

The effects of an intervention program on psychosocial factors and consequences during the COVID-19 pandemic in a Chilean technology services company: A quasiexperimental study

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Abstract

Background and Aims: During the COVID-19 pandemic, mental health became a relevant factor in people's performance within organizations. The aim of this study was to analyze the effects of an organizational intervention program on the psychosocial factors of demands, resources, and the consequences of psychosocial risks in a technology services company during the COVID-19 pandemic.

Methods: A quasiexperimental study was carried out with 105 employees who took part in an 8-week intervention program divided into two large stages. Pre- and postmeasurements were collected using the UNIPSCO Questionnaire, considering its factors of demands, resources, and consequences of psychosocial risks. The Spanish Burnout Inventory (SBI) was also included.

Results: The results showed significant improvements in the perception of the following psychosocial demand factors: Role conflict ($p < 0.001$), Role ambiguity, workload, interpersonal conflicts ($p < 0.05$). In the resource factors: autonomy, work social support, feedback ($p < 0.001$) Resources at work, transformational leadership, and self-efficacy ($p < 0.05$). In addition, all the consequences of psychosocial risks have improvements: Indolence, emotional exhaustion, and job satisfaction ($p < 0.001$), Burnout syndrome, enthusiasm toward the job, and psychosomatic problems ($p < 0.05$), except the Guilt dimension of the SBI.

Conclusion: We can conclude that the program was effective and that the study limitations should be improved in future studies.

KEYWORDS

Burnout, COVID-19, psychosocial factors

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1 | INTRODUCTION

Humanity is going through one of the most intense health crises in history. As of July 18, 2021, there had been more than 190 million cases of infected people and more than 4 million deaths due to COVID-19.¹ The SARS-COV-2 pandemic caused all the governments around the world to take preventive measures, which had a strong impact on society. People's lives before January 2020 were certainly not the same as they are today, including their everyday life, their public and civil liberties, and their way of working. Considering the latter, various studies describe the pandemic's impact on different areas and on working life in general.²⁻⁴

Due to the pandemic, some alterations in people's lives are expected, especially in their quality of life and work. It is comprehensible that disruptions in the work environment produce modifications in the psychosocial risks people are exposed to at work, with this being the main cause of work-related stress.⁵ These risks are a consequence of the deterioration in psychosocial factors affecting employees in a company, such as interpersonal relationships, unclear roles at work and within the organization, the way the organization is managed, the working conditions and technical competences, and the employees' personal needs.⁶ When there is a negative perception of psychosocial factors, they are perceived as psychosocial risks with adverse consequences for people, such as work-related stress. The demands-resources-support model is one of the most complete models used to explain working conditions that produce stress and other types of consequences in workers.⁷ This model proposes that the working conditions that affect the employee can have negative consequences, such as work-related stress (demands), but they can also have positive outcomes, such as motivation (resources).^{8,9}

There are studies that show that psychosocial factors linked to demands at work are related to negative consequences for employees, a relationship that escalated rapidly during the COVID-19 pandemic. For example, there are negative effects between role conflict and job performance,¹⁰ workload and techno-stress,¹¹ interpersonal conflicts and their influence on levels of burnout,¹² the mediation of the work-family conflict between the workload and job dissatisfaction,¹³ the relationship between the perception of injustice and psychosomatic disorders during the pandemic.¹⁴ It is important to highlight that there are studies that show that the negative impact has been less than previously thought, for example, upon returning to work, with low prevalence of posttraumatic stress, anxiety, depression, among others¹⁵ or in the general population, explained by trust in health teams.¹⁶

In addition, psychosocial factors linked to resources have shown an important relationship with positive and negative factors in people's quality of life and their effect on work performance. Evidence of a positive relationship between social support, sleep quality, and self-efficacy was found in doctors treating COVID-19 in China.¹⁷ Moreover, the managers' level of autonomy has a negative impact on workaholism and emotional exhaustion.¹⁸

In Latin America, several studies have been carried out on COVID-19's effects on employees' mental health and its impact on psychosocial risks in face-to-face work and telecommuting.^{19,20} Taking into account the complex scenario for employees, the organizational intervention sought to control psychosocial factors to prevent work-related stress and other negative consequences in organizations.²¹⁻²³ To control the negative consequences of psychosocial factors and improve the positive ones, different intervention approaches were reviewed. Although several techniques have been tested over time,^{24,25} the type of intervention has to fit the context.

To control and reduce work-related stress, interventions can be grouped into organizational and individual, and they can be differentiated based on control, experience, and coping.²⁶ Good outcomes have been found in practical reviews of the overall quality of organizational interventions, such as in health workers,²⁷ with intervention cycles ranging from 1 to 8 weeks. If we examine the possible interventions to control the effects of work-related stress, there are options such as coaching to control the negative impact of psychosocial risks on musculoskeletal disorders²⁸ and promoting physical activity to improve productivity.²⁹ Other studies have yielded unexpected results. An example would be the implementation of art courses for employees, which reduced their levels of commitment.³⁰

During the pandemic, face-to-face activity was almost impossible. However, the evidence from online interventions strongly supports considering this type of design, and this type of intervention has had good results.^{31,32}

The aim of this study was to analyze the effects of an organizational intervention program on psychosocial factors associated with demands and resources and the consequences of psychosocial risks in a Chilean technology services company during the COVID-19 pandemic.

2 | METHODS

2.1 | Participants

The study sample consisted of 210 employees from a technology services company who participated in the evaluation before (T1) and after (T2) the organizational intervention. T1 participants were 115 men (54.8%) and 81 women (38.6%). The remaining participants did not indicate their gender on the questionnaire. In terms of age, the sample composition was the following: the 25-34-year-old age group was the largest, with 39.5% of the participants, 52.9% of whom belonged to the group with 0-4 years of seniority in the company. T2 participants were 105 employees who had participated in the first measurement. In terms of gender, 63 men (60%) and 42 women (40%) responded. Regarding their age, 39.0% of the participants were between 25 and 34 years old. The 55 and over group had the lowest participation (9.5%). With regard to seniority in the company, most of the participants had worked in the company up to 4 years (72.4%), whereas 3.8% of the participants had worked in the company

between 16 and 20 years. Additionally, 68.6% of the participants were physically working at the company.

2.2 | Instruments

To collect the data before and after the intervention, the UNIPSIICO Questionnaire³³ was used, which assesses the psychosocial factors of demands,³⁴ resources,³⁵ and consequences of psychosocial risks at work. In the present study, the demand factors contain 33 items grouped into seven factors, described below, rated on a 5-point Likert scale that ranges from 0 (Never) to 4 (Often: every day).

1. Role conflict ($\alpha_{T1} = 0.63$; $\alpha_{T2} = 0.67$; $r_{t1t2} = 0.24$; $p < 0.05$). This 5-item scale (e.g., "I am asked to perform functions and tasks for which I am not authorized") evaluates the degree to which the employee feels that he/she cannot meet the expectations of his/her role because they are contradictory.
2. Role ambiguity ($\alpha_{T1} = 0.81$; $\alpha_{T2} = 0.84$; $r_{t1t2} = 0.36$; $p < 0.001$). This 5-item scale (e.g., "I know what my responsibilities at work are") evaluates the employee's perception of uncertainty about his/her role in the organization. This scale is applied as Role Clarity, and so the scores are inverted to perform the analyses.
3. Workload ($\alpha_{T1} = 0.85$; $\alpha_{T2} = 0.85$; $r_{t1t2} = 0.32$; $p < 0.01$). This 6-item scale (e.g., "Do you sometimes not have enough time to finish your work?") assesses both the quantitative and qualitative workload. The quantitative workload refers to the number of activities carried out by the employee in a set time, and the qualitative workload addresses the difficulty of the assigned tasks.
4. Interpersonal conflicts ($\alpha_{T1} = 0.60$; $\alpha_{T2} = 0.74$; $r_{t1t2} = 0.23$; $p < 0.05$). This 5-item scale (e.g., "How often do you have conflicts with the firm's clients?") measures the frequency with which the employee perceives conflicts in his/her different interactions within the organization (management, supervision, and colleagues, among others).
5. Imbalance in social exchanges ($\alpha_{T1} = 0.70$; $\alpha_{T2} = 0.75$; $r_{t1t2} = 0.34$; $p < 0.001$). This 5-item scale (e.g., "I give more to my work than I get in return") measures the perception of lack of balance and organizational justice.
6. Work-family conflict ($\alpha_{T1} = 0.86$; $\alpha_{T2} = 0.89$; $r_{t1t2} = 0.38$; $p < 0.001$). This 6-item scale (e.g., "Stress and family problems make it difficult for me to fulfill my job obligations") measures the interference between the work and family roles, and vice versa.
7. Laissez-Faire leadership ($\alpha_{T1} = 0.47$; $\alpha_{T2} = 0.63$; $r_{t1t2} = -0.11$; $p > 0.05$). This 3-item scale (e.g., "My direct supervisor prefers not to get involved in the work I do") measures the perception of the leader, highlighting certain features such as lack of interest and lack of support. These leaders are merely overseers.

The scales associated with the psychosocial factors of resources consist of 40 items, divided into 6 scales. They are mainly rated on a Likert scale ranging from 0 to 4, from "Never" to "Often: every

day." The Resource Availability scale ranges from "Not at all" to "Very." The scales are the following:

1. Autonomy ($\alpha_{T1} = 0.80$; $\alpha_{T2} = 0.84$; $r_{t1t2} = 0.32$; $p < 0.01$): This 5-item scale (e.g., "I have the freedom to decide how to do my job") evaluates the control the employee has over his/her own work and rest time.
2. Work social support ($\alpha_{T1} = 0.80$; $\alpha_{T2} = 0.85$; $r_{t1t2} = 0.24$; $p < 0.05$). This 6-item scale (e.g., "How often does your direct supervisor help you when problems arise at work?") evaluates the emotional and technical support provided by different entities, such as management, supervisors, and colleagues.
3. Feedback ($\alpha_{T1} = 0.81$; $\alpha_{T2} = 0.85$; $r_{t1t2} = 0.17$; $p > 0.05$). This 8-item scale refers to the employee's evaluation of communication while performing his/her tasks, as well as the feedback received from his/her direct supervisor, colleagues, and the company.
4. Resources available at work ($\alpha_{T1} = 0.83$; $\alpha_{T2} = 0.83$; $r_{t1t2} = 0.27$; $p < 0.01$). This 8-item scale (e.g., "The company is concerned about the problems of its professional collective") measures the employee's perception of available resources at work.
5. Transformational leadership ($\alpha_{T1} = 0.87$; $\alpha_{T2} = 0.87$; $r_{t1t2} = 0.20$; $p < 0.05$): This 4-item scale (e.g., "My direct supervisor does things to motivate us") measures employees' perceptions about whether their leaders can motivate and inspire their work teams.
6. Self-efficacy ($\alpha_{T1} = 0.93$; $\alpha_{T2} = 0.91$; $r_{t1t2} = 0.34$; $p < 0.001$). This resource was evaluated with the Schwarzer and Baessler³⁶ General Self-Efficacy Scale, adapted to work situations and containing 10 items. For example: "I can solve difficult problems at work if I try hard enough."

Finally, three variables linked to consequences of psychosocial risks were evaluated: burnout syndrome, job satisfaction, and psychosomatic disorders.

1. Burnout (Gil-Monte, 2011) ($\alpha_{T1} = 0.90$; $\alpha_{T2} = 0.90$; $r_{t1t2} = 0.56$; $p < 0.001$). This is the response to chronic work-related stress, with symptoms characterized by cognitive impairment and loss of enthusiasm for work, feelings of energy depletion or exhaustion, increased mental distance and feelings of negativism or cynicism toward one's job, reduced professional efficacy, and negative behaviors toward people, such as detachment, aloofness, and indolence. This syndrome was measured with the "Spanish Burnout Inventory" (SBI), which includes 4 subscales with four to six items each:
 - Enthusiasm toward the job ($\alpha_{T1} = 0.88$; $\alpha_{T2} = 0.87$; $r_{t1t2} = 0.44$; $p < 0.001$). This 5-item scale (e.g., "I find my work a stimulating challenge") measures the employee's desire to achieve his/her professional goals. The items are all written affirmatively. Therefore, low scores on this scale indicate high SBI scores.
 - Indolence ($\alpha_{T1} = 0.84$; $\alpha_{T2} = 0.79$; $r_{t1t2} = 0.50$; $p < 0.001$) This 6-item scale (e.g., "I don't feel like doing some of the tasks required by my job") measures the presence of negative behaviors and

attitudes, such as cynicism and detachment toward the organization's internal and external clients.

- Psychological exhaustion ($\alpha_{T1} = 0.87$; $\alpha_{T2} = 0.86$; $r_{t1t2} = 0.45$; $p < 0.001$). This 4-item scale (e.g., "I feel overwhelmed by work") measures emotional and physical exhaustion when dealing with problematic people several times a day.
 - Guilt ($\alpha_{T1} = 0.72$; $\alpha_{T2} = 0.78$; $r_{t1t2} = 0.35$; $p < 0.001$). This 4-item scale (e.g., "I feel bad about some of the things I have said at work") is included because guilt is a symptom commonly seen in people with burnout syndrome.
2. Psychosomatic disorders ($\alpha_{T1} = 0.88$; $\alpha_{T2} = 0.88$; $r_{t1t2} = 0.43$; $p < 0.001$). This is a Health Scale that is part of the UNIPSICO questionnaire. It has 13 items, nine about psychosomatic disorders related to anxiety caused by work-related stress and four linked to measuring alcohol and tobacco consumption and the need for specialist support.³⁷
 3. Job satisfaction ($\alpha_{T1} = 0.79$; $\alpha_{T2} = 0.81$; $r_{t1t2} = 0.33$; $p < 0.01$). This consequence is part of the UNIPSICO questionnaire, and it is defined as the individual's perception of a pleasant emotional state as a result of his/her work experiences. This is a 6-item scale (e.g., "I am pleased with the salary I earn") (Gil-Monte et al., 2016a; 2016b).

2.3 | Procedure

This study was carried out in two stages: the first measurement was obtained in October 2019, a few months before the COVID-19 pandemic began, and the second measurement was obtained in October 2020, when there was a reduction in cases in Chile before the second wave in January 2021. The data were collected with physical questionnaires in T1 and online through the Google platform in T2. To meet the criteria stated in the Declaration of Helsinki,³⁸ the study was approved by the Ethics and Crime Prevention Committee of the company participating in this study, and the participants were asked to sign an informed consent before starting. A quasi-experimental design without a control group is presented.³⁹

2.4 | Intervention

An intervention program was carried out with the company's employees in June and July 2020 to support them daily as a preventive measure to avoid occupational illnesses during the pandemic. The complete program lasted 8 weeks and included the following stages:

1. Coaching and training stage for leaders: This activity focused on all the managers and supervisors (51 people), divided into two groups. The aim was to provide tools for this layer of the organization to manage work teams during the pandemic. The training process consisted of two sessions per week that lasted

2 h each, during a period of 4 weeks. The intervention was based on the neuro-leadership method called SCARF, which seeks to empower leaders.⁴⁰

2. Feedback stage: Finally, to support the development of employee feedback, the performance evaluation process was modified from an instrument containing eight competences (Customer care, Cooperation, Orientation to excellence, Flexibility, Continuous improvement, Responsibility, Planning and organization, and Leadership), carried out once a year, to an evaluation process that measured four competences (Commitment, Objectives, Impact, and Responsibility) three times a year, to give feedback within shorter time periods. All the managers and supervisors (51 people) were trained to use this new tool.

2.5 | Data analysis

The SPSS 25 statistical software was used to perform the central trend measurement analysis, the calculation of Cronbach's α coefficient, Pearson's correlation coefficient, and *t* tests for related samples to assess the intervention's impact. A repeated-measures analysis of variance was also carried out to check the differences between the measurements in T1 and T2, controlling the type of work (face-to-face and remote).

3 | RESULTS

Table 1 shows the scales' means, standard deviations, and skewness linked to the psychosocial factors of demands and resources, as well as the consequences of psychosocial risks. Overall, suitable scores are found for the employees in ranges that are comparable with previous measurements with the UNIPSICO battery.³⁷ All the scales showed good skewness values (± 1), except the Role ambiguity, Psychological exhaustion, and Psychosomatic disorder scales in T2, but with values close to 1.

Regarding the internal consistency values, all the scales showed good Cronbach's α coefficients (values over 0.70), and even values above 0.80, on most of the measurements in T1 and T2. Only the Interpersonal conflicts scale in T1 and the Role conflict scale in T1 and T2 showed values close to 0.60 or less on both Laissez-Faire leadership measures, which is justified when there are scales with fewer than 10 items.⁴¹ Regarding the test-retest values, only the Feedback and Laissez-Faire leadership scales showed nonsignificant relationships.

3.1 | Psychosocial demand factors

All the variables linked to psychosocial demand factors decreased after the intervention (see Table 1). The variables that presented significant decreases from T1 to T2 were: Role conflict ($M_{T1} = 1.15$ vs. $M_{T2} = 0.92$, $t_{(104)} = 2.83$; $p < 0.01$; $d = 0.28$), Role

TABLE 1 Descriptive statistics and *t* tests to differentiate UNIPSCO battery linked means considering demand and resources factors, as well as the consequences of psychosocial hazards.

	T1 M (SD)	T2 M (SD)	α_{T1}/α_{T2}	r_{T1T2}	<i>t</i> (104)	Ast1/Ast2
<i>Demands</i>						
Role conflict	1.15 (0.69)	0.92 (0.68)	0.63/0.67	0.24*	2.83**	0.40/0.83
Role ambiguity	0.90 (0.79)	0.71 (0.75)	0.81/0.84	0.36**	2.16*	-0.73/1.26
Workload	2.03 (0.77)	1.78 (0.80)	0.85/0.85	0.32**	2.77*	0.11/0.16
Interpersonal conflicts	0.53 (0.41)	0.42 (0.43)	0.60/0.74	0.23*	2.11*	0.27/0.93
Inequality of social exchanges	2.32 (0.75)	2.08 (0.88)	0.70/0.75	0.34**	1.64	-0.10/0.19
Work-family conflict	1.13 (0.81)	0.97 (0.85)	0.86/0.89	0.38**	1.80	0.76/0.89
Laissez-Faire leadership	1.23 (0.77)	1.19 (0.90)	0.47/0.63	0.11*	0.29	0.22/0.66
<i>Resources</i>						
Autonomy	2.46 (0.84)	2.67 (0.81)	0.80/0.84	0.32**	-2.26*	-0.73/-0.20
Work social support	2.50 (0.73)	2.81 (0.81)	0.80/0.85	0.24*	-3.34**	-0.13/-0.52
Feedback	1.75 (0.81)	2.08 (0.86)	0.81/0.85	0.17*	-3.08**	0.65/-0.11
Resources at work	2.32 (0.73)	2.51 (0.70)	0.83/0.83	0.27**	-2.27*	0.15/-0.51
Transformational leadership	2.26 (0.99)	2.55 (1.00)	0.87/0.87	0.20*	-2.36*	-0.18/-0.73
Self-efficacy	3.15 (0.60)	3.29 (0.53)	0.93/0.91	0.34**	-2.18*	-0.46/-0.39
<i>Consequences</i>						
Burnout syndrome (SBI)	1.89 (0.47)	1.79 (0.40)	0.90/0.90	0.56**	2.30*	0.43/-0.01
Enthusiasm toward the job (SBI)	2.52 (0.90)	2.79 (0.82)	0.88/0.87	0.44**	-3.09*	-0.28/-0.77
Indolence (SBI)	1.37 (0.85)	1.12 (0.72)	0.84/0.79	0.50**	3.29**	0.49/0.72
Mental exhaustion (SBI)	1.88 (1.01)	1.57 (0.93)	0.87/0.86	0.45**	3.15**	0.02/0.54
Guilt (SBI)	0.71 (0.61)	0.62 (0.64)	0.72/0.78	0.35**	1.23	0.73/1.05
Psychosomatic disorders	1.00 (0.67)	0.83 (0.66)	0.88/0.88	0.43**	2.43*	0.76/1.16
Job satisfaction	2.24 (0.76)	2.51 (0.71)	0.79/0.81	0.33**	-3.26**	-0.42/-0.15

Abbreviations: Ast, Asymmetry; M, mean; r_{T1T2} , test-retest reliability; SD, standard deviation; *t*, Student's value.

* $p < 0.05$; ** $p < 0.01$.

ambiguity ($M_{T1} = 0.90$ vs. $M_{T2} = 0.71$, $t_{(104)} = 2.16$; $p < 0.05$; $d = 0.21$), Workload ($M_{T1} = 2.03$ vs. $M_{T2} = 1.78$, $t_{(104)} = 2.77$; $p < 0.01$; $d = -0.27$), and Interpersonal conflicts ($M_{T1} = 0.53$ vs. $M_{T2} = 0.42$, $t_{(104)} = 2.11$; $p < 0.05$; $d = 0.21$).

3.2 | Psychosocial resource factors

Regarding the resource factors, Table 1 shows significant differences on all the variables, given that their perception improved in all cases: Autonomy ($M_{T1} = 2.46$ vs. $M_{T2} = 2.67$, $t_{(104)} = -2.26$, $p < 0.05$, $d = -0.22$), Social support at work ($M_{T1} = 2.50$ vs. $M_{T2} = 2.81$, $t_{(104)} = -3.34$, $p < 0.01$, $d = -0.33$), Feedback ($M_{T1} = 1.75$ vs. $M_{T2} = 2.08$, $t_{(104)} = -3.08$, $p < 0.01$, $d = -0.33$), Availability of resources at work ($M_{T1} = 2.32$ vs. $M_{T2} = 2.51$, $t_{(104)} = -2.27$, $p < 0.05$, $d = -0.22$), Transformational leadership ($M_{T1} = 2.26$ vs. $M_{T2} = 2.55$, $t_{(104)} = -2.36$,

$p < .05$, $d = -0.23$), and Self-efficacy ($M_{T1} = 3.15$ vs. $M_{T2} = 3.29$, $t_{(104)} = -2.18$, $p < 0.05$, $d = -0.21$).

3.3 | Consequences of psychosocial risks

Regarding the consequences of psychosocial risks at work, all the variables evaluated improved significantly, as Table 1 shows. The levels of burnout syndrome decreased significantly ($M_{T1} = 1.89$ vs. $M_{T2} = 1.79$, $t_{(104)} = -2.30$, $p < 0.05$, $d = 0.23$), as did the three related dimensions. The Indolence variable obtained the greatest change ($M_{T1} = 1.37$ vs. $M_{T2} = 1.12$, $t_{(104)} = 3.29$, $p < 0.01$, $d = 0.32$), followed by Psychological exhaustion ($M_{T1} = 1.88$ vs. $M_{T2} = 1.57$, $t_{(104)} = -3.15$, $p < 0.01$, $d = 0.31$) and Enthusiasm toward the job ($M_{T1} = 2.52$ vs. $M_{T2} = 2.79$, $t_{(104)} = -3.09$, $p < .01$, $d = -0.30$). Although the perception of the Guilt dimension decreased, the change was not significant.

Psychosocial Factors and consequences

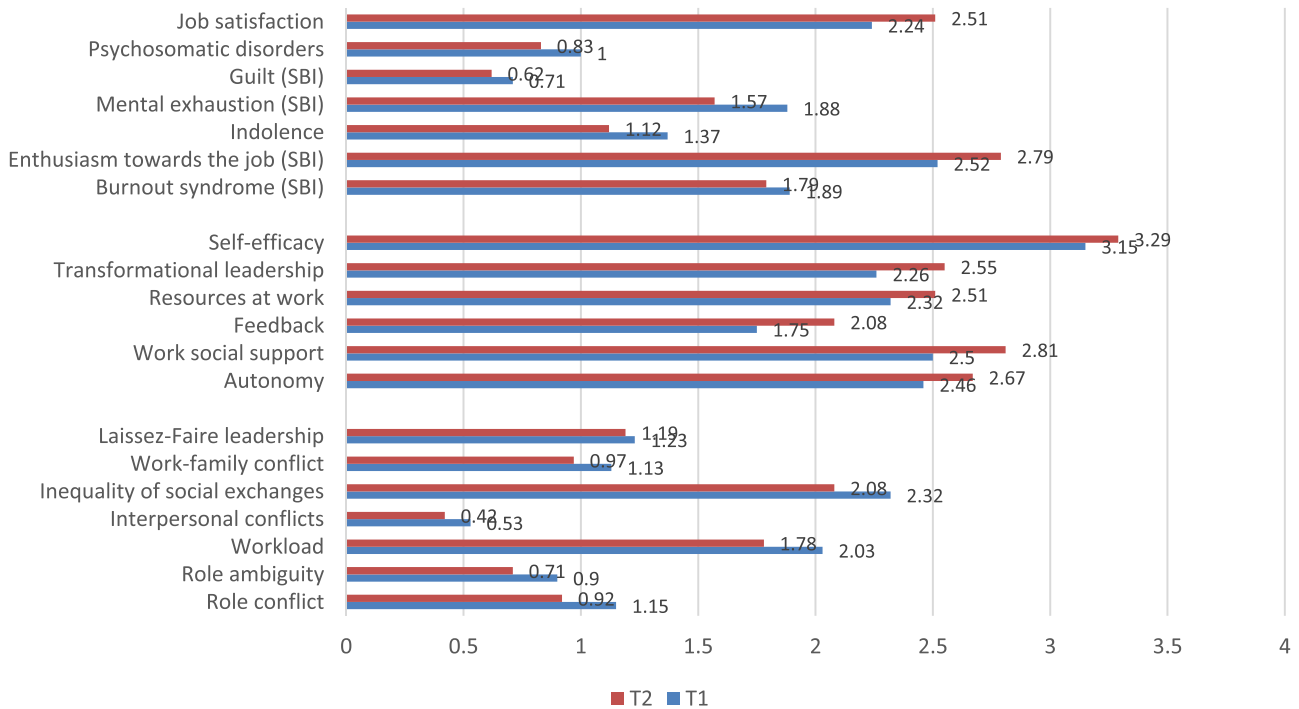


FIGURE 1 Arithmetic means of the UNIPSCO Battery, considering demands and resources factors, as well as the consequences of psychosocial risks. T1, Measurement in Time 1; T2, Measurement in Time 2.

The perception of Job satisfaction levels ($M_{T1} = 2.24$ vs. $M_{T2} = 2.51$, $t_{(104)} = -3.26$, $p < 0.01$, $d = -0.32$) and Psychosomatic disorders also improved significantly ($M_{T1} = 1.00$ vs. $M_{T2} = 0.83$, $t_{(104)} = 2.43$, $p < .05$, $d = 0.24$).

In Figure 1, the blue squares are the significant differences after performing the t test of related samples.

4 | DISCUSSION

The present study examined the impact of an organizational intervention in a technology services company during a complex time for humanity, that is, during the SARS-COV-2 pandemic (and the disease, COVID-19), which resulted in millions of deaths. The statistical analyses showed that the intervention had a positive impact on the majority of the scales associated with psychosocial factors, which helped to improve employees' perception of consequences such as burnout syndrome, job satisfaction, and psychosomatic disorders. Differences were found between the types of work performed by the employees, face-to-face or telecommuting.

If we examine the results in detail, we can see that social support at work and employees' perception of the feedback received improved the most, which is consistent with the intervention performed. One of the interventions was directly linked to providing support tools for leaders (e.g., constant team meetings, allowing time and space for employees to talk about personal problems, clarifying

work hours to avoid interference with personal life). According to the study results, an improvement in Transformational leadership was perceived, although the perception of the Laissez-Faire style did not decrease significantly.

The positive results obtained by the psychosocial factors and their consequences for the employees of the company evaluated contrast with the pandemic's impact on employees' mental health in different industries.⁴²⁻⁴⁴ In the postintervention evaluation stage, the Role conflict and Workload scales improved significantly. Although these scales did not receive direct intervention, they were affected by improvements in the other variables. A wide range of current studies on the Workload scale shows an increase during the pandemic, although mainly linked to healthcare workers.^{45,46} However, other studies show an increase in teachers' mental workload.⁴⁷

Regarding the scales associated with psychosocial resource factors, significant changes were described. One of the two interventions performed focused mainly on employee feedback. This explains that the scale with the greatest difference between the T1 and T2 measurements was feedback, and no differences were found between the face-to-face group and the telecommuting group because the intervention was cross-sectional to the organization. The social support at work scale also showed some differences. This is one of the most relevant factors in preventing burnout consequences at work, such as anxiety.⁴⁸ Moreover, it is an important mediator between various factors and work-related

stress⁴⁹ and impacts health workers' sleep quality and self-esteem.¹¹ The social support at work scale played a relevant role in preventing mental health problems,⁵⁰ and the lack of social support is identified as an issue when working remotely with fewer face-to-face interactions.⁵¹

Regarding the consequences, three symptoms of the burnout syndrome decreased after the intervention. The level of enthusiasm toward the job increased, and psychological exhaustion and indolence decreased. Studies related to the pandemic and stressful situations for health workers describe worrisome values,^{52,53} but there are intervention strategies to control these symptoms that align with the results of the present study.^{54–56} Additionally, in other studies, the social support scale has been linked to the decrease in stressors and burnout syndrome.^{57,58} Regarding the remote work and face-to-face groups, some differences are found, but they do not fully explain this decrease.

The increase in the Job satisfaction variable can also be explained by the intervention carried out. Before the COVID-19 pandemic, commitment and social support explained increases in Job satisfaction.⁵⁹ A longitudinal study carried out in Germany showed that fathers' job satisfaction was not negatively affected during the pandemic.⁶⁰

With regard to the limitations of the present study, the first issue is that the study has a quasiexperimental design, which makes it impossible to control random assignment to the groups. Moreover, the study does not include a control group that can show whether the intervention is actually reducing the negative impact of the variables on the employees. Likewise, because the data collection and intervention took place during the pandemic, the results are biased, and so we do not know whether the same results would be obtained in a normal work situation.

AUTHOR CONTRIBUTIONS

Julio Lavarello-Salinas: Conceptualization; data curation; formal analysis; funding acquisition; investigation; methodology; project administration; writing—original draft; writing—review and editing. **Verónica Kramm-Vergara:** Conceptualization; investigation; methodology; project administration; validation; writing—review and editing. **Pedro Gil-LaOrden:** Validation; visualization; writing—review and editing. **Pedro R. Gil-Monte:** Conceptualization; methodology.

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All authors have read and approved the final version of the manuscript, Julio Lavarello-Salinas had full access to all of the data in this study and takes complete responsibility for the integrity of the data and the accuracy of the data analysis.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

TRANSPARENCY STATEMENT

The lead author Julio Lavarello-Salinas affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

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