

RESEARCH ARTICLE

Catching on: Work stress, employee wellbeing, and the moderating role of team-level emotional contagion

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Abstract

Work stress and employee wellbeing have gained heightened attention since the COVID-19 pandemic. Until now, organizations have primarily sought to conceptualize these variables as an individual-level phenomenon; thereby neglecting the potential influence of social dynamics within the workplace. Drawing on conservation of resources and emotional contagion theories, this study examines the extent to which team-level emotional contagion moderates the impact of stress on wellbeing, factoring in multilevel effects. Data from 237 professional services employees nested within 41 teams was analyzed. The results show support for emotional contagion as a team-level moderator between individual-level work stress and employee wellbeing. The role of organizational resources in shaping stress and wellbeing outcomes was also significant. This study underscores the significance of team dynamics and organizational resources in shaping employee wellbeing. Well-targeted, stress alleviation, and team-contagion enhancing initiatives will have a more positive impact on wellbeing, than individually targeted stress alleviation initiatives in isolation.

Keywords: emotional contagion; employee wellbeing; work stress; conservation of resources; team

Introduction

Employee wellbeing has received increased attention from scholars, practitioners, governments, and international organizations since the COVID-19 pandemic (e.g., Franken et al., 2021). For example, the ISO 45001 *Occupational health and safety management systems* (2021) is an international standard for health and safety at work, which requires organizations to be initiative-taking in managing the mental health of staff, including the psychological risks that employees are exposed to. Employee wellbeing focuses on worker's physical, social, and psychological wellness at work (Grant, Christianson, & Price, 2007). In Australia, alongside other jurisdictions in the United Kingdom and Europe, organizations are increasingly required to eliminate, or if not possible, minimize psychosocial hazards and promote employee wellbeing.

Commonplace employee wellbeing interventions include resilience training, mindfulness and wellbeing apps, employee assistance programs (EAP) and gym memberships (Goldstone, Hamer, Grogan, & Ponniah, 2021). Recent research examining the effectiveness of such interventions has indicated that employees are, in general, no better off (Fleming, 2024). Part of the concern is that the commonplace wellbeing intervention typically focuses on the individual (in isolation). Yet, advocates call for a 'tiered approach', combining individual alongside proactive, organizational approaches that restructure work and minimize stress and incivility (Fleming, 2023). Such calls are backed by the evidence, with organizational-level resources such as managerial support, and senior leadership priority for a positive psychosocial climate being consistently identified as critical antecedents of employee

wellbeing (Dollard, Dormann, & Idris, 2019; Farr-Wharton, Brunetto, Hernandez Grande, Brown, & Teo, 2023; Xerri, Cozens, & Brunetto, 2023).

Other research has tracked the role of organizational interventions that promote nutrition, healthy sleep, and mindfulness (Redeker et al., 2019). Scholars argue, however, that individual managerial processes and initiatives that target the majority inevitably leave some employees out (Bamberger et al., 2015). Furthermore, there is cause to suggest that employees who experience lower levels of wellbeing and have not benefited from the available organizational resources, may negatively impact the rest of the team's wellbeing through a contagion influence (Finkel, Simpson, & Eastwick, 2017; Xerri et al., 2023).

Emotional contagion is a form of social contagion that involves 'catching' others' emotions and moods. Contagion can be beneficial – when, for example positive sentiments are shared across a group. However, Christakis and Fowler (2009) highlight a collective damaging impact that occurs as a result of distraught employees within a work team. This damaging impact may include lower wellbeing, higher levels of psychological distress, or lower productivity (Christakis & Fowler, 2009). Notwithstanding, this remains an understudied phenomenon (see, e.g., Brunetto, Dick, Xerri, & Cully, 2020; Farr-Wharton, Brunetto, & Xerri, 2021).

Professional services are those industries with core outputs related to specific services or expertise rather than product creation. Such professions generally reside in the knowledge sector of an economy, making this sector key to the innovation, value creation, and ultimately prosperity in more established economies. As with much of the knowledge sector, professional services operations tend to nest employees in work teams, where members undertake interlocking and complementary actions to complete a workflow or deliver a service. Importantly, teams can have a mixture of skillsets. In the case of an architectural team, there may be a lead architect, one or more junior architects, an office manager, one or more people responsible for information technology functions, and an executive officer. Each team member fulfills a separate function.

This paper examines the collective, contagious impact of co-workers' emotional states on employee wellbeing. Its underpinning hypotheses also consider the role of the provision of organizational resources, namely psychosocial safety climate (PSC) and leader–member exchange (LMX). A multilevel statistical model is employed to analyze employees' perceptions of managerial support and priority, work stress, wellbeing, and emotional contagion among co-workers nested within their work teams. The theoretical lens underpinning the hypotheses combines conservation of resources theory (CORT) and emotional contagion theory (ECT). The latter theory is used to understand the social exchange of sentiment, with the former used to explain how this shapes individual perceptions of stress and wellbeing. The study is guided by the following research questions (RQs):

RQ1. *To what extent do organizational and managerial support influence employees' work stress and wellbeing?*

RQ2. *What is the role of team-level emotional contagion in shaping the work stress-wellbeing relationship?*

The present study extends the wellbeing literature by using a multilevel approach to explore the role of team-level emotional contagion in influencing the relationship between work stress and employee wellbeing. The paper offers new insights into the team collectivist conceptualization of employee wellbeing within the context of professional services firms.

Theory and hypotheses

Conservation of resources theory

This study examines the impact of organizational resources on employee wellbeing, drawing on CORT as one of the informing theories. CORT is a resource-oriented theory which explains that a loss

of resources causes stress and undermines wellbeing (Halbesleben, Neveu, Paustian-Underdahl, & Westman, 2014). Some scholars include safety climate and managerial support as key organizational resources to support employee wellbeing (see, e.g., Brunetto, Xerri, & Farr-Wharton, 2024; Farr-Wharton *et al.*, 2023; Xerri *et al.*, 2023).

The CORT's second corollary suggests that a resource loss can turn into a negative resource loss spiral, which causes unsustainable levels of work stress (Halbesleben & Buckley, 2004; Hobfoll, 2001). In contrast, according to the theory's third corollary, an employee who has abundant resources has more options to continue gaining resources and thriving. The argument of this paper is that when employees' perceptions of managerial support and PSC are on or above acceptable levels, employees experience a resource abundance that supports a reduction of work stress and, as a consequence, higher employee wellbeing levels. Alternatively, if those organizational resources are scarce, employees experience a negative spiral of resources lost which causes high levels of work stress and negatively impacts their wellbeing levels.

In this context, variations in individual levels of work stress among team members can trigger a phenomenon known as emotional contagion. This contagious process involves collective emotional convergence, creating a ripple effect that can significantly impact the overall team dynamic and collective wellbeing.

Work stress

Work stress is defined as 'a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her wellbeing' (Lazarus & Folkman, 1984, p. 19). Viewed through the CORT lens, work stress is the result of experiencing a significant loss of work-related resources (Farr-Wharton *et al.*, 2023). According to the CORT's second corollary, an employee who is experiencing a resource loss is likely to experience a negative spiral and lose further resources, exacerbating their stress levels and negatively impacting their wellbeing (Halbesleben *et al.*, 2014).

Psychosocial safety climate

Through the lens of CORT, employees' perceptions of their manager's prioritization of their wellbeing over productivity and other organizational outcomes is a valued organizational resource. PSC is an organizational resource that accounts for the prioritization of employee psychological health (Becher & Dollard, 2016). Positive PSC has been correlated with positive individual health outcomes such as lower psychological distress (Dollard *et al.*, 2012) and reduced incidents of bullying (Dollard, Dormann, Tuckey, & Escartín, 2017), as well as organizational outcomes such as higher engagement and lower absenteeism (Dollard & Bailey, 2021). High PSC has also been associated with lower levels of work stress. Alternatively, low PSC perceptions have been linked to high levels of work stress. As such, this study hypothesizes that PSC is negatively associated with work stress at the team- and individual-level of analysis.

Hypotheses 1: *PSC is negatively associated with work stress at both levels of analysis.*

Leader-member exchange

According to CORT, employees consider their relationship with their manager a valuable resource. Graen, Novak and Sommerkamp (1982) captured this relationship in the LMX construct that describes a two-way relationship between a manager and an employee from the employee's perception. This relationship has been found to influence the motivational, behavioral, and attitudinal outcomes of employees (Graen & Uhl-Bien, 1995; Martin, Guillaume, Thomas, Lee, & Epitropaki, 2016), as well as their perceptions of their employment security (Wang, Le Blanc, Demerouti,

Lu, & Jiang, 2019). Like PSC, high LMX has been associated with low levels of work stress (Brunetto et al., 2016). Alternatively, low LMX perceptions have been associated with high levels of work stress. Dienesch and Liden (1986) argued that LMX is a multilevel variable that functions at both the employee and team levels. As such, this study hypothesizes that LMX is negatively associated with work stress at the team- and individual-levels of analysis.

Hypotheses 2: *LMX is negatively associated with work stress at both levels of analysis.*

Some scholars argue that LMX is shaped by PSC (Shi & Gordon, 2020) and as such, this study hypothesizes that PSC is positively associated with LMX at both levels of analysis. A healthy relationship between the manager and their employees is vital not only for employee wellbeing, but also for positive team dynamics. Brunetto, Farr-Wharton and Shacklock (2011) argue that the quality of the manager–employee relationship has an impact on the team’s ability to access information, support, and other organizational resources. As such, this study hypothesizes that LMX mediates the relationship between PSC and work stress serving as a pathway for organizational resources.

Hypothesis 3: *LMX mediates the relationship between PSC and work stress at both levels of analysis.*

Employee wellbeing

Wellbeing is a multidimensional concept that includes the physical, social, and psychological state (Grant et al., 2007). These dimensions are needed to fulfill the hedonic and eudaimonic levels of wellbeing. The hedonic level includes job satisfaction, joy, and positive affect with co-workers, managers, and clients (Lyubomirsky & Lepper, 1999). The eudaimonic level includes the fulfilment of finding meaning in one’s career (Ryff, 2019).

Low levels of employee wellbeing negatively impact individuals, work teams, and organizations (Baptiste, 2008). On the employee level, poor wellbeing has been linked with mental distress and job-related anxiety (Delgado, Roche, Fethney, & Foster, 2021). In Australia, 11,700 (9.2%) serious workers’ compensation claims were related to mental health conditions in 2021–22 (Safe Work Australia, 2023). Notably, the proportion of serious workers’ compensation claims related to mental health conditions has increased significantly in a decade, from 6.5% in 2011–12 to 9.2% in 2021–22. In 2021–22, the cost of absenteeism for Australian businesses was calculated at AUD \$44 billion, and the cost of presenteeism was around AUD \$35 billion (Asare, Makate, Powell, Kwasnicka, & Robinson, 2022). At an organizational level, poor wellbeing has also been linked with workplace problems such as poor culture or bullying (Farr-Wharton et al., 2023).

According to CORT, employees value their resources and will do anything to protect themselves for a resource loss situation (Halbesleben et al., 2014). Moreover, according to Loh, Idris, Dollard and Isahak (2018), when resources are available, employees are likely to invest some of their resources (e.g., time, draw on managerial support, or attend training sessions) to obtain new ones, as well as experience a reduction in their stress level and increase in their overall wellbeing. As such, this study hypothesizes that work stress directly impacts wellbeing levels.

Hypothesis 4: *Work stress is negatively associated with wellbeing at both levels of analysis.*

PSC has been referred to as a component of workplace ecology that creates a pool of resources for employees by serving as a resource passageway (Dollard et al., 2019). Similarly, LMX is regarded as an important job resource that increases job performance by reducing employee stress (McLarty, Muldoon, Quade, & King, 2021). As organizational tools, both can be considered resource passageways which develop or enhance new employee resources. According to CORT’s third corollary, individuals who have the most resources are most capable of gaining or restoring resources after

a traumatic stressor and ultimately, supporting their wellbeing. As such, we hypothesize that work stress mediates the relationship between organizational resources and employee wellbeing.

Hypothesis 5–6: *Work stress mediates the relationship between PSC, LMX and wellbeing at both levels of analysis.*

Emotional contagion theory

To understand the role of team-level emotional contagion in shaping the relationship between work stress and employee wellbeing, this study uses ECT. ECT defines the emotional contagion process as ‘the tendency to automatically mimic and synchronize movements, expressions, postures, and vocalizations with those of another person and, consequently, to converge emotionally’ (Hatfield, Cacioppo, & Rapson, 1993, pp. 153–154). Relevant to this research, employees with high levels of emotional contagion are more prone to converge emotionally with their co-workers through their workplace interactions (Xerri *et al.*, 2023).

Emotional contagion happens in several steps: mimicry, feedback, and contagion (Hatfield *et al.*, 1993). The degree and speed of the emotional conversion depends on the energy used (Schoenewolf, 1990), membership stability and familiarity (Bartel & Saavedra, 2000), and the resources that the receiver is willing to invest in their workplace interactions (Lan, Gong, Liu, Wong, & Yuan, 2022). Taking into account that a considerable number of co-worker interactions and social exchanges happen within teams, this study argues that team members can develop mutually shared emotions (Barsade, 2002; Xerri *et al.*, 2023).

ECT’s argues that employees tend to converge emotionally with their co-workers (Petitta, Probst, Ghezzi, & Barbaranelli, 2023). As such, emotional contagion is an indicative of the strength of the contagion and the team’s emotional state is an indicative of the direction of such contagion. When team members experience high levels of work stress (i.e., a negative emotion), it is likely that co-workers with high levels of emotional contagion converge until reaching similar levels of work stress and therefore, experience lower levels of employee wellbeing. On the other hand, teams with manageable levels of work stress are likely to experience an increase in wellbeing. Therefore, it could be argued that the strength of emotional contagion moderates the negative relationship between work stress and employee wellbeing from the team to the individual-level (cross-level moderation).

Hypothesis 7: *The strength of team-level emotional contagion moderates the negative relationship between work stress and employee wellbeing.*

One of the arguments of this paper is that when team members are experiencing high levels of work stress and the team has high levels of emotional contagion, the negative impact of work stress on their individual level of wellbeing is further exacerbated. Through this process, the employee may experience a negative spiral of resources loss which could severely impact their levels of stress and cause broader systemic problems such as high levels of turnover, reduced morale, and endemic mental distress (Benitez, Peccei, & Medina, 2019). On the other hand, when the team is experiencing manageable levels of work stress, the negative impact of work stress on their individual wellbeing is mitigated and they experience an improvement of their wellbeing.

The theorized model is displayed in Figure 1.

Method

Sample

The target population of this study were employees working as part of a team in an Australian for-profit organization within the professional services industry. An extensive recruitment was conducted via LinkedIn and email using a promotional video and a flyer that highlighted the most important

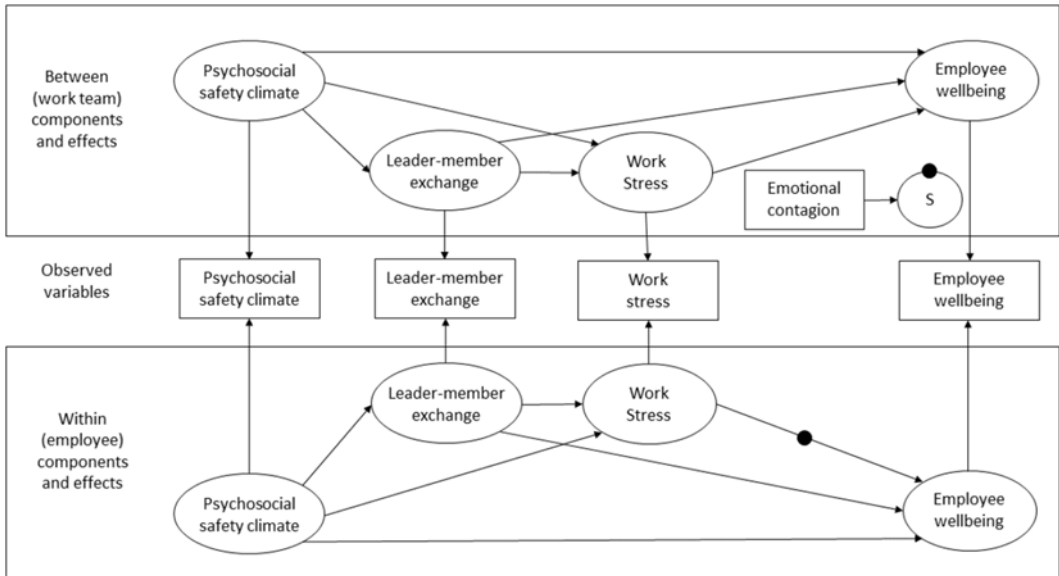


Figure 1. Theorized model.

aspects of the project. As part of the project, all participant organizations received a report with their average scores for the different indicators as well as a comparison with the total average. The survey was designed using an online software, Qualtrics and the link to access the survey was shared with the different participant organizations via email. Data was collected during late 2021 after receiving approval from the University's Human Research Ethics Committee. The final data set included 237 employees nested within 41 teams from nine organizations.

Of the total sample, 70% were female and 30% male (see Table 1). The majority of respondents, 42%, were born between 1990 and 1999, followed by 34% of respondents who were born between 1980 and 1989. The average tenure in their current organization was 1–2 years (33%), closely followed by employees with a tenure below 1 year (27%) and between 3 and 5 years (27%).

Measures

Data was collected using an online questionnaire distributed via email to all participants. The survey included previously validated instruments and some demographic questions.

Employee wellbeing was measured using the 4-items construct developed by Brunetto et al. (2011). A sample item is 'Overall, I am reasonably happy with my work life'. Respondents rated their experiences using a 6-point Likert scale from 1 'Strongly disagree' to 6 'Strongly agree'.

Work stress was measured using a 5-item scale developed by Cullen, Link, Wolfe and Frank (1985). A sample item is 'I am usually calm and at ease when I'm at work'. Respondents rated their experiences using a 5-point Likert scale from 1 'Strongly disagree' to 5 'Strongly agree'.

Emotional contagion was measured using a 6-items scale developed by Siebert, Siebert and Taylor-McLaughlin (2007). A sample item is 'At work, I would become nervous if colleagues around me appear nervous'. Respondents rated their experiences using a 6-point Likert scale from 1 'Strongly disagree' to 6 'Strongly agree'.

Psychosocial safety climate was measured using PSC-4, a 4-item scale developed by Dollard (2019). A sample item is 'Managers show support for stress prevention through involvement and commitment'. Respondents rated their experiences using a 5-point Likert scale from 1 'Strongly disagree' to 5 'Strongly agree'.

Table 1. Frequency analysis of the demographic questions

Demographic	Variable	N	%
Gender	Female	166	70
	Male	71	30
	Other or prefer not to disclose	0	0
Age	62–71 years old	4	2
	52–61 years old	16	7
	42–51 years old	29	12
	32–41 years old	81	34
	22–31 years old	100	42
	19–21 years old	7	3
Tenure	<1 year	63	27
	1–2 years	79	33
	3–5 years	64	27
	6–10 years	24	10
	11–15 years	3	1
	>15 years	4	2

Note. N = 237 participants.

Leader-member exchange was measured using a 7-item scale developed by Graen and Uhl-Bien (1995). A sample item is ‘How well does your direct supervisor recognize your potential?’ Respondents rated their experiences using a 5-point Likert scale from 1 ‘Strongly disagree’ to 5 ‘Strongly agree’.

All scaled items are normally distributed as they are all between the acceptable threshold for skewness and kurtosis (between -2 and $+2$) (George & Mallery, 2010). A Harmon’s single factor test was utilized to test the likelihood of common method variance affecting the data. The result was below 50% (36.5%), indicating that there is a low likelihood of common method variance affecting the data.

Multilevel confirmatory factor analysis

Geldhof, Preacher and Zyphur (2014) state that the assessment of instrument reliability and discriminant validity in multilevel statistical models should be performed using a multilevel confirmatory factor analysis.

The discriminant validity of the variables in the multilevel model was tested by comparing a freely estimated multilevel confirmatory factor analysis and a model where all correlations are constrained to 1. The freely estimated model presented better results than the constrained model.

As part of the multilevel confirmatory factor analysis, we also tested the reliability of the scales using McDonald’s omega (see Table 2). Wicke, Krakau, Löwe, Beutel and Brähler (2022) claim that the minimum valid score is .8. Both between- and within-level McDonald’s omega for all constructs was .8 or above. As such, we assume good reliability.

Analysis

The SPSS v.29 statistical analysis package by IBM and Mplus v.8.9 software was used to evaluate the quality of the data. We used the Mplus MSEM framework, as proposed by Preacher, Zhang and Zyphur (2016). In MSEM, the model is evaluated by examining the interaction effects between the

Table 2. Within- and between-level instrument reliability using McDonald's omega

Instrument	Between-level reliability McDonald's omega	Within-level reliability McDonald's omega
Employee wellbeing	.968	.866
Work stress	.908	.853
Emotional contagion	.918	.800
Psychosocial safety climate	.978	.861
Leader–member exchange	.984	.869

Table 3. Correlation matrix

	Mean	SD	1	2	3	4	5	6	7
EWB	.581	.169	1						
WS	.323	.123	-.49**	1					
LMX	.538	.168	.65**	-.33**	1				
PSC	.530	.187	.54**	-.35**	.56**	1			
EC	.457	.123	.03	.03	-.10	.04	1		
Gender	.650	.477	-.05	-.03	-.14	-.12	-.07	1	
Age	39	11.259	.17	-.13	.16	.15	.05	.04	1
Tenure	2.47	1.147	.02	.07	.15	.02	-.19	-.07	-.31

Note. Scale means for EWB, WS, LMX, PSC, and EC is 0–1, for gender is 1 for females and 0 for male, for age and tenure is a continue variable. Abbreviations: EWB = employee wellbeing. WS = work stress. LMX = Leader–member exchange. PSC = psychosocial safety climate. EC = emotional contagion.

**Correlation is significant at the 0.01 level (2-tailed) *Correlation is significant at the 0.05 level (2-tailed).

two-level variables at both levels of analysis and the cross-level moderation is evaluated by examining the impact of the moderator at the team level on the relationship between work stress and employee wellbeing at the individual level. This cross-level moderation is evaluated using random slopes in the regression stress–wellbeing to test the cross-level moderation of emotional contagion.

The interclass correlation at the team level for employee wellbeing is 37.3%, indicating a significant multilevel effect. The correlation matrix (see Table 3) depicts that gender, age, and tenure are not significantly related to the independent or the dependent variables. As a result, they were not included as a control in the hypotheses testing. However, both the organization and the team size were included as controls in the hypotheses testing.

Results

The mean, standard deviation, and the within- and between-level correlation of the constructs are displayed in Table 3. The model obtained satisfactory result of model fit indices were according to Hu and Bentler (1999) prescriptions. CMIN/DF was 2.88, and it is considered good below 3. Corrected Fit Index was .994, and Tucker Lewis Index was .961, and both indicators are considered good above .95. The Standardized Root Mean Square Residual was .03 and it is considered acceptable below .08. The Root Mean Square Error of Approximation was .06, and it is considered acceptable below .08. It can be concluded that the multilevel structural model offered a good fit as all goodness of fit indices scored within their acceptable thresholds.

We used the Bayes estimator following Hoffman and Walters (2022) recommendations. They argue that Bayes estimator is better to test a multilevel model with random slopes as it takes the latent mean centering and the within and between decomposition. Asparouhov and Muthén (2019) also argue than when using Mplus, Bayes estimator produces the multilevel decomposition that is appropriate

Table 4. Between-level, and within-level standardized effects between employee wellbeing, work stress, Leader–member exchange, psychosocial safety climate, and emotional contagion

	Estimate	95% Credible interval		Sig	Description
		Lower 2.5%	Upper 2.5%		
Between-level (work team) effects					
PSC → WS	−1.148	−1.852	−0.508	*	Direct
PSC → WS (via LMX)	−0.494	−0.956	−0.075	*	Partially mediated
LMX → WS	−0.567	−1.326	−0.079	*	Direct
PSC → LMX	0.871	0.721	0.946	*	Direct
WS → EWB	−0.411	−0.625	−0.176	*	Direct
PSC → EWB (via WS)	0.472	0.158	0.089	*	Partially mediated
LMX → EWB (via WS)	0.233	0.829	0.014	*	Partially mediated
EC → Slope	−0.652	−0.958	−0.019	*	
Within-level (employee) effects					
PSC → WS	−0.017	−0.141	0.177		Fully mediated (see below)
PSC → WS (via LMX)	−0.099	−0.141	−0.016	*	Fully mediated
LMX → WS	−0.187	−0.343	−0.025	*	Direct
PSC → LMX	0.529	0.411	0.622	*	Direct
WS → EWB	−0.061	−0.200	−0.060	*	Direct
PSC → EWB (via WS)	0.001	0.028	0.000	*	Partially mediated
LMX → EWB (via WS)	0.011	0.069	0.002	*	Partially mediated

Note. N = 237; 41 clusters. EC = emotional contagion. EWB = employee wellbeing. WS = work stress. PSC = psychosocial safety climate. LMX = Leader–member exchange.

to use with random slopes. Moreover, González-Romá and Hernández (2017) suggest that with a small number of clusters and random slopes, Bayes estimator predicts better estimates.

When using Bayes estimator in Mplus, the output does not produce *p*-values, the results have been presented using the 95% credible interval for each estimate. If the interval does not contain the null value, the estimate is found to be significant. Standardized model results are presented in Table 4.

Hypothesis 1 was only partially confirmed with a significant negative relationship between PSC and work stress at the between-level ($\beta = -1.148$). At the within-level, this direct relationship was found not significant; yet this relationship is fully mediated by LMX at both levels of analysis (within: $\beta = -.494$; between: $\beta = -.099$), confirming hypothesis 3. LMX mediates the relationship between PSC and work stress serving as a pathway for organizational resources (Shi & Gordon, 2020). Hypothesis 2 was confirmed at the within- ($\beta = -.187$) and between-level ($\beta = -.567$) since the negative relationship between LMX and work stress was significant.

The negative association between work stress and employee wellbeing was significant at both the within- ($\beta = -.061$) and between-level ($\beta = -.411$), confirming hypothesis 4. Work stress partially mediated the relationship between PSC and wellbeing at both levels of analysis ($\beta = .001$ and $\beta = .472$, respectively) and fully mediated the relationship between LMX and wellbeing at both levels of analysis ($\beta = .233$ and $\beta = .011$, respectively), confirming hypothesis 5 and 6.

Finally, hypothesis 7 was also confirmed ($\beta = -.652$). We utilized random slopes in the regression stress–wellbeing to test the cross-level moderation of emotional contagion. The significant between-level estimate confirms the hypothesis that emotional contagion between team members moderates the relationship between work stress. The moderation effect was plotted (see Fig. 2). The graph shows that when there is a high level of emotional contagion, the negative relationship between stress and wellbeing is strengthened. If collective levels of stress are high, this moderation means that employees

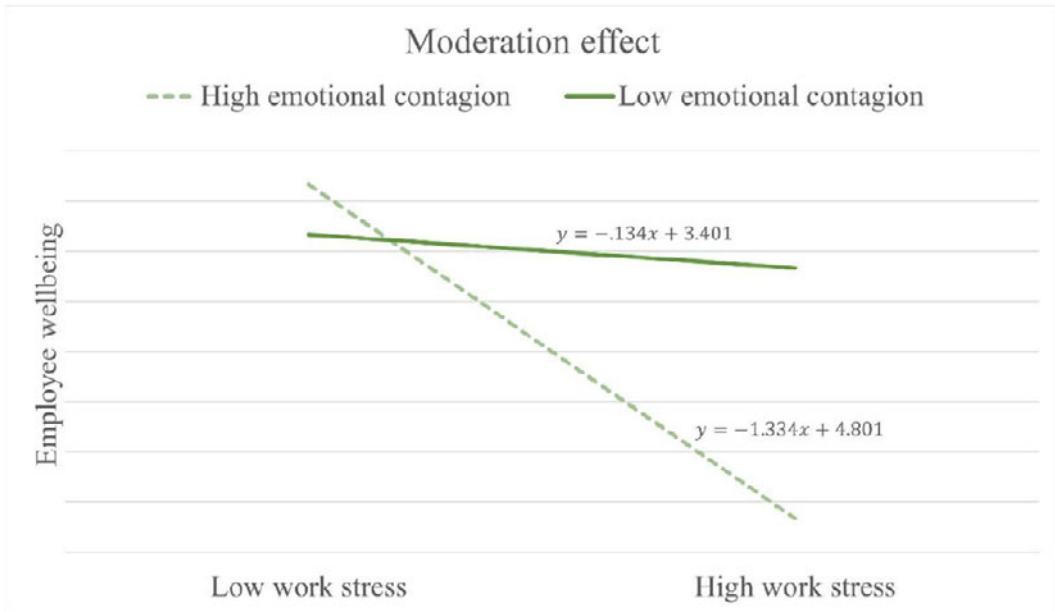


Figure 2. Moderation effect. Note. Emotional contagion strengthens the negative relationship between work stress and employee wellbeing.

will suffer from even lower levels of employee wellbeing. On the other side, if collective levels of stress are low, the moderation impact increases wellbeing beyond the individual effect.

Discussion

The novelty of this study centers on the role of team-level emotional contagion in influencing the individual-level work stress → employee wellbeing relationship. The analysis found support for this interaction, indicating that an employee is likely to experience a more severe impact on their wellbeing resulting from high levels of work stress, when working in a team environment marked by high contagion. The study also accounted for the role of PSC, and LMX, in shaping work stress, and correspondingly, work stress as a mediator between PSC, LMX, and employee wellbeing. All modelled paths were significant (with significant mediation paths superseding non-significant direct paths).

The results provide an important, and as yet absent, contribution to the study of employee wellbeing. To date, organizational efforts to manage, control and positively influence employee wellbeing have been over-reliant on individual-level, low impact initiatives (Goldstone et al., 2021). Yet, the analysis presented in this paper has identified that team-level emotional contagion can significantly shape individual wellbeing, more so when operating in a high stress, low support environment. Building on extant research, the paper also confirms previous findings by Brunetto et al. (2024), Trincherro, Borgonovi and Farr-Wharton (2014), and Xerri et al. (2023), noting the role of senior and line-level leadership in shaping the work stress of teams and individuals.

The study also contributes to theory by integrating CORT and ECT, highlighting an important dynamic interplay in the context of multilevel phenomena. Specifically, while CORT is useful in conceptualizing the resource loss associated with low support/high stress work environments, and how these lead to low wellbeing, ECT helps explain how a resource loss is worse in a high contagion team environment.

Lessons for management, and the burgeoning employee wellbeing industry, stemming from this paper are manifold. In the first instance, management must be mindful that the effect of individually

targeted wellbeing initiatives (i.e., those which are most common, like employee assistance program and gym membership), in a high stress environment, will be weakened if individuals work in team environments marked by high levels of contagion, and low levels of support. Correspondingly, managers need to curate wellbeing-enhancement initiatives that permeate beyond the individual, but in addition, consider and positively stimulate the team environment. For the most part, the analysis in this paper has been framed in the negative (i.e., high work stress will lead to a worse impact on wellbeing, in a high team-contagion environment), however, the opposite is also true. Well targeted, stress alleviation and team-contagion enhancing initiatives will have a more positive impact on employee wellbeing, than stress alleviation initiatives in isolation.

While the sample used in this study was drawn from professional service firms, the experiences of employees in this industry may be representative of what happens in the broader knowledge economy. Importantly, the sample was composed of employees and teams who were working remotely from each other, through the aid of ICTs. This is important as teamwork, and correspondingly team-level emotional contagion exists whether work is conducted in face-to-face, collocated office environments, in wholly virtual environments, and everything in between. When teams are formed by employees whose work duties interlock with each other, interaction will form between them, and this will shape the contagion environment.

Nevertheless, there are some limitations to this study, including the use of cross-sectional, self-reported data, obtained at a single time point (late 2021). While robustness tests on the data (i.e., Harmon's single factor test) indicated a low chance of bias affecting the result, the findings would benefit from replication, potentially also with samples drawn from other industries in addition to professional services, to be confirmatory and determine their broader applicability.

Conclusion

In conclusion, this study enhances our understanding of how social dynamics within teams can influence wellbeing in the workplace. This research project found a significant moderating role of team-level emotional contagion in the individual relationship between work stress and employee wellbeing. With high levels of work stress, employees nested in team with high emotional contagion are likely to experience a worse impact on their wellbeing. Additionally, PSC and LMX were significant organizational resources that shape work stress, which also mediated the impact of these organizational resources to wellbeing.

Through a multilevel analysis framework drawing on CORT and ECT, the results have several implications for both management and the study field of employee wellbeing. Management must recognize the limited effectiveness of individual-level interventions in high stress, high contagion team environments. Initiatives should, instead, be designed to promote positive team dynamics. Moreover, this study underscores the need for organizations to invest in resources such as supportive leadership and a psychosocial safe climate to buffer against the negative effects of work stress on employee wellbeing.

Competing interests. The authors declare none.

References

- Asare, B. Y. A., Makate, M., Powell, D., Kwasnicka, D., & Robinson, S. (2022). Cost of health-related work productivity loss among fly-in fly-out mining workers in Australia. *International Journal of Environmental Research & Public Health*, 19(16), 10056.
- Asparouhov, T., & Muthén, B. (2019). Latent variable centering of predictors and mediators in multilevel and time-series models. *Structural Equation Modeling: A Multidisciplinary Journal*, 26(1), 119–142.
- Bamberger, S. G., Larsen, A., Vinding, A. L., Nielsen, P., Fonager, K., Nielsen, R. N., ... Omland, Ø. (2015). Assessment of work intensification by managers and psychological distressed and non-distressed employees: A multilevel comparison. *Industrial Health*, 53(4), 322–331.

- Baptiste, N. R. (2008). Tightening the link between employee wellbeing at work and performance: A new dimension for HRM. *Management Decision*, 46(2), 284–309.
- Barsade, S. G. (2002). The ripple effect: Emotional contagion and its influence on group behavior. *Administrative Science Quarterly*, 47(4), 644–675.
- Bartel, C. A., & Saavedra, R. (2000). The collective construction of work group moods. *Administrative Science Quarterly*, 45(2), 197–231.
- Becher, H., & Dollard, M. (2016). *Psychosocial safety climate and better productivity in Australian workplaces: Costs, productivity, presenteeism, absenteeism*. Safe Work Australia, University of South Australia. Available at: <https://www.safeworkaustralia.gov.au/system/files/documents/1705/psychosocial-safety-climate-and-better-productivity-in-australian-workplaces-nov-2016.pdf> (accessed 8 February 2024).
- Benitez, M., Peccei, R., & Medina, F. J. (2019). Employee well-being profiles and service quality: A unit-level analysis using a multilevel latent profile approach. *European Journal of Work and Organizational Psychology*, 28(6), 859–872.
- Brunetto, Y., Dick, T., Xerri, M., & Cully, A. (2020). Building capacity in the healthcare sector: A strengths-based approach for increasing employees' well-being and organisational resilience. *Journal of Management & Organization*, 26(3), 309–323.
- Brunetto, Y., Farr-Wharton, R., & Shacklock, K. (2011). Supervisor–subordinate communication relationships, role ambiguity, autonomy and affective commitment for nurses. *Contemporary Nurse*, 39(2), 227–239.
- Brunetto, Y., Xerri, M., Farr-Wharton, B., Shacklock, K., Farr-Wharton, R., & Trincherio, E. (2016). Nurse safety outcomes: Old problem, new solution—the differentiating roles of nurses' psychological capital and managerial support. *Journal of Advanced Nursing*, 72(11), 2794–2805.
- Brunetto, Y., Xerri, M., & Farr-Wharton, B. (2024). The link between organizational support, wellbeing and engagement for emergency service employees: A comparative analysis. *Public Money & Management*, 44(2), 100–107.
- Christakis, N. A., & Fowler, J. H. (2009). *Connected: The surprising power of our social networks and how they shape our lives* (1st ed.). Boston, MA: Little, Brown and Company.
- Cullen, F. T., Link, B. G., Wolfe, N. T., & Frank, J. (1985). The social dimensions of correctional officer stress. *Justice Quarterly*, 2(4), 505–533.
- Delgado, C., Roche, M., Fethney, J., & Foster, K. (2021). Mental health nurses' psychological well-being, mental distress, and workplace resilience: A cross-sectional survey. *International Journal of Mental Health Nursing*, 30(5), 1234–1247.
- Dienesch, R. M., & Liden, R. C. (1986). Leader-member exchange model of leadership: A critique and further development. *Academy of Management Review*, 11(3), 618–634.
- Dollard, M. F. (2019). The PSC-4: A short PSC tool. In M. F. Dollard (Ed.), *Psychosocial safety climate*. Cham: Springer.
- Dollard, M. F., & Bailey, T. (2021). Building psychosocial safety climate in turbulent times: The case of COVID-19. *Journal of Applied Psychology*, 106(7), 951.
- Dollard, M. F., Dormann, C., & Idris, M. A. (2019). *Psychosocial safety climate: A new work stress theory*. (M. F. Dollard & C. Dormann, Eds.). Cham: Springer.
- Dollard, M. F., Dormann, C., Tuckey, M. R., & Escartín, J. (2017). Psychosocial safety climate (PSC) and enacted PSC for workplace bullying and psychological health problem reduction. *European Journal of Work and Organizational Psychology*, 26(6), 844–857.
- Dollard, M. F., Opie, T., Lenthall, S., Wakerman, J., Knight, S., Dunn, S., ... MacLeod, M. (2012). Psychosocial safety climate as an antecedent of work characteristics and psychological strain: A multilevel model. *Work & Stress*, 26(4), 385–404.
- Farr-Wharton, B., Brunetto, Y., & Xerri, M. (2021). Austerity, staff inadequacy, and contracting-out social services: How many government inquiries does it take to improve social policy outcomes in aged care? *Australian Journal of Public Administration*, 80(4), 790–808.
- Farr-Wharton, B., Brunetto, Y., Hernandez Grande, A., Brown, K., & Teo, S. (2023). Emergency service workers: The role of policy and management in (re) shaping wellbeing for emergency service workers. *Review of Public Personnel Administration*, 43(4), 774–793.
- Finkel, E. J., Simpson, J. A., & Eastwick, P. W. (2017). The psychology of close relationships: Fourteen core principles. *Annual Review of Psychology*, 68(1), 383–411.
- Fleming, W. (2023). *Estimating effects of individual-level workplace mental wellbeing interventions: Cross-sectional evidence from the UK*. Oxford: Wellbeing Research Centre. <https://ora.ox.ac.uk/objects/uuid:6fa6e30c-60be-4c87-816f-2453ba8ac5cd/files/s6m311q626>
- Fleming, W. J. (2024). Employee well-being outcomes from individual-level mental health interventions: Cross-sectional evidence from the United Kingdom. *Industrial Relations Journal*, 55(2), 162–182.
- Franken, E., Bentley, T., Shafaei, A., Farr-Wharton, B., Onnis, L. A., & Omari, M. (2021). Forced flexibility and remote working: Opportunities and challenges in the new normal. *Journal of Management & Organization*, 27(6), 1131–1149.
- Geldhof, G. J., Preacher, K. J., & Zyphur, M. J. (2014). Reliability estimation in a multilevel confirmatory factor analysis framework. *Psychological Methods*, 19(1), 72–91.
- George, D., & Mallery, M. (2010). *SPSS for Windows step by step: A simple guide and reference, 17.0 update* (10th ed.). New York: Pearson.

- Goldstone, L., Hamer, B., Grogan, E., & Ponniah, S. (2021). *The future of work. What workers want: Winning the war for talent*, available at: <https://www.pwc.com.au/important-problems/future-of-work/what-workers-want-report.pdf> (accessed 7 February 2024).
- González-Romá, V., & Hernández, A. (2017). Multilevel modeling: Research-based lessons for substantive researchers. *Annual Review of Organizational Psychology and Organizational Behavior*, 4(1), 183–210.
- Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *The Leadership Quarterly*, 6(2), 219–247.
- Graen, G., Novak, M. A., & Sommerkamp, P. (1982). The effects of leader–member exchange and job design on productivity and satisfaction: Testing a dual attachment model. *Organizational Behavior and Human Performance*, 30(1), 109–131.
- Grant, A. M., Christianson, M. K., & Price, R. H. (2007). Happiness, health, or relationships? Managerial practices and employee well-being tradeoffs. *Academy of Management Perspectives*, 21(3), 51–63.
- Halbesleben, J. R., & Buckley, M. R. (2004). Burnout in organizational life. *Journal of Management*, 30(6), 859–879.
- Halbesleben, J. R., Neveu, J. P., Paustian-Underdahl, S. C., & Westman, M. (2014). Getting to the “COR” understanding the role of resources in conservation of resources theory. *Journal of Management*, 40(5), 1334–1364.
- Hatfield, E., Cacioppo, J. T., & Rapson, R. L. (1993). Emotional contagion. *Current Directions in Psychological Science*, 2(3), 96–100.
- Hobfoll, S. E. (2001). The influence of culture, community, and the nested-self in the stress process: Advancing conservation of resources theory. *Applied Psychology*, 50(3), 337–421.
- Hoffman, L., & Walters, R. W. (2022). Catching up on multilevel modeling. *Annual Review of Psychology*, 73(1), 659–689.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55.
- Lan, J., Gong, Y., Liu, T., Wong, M. N., & Yuan, B. (2022). How emotional regulation and conscientiousness break the reciprocal circle between customer mistreatment and surface acting: An experience sampling study. *International Journal of Contemporary Hospitality Management*, 34(11), 4007–4028.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping*. New York: Springer.
- Loh, M. Y., Idris, M. A., Dollard, M. F., & Isahak, M. (2018). Psychosocial safety climate as a moderator of the moderators: Contextualizing JDR models and emotional demands effects. *Journal of Occupational and Organizational Psychology*, 91(3), 620–644.
- Lyubomirsky, S., & Lepper, H. S. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research*, 46(2), 137–155.
- Martin, R., Guillaume, Y., Thomas, G., Lee, A., & Epitropaki, O. (2016). Leader–member exchange (LMX) and performance: A meta-analytic review. *Personnel Psychology*, 69(1), 67–121.
- McLarty, B. D., Muldoon, J., Quade, M., & King, R. A. (2021). Your boss is the problem and solution: How supervisor-induced hindrance stressors and LMX influence employee job neglect and subsequent performance. *Journal of Business Research*, 130, 308–317.
- Petitta, L., Probst, T. M., Ghezzi, V., & Barbaranelli, C. (2023). The impact of emotional contagion on workplace safety: Investigating the roles of sleep, health, and production pressure. *Current Psychology*, 42(3), 2362–2376.
- Preacher, K. J., Zhang, Z., & Zyphur, M. J. (2016). Multilevel structural equation models for assessing moderation within and across levels of analysis. *Psychological Methods*, 21(2), 189.
- Redeker, N. S., Caruso, C. C., Hashmi, S. D., Mullington, J. M., Grandner, M., & Morgenthaler, T. I. (2019). Workplace interventions to promote sleep health and an alert, healthy workforce. *Journal of Clinical Sleep Medicine*, 15(4), 649–657.
- Ryff, C. D. (2019). Entrepreneurship and eudaimonic well-being: Five venues for new science. *Journal of Business Venturing*, 34(4), 646–663.
- Safe Work Australia. (2023). *Key work health and safety statistics Australia, 2023*. Available at: <https://data.safeworkaustralia.gov.au/insights/key-whs-stats-2023> (accessed 8 February 2024).
- Schoenewolf, G. (1990). Emotional contagion: Behavioral induction in individuals and groups. *Modern Psychoanalysis*, 15, 49–61.
- Shi, X., & Gordon, S. (2020). Organizational support versus supervisor support: The impact on hospitality managers’ psychological contract and work engagement. *International Journal of Hospitality Management*, 87, 102374.
- Siebert, D. C., Siebert, C. F., & Taylor-McLaughlin, A. (2007). Susceptibility to emotional contagion: Its measurement and importance to social work. *Journal of Social Service Research*, 33(3), 47–56.
- Trinchero, E., Borgonovi, E., & Farr-Wharton, B. (2014). Leader–member exchange, affective commitment, engagement, wellbeing, and intention to leave: Public versus private sector Italian nurses. *Public Money & Management*, 34(6), 381–388.
- Wang, H. J., Le Blanc, P., Demerouti, E., Lu, C. Q., & Jiang, L. (2019). A social identity perspective on the association between leader-member exchange and job insecurity. *European Journal of Work and Organizational Psychology*, 28(6), 800–809.

Wicke, F. S., Krakau, L., Löwe, B., Beutel, M. E., & Brähler, E. (2022). Update of the standardization of the Patient Health Questionnaire-4 (PHQ-4) in the general population. *Journal of Affective Disorders*, 312, 310–314.

Xerri, M. J., Cozens, R., & Brunetto, Y. (2023). Catching emotions: The moderating role of emotional contagion between leader-member exchange, psychological capital and employee well-being. *Personnel Review*, 52(7), 1823–1841.

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