explain changes in perception of psychosocial risk, considering different demographic (i.e., sex and age) and work (i.e., job position) variables to provide an in-depth explanation of the impact of the COVID-19 pandemic on psychosocial health. Therefore, the results will provide us with sufficient information to establish specific action and intervention plans in this activity sector.

This study presents several contributions to the literature. Firstly, it applies the JD-R model before and after the pandemic environment in the fast-food industry, further expanding its model application field. Secondly, it provides evidence about the differences in perceptions of job demands, job resources, work engagement, and emotional exhaustion. Lastly, we demonstrate that the impact of the pandemic has had a different effect on the working population based on sociodemographic aspects such as sex, age, and level of responsibility within the organization.

Impact of the COVID-19 pandemic according to demographic variables

The psychological impact of the COVID-19 pandemic showed significant differences, depending on demographic variables (i.e., sex and age). For example, in a sample of the Spanish population, collected after the pandemic outbreak, it was found that the female sex was associated with higher levels of depression, anxiety, and post-traumatic stress disorder (González-Sanguino et al., 2020). Along this line, a systematic review by Jiaqi Xiong et al. (2020) reported similar results in the general population during the COVID-19 pandemic in China, Spain, Italy, Iran, the US, Turkey, Nepal, and Denmark. This review found a higher trend in women regarding their vulnerability to develop symptoms of various forms of mental disorders during the pandemic, including depression, anxiety, PTSD, and stress. Finally, in the healthcare sector, one of the most studied sectors, it was also observed that the female group suffers the biggest impact due to secondary traumatic stress (Danet, 2021) and the highest levels of anxiety and stress (Dosil-Santamaría et al., 2021). This can be explained by the fact that women generally tend to assume a caregiving role, which means they deliver a bigger effort in balancing caregiving with work and, usually, household tasks, which converts them into a group at risk that is more vulnerable in situations of psychological overload, such as the pandemic (González-Sanguino et al., 2020). For this reason, the female group is expected to be the most vulnerable and therefore the one suffering the most substantial psychosocial effect after the pandemic.

Regarding age differences, the systematic review by Xiong et al. (2020) identifies people at the age of 40 as the group that is most vulnerable to the effects of the pandemic, with higher depression, anxiety, and stress rates than older people. This may be due to the threat it posed to their life projects (e.g., studies or finding a job) or uncertainty regarding their future during the pandemic (Balluerka et al., 2020; Sandín et al., 2020). Some authors point out that the higher resilience capacity of older people has acted as a mediating factor on the negative effects of the pandemic (Wang et al., 2020). Other strategies that potentially acted as protectors were reported as well, such as effective coping strategies (Petzold et al., 2020), optimism about the future (Yıldırım & Arslan, 2022), family support (Prime et al., 2020), healthy lifestyle habits, confidence in health recommendations (Killgore et al., 2020), or proper access to the healthcare system (Soonthornchaiya, 2020). This higher resilience of the older group suggests that they have experienced the smallest harmful effect at the psychosocial level after the pandemic.

Impact of COVID-19 pandemic according to job position

Although maintaining a professional activity may have had a protective effect during the pandemic (López-Núñez et al., 2021), there are no extensive studies on how the impact of the pandemic varied across different job positions. Some studies in the healthcare sector suggest that workers with greater responsibilities, such as supervisory nurses, experienced lower stress levels due to better access to training and knowledge (Danet, 2021; Giménez-Espert et al., 2020). This difference could be explained by unequal access to resources and decision-making power. According to the JD-R model, job demands and resources are not distributed equally across organizational levels: front-line employees are often subject to higher emotional and physical demands, lower autonomy, and less social support, whereas supervisory roles typically benefit from greater control, role clarity, and organizational support (Bakker & Demerouti, 2007; Schaufeli et al., 2009). Specifically in service sectors such as fast food, front-line workers typically face intense customer demands, task repetition, and emotional labor, all of which are known predictors of stress and exhaustion (Holman, 2003; Zapf et al., 1999). During the COVID-19 pandemic, even though many restaurants experienced temporary closures or operational restrictions, front-line workers remained exposed to heightened psychosocial risks—whether through customer-facing roles during partial reopenings or due to increased procedural demands, such as implementing new safety protocols and adapting to rapidly changing work conditions. These factors, coupled with reduced access to organizational resources and support, may have intensified the psychological burden on employees in lower-tier positions. In

contrast, supervisory roles may have benefited from greater decision-making power, informational access, and role clarity, potentially mitigating their stress levels.

THE PRESENT STUDY

Despite increasing research on the psychological consequences of COVID-19, little attention has been paid to how psychosocial risk factors and work engagement evolved in sectors with standardized, low-autonomy environments such as fast food. Addressing this gap, the present study applies the JD-R framework to examine the psychosocial impact of the pandemic in this underexplored context.

Specifically, the study analyzes differences in psychosocial risk perception and work engagement before and after the pandemic, and investigates whether these effects vary according to sex, age, and job position. Psychosocial risk factors include workload, autonomy, role clarity, recognition, participation, and career development—dimensions previously shown to respond to external stressors.

Therefore, the following hypotheses are put forward:

H1: The perception of psychosocial risks will be significantly higher in the post-pandemic context compared to the pre-pandemic context.

H2: The increase in psychosocial risk perception from pre- to post-pandemic will be greater in women than in men.

H3: The increase in psychosocial risk perception from pre- to post-pandemic will be greater in younger workers (≤ 40 years) than in older workers (> 40 years).

H4: The increase in psychosocial risk perception from pre- to post-pandemic will be greater in team members than in managerial staff.

METHOD

Sample and procedures

The study was conducted between 2018 and 2022 in a well-known fast-food restaurant franchise with national coverage across Spain. The organization was not selected intentionally for theoretical reasons but rather because it was already engaged in a systematic process of mandatory psychosocial risk assessments in compliance with occupational health legislation. The availability of data both before and after the COVID-19 pandemic resulted from the natural continuity of this corporate process. The company rotates the assessment across all restaurants every two years, ensuring coverage of the entire network over

time. In each cycle, the entire workforce of the selected restaurants is invited to participate, and the survey is administered to 100% of staff via email, although participation remains voluntary.

The final sample consists of 4,094 participants: 2,045 individuals (49.95%) assessed in 2018–2019 (pre-COVID) across 48 restaurants, and 2,049 individuals (50.05%) assessed in 2021–2022 (post-COVID) across 50 restaurants. In the pre-COVID sample, 41% were men (n = 836), 53% were women (n = 1,074), and 6% did not report their sex. In terms of age, 84% were 40 years old or younger (n = 1,725), 9% were older than 40 (n = 188), and 6.5% (n = 132) did not report their age. This age division follows the midpoint of the working-age distribution and is consistent with previous research recommendations (Martín-Ruiz, 2005; Xiong et al., 2020). Regarding job position, 80% were team members (n = 1,639) and 20% were managers (n = 406). In the post-COVID sample, 30% were men (n = 618), 59% women (n = 1,218), and 11% did not report sex; 78% were under 40 years old (n = 1,589), 14% were over 40 (n = 281), and 8% did not report age. 74% were team members (n = 1,510), and 26% were managers (n = 539).

As a franchise, the organizational systems across restaurants—including leadership structure, schedules, shifts, and pay policies—are highly standardized. Therefore, any differences observed in psychosocial indicators before and after the pandemic are likely attributable to contextual factors (i.e., the pandemic) rather than internal organizational variability.

Prior to data collection, restaurant managers and HR coordinators were informed about the study objectives, ethical principles, and data protection requirements. The company provided official authorization to contact the employees, who were then invited via corporate email to complete the online survey. Each participant received a unique access link and was able to submit their response only once. Informed consent was requested from all respondents before participation, and it was made clear that completing the survey was entirely voluntary, anonymous, and used solely for aggregated analysis. The participation rate exceeded 70% across both waves of data collection, and each assessment was carried out within a one-month period per restaurant.

Variables

Psychosocial risks were measured with previously validated scales and grouped into dimensions using FPSICO 4.0 (Ferrer-Puig et al., 2011). The following 9 risk factors were obtained from the FPSICO questionnaire: working time (rest time, work on holidays and conciliation; e.g., "Do you work on Sundays and holidays?"); autonomy (temporary and decisional; e.g., "Can you make decisions concerning

the distribution of tasks throughout your working day?”); workload (time pressure, attention effort and quantity/difficulty; e.g., “How often do you have to speed up your work pace?”); psychological demands (cognitive and emotional demands; e.g., “To what extent does your job require you to take initiatives?”); variety and content (routine, meaning and contribution to work, recognition; e.g., “Do you find your job monotonous?”); Participation and supervision (degree of participation and leadership; e.g., “What is your level of participation in the following aspects of your job: introducing changes in the way of working?”); employee interest/compensation, (information, career development, training plan and remuneration; e.g., “Does your company foster your professional development [promotion, career plan…]?”); role performance (ambiguity, conflict and role overload; e.g., “State how often the following situations occur at your job: you receive contradictory instructions [different people ask you to do opposite tasks]?”); social support relationships (social support, quality of relationships, discrimination and violence; e.g., “How do you rate your relationship with your co-workers?”). Some of these risk factors were measured with a Likert scale of 3 points (no information, insufficient, adequate); others of 4 points (always or almost always, often, sometimes, never, or hardly ever) or 5 points (always or almost always, often, sometimes, never, or hardly ever, I don’t have anyone, there is no one else).

The FPSICO 4.0 method, developed by the Spanish National Institute for Occupational Safety and Health (INSST), includes a set of psychosocial risk factors that can be conceptually organized under the Job Demands–Resources (JD-R) model (Demerouti et al., 2001). Although all dimensions are framed as risk indicators, several of them are theoretically aligned with the notion of job resources, such as working time control, autonomy, participation in decision-making, supervision, social support, positive feedback, and career development opportunities. In contrast, dimensions like workload, psychological demands, task monotony, and role conflict reflect clear job demands, consistent with their definition as work aspects requiring sustained physical or mental effort (Bakker & Demerouti, 2007).

It is important to emphasize that the FPSICO method uses a risk-based formulation, where higher scores indicate a greater psychosocial risk. Therefore, scales corresponding to job resources are interpreted inversely: a high score in, for example, autonomy or feedback, indicates a low presence of that resource. This theoretical regrouping was applied in the present study based on the structural logic of the JD-R framework and aligns with prior literature applying similar classifications in Spanish organizational contexts (e.g., Gil-Monte et al., 2006; López-Araujo & Osca, 2007). Thus, while FPSICO does not explicitly classify variables as demands or resources, its factorial structure can be meaningfully

interpreted in those terms to analyze dual-process models of health impairment and motivation.

Work engagement was measured with the UWES-9 questionnaire (Schaufeli et al., 2006) using 9 items to analyze the level of work engagement in three subscales (three items each): vigor (e.g., "I feel full of energy in my work"), dedication (e.g., "My work inspires me"), and absorption (e.g., "I am immersed in my work"). It was rated using a Likert scale of 7 points (0=never, 6=always).

Although the psychosocial risk dimensions and engagement were assessed using separate instruments, both relied on Likert-type response formats. The FPSICO 4.0 method applies Likert scales ranging from 3 to 5 points, depending on the question, as established by the official protocol of the Spanish National Institute for Occupational Safety and Health (INSST, 2018). In contrast, work engagement was measured using the UWES-9 (Schaufeli et al., 2006), which uses a 7-point Likert scale (0 = *Never*, 6 = *Always*) in its validated original version. To preserve the construct validity and psychometric robustness of each scale, no transformations were applied to unify the response formats. Since the constructs were analyzed independently, comparability was not compromised by this difference.

Data analysis

Data analysis was conducted using IBM SPSS Statistics 22.0 (Arbuckle, 2013). First, descriptive statistics were calculated for both pre- and post-pandemic samples, including minimum and maximum values, means, standard deviations, skewness, and kurtosis. Internal consistency for each scale was assessed using Cronbach's alpha. Subsequently, Pearson correlation coefficients were computed to examine the relationships among study variables.

To test the study hypotheses, a series of univariate analyses of variance (ANOVAs) were performed to compare mean scores on psychosocial risk factors between pre- and post-COVID groups, considering participants' sex, age group, and job position. Although independent-sample t-tests could have been used to compare two groups, ANOVA was selected as a more general and flexible statistical framework. Additionally, effect sizes (η^2) were computed for all ANOVA tests to assess the proportion of explained variance. These values, although small in magnitude, were reported alongside significance levels to provide a more comprehensive interpretation of the results. This choice ensures consistency across all analyses and allows for potential extensions involving interaction terms or covariates in future studies. Assumptions of normality and homogeneity of variance were tested and met, supporting the appropriateness of the method. This analytical approach was deemed suitable for identifying

systematic differences in psychosocial risk perception across demographic and occupational subgroups.

Both FPSICO 4.0 and UWES-9 are widely validated instruments for assessing psychosocial risk factors and work engagement, respectively, and have demonstrated strong psychometric properties in previous studies with Spanish-speaking populations. Nonetheless, to ensure construct validity in the present sample, exploratory factor analyses (EFA) were performed using principal axis factoring with oblimin rotation.

For FPSICO, nine factors emerged as expected, aligned with the theoretical structure. The Kaiser-Meyer-Olkin (KMO) index was adequate, and Bartlett's test of sphericity was significant (p <.001), confirming the suitability of the data for factor analysis. Item loadings were mostly above.50 in their corresponding factors, and inter-factor correlations ranged from −.48 to +.40, indicating good convergent and discriminant validity.

For UWES-9, the EFA yielded three factors corresponding to vigor, dedication, and absorption. Item loadings were consistently high (most above.70), and communalities exceeded.60 in most cases, confirming strong convergent validity. Inter-factor correlations were moderately high (r =.54 to.75), consistent with previous research, reflecting the conceptual closeness between dimensions without compromising structural differentiation.

These results support the construct validity of both instruments within the analyzed context and confirm their appropriateness for subsequent analyses.

RESULTS

Descriptive and Internal consistency

Table 1 includes the main descriptive statistics of the observed variables where, in view of the values, it is understood that the data show univariate normality, since all of them have an asymmetry value lower than 2, and the kurtosis values are lower than 7 (Curran et al., 1996). The internal consistency (α Cronbach's) of the scales used exceeded the cut-off point of.70 (Nunnally & Bernstein, 1994), except for the working time scale (α<. 50).

Correlation Analysis

Table 2 includes a Pearson correlation analysis showing a significant positive correlation between all the risk factors, as well as a significant negative correlation between all these factors and engagement.

The Impact of the COVID-19 pandemic on Psychosocial Risks in the Fast-Food Sector: A Two-Wave study with a Diversity Approach

11

Table 1. Pre-COVID-19 and post-COVID-19 descriptive statistics and reliability

Risk Factors	Pre - COVID-19 (n=2,045)						Post - COVID-19 (n=2,049)					
	Min/Max.	Mean	SD	Skew.	Kurt.	α Cronb.	Min/Max.	Mean	SD	Asim.	Kurt.	α Cronb.
WT	0-37	21.46	6.289	-. 362	1.003	.435	0-37	22.85	6.780	-. 422	.534	.486
AU	0-113	63.51	27.758	-. 394	-.739	.866	0-113	66.56	28.214	-.607	-.524	.860
WL	0-106	51.31	19.259	. 011	-.360	.779	0-106	51.50	19.597	.033	-.434	.792
PD	13-110	59.25	19.327	. 259	-.426	.755	12-110	59.36	19.999	.172	-.526	.756
VC	0-69	25.46	13.722	. 277	-.434	.687	0-67	27.07	14.040	.214	-.513	.683
PS	4-87	39.48	14.816	. 720	.439	.824	4-87	40.91	16.407	.438	.172	.851
WIC	0-73	29.28	20.596	. 281	-1.181	.873	0-73	31.71	22.664	.180	-1.328	.898
RP	1-109	31.72	21.556	. 749	.224	.883	1-109	32.58	23.292	.815	.248	.902
SSR	0-91	19.73	16.726	. 956	.559	.780	0-90	19.44	17.687	1.058	.711	.810
ENG	0-6	3.95	1.34	-.251	-.975	.887	0-6	3.86	1.495	-.441	-.664	.928

Min: minimum value; Max: maximum value; SD: standard deviation; Skew: skewness; Kurt: kurtosis; α Cronb.: Cronbach's α. WT: working time; AU: autonomy; WL: workload; PD: psychological demands; VC: variety and content; PS: participation and supervision; WIC: worker interest and compensation; RP: role performance; SSR: social support relationships; ENG: work engagement.

Table 2. Pearson correlation of risk factors and engagement: pre-covid (top diagonal) and post-covid (bottom diagonal)

Risk Factors + Engagement		Pre-Covid correlation									
		WT	AU	WL	PD	VC	PS	WC	RP	SSR	ENG
Post – Covid correlation	WT	1	.384**	.376**	.228**	.370**	.340**	.377**	.410**	.352**	-.365**
	AU	.456**	1	.344**	.050*	.449**	.553**	.462**	.454**	.360**	-.441**
	WL	.435**	.363**	1	.481**	.417**	.421**	.509**	.627**	.475**	-.437**
	PD	.259**	.089**	.499**	1	.186**	.189**	.238**	.336**	.354**	-.193**
	VC	.412**	.470**	.453**	.241**	1	.460**	.565**	.556**	.515**	-.629**
	PS	.395**	.575**	.466**	.213**	.516**	1	.565**	.559**	.465**	-.440**
	WIC	.442**	.514**	.549**	.268**	.611**	.603**	1	.639**	.500**	-.511**
	RP	.461**	.439**	.667**	.383**	.594**	.580**	.683**	1	.652**	-.489**
	SSR	.383**	.367**	.544**	.401**	.565**	.503**	.583**	.699**	1	-.430**
	ENG	-.361**	-.441**	-.467**	-.220**	-.629**	-.482**	-.558**	-.551**	-.486**	1

** Correlation is significant at p <.01 level (bilateral).
WT: working time; AU: autonomy; WL: workload; PD: psychological demands; VC: variety and content; PS: participation and supervision; WIC: worker interest and compensation; RP: role performance; SSR: social support relationships; ENG: work Engagement.

Hypothesis Testing

Evolution of psychosocial risk factors before and after COVID-19 pandemic

From the comparison of the results for each risk factor before and after the COVID-19 pandemic, shown in Table 3, a significant increment can be observed in the psychosocial risk factors of working time, autonomy, variety and content, participation and supervision, and worker interest/compensation. This significant increase indicates that the pandemic has had a negative effect on people's psychosocial health, and working time is the risk factor that suffered the biggest increase.

Table 3. ANOVA of psychosocial risk factors before and after the COVID-19 pandemic

Risk factors	Pre-Covid (n=2,045)		Post-Covid (n=2,049)		ANOVA		
	Mean	SD	Mean	SD	F(1, DF)	Sig.	η²
WT	21.46	6.29	22.85	6.78	46.706	.000**	.01
AU	63.51	27.76	66.56	28.21	12.150	.000**	<.001
WL	51.31	19.26	51.50	19.60	. 097	.756	<.001
PD	59.25	19.33	59.36	20.00	. 031	.860	<.001
VC	25.46	13.72	27.07	14.04	13.769	.000**	<.001
PS	39.48	14.82	40.91	16.41	8.606	.003*	<.001
WIC	29.28	20.60	31.71	22.66	12.793	.000**	<.001
RP	31.72	21.56	32.58	23.29	1.515	.218	<.001
SSR	19.73	16.73	19.44	17.69	.291	.589	<.001
ENG	3.95	1.34	3.86	1.495	.759	.043	<.001

* Values significantly different at p<.01
** values significantly different at p<.001
WT: working time; AU: autonomy; WL: workload; PD: psychological demands; VC: variety and content; PS: participation and supervision; WIC: worker interest and compensation; RP: role performance; SSR: social support relationships; ENG: work Engagement.

Changes in psychosocial risk factors before and after COVID-19 pandemic according to sex

When comparing each risk factor before and after the COVID-19 pandemic according to sex, Table 4 shows that the risks of working time and worker interest/compensation increased significantly for the men's group. On the other hand, in the women's group, a significant increase was found in the risk factors of working time, autonomy, variety and content, participation and supervision, and worker interest/compensation. When separating men and women, we found that engagement levels did not differ significantly before and after the pandemic. According to these results, the negative effect of the pandemic has affected the female group more than the male group, and, in both groups, the risk factor with the highest increase was working time.

Table 4. ANOVA of psychosocial risk factors before and after the COVID-19 pandemic according to sex

Risk factors	Man (n=1,454)							Woman (n=2,292)						
	Pre-Covid (n=836)		Post-Covid (n=618)		ANOVA			Pre-Covid (n=1,074)		Post-Covid (n=1,218)		ANOVA		
	Mean	SD	Mean	SD	DF	F	Sig.	Mean	SD	Mean	SD	F(1, DF)	Sig.	η²
WT	21.90	5.62	22.88	6.77	1	8.965	.003*	20.78	6.64	22.57	6.81	40.158	.000*	.010
AU	61.91	27.34	62.40	28.89	1	.110	.740	63.38	28.00	66.70	27.80	8.056	.005*	.002
WL	51.73	19.49	52.32	2.41	1	.317	.573	49.61	18.92	49.45	19.02	.038	.845	<.001
PD	56.78	19.57	55.70	2.44	1	1.045	.307	60.40	18.99	60.54	19.49	.031	.859	<.001
VC	25.83	13.72	27.13	13.86	1	3.158	.076	24.13	13.48	25.98	14.05	10.210	.001*	.002
PS	39.68	14.61	39.39	16.64	1	.118	.731	38.19	14.15	40.56	15.64	14.373	.000*	.004
WIC	30.08	20.40	32.64	23.16	1	4.974	.026*	27.04	20.22	29.57	22.16	8.077	.005*	.002
RP	32.03	21.20	33.56	24.36	1	1.626	.202	29.78	21.19	30.25	22.14	.263	.608	<.001
SSR	18.64	16.12	18.81	17.66	1	.036	.850	19.50	16.67	18.58	17.19	1.684	.195	<.001
ENG	4.089	1.281	3.810	1.511	1	2.670	.103	3.958	1.353	3.980	1.462	.021	.884	<.001

* Values significantly different at p<.05

SD: standard deviation; DF: degrees of freedom; Sig: significance; WT: working time; AU: autonomy; WL: workload; PD: psychological demands; VC: variety and content; PS: participation and supervision; WIC: worker interest and compensation; RP: role performance; SSR: social support relationships; ENG: work Engagement.

The Impact of the COVID-19 pandemic on Psychosocial Risks in the Fast-Food Sector: A Two-Wave study with a Diversity Approach

15

Table 5. ANOVA of psychosocial risk factors before and after the COVID-19 pandemic according to age

Risk factors	Young [<40 years] (n=3,314)							Older [≥40 years] (n=469)						
	Pre-Covid (n=1,725)		Post-Covid (n=1,589)		ANOVA			Pre-Covid (n=188)		Post-Covid (n=281)		ANOVA		
	Mean	SD	Mean	SD	DF	F	Sig.	Mean	SD	Mean	SD	F(1, DF)	Sig.	η²
WT	22.66	5.98	24.66	6.25	1	73.401	<. 001*	20.00	7.50	20.64	7.49	. 095	. 758	<.001
AU	69.31	25.95	74.20	24.66	1	29.841	<. 001*	67.05	28.64	60.01	29.92	8.620	. 003*	.002
WL	55.60	18.69	56.89	19.18	1	2.527	. 112	53.89	20.60	49.98	20.03	5.778	. 017*	.001
PD	62.56	19.54	63.19	19.60	1	. 206	. 650	58.08	19.96	58.66	20.76	. 027	. 870	<.001
VC	28.41	13.58	30.88	13.47	1	25.317	<. 001*	25.65	12.77	24.40	14.34	3.589	. 059	.001
PS	42.45	15.07	45.36	16.04	1	23.599	<. 001*	41.02	16.09	39.27	18.46	4.889	. 028*	.001
WIC	33.85	20.37	38.74	22.09	1	29.906	<. 001*	31.90	21.16	28.83	23.69	5.592	. 018*	.001
RP	37.01	22.41	40.26	24.86	1	9.996	. 002*	34.24	20.77	30.55	23.31	6.795	. 009*	.002
SSR	23.26	17.66	24.02	19.07	1	. 186	. 666	23.19	17.22	19.45	17.82	9.359	. 002*	.002
ENG	4.001	1.322	3.752	1.482	1	4.434	. 035*	4.074	1.394	4.624	1.269	3.143	. 077	.001

* Values significantly different at p<.05

WT: working time; AU: autonomy; WL: workload; PD: psychological demands; VC: variety and content; PS: participation and supervision; WIC: worker interest and compensation; RP: role performance; SSR: social support relationships; ENG: work Engagement.

Table 6. ANOVA of psychosocial risk factors before and after the COVID-19 pandemic according to job

Risk factors	Team members (n=3,149)							Managers (n=893)						
	Pre-Covid (n=1,639)		Post-Covid (n=1,510)		ANOVA			Pre-Covid (n=354)		Post-Covid (n=539)		ANOVA		
	Mean	SD	Mean	SD	DF	F	Sig.	Mean	SD	Mean	SD	F(1, DF)	Sig.	η²
WT	21.74	6.20	23.46	6.35	1	58.669	<.001*	20.49	6.44	21.17	7.61	3.331	.068	.001
AU	69.09	25.23	73.69	24.13	1	27.206	<.001*	43.05	26.18	46.58	29.23	9.343	.002*	.002
WL	51.06	18.95	51.80	19.05	1	1.218	.270	51.79	20.39	50.65	21.06	1.536	.216	<.001
PD	57.66	18.97	57.61	19.26	1	.004	.949	65.70	19.57	64.24	21.21	1.155	.283	<.001
VC	26.40	13.66	28.42	13.60	1	17.295	<.001*	22.47	13.35	23.29	14.57	3.058	.081	.001
PS	41.73	14.28	44.14	14.59	1	21.893	<.001*	30.93	13.52	31.88	17.80	1.975	.160	<.001
WIC	30.99	20.61	34.11	22.11	1	16.863	<.001*	23.27	19.32	24.97	22.86	3.306	.069	.001
RP	33.27	21.57	34.02	23.15	1	.904	.342	26.07	20.78	28.54	23.24	4.488	.034*	.001
SSR	20.48	16.90	20.11	17.81	1	.347	.556	17.60	16.16	17.57	17.21	.589	.443	<.001
ENG	3.780	1.345	3.374	1.478		.133	.715	4.436	1.222	4.210	1.488	1.148	.284	<.001

* Values significantly different at p<.05

WT: working time; AU: autonomy; WL: workload; PD: psychological demands; VC: variety and content; PS: participation and supervision; WIC: worker interest and compensation; RP: role performance; SSR: social support relationships; ENG: work Engagement.

Evolution of psychosocial risk factors before and after the COVID-19 pandemic according to age

When comparing each risk factor before and after the COVID-19 pandemic according to age, Table 5 shows that the younger group (<40 years) had seen a significant increase in almost all risk factors: working time, autonomy, variety and content, participation and supervision, worker interest/compensation, and role performance. However, in the older group (≥40 years), an opposite trend was observed: there was a statistically significant reduction in the risk factors of autonomy, workload, participation and supervision, worker interest/compensation, role performance, and social support relationships. Regarding the work engagement results between younger and older people using the ANOVA test, a significant reduction in work engagement was observed in the younger group. In the older group, this difference was not statistically significant. According to these results, young people have seen their psychosocial situation significantly worsened after the pandemic. Interestingly, in the group of older people, however, the trend has been rather the opposite, with significant improvements in all risk factors. Particularly significant is the reduction in the risk factors of autonomy, workload, and supervisory participation in the older group.

Evolution of psychosocial risk factors before and after the COVID-19 pandemic according to job position

When comparing each risk factor before and after pandemic 19 according to the job position, Table 6 shows that, in the group of team members, the risks of working time, autonomy, variety and content, and worker interest/compensation increased significantly. However, in the group of managers, significant increase was only found in autonomy and role performance. Based on these results, the negative effect of the pandemic has affected team members more than managers.

DISCUSSION

The primary aim of this study was to assess how the COVID-19 pandemic context affected psychosocial risks and work engagement within the fast-food sector, and to explore whether this impact varied according to demographic (sex, age) and occupational (job position) factors.

Regarding H1, the results of this two-wave study confirm that psychosocial risks significantly increased in the post-pandemic period. This finding is consistent with previous research highlighting the deterioration of working conditions and the rise of emotional strain during the pandemic across various sectors (Franklin & Gkiouleka, 2021; Sigahi et al., 2021). The most affected dimensions were those

related to work-life balance (working time), lack of autonomy, monotonous or repetitive tasks (routine), lack of recognition (variety and content), insufficient information and participation in decision-making (participation and supervision), and career development and compensation. These results align with the health impairment process of the JD-R model (Bakker & Demerouti, 2007), whereby increased job demands combined with a perceived lack of resources intensify the psychosocial burden.

Concerning H2, we observed that women reported significantly higher psychosocial risks than men in the post-pandemic context. This is consistent with earlier studies showing that women have experienced a disproportionate psychological impact during the pandemic (González-Sanguino et al., 2020; Xiong et al., 2020), particularly in emotional labor roles common in service sectors (Holman, 2003; Zapf et al., 1999). In our data, female participants showed increased risk levels across most psychosocial dimensions, including autonomy, routine, feedback, and participation. These findings support the notion that job resources are less accessible to women in low-wage occupational settings, which may exacerbate the motivational deficit and increase emotional exhaustion (Schaufeli et al., 2009).

As for H3, younger workers (≤ 40 years) showed significantly higher increases in psychosocial risks compared to their older counterparts. This supports prior findings indicating that younger employees tend to experience more instability and emotional strain during crises (Planchuelo-Gómez et al., 2020; Xiong et al., 2020). The JD-R model may explain this through the interaction of lower accumulated job resources (e.g., tenure-based autonomy or role clarity) with high job demands. Moreover, the protective role of age and resilience, as suggested by Cuiyan Wang et al. (2020), may have contributed to the relatively lower risk perception among older workers. Interestingly, our findings indicate that older workers not only resisted deterioration but even reported improvements in some dimensions, suggesting potential post-traumatic growth or role revaluation.

Finally, with respect to H4, team members experienced a more pronounced increase in psychosocial risk levels than managers. This is in line with research showing that supervisors often benefit from better access to training, information, and coping resources (Giménez-Espert et al., 2020), which may act as protective factors. Additionally, managers in our sample were on average older, which—again—could enhance resilience. While managers reported some deterioration in autonomy and role clarity, team members exhibited significantly greater strain across nearly all indicators, particularly in dimensions related to control, communication, and recognition. This supports the JD-R framework, which emphasizes the uneven distribution of resources and demands across organizational hierarchies (Bakker & Demerouti, 2007; Schaufeli et al., 2009).

In addition to the psychosocial risk indicators, the study also assessed work engagement as a key outcome variable within the JD-R framework. The results revealed a significant decline in engagement levels in the post-pandemic context, suggesting a disruption in the motivational process. This finding is aligned with previous research indicating that the COVID-19 crisis negatively affected workers' energy, dedication, and absorption—especially in frontline service roles where job resources became scarcer (Guo et al., 2022; Knight et al., 2021). Engagement, unlike the risk factors measured through FPSICO, captures the positive pole of occupational well-being and is highly sensitive to changes in perceived autonomy, recognition, and purpose—all dimensions that were found to be negatively impacted in our sample (Bakker et al., 2008; Schaufeli et al., 2002).

Notably, the decline in engagement was statistically significant among younger workers, aligning with the same vulnerable group identified in the risk dimension analyses. Although descriptive trends suggested decreases among women and team members, these differences were not statistically significant. This suggests that reduced access to key resources—such as decision-making participation, feedback, or career development—may have simultaneously elevated perceived risk and diminished motivation, as predicted by the JD-R model's dual-path structure (Bakker & Demerouti, 2007; Schaufeli et al., 2009). These results reinforce the importance of addressing both risk and resource dimensions in parallel, particularly in low-autonomy environments such as fast-food chains, where motivational deterioration can have direct consequences on retention, performance, and emotional sustainability.

THEORETICAL IMPLICATIONS

One of the main strengths of this study lies in its two-wave design, which includes pre- and post-pandemic data collected from the same occupational context. This allows for a precise identification of psychosocial changes attributable to the COVID-19 crisis. Although alternative explanations—such as organizational or environmental shifts—could be considered, the standardized nature of the fast-food franchise (in terms of work organization, supervision, and remuneration systems) reduces the likelihood that such factors explain the observed differences. Thus, the temporal contrast provides a robust approximation of the pandemic's specific impact on psychosocial health.

From a theoretical standpoint, this study extends the Job Demands–Resources (JD-R) model by applying it in a two-wave framework during a global crisis, offering empirical evidence on how job demands and resources interact dynamically under acute organizational stress. While the JD-R model has been widely applied to healthcare

and professional contexts, its validation in low-wage, service-oriented sectors remains limited. Our findings support the dual-path structure of the model—highlighting both the health impairment and motivational processes—and reveal how vulnerable groups (e.g., women, younger workers, and non-supervisory staff) experience these dynamics more acutely. In this way, the study reinforces the model's applicability beyond traditional occupational settings and provides a framework for understanding resilience and strain in precarious environments.

As expected, the pandemic had a considerable psychosocial impact on workers during 2020 and 2021, and its effects may persist in the coming years. This makes it essential to better understand the mechanisms that triggered stress and discomfort, as well as those protective factors that enhanced resistance and adaptability. In this regard, our study provides insight into how a combination of job demands (e.g., workload, lack of control, routine) and insufficient resources (e.g., feedback, autonomy, participation) jointly contributed to elevated risk levels.

The pandemic did not affect all industries equally. The catering and fast-food sector, in particular, suffered long periods of shutdown, which intensified job insecurity and psychological vulnerability (Chi et al., 2021; Vo-Thanh et al., 2021). This is in line with JD-R literature that identifies perceived job insecurity as a key psychosocial demand during economic crises (Cao et al., 2023). Our results confirm this pattern, especially among younger workers, who are traditionally more exposed to job precarity (Balluerka et al., 2020). The combination of developmental uncertainty and limited access to career planning or supervisory support may have undermined their capacity for resilience and engagement.

PRACTICAL IMPLICATIONS

The findings of this study provide practical guidance for designing psychosocial risk prevention strategies, particularly in response to large-scale disruptions such as the COVID-19 pandemic. First, organizations should invest in training and preparedness programs that anticipate future health or social emergencies. These initiatives should focus on reinforcing core job resources—such as autonomy, work-life balance, participatory leadership, and career development—which have proven to buffer the effects of elevated job demands in times of crisis. Although future crises may differ in nature, enhancing these resources builds a general foundation for organizational resilience and employee well-being.

Second, the results emphasize the need for sex-sensitive organizational policies. The higher psychosocial impact observed among women—likely linked to greater caregiving burdens and reduced decision-making autonomy—highlights the urgen-

cy of promoting co-responsibility through awareness campaigns, sex equity training, and leadership development programs. These measures can help mitigate structural inequalities and improve psychosocial resilience, particularly in feminized sectors or roles.

Third, targeted interventions for vulnerable demographic groups, especially younger workers and women, should be prioritized. Among younger employees, strategies should focus on strengthening job resources such as role clarity, autonomy, and structured career progression. Among women, actions should emphasize work-life integration, support from supervisors, and access to recognition and feedback systems. These group-specific strategies are key to reducing emotional strain, enhancing engagement, and promoting workforce stability under adverse conditions.

Furthermore, companies operating in high-turnover, low-autonomy environments—such as the fast-food sector—should consider implementing long-term psychosocial monitoring systems. These may include periodic post-crisis assessments, continuous well-being indicators, and early detection protocols for high-risk profiles. Embedding such mechanisms into occupational health practices would enable proactive decision-making and increase organizational capacity to respond effectively to future psychosocial challenges.

Finally, at the policy level, this study supports the need to strengthen national and sector-specific frameworks for psychosocial prevention. This includes integrating *pandemic-sensitive guidelines* into existing occupational health legislation, updating psychosocial evaluation protocols to include *engagement and resilience indicators*, and reinforcing mandatory training with age- and sex-sensitive approaches. Expanding public prevention strategies beyond a risk-control perspective—toward the promotion of motivation and psychological sustainability—would represent a necessary evolution in labor and health policy following the lessons learned from the COVID-19 pandemic.

LIMITATIONS AND FUTURE STUDIES

The present study has some limitations that should be acknowledged and can serve as a basis for future research. First, the use of self-reported data increases the risk of common method bias. Although this approach is justified by the subjective nature of psychosocial risk perception—where employees are the most valid informants—it may lead to response tendencies such as acquiescence or social desirability. To mitigate this, we applied differentiated response scales across variables and collected data in two separate waves (pre- and post-pandemic), which helps reduce monomethod variance (Podsakoff et al., 2012).

Second, the sample was drawn from a specific fast-food franchise operating in Spain, which limits the external validity of the findings. While the internal consistency of the organizational structure across locations is a strength, it also constrains the heterogeneity of work environments. Future studies should replicate this design across different companies, regions, and sub-sectors of the catering and hospitality industry to improve generalizability and explore the role of organizational culture or national labor policies as moderating variables.

Third, although the study draws on pre- and post-pandemic data from similar demographic profiles, the samples consist of different individuals. Therefore, the design cannot be considered fully longitudinal, which limits the ability to track intra-individual change over time. A promising avenue for future research would be to implement panel designs that follow the same participants longitudinally, allowing for more precise modeling of psychosocial trajectories and recovery dynamics.

Fourth, the study did not include individual-level control variables such as personality traits (e.g., resilience, neuroticism), educational background, family responsibilities, or previous health conditions. These factors may influence how employees perceive psychosocial risks or engagement and could act as potential confounders. Future studies should consider incorporating such variables to isolate the specific impact of organizational and contextual conditions more accurately.

Despite these limitations, the study provides meaningful insights into how job demands and resources shifted across phases of the pandemic and how specific groups were differentially affected. Future research should continue to explore these dynamics using mixed methods and multilevel approaches, particularly in underexamined labor contexts such as fast-food and other precarious service sectors.

Beyond the methodological limitations discussed, this study also opens avenues for more ambitious research. Future studies could adopt multilevel designs that integrate both individual and organizational-level data (e.g., team climate, managerial behavior), allowing for a deeper understanding of contextual moderators in the JD-R model. Additionally, using longitudinal panel data with repeated measures from the same individuals would enable the modeling of intra-individual change and adaptation mechanisms over time.

Another promising direction involves conducting quasi-experimental or intervention studies, testing the effectiveness of resource-enhancing programs (e.g., leadership training, job crafting) on reducing psychosocial risk and improving engagement. Cross-national comparisons could also clarify the role of institutional and cultural factors, particularly by replicating this study in countries with different labor protection regimes or in alternative service sectors (e.g., hospitality, retail). Finally, future models could benefit from integrating outcome

variables such as burnout, job satisfaction, and performance to explore more complex mediation and moderation effects within the JD-R framework.

BIBLIOGRAPHY

Arbuckle, James L. (2013). *IBM SPSS AMOS 22 User Guide*. IBM Corp.

Bakker, Arnold B., & Demerouti, Evangelina (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology*, *22*(3), 309–328. https://doi.org/10.1108/02683940710733115

Bakker, Arnold B.; Demerouti, Evangelina, & Sanz-Vergel, Ana (2023). Job demands–resources theory: Ten years later. *Annual Review of Organizational Psychology and Organizational Behavior*, *10*, 25–53. https://doi.org/10.1146/annurev-orgpsych-120920-053933

Bakker, Arnold B., & de Vries, Juriena D. (2021). Job demands–resources theory and self-regulation: New explanations and remedies for job burnout. *Anxiety, Stress, & Coping*, *34*(1), 1–21. https://doi.org/10.1080/10615806.2020.1797695

Bakker, Arnold B.; Schaufeli, Wilmar B.; Leiter, Michael P., & Taris, Toon W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work & Stress*, *22*(3), 187–200. https://doi.org/10.1080/02678370802393649

Balluerka, Nekane L.; Gómez, Juana; Hidalgo, María D.; Gorostiaga, Arantxa; Espada, José P.; Padilla, José L., & Santed, Miguel A. (2020). *Las consecuencias psicológicas de la COVID-19 y el confinamiento*. Universidad del País Vasco. http://hdl.handle.net/10810/45924

Cao, Jie; Liu, Jing, & Wong, Jose W. C. (2023). JD-R model on job insecurity and the moderating effect of COVID-19 perceived susceptibility. *Current Psychology, 43*, 16890–16904. https://doi.org/10.1007/s12144-023-04646-6

Chi, Oscar H.; Saldamli, Asim, & Gursoy, Dogan (2021). Impact of the COVID-19 pandemic on management-level hotel employees' work behaviors: Moderating effects of working-from-home. *International Journal of Hospitality Management*, *98*, Article 103020. https://doi.org/10.1016/j.ijhm.2021.103020

Cox, Tom, & Griffiths, Amanda (2005). The nature and measurement of work-related stress: Theory and practice. En John R. Wilson, & Nigel Corlett (Eds.), *Evaluation of Human Work* (3ª ed., pp. 553–573). CRC Press.

Curran, Patrick J.; West, Stephen G., & Finch, John F. (1996). The robustness of test statistics to nonnormality and specification error in confirmatory factor analysis. *Psychological Methods*, *1*(1), 16–29. https://doi.org/10.1037/1082-989X.1.1.16

Danet, Alina (2021). Psychological impact of COVID-19 pandemic in Western frontline healthcare professionals: A systematic review. *Medicina Clínica*, *156*(9), 449–458. https://doi.org/10.1016/j.medcli.2020.11.009

Demerouti, Evangelina; Nachreiner, Friedhelm; Bakker, Arnold B., & Schaufeli, Wilmar B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology, 86*(3), 499–512. https://doi.org/10.1037/0021-9010.86.3.499

Doran, Áine; Colvin, Christopher L., & McLaughlin, Eoin (2024). What can we learn from historical pandemics? A systematic review of the literature. *Social Science & Medicine*, *342*, Article 116534. https://doi.org/10.1016/j.socscimed.2023.116534

Dosil-Santamaría, María; Ozamiz-Etxebarria, Naiara; Redondo-Rodríguez, Iratxe; Alboniga-Mayor, Joana J., & Gorrotxategi, Maitane P. (2021). Psychological impact of COVID-19 on a sample of Spanish health professionals. *Revista de Psiquiatría y Salud Mental*, *14*(2), 106–112. https://doi.org/10.1016/j.rpsm.2020.05.004

European Agency for Safety and Health at Work (EU-OSHA). (2014). *Psychosocial risks and stress at work*. https://osha.europa.eu/en/themes/psychosocial-risks-and-stress

Ferrer-Puig, Ramón; Guilera Ferré, Georgina, & Peró Cebollero, Maribel (2011). *Propiedades psicométricas del instrumento de valoración de riesgos psicosociales del Instituto Nacional de Seguridad e Higiene en el Trabajo (FPSICO)*. Instituto Nacional de Seguridad e Higiene en el Trabajo. http://www.insht.es/InshtWeb/Contenidos/Documentacion/NOVEDADES_EDITORIALES/FPsico/Informe_justificación.pdf

Franklin, Paula, & Gkiouleka, Anna (2021). A scoping review of psychosocial risks to health workers during the COVID-19 pandemic. *International Journal of Environmental Research and Public Health*, *18*(5), Article 2453. https://doi.org/10.3390/ijerph18052453

Gil-Monte, Pedro R.; Peiró, José M., & Valcárcel, Pilar (2006). Riesgos psicosociales y salud laboral en el trabajo con personas con discapacidad intelectual. *Revista de Psicología del Trabajo y de las Organizaciones*, *22*(2), 267–284.

Giménez-Espert, María del C.; Prado-Gascó, Vicente, & Soto-Rubio, Ana (2020). Psychosocial risks, work engagement, and job satisfaction of nurses during COVID-19 pandemic. *Frontiers in Public Health*, *8*, Article 566896. https://doi.org/10.3389/fpubh.2020.566896

González-Sanguino, Clara; Ausín, Berta; Castellanos, Miguel Á.; Saiz, Jesús; López-Gómez, Aída; Ugidos, Carolina, & Muñoz, Manuel (2020). Mental health consequences during the initial stage of the 2020 Coronavirus pandemic (COVID-19) in Spain. *Brain, Behavior, and Immunity*, *87*, 172–176. https://doi.org/10.1016/j.bbi.2020.05.040

Guo, Ju; Qiu, Yanjun, & Gan, Yongtao (2022). Workplace incivility and work engagement: The mediating role of job insecurity and the moderating role of self-perceived employability. *Managerial and Decision Economics*, *43*(1), 192–205. https://doi.org/10.1002/mde.3377

Holman, David (2003). Phoning in sick? An overview of employee stress in call centres. *Leadership & Organization Development Journal*, *24*(3), 123–130. https://doi.org/10.1108/01437730310469543

Instituto Nacional de Seguridad y Salud en el Trabajo (INSST). (2018). *FPSICO 4.0: Método de evaluación de factores psicosociales*. Ministerio de Trabajo, Migraciones y Seguridad Social. https://www.insst.es/documentacion/catalogo-de-publicaciones/aip.29.1.18-fpsico.-factores-psicosociales.-metodo-de-evaluacion.-version-4.0.-ano-2018

Karatepe, Osman M.; Okumus, Fevzi, & Saydam, Mehmet B. (2022). Outcomes of job insecurity among hotel employees during COVID-19. *International Hospitality Review*, *38*(1), 101–118. https://doi.org/10.1108/IHR-11-2021-0070

Kelly, Brendan D. (2020). Coronavirus disease: Challenges for psychiatry. *The British Journal of Psychiatry*, *217*(1), 352–353. https://doi.org/10.1192/bjp.2020.86

Killgore, William D. S.; Taylor, Emily C.; Cloonan, Sara A., & Dailey, Natalie S. (2020). Psychological resilience during the COVID-19 lockdown. *Psychiatry Research*, *291*, Article 113216. https://doi.org/10.1016/j.psychres.2020.113216

Knight, Caroline; Patterson, Malcolm, & Dawson, Jeremy (2021). Building work engagement: A systematic review and meta-analysis investigating the effectiveness of work engagement interventions. *Journal of Organizational Behavior*, *42*(8), 941–960. https://doi.org/10.1002/job.2167

López-Araujo, Blanca, & Osca, Amparo (2007). Demandas y recursos laborales: Su papel en la predicción del bienestar laboral. *Revista de Psicología del Trabajo y de las Organizaciones*, *23*(2), 179–194.

López-Núñez, Alfonso; Piqueras, José A.; Falcó, Raquel, & PSICO-RECURSOS-COVID-19 study group (2021). El papel mediador de las fortalezas psicológicas entre la interferencia académica/laboral y la salud mental durante el confinamiento por COVID-19. *Acción Psicológica, 18*(1), 1–16. https://doi.org/10.5944/ap.18.1.29035

Martín-Ruiz, Juan F. (2005). Los factores definitorios de los grandes grupos de edad de la población: Tipos, subgrupos y umbrales. *Geo Crítica / Scripta Nova. Revista Electrónica de Geografía y Ciencias Sociales, 9*(190), 1–13. http://www.ub.edu/geocrit/sn/sn-190.htm

Martínez López, José M. (2021). *Análisis del empleo en el sector de hostelería 2019-2021: Propuestas para un empleo sostenible y de calidad*. Federación de Servicios de CCOO. https://www.ccoo-servicios.es/archivos/analisis%20empleo%20hosteleria%20 2019-2021.pdf

Nunnally, Jum, & Bernstein, Ira (1994). *Psychometric theory* (3ª ed.). McGraw-Hill.

Petzold, Moritz B.; Bendau, Antonia; Plag, Jens; Pyrkosch, Lena; Mascarell Maricic, Lea; Betzler, Felix; Rogoll, Janina; Große, Julia, & Ströhle, Andreas (2020). Risk, resilience, psychological distress, and anxiety at the beginning of the COVID-19 pandemic in Germany. *Brain and Behavior, 10*(9), Article e01745. https://doi.org/10.1002/brb3.1745

Planchuelo-Gómez, Álvaro; Odriozola-González, Paula; Irurtia, María J., & de Luis-García, Rodrigo (2020). Longitudinal evaluation of the psychological impact of the COVID-19 crisis in Spain. *Journal of Affective Disorders, 277*, 842-849. https://doi.org/10.1016/j.jad.2020.09.018

Podsakoff, Philip M.; MacKenzie, Scott B., & Podsakoff, Nathan P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology, 63*, 539–569. https://doi.org/10.1146/ANNUREV-PSYCH-120710-100452

Prime, Heather; Wade, Mark, & Browne, Dillon T. (2020). Risk and resilience in family well-being during the COVID-19 pandemic. *American Psychologist, 75*(5), 631–643. https://doi.org/10.1037/amp0000660

Salari, Nader; Hosseinian-Far, Amin; Jalali, Rostam; Vaisi-Raygani, Aliakbar; Rasoulpoor, Shna; Mohammadi, Masoud; Rasoulpoor, Shabnam, & Khaledi-Paveh, Behnam (2020). Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: A systematic review and meta-analysis. *Globalization and Health, 16*, Article 57. https://doi.org/10.1186/s12992-020-00589-w

Sandín, Bonifacio; Valiente, Rosa M.; García-Escalera, Julia, & Chorot, Paloma (2020). Impacto psicológico de la pandemia de COVID-19: Efectos negativos y positivos en población española asociados al periodo de confinamiento nacional. *Revista de Psicopatología y Psicología Clínica, 25*(1), 1–22. https://doi.org/10.5944/rppc.27569

Schaufeli, Wilmar B., & Bakker, Arnold B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior, 25*(3), 293–315. https://doi.org/10.1002/job.248

Schaufeli, Wilmar B.; Bakker, Arnold B., & Salanova, Marisa (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement, 66*(4), 701–716. https://doi.org/10.1177/0013164405282471

Schaufeli, Wilmar B.; Bakker, Arnold B., & Van Rhenen, Willem (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *Journal of Organizational Behavior, 30*(7), 893–917. https://doi.org/10.1002/job.595

Schaufeli, Wilmar B.; Salanova, Marisa; González-Romá, Vicente, & Bakker, Arnold B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being, 3*(1), 71–92. https://doi.org/10.1023/A:1015630930326

Sigahi, Tiago F. A. C.; Kawasaki, Bruno C.; Bolis, Ivan, & Morioka, Sandra N. (2021). A systematic review on the impacts of Covid-19 on work: Contributions and a path forward from the perspectives of ergonomics and psychodynamics of work. *Human Factors and Ergonomics in Manufacturing & Service Industries*, *31*(5), 375–388. https://doi.org/10.1002/hfm.20889

Soonthornchaiya, Rangsiman (2020). Resilience for psychological impacts of COVID-19 pandemic on older adults in Thailand. *Gerontology and Geriatric Medicine*, *6*, 1–4. https://doi.org/10.24966/ggm-8662/100053

Tong, Jie; Zhang, Jie; Zhu, Na; Pei, Yu; Liu, Weiqing; Yu, Wei; Hu, Chengping, & Sun, Xirong (2023). Effects of COVID-19 pandemic on mental health among frontline healthcare workers: A systematic review and meta-analysis. *Frontiers in Psychology*, *13*, Article 1096857. https://doi.org/10.3389/fpsyg.2022.1096857

Vindegaard, Nina, & Benros, Michael E. (2020). COVID-19 pandemic and mental health consequences: Systematic review of the current evidence. *Brain, Behavior, and Immunity*, *89*, 531–542. https://doi.org/10.1016/j.bbi.2020.05.048

Vo-Thanh, Tan; Vu, Thinh-Van; Nguyen, Nguyen P.; Nguyen, Duy V.; Zaman, Mustafeed, & Chi, Hsinkuang (2021). COVID-19, frontline hotel employees' perceived job insecurity and emotional exhaustion: Does trade union support matter? *Journal of Sustainable Tourism*, *30*(6), 1159–1176. https://doi.org/10.1080/09669582.2021.1910829

Wang, Cuiyan; Pan, Riyu; Wan, Xiaoyang; Tan, Yilin; Xu, Linkang; Ho, Cyrus S., & Ho, Roger C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International Journal of Environmental Research and Public Health*, *17*(5), Article 1729. https://doi.org/10.3390/ijerph17051729

World Health Organization. (2021). *WHO Coronavirus Disease (COVID-19) Dashboard with Vaccination Data*. https://COVID-19.who.int/

Xiong, Jiaqi; Lipsitz, Orly; Nasri, Flora; Lui, Leanna M. W.; Gill, Hartej; Phan, Lee; Chen-Li, David; Iacobucci, Michelle; Ho, Roger; Majeed, Amna, & McIntyre, Roger S. (2020). Impact of COVID-19 pandemic on mental health in the general population: A systematic review. *Journal of Affective Disorders*, *277*, 55–64. https://doi.org/10.1016/j.jad.2020.08.001

Yıldırım, Murat, & Arslan, Gökmen (2022). Exploring the associations between resilience, dispositional hope, preventive behaviours, subjective well-being, and psychological health among adults during early stage of COVID-19. *Current Psychology*, *41*, 5712–5722. https://doi.org/10.1007/s12144-020-01177-2

Zapf, Dieter; Vogt, Christoph; Seifert, Claudia; Mertini, Hiedrun, & Isic, Amela (1999). Emotion work as a source of stress: The concept and development of an instrument. *European Journal of Work and Organizational Psychology*, *8*(3), 371–400. https://doi.org/10.1080/135943299398230

●

GERMÁN CAÑAVATE

PhD in Design, Management, and Evaluation of Social Welfare Policies from Universitat Jaume I (UJI). Technical director at an external prevention service, he conducts research on psychosocial risks and gender in the workplace.
german.canavate@unir.net
https://orcid.org/0000-0002-2407-3867

ISABELLA MENEGHEL

PhD in Work, Organizational, and Human Resources Psychology. Associate Professor at UIC Barcelona. From a positive organizational psychology approach, she researches mental health and workplace well-being, resilience, and positive interventions to promote healthy work environments.
imeneghel@uic.es
https://orcid.org/0000-0001-9455-7317

MARISA SALANOVA

Universitat Jaume I
PhD in Psychology and Full Professor of Social Psychology, specialized in Positive Organizational Psychology at Universitat Jaume I (UJI). She is director of the research team "WANT_Psychosocial Prevention and Healthy Organizations" (www.want.uji.es). Founding member and past president of the Spanish Society of Positive Psychology (www.sepsicologiapositiva.es).
salanova@uji.es
https://orcid.org/0000-0001-7873-7078