



## Can a corporate well-being programme maintain the strengths of the healthy employee in times of COVID-19 and extensive remote working? An empirical case study.

José Manuel Núñez-Sánchez<sup>a</sup>, Ramón Gómez-Chacón<sup>b</sup>, Carmen Jambrino-Maldonado<sup>a</sup>, Jerónimo García-Fernández\*

<sup>a</sup> Universidad de Málaga, Spain

<sup>b</sup> CEU Cardenal Spínola, Spain

<sup>c</sup> Universidad de Sevilla, Spain

\* Corresponding author at: [jeronimo@us.es](mailto:jeronimo@us.es)

**Abstract.** The COVID-19 pandemic and the increase of working-from-home have drastically changed many aspects of work life, causing very negative effects on employees' physical and psycho-social well-being. Healthy organisations have healthy employees, who have at least five psycho-social strengths of engagement, self-efficacy, resilience, optimism and hope, which are reinforced by physical activity, relating to each other in a positive way and leading to numerous benefits for the company. These strengths are being weakened by the pandemic, and the aim of this empirical study is to analyse through a case study the effects of an updated corporate wellness programme in times of pandemic on these strengths of the healthy employee. The sample was of 251 employees, 91 women and 160 men. The instruments used were the International Physical Activity Questionnaire and the adaptation of the Healthy and Resilient Organization questionnaire. The results indicated that workers with high physical activity, higher seniority, well guided by supervisors, as well as a comprehensive (multi-component) well-being programme, not only physical but also psycho-social, and with the use of different digital tools (an App is not enough), can mitigate these negative effects. Whereas companies are grappling with reduced employee engagement among other harmful psychosocial and physical effects, this case study suggests that a good corporate well-being programme could help mitigate these detrimental consequences for their workforce and be helpful for the company to adapt to this rapidly changing workplace.

**Keywords.** COVID-19, corporate well-being, engagement, resilience, healthy employee.

**DOI.** <https://doi.org/10.17979/ejge.2022.11.1.8978>

### 1. Introduction

The COVID-19 pandemic has put huge stress on companies and, therefore, their employees, bringing about changes to working conditions. The impacts of COVID-19 in workplaces and workers worldwide have been dramatic (Kniffin et al., 2021). The lockdown, social distancing and safety measures have an impact on overall well-being (Eurofound, 2020). As a result of COVID-19, individuals are facing continuous changes in various aspects of their lives, such as health, employment, and family life (Xiao et al., 2020). The need for working from home for millions of workers has accelerated recent remote work trends facilitated by communication technologies and the rise of connectivity (Kniffin et al., 2021).

With the intrusion of the pandemic, workers experienced a complete change in their workplace

that disrupted their work experience (Kumar, 2021), with many people reporting greater fear, worry, and psychological stress (Li et al., 2020). Vander Elst et al. (2017) suggested that the disadvantages inherent in extensive telework may exceed the associated advantages. Therefore, Wang et al. (2020) underlined the importance of improving mental health and psychological resilience during the COVID-19. In fact, depending on the country, lockdown included the closure of many facilities and restrictions on leaving home for non-essential work, so organisations had to find ways to keep their businesses afloat and employees productive, resulting in a marked shift to work-from-home, not only in 2020, but in 2021 when employees in most countries were still required or encouraged to work from home (De Klerk et al., 2021). The challenges of extensive remote working include increased stress and decreased life satisfaction (Kazekami, 2020), and a rise in isolation (Vander Elst et al., 2017), health and social-psychological risks (Kniffin et al., 2020).

COVID-19 has also led to physical inactivity, as the pandemic is making the world move even less than before (Hall et al., 2021) while the immune system is very responsive to exercise, this reducing the risk of disease (Nieman & Wentz, 2019), stress, and improving sleep quality (Altena et al., 2020). The pandemic is proving to be very detrimental to the health and well-being of employees. The many harmful effects of the pandemic on the well-being of the workforce, both physical and psycho-social, can be observed. Managers should understand the importance of mitigating psycho-social risks just as seriously as other safety risks, especially in times of change and uncertainty (Mathisen et al., 2017). Companies that want to take care of their employees should adapt their workplace wellness programmes to the new situation, otherwise the health of their employees could be affected and, consequently, that of the company (Núñez-Sánchez et al., 2021). Healthy organisations are supposed to introduce measures and processes in the workplace to promote and maintain well-being among workers (Wilson et al., 2004).

As a consequence of the growing concern observed in companies in recent years for the well-being of employees, the concept of Healthy and Resilient Organization (HERO) arises, defined as an organisation, integrated by healthy employees with psycho-social strengths, that makes systematic, planned, and proactive efforts to have a positive impact on the health of the organisation, fostering healthy organisational resources and practices to improve the work environment, especially during times of change and crisis (Llorens et al., 2013), such as COVID-19 times.

Despite the importance of the issue for companies and their workforce, it has not been possible to find case study research on the consequences that the implementation of a corporate wellness programme in a company would have on the strengths of healthy employees. Due to this absence of a scientific literature, there is a clear need to determine the effect of enforced and exclusive remote work on employee engagement and employee experience, to plan for future work modes (De Klerk et al., 2021) and working conditions. Furthermore, research in times of COVID-19 may be very important to generate resilience-building resources that can maintain and even increase engagement (Salanova, 2020).

Therefore, this research aims to show, through a real case, the effects that a corporate well-

being programme, applied in times of a pandemic, has on each of the five strengths of the healthy employee: engagement, resilience, self-efficacy, positive emotions and competence. In addition, the authors will try to find out if these five strengths of the healthy employee are influenced by six different factors: the physical activity levels (high, moderate or low) of the workers of this company, their use of a fitness App, the age of the employees, their seniority, the supervisor's guidance and, finally, the type of work they have done during this period: in-office or at-a-distance. Based on the results, the company will be able to know the factors that most influence these five strengths of the healthy employee, and, in this way, will be able to design action plans accordingly. The extreme COVID-19 context provides a rare opportunity to investigate the benefits and obstacles of working from home in a real-life situation (De Klerk et al., 2021), therefore this opportunistic investigation, based on a real case study, may shed light on how to maintain or even improve employee's engagement, resilience, self-efficacy, positive emotions, and competence.

## **2. Literature review**

### ***Healthy organisations and employees***

Healthy organisations, defined as those that make systematic, planned, and proactive efforts to improve employee health through good practices related to task improvement (e.g., job design and redesign), social environment (e.g., better open communication channels), and organisation (e.g., work-life balance strategies), are those that attract and retain the most talented and productive workers, while their management is successful and results in healthy outcomes for employees and the organisation (Salanova & Schaufeli, 2009). Healthy organisations are integrated by healthy employees who have psycho-social strengths such as engagement, resilience, self-efficacy, optimism and hope (Salanova et al., 2012). These strengths are associated with employees who are more satisfied and engaged (Bakker & Demerouti, 2017), and more productive (Gómez-Chacón et al., 2021).

According to Schaufeli et al. (2002), work engagement is defined as a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption, and it refers to a more persistent (rather than momentary) and pervasive affective-cognitive state. Resilience is a personal resource that supports adaptation to adverse conditions (Caniëls et al., 2018), reflects one's capacity to recover after undergoing negative emotions, and flexibly adapt to changing demands of stressful experiences (Niitsu et al., 2017). Self-efficacy is the belief in one's own ability to organise and execute the courses of action necessary to obtain certain achievements (Bandura, 1997), helping people to cope in complicated contexts and protecting health (Parker et al., 2013). Optimism reflects the extent to which people have generalised favourable expectancies for their future, being related to better subjective well-being in times of adversity (Carver et al. 2010) and a Personal ability as the state of positive psychological development towards obtaining an ascription of being successful (Luthans et al., 2007). Finally, hope can be described as a

positive motivational state that contributes to leaders and followers expending the requisite energy necessary to pursue and attain organisational goals, existing along with motivation, leadership and goal pursuit (Helland & Winston, 2005)

There is sufficient evidence in the scientific literature showing that each of the five strengths of the healthy employee is positively related to numerous factors that benefits the organisation. Furthermore, each of these strengths is positively interrelated with one or more of the other strengths, which are also positively related to physical activity (see Table 1).

### ***Relationship between physical activity and the strengths of the healthy employee***

Physical activity has a positive impact on different physical and psycho-social variables in employees (Bezner et al., 2018), mental health and sleep (Lancet, 2021), well-being (Kim et al., 2017), and business performance (Pronk & Kottke, 2009), among others (see Table 1). Furthermore, Gómez-Chacón et al. (2021) concluded in a study before the COVID-19 pandemic, that employees who engaged in both vigorous and moderate physical activity had a significantly higher average score on the five healthy employee strengths. Physically active employees are associated with healthier and more resilient employees (Gerber et al., 2014), and with higher levels of self-efficacy (Salanova et al., 2005). With respect to engagement, the healthier the employee is, the more engaged he/she is in their job (Bakker & Demerouti, 2017). Finally, physical activity leads to optimism and life satisfaction and positive emotions (Kim et al., 2017).

In times of COVID-19, home confinement and telework, a worrying increase in physical inactivity is observed (Hall et al., 2021), while Chen et al. (2020) stated that physical activity is the best natural medicine to prevent the consequences of confinement, teleworking and stress. The world will recover from the COVID-19 pandemic. However, the physical inactivity pandemic will remain and, more worryingly, there is a risk of this pandemic worsening because of COVID-19. Therefore, the world should realise the need to address the physical inactivity/sedentary pandemic by improving health outcomes under normal conditions and improving humanity's resilience during future pandemics (Hall et al., 2021).

**Table 1.** Strengths of the healthy employee and their consequences for the organisation, the interrelationships between these strengths and the influence of physical activity on these strengths.

	Main consequences of each strength	Is interrelated to	Influence of physical activity
<b>Engagement</b>	Engagement increases task performance, organisational performance (Bailey et al., 2017), business outcomes (Wang et al., 2015), commitment (Schaufeli et al., 2002), health and well-being (Bailey et al., 2017).	Improves self-efficacy in work teams (Salanova & Schaufeli, 2009), resilience and enthusiasm (Bakker et al., 2008).	Workers who practice vigorous or moderate physical activity have a significantly higher average level of engagement (Gómez-Chacón et al, 2021). The healthier the employee, the more engaged he/she is (Bakker & Demerouti, 2017).
<b>Resilience</b>	Resilient employees can develop a sense of meaning from difficult and challenging situations (Grant & Kinman, 2013), positively impacting on job satisfaction and happiness at work (Youssef & Luthans, 2007), positively relating to personal and work well-being and negatively related to stress, depression, anxiety and mood (Lioassis et al., 2009).	Boosts engagement (Malik & Garg, 2020), self-efficacy (Robertson et al., 2015) and optimism and hope (Grant & Kinman, 2013).	Physically active workers are associated with healthier and more resilient workers (Gerber et al., 2014), are more satisfied and happier (Cohn et al., 2009), produce a better business performance (Pronk & Kottke, 2009) and a greater well-being (Lioassis et al., 2009).
<b>Self-efficacy</b>	High levels of professional self-efficacy cause people to strive to improve strategies and make sound decisions coping with stress (Heslin & Klehe, 2006), better performance and productivity, favouring their job satisfaction and dedication (Salanova et al., 2000), and leads people to work hard and persist in the face of setbacks, but is negatively related to occupational burnout and anxiety (Heslin & Klehe, 2006).	Increases resilience (Bandura, 1998), engagement (Simbula et al., 2011), optimism and hope (Heslin & Klehe, 2006).	Physical activity enhances self-efficacy with employees being less stressed at work (Salanova et al., 2005), more motivated (Vera et al., 2014), improving their health, job satisfaction and performance (Luthans et al., 2007).
<b>Optimism and positive emotions</b>	This promotes satisfaction and happiness (Youssef & Luthans 2007), better performance (Luthans et al. ,2007), motivation and creativity (Isen, 2002) and better mental health and well-being in times of adversity (Carver et al., 2010).	Improves resilience (Cohn et al., 2009), engagement (Carver et al., 2010), self-efficacy (Ouweneel et al., 2013), and hope (Grant & Kinman, 2013).	Moderate to high employee physical activity will enhance positive emotions leading to being more creative (Isen, 2002), satisfied and happier (Youssef & Luthans, 2007), with a higher performance (Luthans et al., 2007) and leads to optimism (Kim et al., 2017).
<b>Hope</b>	Hope is the characteristic most likely to improve health, job satisfaction and performance (Nelson & Simmons, 2006). Employees with high hopes possess more goal-related strategies and are more motivated to achieve their goals (Peterson et al., 2008).	Positively correlated with resilience (Grant & Kinman, 2013).	Workers with vigorous or moderate physical activity have significantly higher rates of optimism and positive emotions (Gómez-Chacón et al., 2021).

### **Healthy employee in COVID-19 times**

COVID-19 has been associated with undesirable mental health and well-being outcomes (Yildirim et al., 2021), including burnout, causing numerous negative effects on workers around the world and could weaken the strengths of the healthy employee, with detrimental consequences for the health of the workers and thus their companies. The COVID-19 pandemic is likely to have profound socio-psychological, physical and technical implications for employees trying to adapt to their drastically altered work environments (Carnevale & Hatak, 2020).

Prior to COVID-19, organisations focused on employee engagement strategies. But the intrusion of COVID-19 led to the emasculation of engagement strategies, as organisations were more concerned about their survival. Human resource managers are, therefore, grappling with reduced employee engagement (Kumar, 2021). Work engagement has profound implications for employee performance, and psychological and physical well-being (Bakker et al., 2008), being a key indicator for employee health. Contributing to personal health and company survival, engagement is therefore a relevant factor to consider in an extreme and disrupted context, such as the COVID-19 pandemic (Reinwald et al., 2021), but extensive telecommuting, triggered by this pandemic, can also produce disadvantages, such as social isolation and reduced employee engagement (Vander Elst et al., 2017). An exclusive work-from-home arrangement that extends over a long period tends to generate adverse and negative outcomes and can be demotivating and could hamper employee engagement to the point of burnout (De Klerk et al., 2021).

Resilience, as a positive resource, enables people to navigate a stressful workplace and unexpected events like the COVID-19 pandemic (Ojo et al., 2021), maintaining or even increasing engagement in times of crisis (Salanova, 2021). Resilience is also pivotal to coping with stress and vital to staying in balance, most especially during the COVID-19 period (Vinkers et al., 2020). Resilient employees present enthusiasm, optimism and hope, a high degree of autonomy, self-awareness and emotional literacy, flexibility and adaptability, a sense of purpose, and the ability to develop a sense of meaning from difficult and challenging situations (Grant & Kinman, 2013) such as pandemic times. Fostering employee resilience can play a key role in building a highly engaged workforce (Malik & Garg, 2020).

Hope is also an important driver of resilience and life satisfaction. Moreover, by developing and fostering hope and resilience, organisations can help mitigate unwelcome behaviours during the COVID-19 pandemic (Rivera et al., 2021). Optimism has also been affected by the pandemic, as the stress it has caused not only has had a direct effect on increased burnout but also an indirect effect on it through reduced optimism and social connectedness, while these psychological resources may promote positive mental health and well-being because of facilitating dealing with stress in the face of adversity like the COVID-19 pandemic (Yildirim et al., 2021).

The common understanding of how important health support in the workplace is for the company will lead employees to show more self-care behaviour and it is expected that employees' self-care behaviour will foster their work engagement and reduce their exhaustion (Kaluza et al.,

2021). Therefore, if the company were able to adapt its corporate well-being programmes to the times of pandemic and thus combat its harmful consequences on the five strengths of the healthy employee, it could not only avoid these effects, but also reinforce some of these strengths, such as engagement and resilience, which are so important in times of crisis.

### **3.Method**

The case study method has been selected following Bell et al. (2011) as it is appropriate for understanding a phenomenon and the subsequent collection of the multiple data points necessary to enable the corroboration and triangulation of data (Creswell, 2002). Furthermore, the case study research methodology has been widely used in management research as a source of knowledge in various areas, as a sample of what can happen and as a source of experience (Mariotto et al., 2014). Following Bartunek et al. (2006), when theory is built from case studies these are often reflected as one of the most interesting research methods. A quantitative methodology has been used in the present research.

#### ***Scope of study***

The study will be carried out in times of COVID-19 on the corporate well-being programme of the leading brewery company in Spain, with a worldwide presence, and over four thousand employees. Their corporate wellbeing programme is a benchmark in Spain.

At the onset of the pandemic, the programme had to be adapted to the new situation very quickly, once the risks of confinement had been analysed, and multiple actions were implemented, thanks to the benefits of new technologies. The aim of the company is to make all professionals feel safer, healthier and happier, ensuring that all employees are prepared to face current and future challenges in sustainable working and organisational environments. It is about putting people at the centre of the strategy, accompanying people 24 hours a day, during these difficult times, to take care of their well-being and health, and gathering information to take advantage of learning during the pandemic and incorporate it into the future company's day-to-day work.

To achieve these goals, the programme is comprehensive and cross-cutting, addressing not only physical, but psycho-social aspects, to respond to the many existing challenges, carrying out action in different areas:

- Actions for Physical Well-being: Physical Activity Programme with the Fitness App. Personalised plans, on-line and recorded classes. A nutrition programme with tips and personal plans via the well-being website and App. Including the option of contacting one's personal trainer or nutritionist via the App, emails, video calls, telephone, or WhatsApp.
- Actions for Emotional Well-being: Emotional Coach Service with coaches from the company

itself. Daily Mindfulness sessions in the morning. Motivational talks with both in-house and external staff.

- Actions for Psycho-social Well-being: Psycho-social survey to measure different aspects and act accordingly. Communications and recommendations for psycho-social well-being. Challenges among workers to promote the idea of belonging, talks on themes such as the importance of sleep. With a 24-hour emergency telephone number to help employees and make them always feel accompanied.

Due to the broad focus of the programme and its actions, covering physical and psycho-social aspects, it has been considered an ideal programme to analyse the effects that it could have on the strengths of the healthy employee, in times of COVID-19.

### **Participants**

A self-administered questionnaire was sent to all 695 employees at the head office. 251 responses (36.4%) were obtained. The estimated average time to complete the survey is ten minutes. It should be noted that in some tables, some respondents have been excluded because they answered incorrectly, which could distort the results. Of this sample, 160 (63.7%) were men and 91 (36.2%) women, 71.9% were mostly teleworkers and 68.3% had been with the company for more than 5 years, of whom 45.8% had been with the company for more than 10 years (see Table 2). This last figure is particularly important, as the corporate programme started in the company more than 20 years ago.

**Table 2.** Seniority and gender.

Seniority	Men	Women	Total	%
< 1 year	12	4	16	5.9%
1-4 years	28	38	66	25.8%
5-10 years	34	22	56	22.5%
>10 years	86	27	113	45.8%
<b>Total</b>	160	91	251	100.0%

### **Instruments**

Two measurement instruments were used to collect quantitative data. First, the International Physical Activity Questionnaire (IPAQ) was employed to analyse the level of physical activity. Several authors have carried out studies in which the psychometric characteristics of the IPAQ have been studied and confirmed its validity with reliability measured by a Cronbach's alpha of 0.88 for the short version in Spanish (Brown et al., 2004). The short version of the IPAQ, with seven items, was used, to classify employees into three different levels: low or no physical activity,



moderate physical activity, and vigorous physical activity. This short version was validated by Mantilla-Tolosa and Gómez-Conesa (2007).

Second, to measure the healthy employee strengths, the adaptation of the Healthy and Resilient Organization (HERO) questionnaire (Gómez-Chacón et al., 2020), was used, analysing five psycho-social strengths: engagement, resilience, self-efficacy, positive emotions and competence, instead of the eight original strengths by Salanova et al. (2012). This five-dimension questionnaire, with 40 questions, measured with a 7-point Likert-type scale, was used, as it shows a good fit, as the incremental indices (CFI and NNFI) and the absolute SMR were above .90 and below .08, respectively (Gómez-Chacón et al., 2020). It is worth noting that the optimism strength is measured in this questionnaire by the concept of positive emotions, while the hope scale is measured by the concept of competence, so from now on, they will be referred to as such.

### ***Procedure***

Prior to the collection of data for the study, a meeting was held with those responsible for the programme in the company, in which the format and contents of the self-administered survey were presented, discussed and subsequently approved, which the company would then send out by e-mail. Therefore, data were collected by means of a self-administered questionnaire to all employees at the Madrid headquarters.

### ***Data analysis***

The normality test was performed between the healthy employee variables of the sample with respect to the employees who participated in the physical activity programme, and the different work study variables. The sample is of 251 people, and Glass et al. (1972) concluded that when a sample is large ( $N > 30$ ) parametric tests can be performed since such tests are more powerful than non-parametric tests. An ANOVA analysis and a Student's t-test were carried out to relate the strengths of the healthy employee to the different variables of the study. Finally, post hoc tests were performed to determine whether there are significant differences between the different groups. In this case, the  $\alpha$  Bonferroni correction is used, the most widely employed and well-known, although more conservative, method. All the analyses were done with the SPSS 24 statistical software.

#### 4. Results

The results obtained, analysing the relationship between the five strengths of the healthy employee (horizontal axis of Table 3, Table 4, and Table 5) with the variables physical activity, use of the fitness App, age, seniority, supervisor guidance and working in person or remotely, are presented as follows.

The employees present higher averages in high physical activity with respect to physical activity in all the strengths of the healthy employee, with no significant differences (Table 3). For example, in competence, employees who practice high physical activity have a median of 4.88, and in low physical activity their median is 4.59. No significant differences were found in the relationship between the strengths of the healthy employee and the use or a digital fitness App (Table 3).

**Table 3.** Healthy employee according to Physical activity levels and use of the Fitness App.

	Engagement			Resilience		Self-efficacy		Positive emot.		Competence	
	N	Av	SD	Av	SD	Av	SD	Av	SD	Av	SD
<b>Physical activity</b>											
High	41	4.7	0.672	4.68	0.65	5.14	0.781	3.61	0.976	4.88	0.745
Moderate	157	4.45	0.763	4.41	0.81	4.86	0.916	3.42	1.055	4.58	0.871
Low	53	4.45	0.78	4.54	0.76	4.96	0.805	3.51	1.029	4.59	0.861
Total	251	4.49	0.755	4.48	0.78	4.93	0.876	3.47	1.036	4.63	0.854
<b>Use of Fitness App</b>											
Yes	131	4.48	0.789	4.41	0.719	4.83	0.929	3.39	1.057	4.56	0.855
No	42	4.41	0.758	4.45	0.9	5.14	0.675	3.44	1.073	4.83	0.731
Do not participate	78	4.57	0.697	4.63	0.806	4.89	0.864	3.63	0.975	4.66	0.904
Total	251	4.5	0.756	4.48	0.782	4.93	0.876	3.48	1.036	4.64	0.854

**Notes:** N: sample; Av: Average. SD: Standard Deviation.

In relation to age, employees show a disparity of means in the strengths of the healthy employee (Table 4). After using the Bonferroni correction, significant differences can be found in engagement and resilience. For example, in engagement between employees aged 30-39 years (M = 4.21) compared to those aged 40-49 years (M = 4.62) and 50-59 years (M = 4.59), and in resilience between employees aged 30-39 (M = 4.21) compared to employees aged 40-49 (M = 4.56), and employees aged 50-59 (M = 4.80). With respect to employee seniority (Table 4), after using the Bonferroni correction, there are significant differences in the Resilience strength, between 5-10 years (M = 4.27), and more than 10 years (M = 4.66).

**Table 4.** Healthy employee according to age and seniority.

	N	Engagement		Resilience		Self-efficacy		Positive emotions		Competence	
		Av	SD	Av	SD	Av	SD	Av	SD	Av	SD
<b>Age</b>											
20-29 years	10	4.36	0.56	4.45	0.67	4.76	0.916	2.95	1.024	4.66	0.842
30-39 years	68	4.21*	0.898	4.21*	0.96	4.69	0.928	3.3	1.074	4.4	0.947
40-49 years	87	4.62**	0.708	4.56*	0.69	5	0.889	3.63	1.001	4.78	0.788
50-59 years	59	4.59*	0.634	4.8***	0.65	5.08	0.764	3.48	1.038	4.69	0.862
60-69 years	11	4.42	0.799	4.46	0.55	4.87	0.734	3.04	1.176	4.59	0.554
Total	235	4.47	0.766	4.51	0.79	4.91	0.873	3.44	1.05	4.63	0.857
<b>Seniority</b>											
<1 year	16	4.88	0.649	4.71	1.01	4.9	0.909	4.08	1.245	4.53	1.092
1-4 years	66	4.31	0.824	4.36	0.81	4.74	0.969	3.28	1.064	4.49	0.889
5-9 years	56	4.47	0.847	4.27**	0.87	4.86	0.894	3.54	0.949	4.61	0.868
>10 years	113	4.52	0.68	4.66**	0.66	5.03	0.815	3.4	1.043	4.75	0.802
Total	251	4.48	0.764	4.49	0.79	4.91	0.882	3.44	1.051	4.64	0.86

Notes: \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ; N: sample; Av: Average, SD: Standard Deviation.

In relation to the form of work, presential or working-from-home, no significant differences were found (Table 5). Regarding the supervisor guidance, there are significant differences in all the strengths. The better the supervisor guidance, the higher the scores obtained in all the strengths of the healthy employee (Table 5). In the following table (Table 5), when using the Bonferroni correction, the significant differences are established between a very well-guided attention from the supervisor with respect to well-guided / guided / poorly guided / very poorly guided, i.e., in Positive emotions very well guided (M = 3.86) and poorly guided (M = 2.5).

**Table 5.** Employee strengths according to supervisor guidance and type of work during COVID-19.

	N	Engagement		Resilience		Self-efficacy		Positive emotions		Competence	
		Av	SD	Av	SD	Av	SD	Av	SD	Av	SD
<b>Supervisor guidance</b>											
Very badly guided	3	2.9***	1.945	2.09***	1.8	3.88	1.539	1.94**	0.855	3.61	0.787
Badly guided	7	3.26***	1.098	3.34***	1.05	3.23***	1.329	2.5**	1.326	3.42*	1.731
Guided	21	4.23*	0.635	4.12***	0.88	4.82	0.916	2.96**	0.939	4.33	0.892
Well guided	125	4.45*	0.695	4.45**	0.61	4.87	0.82	3.35**	0.938	4.66	0.786
Very well guided	94	4.74***	0.607	4.76***	0.67	5.18***	0.697	3.86**	1	4.78*	0.752
Total	250	4.49	0.757	4.48	0.78	4.92	0.875	3.47	1.038	4.63	0.855
<b>Type of work during COVID-19</b>											
Mainly telework	179	4.49	0.776	4.45	0.76	4.93	0.875	3.5	1.022	4.59	0.838
Mainly presential	70	4.48	0.705	4.55	0.85	4.93	0.878	3.43	1.07	4.73	0.897

Notes: \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ; N: sample; Av: Average, SD: Standard Deviation.

## 5. Discussion

The health crisis caused by COVID-19 is creating considerable uncertainty among workers, which is compromising their engagement and well-being. Organisations need to actively support the health and well-being of employees (Kniffin et al., 2021). Given the positive impact of employee engagement and well-being on efficiency, productivity, and organisational performance, managers should address these factors to maintain the firm's competitive edge (De-la-Calle-Durán et al., 2021) even more during the COVID-19 pandemic. The strengths of the healthy employee, engagement, resilience, self-efficacy, positive emotions and competence are being affected by the pandemic. Aware of the health risks derived from the increasing physical inactivity caused by the pandemic (Hall et al., 2021), the World Health Organisation (WHO) has been insisting with its recommendations related to physical activity, diet, tobacco and mental health during confinement (World Health Organization, WHO 2020). The aggravation of physical inactivity emerges as a relevant adverse effect of COVID-19 (Hall et al., 2021). However, if the company gets workers to engage in moderate or high levels of physical activity, it will have more satisfied and happier workers (Cohn et al., 2009), who provide a better business performance (Pronk & Kottke, 2009) are more motivated (Vera et al., 2014), and have greater well-being (Lioussis et al., 2009) and engagement (Gómez-Chacón et al., 2021).

Based on scientific evidence, maintaining a regular exercise routine is a key strategy for physical and mental health during the current coronavirus emergency (Maugeri et al., 2020). There is a significantly higher increased risk for chronic disease if one is physically inactive and leads a sedentary lifestyle (Hall et al., 2021). Furthermore, physical activity is strongly associated with a reduced risk for severe COVID-19 outcomes (Sallis et al., 2021).

For these reasons, among others, it is so important to develop a good corporate wellness programme, even more so in times of COVID-19. Bouziri et al. (2020) stated that maximising the health benefits of telework, while minimising its negative effects, constitutes a continuation of a company's duty to preserve the health of its employees. It is imperative to invest in employee engagement in a more meaningful way to take account of the "new normal", and be sure that all employees, during these times, trust the company and its care concerning them (Kumar, 2021). As a positive resource, resilience is also very important, as it allows people to navigate a stressful workplace and unexpected events (Ojo et al., 2021). Wang et al (2020) highlighted the importance of improving mental health and psychological resilience during the COVID-19 epidemic.

In this case study, workers with higher physical activity present better data on all strengths of the healthy employee compared to the other two types of physical activity, but there are no significant differences. This positive relationship between physical activity and healthy employee strengths is in line with Gómez-Chacón et al. (2021) in terms of engagement, enhancing self-efficacy (Salanova et al., 2005), being associated with healthier and more resilient workers (Gerber et al., 2014), and positive emotions (Isen, 2002). It also agrees with Chen et al. (2020) who asserted that physical activity is the best natural medicine to prevent the consequences of confinement and telework stress. Likewise, these results are also in line with the research carried

out in the same company by Núñez-Sánchez et al. (2021), which highlighted that during this period 57.9 % have increased or maintained their physical activity prior to the pandemic, which contrasts with Hall et al. (2021) who stated that COVID-19 is increasing physical inactivity in the world, and in Spain (López-Bueno et al., 2020). The promotion of home-based physical activities is particularly recommendable in this specific context to reach the recommended PA (Physical Activity) levels set out by the World Health Organisation (López-Bueno et al., 2020).

When studying the relationship between the strengths of the healthy employee and the use of the digital fitness App, no significant differences were found. This is due to the fact that within the actions established by the company, there can be found not only actions for physical wellness, with the support of the digital App, but actions for psycho-social and emotional well-being, with coaching and mindfulness sessions, among others. It should be noted that the digital application was only one of the various digital tools used in this period. Among the different digital tools used, there can be found: a fitness App, direct communication through emails, Microsoft Teams, telephone and WhatsApp, the uploading of fitness and wellness content to their corporate wellness website, a new private YouTube channel for online activities, subsequently uploaded for on-demand use and, finally, training routines for employees, adapted to these pandemic times. This strategy is in line with Iglesias-Sánchez et al. (2020), who indicated that the only way to adapt to the new confinement and telework environment is through social media and digital ecosystems. Best practices include establishing a culture of health and using strategic communications designed to educate, motivate, and build trust, also tailored and targeted, multi-channelled, bidirectional, with optimum frequency (Kent et al., 2016). According to Peláez et al. (2020), coaching can be a valuable applied positive psychology intervention to increase well-being and optimal functioning in organisations, while Good et al. (2016) observed that mindfulness can foster performance and work well-being by increasing personal resources, such as resilience. These psycho-social and emotional actions are in line with Trougakos et al. (2020), who stated that organisations should help employees mitigate anxiety by offering training in effective emotional coping methods, as well as strategies to ensure that they meet their psychological needs by offering webinars in COVID-19 times on topics such as resilience, stress management and work-life balance. Multi-component interventions, such as this one, foster participation (Robroek, 2019).

Regarding age, employees show a disparity of means in the strengths of the healthy employee. However, engagement and resilience show significant differences between the youngest and the groups between 40 and 59 years, which show better averages. In terms of seniority, employees show significant differences, with employees having over 10 years seniority presenting better resilience. Resilience is an important strength, especially in times of a pandemic, as according to Malik and Garg (2020), it enhances engagement. Employees with a seniority of between 1 and 10 years perform worse on all strengths of the healthy employee (except for positive emotions) compared to employees with more than 10 years and those with less than 1. In this research, it is observed that employees with more than 10 years in the company have an above-average level of engagement, being also the seniority band with the highest number of

employees. In the authors' opinion, these conclusions are logical given that the corporate wellness programme at this company began in 2001, so workers with more than 10 years' seniority are fully familiar with the programme and with the importance of health and well-being for the company. It is worth highlighting the good results of employees with less than 1 year of seniority, which speaks very well of the current onboarding process and the acceptance of all the welfare plans by new employees. The importance of the years of implementation of the programme is in line with Basinska-Zych and Springer (2021) who observed in different research works that the financial effectiveness of the Workplace Health Promotion Intervention, needs at least three years to obtain positive results.

In relation to the way employees have performed their job functions during the pandemic (work-from-home or face-to-face), no significant differences were found. In the authors' opinion, this demonstrates the overall good functioning of the programme and is in line with Ten Brummelhuis and Bakker (2012), who stated that organisational and managerial support is of great importance in the work-from-home experience to increase levels of personal resources. This support, in turn, promotes engagement and well-being (Wood et al., 2020). In addition, coaching can be a valuable applied positive psychology intervention to increase well-being and optimal functioning in companies (Peláez et al., 2020).

Regarding the supervisor's guidance, significant differences were observed in all strengths of the healthy employee. When the guidance is better, higher scores are obtained. This finding is in line with Kaluza et al. (2021), as employees desire leaders who value their well-being. Furthermore, their explicit commitment and consideration of employee well-being has a significant impact on employees' psychological and physical well-being over and above other forms of such positive leadership behaviours (Vincent-Höper et al., 2019). Health-oriented leadership improves employees' health and well-being through employees' own self-care behaviour, i.e., their concern for their own health, how they manage demands and resources at work and how they take care of their own well-being (Franke et al., 2014). According to Salanova et al. (2021), groups and individuals value having a management team committed to both holistic health and the development and promotion of health at work.

Finally, the authors compared the averages obtained in this research with that carried out by Gómez-Chacón et al. (2021), before the pandemic, in three different companies with a corporate well-being programme. It was observed that the averages obtained in research during the COVID-19 pandemic are better in engagement, resilience, competence and self-efficacy, only being lower in positive emotions which, in the opinion of the authors, makes sense. This is also in accordance with Yildirim et al. (2021), who observed that the stress caused by the pandemic, increased burnout and reduced performance.

### ***Limitations and future lines of research***

This research is pioneer in the analysis of the effect of corporate well-being programmes in the healthy employee concept, in COVID-19 times. The study reflects the outcomes of the corporate wellness programme adaptation to these uncertain times but presents limitations.

The first one is that this company has more than 20 years of experience in the management of corporate well-being programmes, being a benchmark in Spain, and also a large company and therefore has more experience and resources than other smaller companies. This could limit the adoption of their model, at least in its entirety, by other companies presenting different characteristics. Another limitation is that the research has taken place during the COVID-19 pandemic and this extraordinary new situation may have influenced some of the outcomes.

It is true that the COVID-19 pandemic is still active, and therefore it should be borne in mind that the company can continue to create and adopt new measures and participation levels, and physical activity may also vary. It would therefore be of interest to researchers and practitioners to update the findings of this study as well as to provide more quantitative and qualitative assessments of the implementation of the programme in the company once the pandemic is over. It would also be of interest to develop similar studies in a different type of companies. The grand challenge we currently face constitutes a “new reality” that offers new opportunities to which organisational scholars and practitioners alike will need and want to remain attentive (Carnevale & Hatak, 2020).

Although working from home has become the standard of working for millions, there is little previous research on how this influences employee experience and engagement (Masuda et al., 2017). In accordance with Kniffin et al. (2021), the impact of COVID-19 on social, psychological, health-related and economic costs for workers should also be investigated and updated after the pandemic is over. Research into the most appropriate strengths of the healthy employee is alive and is changing in parallel with the progress of society and companies. In this sense, trust and leadership are variables that should be studied in the future due to their impact on organisations.

Furthermore, it has been observed that when supervisor guidance is better, a higher score is obtained in the strengths of the healthy employee. For this reason, it would be interesting to investigate healthy leadership models and skills since, according to De Klerk et al. (2021), leaders will need to develop skills to manage their employees working remotely and provide physical and mental support. Finally, conducting future studies based on the position held by the employees, could also be of interest to test if this position influences any of the healthy employee strengths.

### ***Managerial perspectives***

This research could help companies in their adaptation of well-being programmes, as through this case study they could draw conclusions and obtain practical ideas. According to Carnevale and Hatak (2020) further guidance is needed on how companies can adapt their human resources

practices in ways that can alleviate the aforementioned issues and enhance employees' ability to thrive during such dynamic and uncertain times. Organisations have a duty to protect and care for the well-being of employees (Grant & Kinman, 2013), thus improving psycho-social strengths such as resilience or engagement, and this becoming a competitive advantage (Schneider et al, 2018). This research might be helpful in mitigating the harmful effects of this pandemic. Increased efforts are needed to disseminate lessons learned from employers who have built cultures of health and excellent communications strategies applying these insights more broadly in workplace settings (Kent et al, 2016). In this regard, Salanova, (2020) underlined the importance of pandemic research in generating resources to foster resilience and engagement, while De Klerk et al. (2021) highlighted the opportunity to study the effect of this forced telework on the employee experience in order to plan future ways of working.

Furthermore, it should be underlined that as the physical activity level is an important factor that can influence some of the strengths of the healthy employee, it is highly advisable for employers to implement effective corporate wellness programmes to trigger their employees to maintain or even increase their physical activity.

Organisations have found that they can function effectively with a remote workforce and, according to experts, this trend will remain. This research suggests that corporate wellness programmes, adapted to times of COVID-19 and to work-from-home, could be helpful in combating the negative psycho-social and physical consequences for the workforce. This empirical work may enlighten companies to face the challenges of this new age of work and not only fight against reduced strengths of healthy employees but maintain or even improve them.

## **6. Conclusions**

The aim of the research is to show, through a real case study, the effects that a multi-component corporate well-being programme, implemented in COVID-19 times, and extensive remote working, has on the healthy employee's strengths. Future interventions in organisations are needed to improve mental health during this pandemic, building self-efficacy and resilience (Hu et al., 2021) and this case study may be helpful in doing so.

Physical activity programmes have positive effects on the well-being and the strengths of the healthy employee. However, they must be complemented with other psycho-social programmes, being multi-component, highlighting the importance of coaching and mindfulness actions. On the other hand, the importance of developing a culture of well-being, the use of different digital tools (a fitness App is not enough) as well as the importance of health-oriented leaders and companies for the employees is also demonstrated. The results in two of the most important strengths of the healthy employee for the company, engagement and resilience, which have also suffered a good deal in times of the pandemic, offer better averages compared with other companies in a pre-COVID situation. Whereas companies are grappling with reduced employee engagement among other harmful consequences, this case study suggests that a good corporate wellness



programme could help mitigate these negative effects. Work engagement has profound implications for employees' performance and their psychological and physical well-being (Bakker et al., 2008), being a key indicator for employee health (Salanova, 2021). Knight et al. (2019) have shown that there are benefits of workplace interventions to improve engagement and this research shows that it is also possible to achieve these results during a pandemic and telework. It is highly recommended for organisations to actively support the well-being and health of their workforce to fight against the adverse effects of this pandemic.

**Funding.** This research received funds from a Plan Propio of the University of Málaga and from Andalusian Government SEJ-628. UMA18 FEDER JA-148.

**Acknowledgments:** The authors thank the company for its commitment and generosity in sharing this corporate well-being programme information.

## References

- Altena, E., Baglioni, C., Espie, C. A., Ellis, J., Gavrilloff, D., Holzinger, B., ... & Riemann, D. (2020). Dealing with sleep problems during home confinement due to the COVID-19 outbreak: Practical recommendations from a task force of the European CBT-I Academy. *Journal of Sleep Research*, 29(4), e13052. <https://doi.org/10.1111/jsr.13052>
- Bailey, C., Madden, A., Alfes, K., & Fletcher, L. (2017). The meaning, antecedents and outcomes of employee engagement: A narrative synthesis. *International Journal of Management Reviews*, 19(1), 31–53. <https://doi.org/10.1111/ijmr.12077>
- Bakker, A. B., Schaufeli, W. B., Leiter, M. P., & Taris, T. W. (2008) Work engagement: An emerging concept in occupational health psychology. *Work Stress*, 22, 187–200. <https://doi.org/10.1080/02678370802393649>
- Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: taking stock and looking forward. *Journal of Occupational Health Psychology*, 22(3), 273. <https://psycnet.apa.org/doi/10.1037/ocp0000056>
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Bandura, A. (1998). Health promotion from the perspective of social cognitive theory. *Psychology and Health*, 13, 623-649.
- Bartunek, J. M., Rynes, S. L., & Ireland, R. D. (2006). What makes management research interesting, and why does it matter? *Academy of Management Journal*, 49(1), 9-15. <https://doi.org/10.5465/amj.2006.20785494>
- Basinska-Zych, A., & Springer, A. (2021). Organizational and Individual Outcomes of Health Promotion Strategies-A Review of Empirical Research. *International Journal of Environment Research and Public Health*, 18, 383. <https://doi.org/10.3390/ijerph18020383>
- Bell, E., Bryman, A., & Harley, B. (2018). *Business research methods*. Oxford University Press.
- Bezner, J. R., Franklin, K. A., Lloyd, L. K., & Crixell, S. H. (2020). Effect of group health behaviour change coaching on psychosocial constructs associated with physical activity among university employees. *International Journal of Sport and Exercise Psychology*, 18(1), 93-107.
- Bouziri, H., Smith, D. R., Descatha, A., Dab, W., & Jean, K. (2020). Working from home in the time of covid-19: how to best preserve occupational health? *Occupational and Environmental Medicine*, 77(7), 509-510.
- Brown, W. J., Trost, S. G., Bauman, A., Mummery, K., & Owen, N. (2004). Test-retest reliability of four physical activity measures used in population surveys. *Journal of Science and Medicine in Sport*, 7(2), 205-215.
- Caniëls, M. C., Semeijn, J. H., & Renders, I. H. (2018). Mind the mindset! The interaction of proactive personality, transformational leadership and growth mindset for engagement at work. *Career Development International*, 23(1), 48-66.
- Carnevale, J. B., & Hatak, I. (2020). Employee adjustment and well-being in the era of COVID-19: Implications for human resource management. *Journal of Business Research*, 116, 183-187. <https://doi.org/10.1016/j.jbusres.2020.05.037>
- Carver, C. S., Scheier, M. F., & Segerstrom, S. C. (2010). Optimism. *Clinical Psychology Review*, 30(7), 879-889. <https://doi.org/10.1016/j.cpr.2010.01.006>
- Chen, P., Mao, L., Nassis, G. P., Harmer, P., Ainsworth, B. E., & Li, F. (2020). Coronavirus disease (COVID-19): The need to maintain regular physical activity while taking precautions. *Journal of Sport and Health Science*, 9(2), 103-104. <https://doi.org/10.1016/j.jshs.2020.02.001>
- Cohn, M. A., Fredrickson, B. L., Brown, S. L., Mikels, J. A., & Conway, A. M. (2009). Happiness unpacked: Positive emotions increase life satisfaction by building resilience. *Emotion*, 9(3), 361–368. <https://doi.org/10.1037/a0015952>
- Creswell, J. W. (2002). *Educational research: Planning, conducting, and evaluating quantitative*. Upper Saddle River, NJ: Prentice Hall.
- De Klerk, J. J., Joubert, M., & Mosca, H. F. (2021). Is working from home the new workplace panacea? Lessons from the COVID-19 pandemic for the future world of work. *SA Journal of Industrial Psychology*, 47(1), 1-14. <https://doi.org/10.4102/sajip.v47i0.1883>
- De-la-Calle-Durán, M.-C., & Rodríguez-Sánchez, J. L. (2021). Employee Engagement and Wellbeing in Times of COVID-19: A Proposal of the 5Cs Model. *International Journal of Environment Research and Public Health*, 18, 5470. <https://doi.org/10.3390/ijerph18105470>
- Eurofound (2020). *Living, Working and COVID-19: First Findings-April 2020*; Publications Office of the European Union: Luxembourg.

- Franke, F., Felfe, J., & Pundt, A. (2014). The impact of health-oriented leadership on follower health: Development and test of a new instrument measuring health-promoting leadership. *German Journal of Human Resource Management*, 28(1-2), 139-161. <https://doi.org/10.1177%2F239700221402800108>
- Gerber, M., Jonsdottir, I. H., Lindwall, M., & Ahlborg, G. (2014). Physical activity in employees with differing occupational stress and mental health profiles: A latent profile analysis. *Psychology of Sport and Exercise*, 15(6), 649-658. <https://doi.org/10.1016/j.psychsport.2014.07.012>
- Gómez-Chacón, R., García-Fernández, J., Morales Sánchez, V., & Hernández Mendo, A. (2020). Adaptación y validación del cuestionario del empleado saludable del modelo HERO. *Anales de Psicología / Annals of Psychology*, 36(2), 361-369. <https://doi.org/10.6018/analesps.395431>
- Gómez-Chacón, R., García-Fernández, J., Morales Sánchez, V., & Hernández Mendo, A. (2021). Healthy employee's psychosocial strengths in workers according to their physical activity level. *Revista Mexicana de Psicología*, 38(1), 30-44.
- Good, D. J., Lyddy, C. J., Glomb, T. M., Bono, J. E., Brown, K. W., Duffy, M. K., ... Lazar, S. W. (2016). Contemplating mindfulness at work: An integrative review. *Journal of Management*, 42(1), 114-142. <https://doi.org/10.1177%2F0149206315617003>
- Grant, L., & Kinman, G. (2013). Bouncing back? Personal representations of resilience of student and experienced social workers. *Practice*, 25(5), 349-366. <https://doi.org/10.1080/09503153.2013.860092>
- Helland, M. R., & Winston, B. E. (2005). Towards a deeper understanding of hope and leadership. *Journal of Leadership & Organizational Studies*, 12(2), 42-54. <https://doi.org/10.1177%2F107179190501200204>
- Hall, G., Laddu, D. R., Phillips, S. A., Lavie, C. J., & Arena, R. (2021). A tale of two pandemics: How will COVID-19 and global trends in physical inactivity and sedentary behavior affect one another? *Progress in Cardiovascular Diseases*, 64, 108. <https://dx.doi.org/10.1016%2Fj.pcad.2020.04.005>
- Heslin, P. A., & Klehe, U. C. (2006). Self-efficacy. In S. G. Rogelberg (Ed.), *Encyclopedia of Industrial/Organizational Psychology* (Vol. 2, pp. 705-708). Thousand Oaks: Sage.
- Hu, D., Kong, Y., Li, W., Han, Q., Zhang, X., Zhu, L. X., & He, H. G. (2020). Frontline nurses' burnout, anxiety, depression, and fear statuses and their associated factors during the COVID-19 outbreak in Wuhan, China: A large-scale cross-sectional study. *The Lancet* 100424. <https://doi.org/10.1016/j.eclinm.2020.100424>
- Iglesias-Sánchez, P. P., Vaccaro Witt, G. F., Cabrera, F. E., & Jambrino-Maldonado, C. (2020). The contagion of sentiments during the COVID-19 pandemic crisis: The case of isolation in Spain. *International Journal of Environmental Research and Public Health*, 17(16), 5918.
- Isen, A. M. (2002). Missing in action in the AIM: positive affect's facilitation of cognitive flexibility, innovation, and problem solving. *Psychological Inquiry*, 13(1), 57-65.
- Kaluza, A. J., Weber, F., van Dick, R., & Junker, N. M. (2021). When and how health-oriented leadership relates to employee well-being—The role of expectations, self-care, and LMX. *Journal of Applied Social Psychology*, 51(4), 404-424. <https://doi.org/10.1111/jasp.12744>
- Kazekami, S. (2020). Mechanisms to improve labour productivity by performing telework. *Telecommunications Policy*, 44(2), 1-15. <https://doi.org/10.1016/j.telpol.2019.101868>
- Kent, K., Goetzel, R. Z., Roemer, E. C., Prasad, A., & Freundlich, N. (2016). Promoting healthy workplaces by building cultures of health and applying strategic communications. *Journal of Occupational and Environmental Medicine*, 58(2), 114-122. <https://doi.org/10.1097/JOM.0000000000000629>
- Kim, J., Lee, S., Chun, S., Han, A., & Heo, J. (2017). The effects of leisure-time physical activity for optimism, life satisfaction, psychological well-being, and positive affect among older adults with loneliness. *Annals of Leisure Research*, 20(4), 406-415. <https://doi.org/10.1080/11745398.2016.1238308>
- Kniffin, K. M., Narayanan, J., Anseel, F., Antonakis, J., Ashford, S. P., Bakker, A. B., ... & Vugt, M. V. (2021). COVID-19 and the workplace: Implications, issues, and insights for future research and action. *American Psychologist*, 76(1), 63. <https://psycnet.apa.org/doi/10.1037/amp0000716>
- Knight, C., Patterson, M., & Dawson, J. (2019). Work engagement interventions can be effective: a systematic review. *European Journal of Work and Organizational Psychology*, 28(3), 348-372. <https://doi.org/10.1080/1359432X.2019.1588887>

- Kumar, P. (2021). V-5 Model of Employee Engagement during COVID-19 and Post Lockdown. *Vision*, 0972262920980878. <https://doi.org/10.1177%2F0972262920980878>
- Lancet, T. (2021). A sporting chance: physical activity as part of everyday life. *Lancet* (London, England), S0140-6736.
- Li, S., Wang, Y., Xue, J., Zhao, N., & Zhu, T. (2020). The impact of COVID-19 epidemic declaration on psychological consequences: a study on active Weibo users. *International Journal of Environmental Research and Public Health*, 17(6), 2032. <https://doi.org/10.3390/ijerph17062032>
- Lioussis, P. L., Shochet, I. M., Millea, P. M., & Biggs, H. (2009). The Promoting Adult Resilience (PAR) Program: The Effectiveness of the Second, Shorter Pilot of a Workplace Prevention Program. *Behaviour Change*, 26(2), 97-112. <https://doi.org/10.1375/bech.26.2.97>
- Llorens, S., Salanova, M., Torrente, P., & Acosta, H. (2013). Interventions to promote Healthy & Resilient Organizations (HERO) from Positive Psychology. In *Salutogenic organizations and change* (pp. 91-106). Dordrecht: Springer.
- López-Bueno, R., Calatayud, J., Andersen, L. L., Balsalobre-Fernández, C., Casaña, J., Casajús, J. A., ... & López-Sánchez, G. F. (2020). Immediate impact of the COVID-19 confinement on physical activity levels in Spanish adults. *Sustainability*, 12(14), 5708. <https://doi.org/10.3390/su12145708>
- Luthans, F., Youssef, C. M., & Avolio, B. J. (2007). Psychological capital: Investing and developing positive organizational behavior. *Positive Organizational Behavior*, 1(2), 9-24.
- Malik, P., & Garg, P. (2020). Learning organization and work engagement: The mediating role of employee resilience. *The International Journal of Human Resource Management*, 31(8), 1071-1094. <https://doi.org/10.1080/09585192.2017.1396549>
- Mantilla-Tolosa, S. C., & Gómez-Conesa, A. (2007). International Physical Activity Questionnaire. An adequate instrument in population physical activity monitoring. *Revista Iberoamericana de Fisioterapia y Kinesiología*, 10(1), 48-52.
- Mariotto, F. L., Zanni, P. P., & Moraes, G. S. M. (2014) What is the use of a single-case study in management research? *Revista de Administración de Empresas*, 54, 358–369.
- Masuda, A. D., Holtschalg, C., & Nicklin, J. M. (2017). Why the availability of telecommuting matters: The effects of telecommuting on engagement via goal pursuit. *Career Development International*, 22(2), 200–219. <https://doi.org/10.1108/CDI-05-2016-0064>
- Mathisen, G. E., Brønnick, K., Arntzen, K. J., & Bergh, L. I. V. (2017). Identifying and managing psychosocial risks during organizational restructuring: It's what you do and how you do it. *Safety Science*, 100, 20-29. <https://doi.org/10.1016/j.ssci.2016.12.007>
- Maugeri, G., Castrogiovanni, P., Battaglia, G., Pippi, R., D'Agata, V., Palma, A., ... & Musumeci, G. (2020). The impact of physical activity on psychological health during Covid-19 pandemic in Italy. *Heliyon*, 6(6), e04315. <https://doi.org/10.1016/j.heliyon.2020.e04315>
- Nelson, D. L., & Simmons, B. L. (2003). Health psychology and work stress: A more positive approach. In J. C. Quick & L. E. Tetrick (Eds.), *Handbook of occupational health psychology* (pp. 97–119). American Psychological Association. <https://doi.org/10.1037/10474-005>
- Nieman, D. C., & Wentz, L. M. (2019). The compelling link between physical activity and the body's defence system. *Journal of Sport Health Science*, 8(3), 201–217. <https://doi.org/10.1016/j.jshs.2018.09.009>
- Niitsu, K., Houfek, J. F., Barron, C. R., Stoltenberg, S. F., Kupzyk, K. A., & Rice, M. J. (2017). A concept analysis of resilience integrating genetics. *Issues in Mental Health Nursing*, 38(11), 896-906.
- Núñez-Sánchez, J. M., Gómez-Chacón, R., Jambrino-Maldonado, C., & García-Fernández, J. (2021). Corporate Well-Being Programme in COVID-19 Times. The Mahou San Miguel Case Study. *Sustainability*, 13(11), 6189. <https://doi.org/10.3390/su13116189>
- Ojo, A. O., Fawehinmi, O., & Yusliza, M. Y. (2021). Examining the predictors of resilience and work engagement during the COVID-19 pandemic. *Sustainability*, 13(5), 2902. <https://doi.org/10.3390/su13052902>
- Ouweneel, E., Le Blanc, P. M., & Schaufeli, W. B. (2013). Do-it-yourself: An online positive psychology intervention to promote positive emotions, self-efficacy, and engagement at work. *Career Development International*, 18(2), 173-195.
- Parker, S. L., Jimmieson, N. L., & Johnson, K. M. (2013). General self-efficacy influences affective task reactions during a work simulation: the temporal effects of changes in workload at different levels of control. *Anxiety, Stress & Coping*, 26(2), 217-239.

- Peláez, M. J., Coe, C., & Salanova, M. (2020). Facilitating Work Engagement and Performance through Strengths-based Micro-Coaching: A controlled trial study. *Journal of Happiness Studies*, 21, 1265–1284. <https://doi.org/10.1007/s10902-019-00127-5>
- Peterson, S. J., & Byron, K. (2008). Exploring the role of hope in job performance: Results from four studies. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 29(6), 785-803. <https://doi.org/10.1002/job.492>
- Pronk, N. P., & Kottke, T. E. (2009). Physical activity promotion as a strategic corporate priority to improve worker health and business performance. *Preventive Medicine*, 49(4), 316-321. <https://doi.org/10.1016/j.ypmed.2009.06.025>
- Reinwald, M., Zimmermann, S., & Kunze, F. (2021). Working in the Eye of the Pandemic: Local COVID-19 Infections and Daily Employee Engagement. *Frontiers Psychology*, 12, 654126. doi: 10.3389/fpsyg.2021.654126
- Rivera, M., Shapoval, V., & Medeiros, M. (2021). The relationship between career adaptability, hope, resilience, and life satisfaction for hospitality students in times of Covid-19. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 29, 100344. <https://doi.org/10.1016/j.jhlste.2021.100344>
- Robertson, I. T., Cooper, C. L., Sarkar, M., & Curran, T. (2015). Resilience training in the workplace from 2003 to 2014: A systematic review. *Journal of Occupational and Organizational Psychology*, 88(3), 533–562. <https://doi.org/10.1111/joop.12120>
- Robroek, S. J., Van Lenthe, F. J., Van Empelen, P., & Burdorf, A. (2009). Determinants of participation in worksite health promotion programmes: a systematic review. *International Journal of Behavioral Nutrition and Physical Activity*, 6(1), 1-12. doi:10.1186/1479-5868-6-26
- Salanova, M. (2020). How to survive Covid-19? Notes from organisational resilience (¿Cómo sobrevivir al Covid-19? Apuntes desde la resiliencia organizacional). *International Journal of Social Psychology*, 35(3), 670-676. <https://doi.org/10.1080/02134748.2020.1795397>
- Salanova, M. (2021). Work engagement: a key to HEROs—healthy and resilient organizations. In *A Research Agenda for Employee Engagement in a Changing World of Work*. Edward Elgar Publishing.
- Salanova, M., Grau, R., Cifre, E., & Llorens, S. (2000). Computer training, frequency of use and burnout: the moderating role of computer self-efficacy. *Computers in Human Behaviour*, 16(6), 575-590.
- Salanova, M., Grau, R., & Martínez, I. (2005) Demandas laborales y conductas de afrontamiento: el rol modulador de la autoeficacia profesional. *Psicothema*, 17(3), 390-395.
- Salanova, M., & Schaufeli, W. (2009). El engagement en el trabajo: cuando el trabajo se convierte en pasión. Alianza Editorial: Madrid.
- Salanova, M., Llorens, S., Cifre, E., & Martínez, I. M. (2012). We need a HERO! Towards a validation of the Healthy & Resilient Organization (HERO) model. *Group & Organization Management*, 37(6), 785–822. doi: 10.1177/1059601112470405.
- Sallis, R., Young, D. R., Tartof, S. Y., Sallis, J. F., Sall, J., Li, Q., Smith, G. N., & Cohen, D. A. (2021). Physical inactivity is associated with a higher risk for severe COVID-19 outcomes: A study in 48,440 adult patients. *British Journal Sports Medicine*, 1-8, doi:10.1136/bjsports-2021-104080.
- Schaufeli, W. B., Salanova, M., Gonzalez-Roma, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: a two-sample confirmatory factor analytic approach. *Journal of Happiness Studies*, 3(1), 71-92. <https://doi.org/10.1023/a:1015630930326>
- Schneider, B., Yost, A. B., Kropp, A., Kind, C., & Lam, H. (2018). Workforce engagement: What it is, what drives it, and why it matters for organisational performance. *Journal of Organisational Behaviour*, 39(4), 462–480. <https://doi.org/10.1002/job.2244>
- Simbula, S., Guglielmi, D., & Schaufeli, W.B. (2011). A three-wave study of job resources, self-efficacy, and work engagement among Italian schoolteachers. *European Journal of Work and Organizational Psychology*, 20(3), 285–304.
- Ten Brummelhuis, L. L., & Bakker, A. B. (2012). A resource perspective on the work-home interface: The work-home resources model. *American Psychologist*, 67(7), 545–556. <https://doi.org/10.1037/a0027974>
- Trougakos, J. P., Chawla, N., & McCarthy, J. M. (2020). Working in a pandemic: Exploring the impact of COVID-19 health anxiety on work, family, and health outcomes. *Journal of Applied Psychology*, 105(11), 1234-1245. <https://doi.org/10.1037/apl0000739>

- Vander Elst, T., Verhoogen, R., Servu, M., Van den Broeck, A., Baillien, E., & Godderis, L. (2017). Not extent of telecommuting, but job characteristics as proximal predictors of work-related well-being. *Journal of Occupational and Environmental Medicine*, 59(10), 180–186. <https://doi.org/JOM.0000000000001132>
- Vera, M., Le Blanc, P. M., Taris, T. W., & Salanova, M. (2014). Patterns of engagement: the relationship between efficacy beliefs and task engagement at the individual versus collective level. *Journal of Applied Social Psychology*, 44(2), 133–144.
- Vincent-Höper, S., & Stein, M. (2019). The role of leaders in designing employees' work characteristics: Validation of the health- and development-promoting leadership behavior questionnaire. *Frontiers in Psychology*, 10, 1049. <https://doi.org/10.3389/fpsyg.2019.01049>
- Vinkers, C. H., van Amelsvoort, T., Bisson, J. I., Branchi, I., Cryan, J. F., Domschke, K., ... & van der Wee, N. J. (2020). Stress resilience during the coronavirus pandemic. *European Neuropsychopharmacology*, 35, 12-16. <https://doi.org/10.1016/j.euroneuro.2020.05.003>
- Wang, H.-j., Lu, C.-q., & Siu, O.-I. (2015). Job insecurity and job performance: The moderating role of organizational justice and the mediating role of work engagement. *Journal of Applied Psychology*, 100(4), 1249–1258. <https://doi.org/10.1037/a0038330>
- Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. 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), 1729. <https://doi.org/10.3390/ijerph17051729>
- Wilson, M. G., Dejoy, D. M., Vandenberg, R. J., Richardson, H. A., & McGrath, A. L. (2004). Work characteristics and employee health and well-being: Test of model of healthy work organization. *Journal of Occupational and Organizational Psychology*, 77, 565–589. <https://doi.org/10.1348/0963179042596522>
- Wood, J., Oh, J., Park, J., & Kim, W. (2020). The relationship between work engagement and work–life balance in organizations: A review of the empirical research. *Human Resource Development Review*, 19(3), 240–262. <https://doi.org/10.1177/1534484320917560>
- World Health Organization (WHO) (2020). Connecting the world to combat coronavirus, 2020. Available online: <https://www.who.int/campaigns/connecting-the-world-to-combat-coronavirus/healthyathome> (accessed on 20 November 2021)
- Xiao, H., Zhang, Y., Kong, D., Li, S., & Yang, N. (2020). The effects of social support on sleep quality of medical staff treating patients with coronavirus disease 2019 (COVID-19) in January and February 2020 in China. *Medical Science Monitor: International Medical Journal of Experimental and Clinical Research*, 26, e923549–e923541. <https://dx.doi.org/10.12659%2FMSM.923549>
- Yıldırım, M., Çiçek, İ., & Şanlı, M. E. (2021). Coronavirus stress and COVID-19 burnout among healthcare staffs: The mediating role of optimism and social connectedness. *Current Psychology*, 1-9.
- Youssef, C. M., & Luthans, F. (2007). Positive Organizational Behavior in the Workplace: The Impact of Hope, Optimism, and Resilience. *Journal of Management*, 33(5), 774-800. <https://doi.org/10.1177%2F0149206307305562>