

**Psychosocial Safety Climate Impact on Emotional Exhaustion and Work Engagement:
The Moderating Roles of Perceptual Distance and Workplace Immersion**

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Abstract

Preventing emotional exhaustion and enhancing work engagement is critical for organisations to improve employee wellbeing and productivity. Evidence suggests that groups within organisations with high levels of Psychosocial Safety Climate (PSC), the climate for psychological health and safety, experience lower levels of emotional exhaustion and higher work engagement. Our innovation examined how the immersion of an employee within the climate (measured by the employee's length of service) and the perceptual distance between leader and employee perceptions of the climate, moderate the relationships between the PSC and emotional exhaustion and work engagement. Self-report data from 718 employees (170 groups, 12 organisations) across Australia were collected. Three-level hierarchical linear modelling was used with individuals nested in groups, nested in organisations, from 535 participants, 76 groups and 11 organisations. Multilevel analysis showed a significant moderating effect of group-level perceptual distance on the positive relationship between the PSC and individual work engagement, where the relationship was stronger when perceptual distance was low. Group-level PSC was negatively related to individual emotional exhaustion and positively associated with individual work engagement. Group-level workplace immersion was positively related to individual work engagement. Group-workplace immersion did not moderate the relationship between group-PSC and individual emotional exhaustion or work engagement. Group-perceptual distance did not strengthen the relationship between group-PSC and individual emotional exhaustion. Our findings emphasise the importance of aligning leader and employee perceptions of the climate to increase the impact of the PSC on work engagement.

Keywords: emotional exhaustion, work engagement, psychosocial safety climate, workplace immersion, perceptual distance

Declaration

This thesis contains no material which has been accepted for the award of any other degree of diploma in any University, and, to the best of my knowledge, this thesis contains no material previously published except where due reference is made. I give permission for the digital version of this thesis to be made available on the web, via the University of Adelaide's digital thesis repository, the Library Search and through web search engines, unless permission has been granted by the School to restrict access for a period of time.



25th September 2023

Table 1.*Contributor Roles.*

Role	Role Description	Student	Supervisor 1	Supervisor 2
Conceptualization	Ideas; formulation or evolution of overarching research goals and aims.	X	X	X
Methodology	Development or design of methodology; creation of models.	X	X	X
Project Administration	Management and coordination responsibility for the research activity planning and execution.	X	X	X
Supervision	Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team.	X	X	X
Resources	Provision of study materials, laboratory samples, instrumentation, computing resources, or other analysis tools.	X	X	
Software	Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code.	n/a	n/a	n/a
Investigation	Conducting research - specifically performing experiments, or data/evidence collection.	X		
Validation	Verification of the overall replication/reproducibility of results/experiments.	X	X	
Data Curation	Management activities to annotate (produce metadata), scrub data and maintain research data (including software code, where it is necessary for interpreting the data itself) for initial use and later re-use.	X	X	
Formal Analysis	Application of statistical, mathematical, computational, or other formal techniques to analyse or synthesize study data.	X	X	
Visualization	Visualization/data presentation of the results.	X	X	X

Writing – Original Draft	Specifically writing the initial draft.	X		
Writing – Review & Editing	Critical review, commentary or revision of original draft	X	X	X

While writing my thesis, I used Grammarly to identify minor grammatical errors. I have reviewed the content and verified all the original sources of this thesis. I take full responsibility for the content of this thesis.

Psychosocial Safety Climate Impact on Emotional Exhaustion and Work Engagement: The Moderating Roles of Perceptual Distance and Workplace Immersion.

Workplace emotional exhaustion is escalating, resulting from ill managed occupational psychosocial risks and hazards (Demerouti et al., 2001; Edú-Valsania et al., 2022; Maslach et al., 1997; Nahrgang et al., 2011). In addition to negatively impacting employee wellbeing, emotional exhaustion can result in reduced work engagement and productivity, as well as increased absenteeism, presenteeism and staff turnover (Halbesleben & Bowler, 2007; Montero-Marín, 2016; Nahrgang et al., 2011; Zadow & Dollard, 2015). Organisational climate is the employee's perceptions of an organisation's policies, procedures and practices (Sherman et al., 2018). Psychosocial Safety Climate (PSC; Dollard & Bakker, 2010), the climate for worker psychological health and safety, specifically measures employee perceptions of psychologically supportive organisational climates that prioritise workplace psychological health, improving employee emotional exhaustion and work engagement (Dollard et al., 2014). Evidence demonstrates that group-level PSC is negatively associated with individual emotional exhaustion and positively associated with individual work engagement (González-Rico et al., 2022; Innanen et al., 2014). However, it remains unknown how factors such as the perceptual distance of the PSC between leaders and employees, and immersion within the PSC, moderate the relationship between group-PSC and individual emotional exhaustion and work engagement. An understanding of these processes could help organisations maximise positive impacts of PSC. This study will expand on pre-established literature and address the current gap.

PSC articulates the organisational system of operation and management infrastructure to protect employee psychological health and safety (Dollard & Bakker, 2010; Zadow & Dollard, 2015). As a multilevel theory, PSC quantifies and aggregates individual perceptions

of organisational policies, practices and procedures to the level of the organisation or the workgroup (Zadow & Dollard, 2015). High-PSC organisations have procedures, policies and practices that demonstrate leader commitment and priority to employee psychological health and have established communication systems to promote employee participation in psychological health and safety (Dollard et al., 2014; Theorell, 2020). These organisations have systems to improve psychosocial work conditions, leading to enhanced work engagement and lower emotional exhaustion (Afsharian et al., 2016; Dollard et al., 2014; Law et al., 2011). Contrastingly, low-PSC environments lack systems to mitigate psychosocial risks, increasing emotional exhaustion and reducing work engagement (Afsharian et al., 2016; Dollard et al., 2014; Dollard et al., 2019b). However, research has not explored how employee perceptions of PSC may be impacted by the length of service within an organisation or misalignments in perceptions of PSC amongst leaders and employees.

Group perceptions of PSC may be influenced by group-workplace immersion, the length of service within one organisation. Employees who have spent more time in an organisation, with resultant exposure to organisational policies, practices and procedures that protect psychological health and safety, may have a stronger understanding of leader's actual commitment and priority to psychological health (Gopinath et al., 2018). This is supported by the Honeymoon-Hangover Effect (Boswell et al., 2005; Boswell et al., 2009) which theorizes that new employees perceive organisations favourably, focusing on the positive features of the new job, before a decline in perceptions as the newcomer becomes familiar with negative aspects. This may also apply to new employees having initial positive perceptions of PSC comparatively to longer serving employees who may have a more accurate perception of the PSC after witnessing actual leader prioritisation of psychological health and safety over time. We propose that the impacts of PSC will become stronger throughout the duration of employment as employees become more entrenched, increasing the accuracy of their

perceptions of the PSC and resultant impacts on psychological health and work engagement (Çemberci et al., 2022; Gabbe et al., 2002; Galván et al., 2012; Marcelino et al., 2012; Mikalauskas et al., 2012; Śliwiński et al., 2014). The current study aims to extend the PSC theoretical framework (Dollard & Bakker, 2010), using insights from the Honeymoon- Hangover Effect (Boswell et al., 2005; Boswell et al., 2009) to understand how the employment longevity of employees within a group influences the impact of the climate for psychological health and safety (PSC) on emotional exhaustion and work engagement.

Another moderating factor of interest is the concept of group-perceptual distance. Literature suggests that leaders and employees are especially prone to developing differing perceptions of the same phenomenon (Bass & Yammarino, 1991; Dollard et al., 2019b; Gibson et al., 2009; Van Velsor et al., 1993; Zyphur et al., 2016). Generally, leaders perceive the PSC to be more positive than employees (Baggs et al., 1999; McCusker & Dollard, 2019). Misalignments of perceptions may be interpreted using the Conservation of Resources (COR) Theory (Hobfoll, 1989) where leaders have greater levels of resources than employees, such as status, and are not struggling to maintain depleted resources, leading to elevated perceptions of PSC. Perceptual differences can be detrimental as they obstruct leaders from genuinely understanding and responding to employee needs (Gibson, 2001).

It is integral that leaders develop awareness of the PSC within their group as the differing perspectives are likely to exacerbate psychosocial risks (Marks et al., 2001). Despite other distance related concepts, such as social distance, showing important effects, there is a lack of research concerning leaders and employees (Gibson et al., 2009). Social exchange theory (Blau, 1964) and equity theory (Adams, 1965) demonstrate that misalignments of perception can have negative impacts. The current study aims to examine whether a perceptual distance of PSC between a leader and an employee, aggregated to the level of the group, increases the relationship between group perceptions of PSC and employee outcomes.

It is proposed that when perceptual distance is high, the negative relationship with emotional exhaustion will be stronger while the positive relationship with work engagement will be weaker.

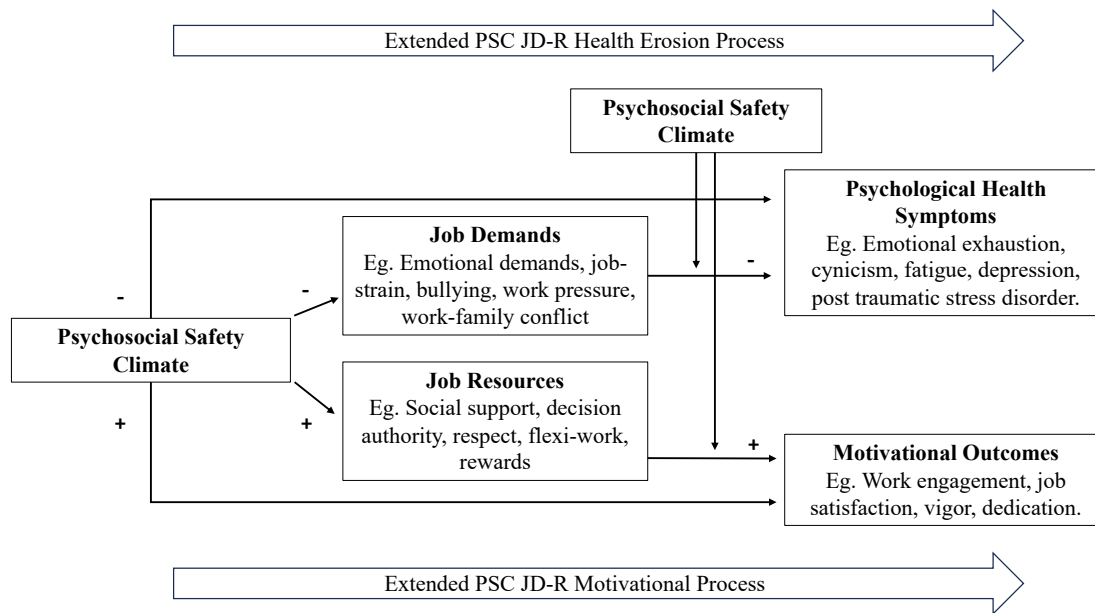
Theoretical Background

Psychosocial Safety Climate, Emotional Exhaustion and Work Engagement

PSC theory (see Figure 1) draws upon approaches of work stress, psychosocial risk and organisational climate (Dollard & Bakker, 2010; Law et al., 2011). PSC encompasses the policies, practices and procedures that act to protect worker psychological health and safety, comprising of four major domains: management commitment, multistakeholder participation, organisational systems for communication, and management priority (Dollard & Bailey, 2021; Dollard & Bakker, 2010; Idris et al., 2014; Law et al., 2011). PSC extends existing workplace models of stress, such as the Job Demands-Resources (JD-R) Model (Demerouti et al., 2001), with PSC acting as a trigger for the motivational and health impairment processes (Idris & Dollard, 2011; Zadow & Dollard, 2015). In the JD-R Model, job demands and job resources impact health and work engagement (Dollard & Bakker, 2010). PSC is a precursor to the job demands and resources detailed in the JD-R Model where high-PSC has a negative effect on job demands, subsequently reducing emotional exhaustion (Demerouti et al., 2001), and a positive effect on work engagement through increased job resources (Dollard & Bakker, 2010). PSC is positively related to health and productivity, with a 10% increase in PSC leading to an 8% increase in work engagement, a 4% reduction in exhaustion and a 3% reduction in psychological health problems (Dollard et al., 2014).

Figure 1.

The Psychosocial Safety Climate Theoretical Framework.



Low-PSC organisations have been associated with higher levels of emotional exhaustion and lower levels of work engagement as the organisation does not prioritise employee psychological wellbeing (Afsharian et al., 2016; Dollard et al., 2014; Dollard, Opie, et al., 2012). Employees in low-PSC workplaces are likely to experience high levels of work stressors and deficits in support, resulting in higher job demands and emotional exhaustion (Zadow et al., 2017). Employees in low-PSC work environments lack the ability to generate and utilise psychosocial resources, such as job control, reducing levels of work engagement (Law et al., 2011). Low-PSC impacts organisations through increased absenteeism, presenteeism and employee turnover (Abu Elanain, 2014; Bailey et al., 2015; Becher & Dollard, 2016).

High-PSC organisations include policies, practices and procedures that prioritise employee psychological health (Dollard et al., 2014; Theorell, 2020). Leaders demonstrate commitment to the psychological health of their employees, prioritising psychological health

over productivity, encouraging the contribution of stakeholders in psychological health and safety matters with effective communication strategies (Dollard et al., 2014; Dollard & Bakker, 2010; Law et al., 2011; Zadow et al., 2017). Evidence suggests that employees working in high-PSC organisations will report lower levels of emotional exhaustion (Afsharian et al., 2016). Based on these findings, we expect:

H1. PSC (aggregated to the level of the workgroup) is negatively related to individual-level emotional exhaustion.

High-PSC organisations are also positively associated with job resources (Abu Elanain, 2014; Al-Shammari et al., 2016; Becher & Dollard, 2016). High-PSC environments are proactive in enhancing the safe utilisation of resources, allowing employees to feel that their psychological health is valued (Dollard, Tuckey, et al., 2012). High-PSC environments allow for communication and support for psychological health concerns, resulting in high levels of resources to perform the job role well, increasing employee work engagement (Dollard et al., 2014; Loh et al., 2018). Thus, we propose:

H2. PSC (aggregated to the level of the workgroup) is positively related to individual-level work engagement.

Workplace Immersion

The extent or duration an employee is exposed to organisational policies, procedures and practices may influence their perceptions of organisational priorities and principles. Those who have been in an organisation longer may have greater exposure to policies, practices and procedures (Buonocore, 2010; Gopinath et al., 2018) that encompass the organisational climate. This may lead to stronger PSC impacts on levels of emotional exhaustion and work engagement. This proposition is consistent with the Honeymoon- Hangover effect identified by Boswell et al. (2005) where employees who changed workplaces experienced a decrease in satisfaction the year prior to turnover, increased

satisfaction the year of the job change (honeymoon) and then declined satisfaction (hangover) over time (Boswell et al., 2005; Boswell et al., 2009). Newer employees may be more satisfied due to shorter exposure to their organisation's actual PSC, with initial exposure to superficial positive espoused values of an organisation within the induction process, possibly experiencing initial value congruence, but not being at the organisation long enough to experience enacted values (Gopinath et al., 2018).

Another theoretical proposition, organisational identity theory, stipulates that an employee's sense of belongingness to their organisation creates a shared social identity, consistent with social identity theory (Riketta, 2005; Tajfel, 1974; Turner, 1984). Social identity theory articulates how an individual's self-concept is the result of their knowledge of their membership to a group, with value associated to the membership (Riketta, 2005). A greater sense of belongingness in an organisation may contribute to the employee viewing PSC more accurately. Regarding attitudes at work, organisational commitment is the psychological link between employees and their organisation (Allen & Meyer, 1990; Mathieu & Zajac, 1990). An aspect of organisational commitment is the employee having a strong belief in the organisation's goals and values (Buonocore, 2010). Buonocore (2010) found that regular employees likely cultivate a deep-structure identity where they internalise the values of an organisation as their own, engaging in higher level affective commitment. Contrastingly, contingent workers develop lower levels of affective commitment due to a weaker situated identity (Buonocore, 2010). These theories may suggest that the longer an employee spends at an organisation, the more entrenched they become in workplace policies, procedures, and practices, the more their self-concept ties closer with organisational identification and workplace climate, with subsequent stronger positive or negative impacts on psychological health and work engagement.

These theories support mixed findings in relation to length of service and levels of emotional exhaustion or work engagement. While some studies have shown that emotional exhaustion decreases with length of service (Gabbe et al., 2002; Śliwiński et al., 2014), others have shown emotional exhaustion increases with years of service (Faskhodi & Siyyari, 2018; Galván et al., 2012; Mikalauskas et al., 2012; Montero-Marín, 2016; Montero-Marín et al., 2011). Findings regarding work engagement and length of service are also contradictory, with some studies identifying that work engagement increases with years of experience (Bamford et al., 2013; Çemberci et al., 2022; Faskhodi & Siyyari, 2018; Poulsen et al., 2016; Sharma et al., 2017), while some suggest no significant relationship (Bell & Barkhuizen, 2011). These findings suggest that length of service alone is not sufficient to influence psychological health and motivational outcomes. Alternatively, consistent with theory and evidence, we propose that the PSC influences the employee experience of emotional exhaustion and work engagement, which is then moderated by the length of service. As supported by the Honeymoon-Hangover Effect theoretical framework (Boswell et al., 2005), employees require time to understand the enacted actions and values of the organisation (Gopinath et al., 2018) (and hence the climate), forming a more accurate perception of organisational PSC the longer they are employed. Additionally, organisational identity theory (Riketta, 2005) proposes that employees need time to develop an emotional connection and self-concept associated with an organisation, which can then be deeply impacted by a more accurately perceived prevailing climate, leading to psychological health and motivational consequences. Therefore, we expect that increased climate immersion will strengthen the negative relationship between PSC and emotional exhaustion, and the positive relationship between PSC and work engagement, where the longer an employee spends within an organisation, the more likely they will understand the enacted PSC which will be more strongly linked to health and motivational outcomes. Thus, we expect:

H3: Workplace immersion (length of service) moderates the negative relationship between workgroup-PSC and individual-level emotional exhaustion (a) and positive relationship with work engagement (b). Specifically, the relationships will be stronger when workplace immersion is high.

Perceptual Distance

Organisational climate theory proposes that the varying operational levels of an organisation's hierarchy influences how climate develops and how it is interpreted by employees (McCusker & Dollard, 2019). Although individuals are likely to differ in their perceptions of the same workplace phenomenon, research indicates that leaders and employees are particularly likely to form differing perceptions (Bass & Yammarino, 1991; Gibson et al., 2009). Perceptual distance may arise due to differences in resources available to leaders and employees, supported by the COR Theory (Hobfoll, 1989). The COR Theory suggests that individuals strive to maintain, build and protect resources and are threatened by their loss (Egozi Farkash et al., 2022; Hobfoll, 1989). In relation to perceptual distance, leaders may experience greater resources, such as status and sense of autonomy, than employees. Loss or potential loss of resources can contribute to psychological distress, leading to investing more resources, making employees more vulnerable to loss spirals (Hobfoll, 1989). Those with greater resources, such as leaders, are less susceptible to resource loss and more capable of resource gain (Hobfoll et al., 2018). Despite pre-established distance-related theories and concepts, such as social distance (Shamir, 1995), showing important effects on the effectiveness of workgroups, there is a lack of climate research examining the impact of perceptual differences between leaders and employees within an organisation (Gibson et al., 2009; McCusker & Dollard, 2019).

Another explanation for perceptual distance amongst leaders and employees is that policies, procedures and practices are formulated by leaders and therefore have discretion of

how they are enacted, likely causing variation in the climate by the workgroup (McCusker & Dollard, 2019). Those with greater authority are more likely to perceive PSC favourably than those below (Dollard et al., 2019b; McCusker & Dollard, 2019; Zyphur et al., 2016). This could be a result of higher ranked individuals having a vested interest in reporting a positive PSC due to having a fundamental role in developing policies, procedures and practices impacting the PSC (Dollard et al., 2019b). It is integral that leaders and employees develop awareness of differing perspectives as leader and employee processes mutually influence each other (Zaccaro et al., 2001).

Despite literature revealing that there are differences in perceptions for leaders and employees (Gibson et al., 2009; McCusker & Dollard, 2019), most organisational climate research has sampled across functional levels, combining both leaders and employees, to draw conclusions about the climate (McCusker & Dollard, 2019). Combining perceptions can lead to difficulties in generalising the results of the organisation as leader perceptions have the potential to elevate overall PSC scores (McCusker & Dollard, 2019; Patterson et al., 2004). There is limited research studying PSC according to whom (McCusker & Dollard, 2019) and currently, there is no research examining how differing perceptions of PSC between leaders and the employees in their group reduces the impact of PSC on emotional exhaustion and work engagement. According to McCusker and colleagues (2019), higher ranked personnel perceived PSC to be higher comparatively to lower ranked personnel however, the effect was not significant, suggesting there was no shared reality of PSC (McCusker & Dollard, 2019).

Theories such as the social exchange theory (Blau, 1964) and equity theory (Adams, 1965) ultimately suggest that misalignments in perceptions can result in negative consequences, while reciprocal or equitable perceptions result in positive outcomes (Al-zawahreh & Al-Madi, 2012; Yin, 2018). Therefore, it can be extrapolated that if PSC is low,

high perceptual distance is expected to emphasise the negative impacts of low-PSC as leaders may perceive PSC to be high and not recognise that the PSC is low, further exacerbating the negative outcomes of low-PSC. Conversely, if PSC is high and perceptual distance is low, this will maximise the positive effects of high-PSC as leaders and employees are aligned in their perceptions. We propose that:

H4. Perceptual distance (between leaders and employees) moderates the relationships between workgroup-level PSC and individual-level emotional exhaustion (a) and work engagement (b). Specifically, the relationships between PSC and emotional exhaustion (a) and work engagement (b) will be weaker when perceptual distance is high.

Method

Participants

There were 718 participants from 170 workgroups and 12 organisations representing the broader Australian working population. Of the 718 employees who completed the survey, 183 were omitted due to groups of less than three employees being excluded to ensure adequate group sizes for multilevel analysis. As a result, for the multilevel statistical analyses, we included 535 participants, 76 work groups and 11 organisations.

Participants were recruited from organisations that were contacted by Employee Assistance Program (EAP) providers. Industries in this study include, but are not limited to, Education, Manufacturing and Communications services, see Table 1 for complete industry demographics. Participants were aged 22 to 71 years ($M = 44.94$, $SD = 11.45$). There were 421 (67.8%) participants that identified as female, 163 (26.2%) identified as male, 6 (1.0%) identified as non-binary, 1 (0.2%) used a different term, and 30 (4.1%) did not disclose their gender. There were 120 (19.3%) participants that reported working for their current organisation for less than 1 year, 218 (35.0%) for 1-3 years, 119 (19.1%) for 4-6 years, 58

(9.3%) for 7-10 years and 108 (17.3%) for more than 10 years. There were 216 (34.7%) participants that identified as leaders, and 389 (62.5%) identified as employees.

Table 2.

Participants' Industry Classifications

Area of Industry	<i>n</i>	%
Accommodation, cafes and restaurants	2	0.3
Communications services	6	1.0
Education	21	3.5
Finance and insurance	2	0.3
Government administration and defence	43	7.2
Health and community services	461	77.3
Manufacturing	1	0.2
Personal and other services	13	2.2
Property and business services	1	0.2
Other	46	7.7

Note. *n* may not equal 718 as participants could skip the question.

Measures

Psychosocial Safety Climate (PSC)

Employee perceptions of PSC were measured using the PSC-12 (Hall et al., 2010). This instrument is a 12-item scale involving four domains: management commitment, management priority, organisational participation and organisational communication. Participants recorded responses on a 5-point Likert scale ranging from (1) “strongly disagree”

to (5) “strongly agree”. An example item is “In my workplace, senior management acts quickly to correct problems/issues that affect employees' psychological health”. Hall et al. (2010) demonstrated high correlations between the subscales. A global-PSC score is calculated by summing scores on the 12-items where high scores indicate low-risk PSC. For the current study, the Cronbach's alpha = .95 and the McDonald's omega = .96, demonstrating excellent internal consistency.

Leader perceptions of PSC were measured using the PSC-4 (Dollard et al., 2019a). The PSC-4 is a 4-item scale that uses one item from each of the previously mentioned four domains that has been adapted for those that supervise employees. Participants recorded responses on a 5-point Likert scale ranging from (1) “strongly disagree” to (5) “strongly agree”. An example item includes “In my Team/Work Group, I consider employee psychological health to be as important as productivity”. The PSC-4 shows high concordance with the PSC-12, where the single items representative of the four domains of PSC-12 were strongly related and most strongly reflected the underlying theoretical constructs (Dollard et al., 2019a). A total score is created by summing scores on the four items, with high scores indicating low-risk PSC. For the current study, the Cronbach's alpha = .80 and the McDonald's omega = .95, demonstrating good internal consistency.

Work Engagement Scale

Work engagement was measured using the Utrecht Work and Wellbeing Survey (UWES-3) which measured participant's feelings about their personal engagement with work (Schaufeli et al., 2006). The UWES-3 is a valid and reliable indicator of work engagement, sharing 86-92% variance with the UWES-9 (Schaufeli et al., 2019). An example item is “I am enthusiastic about my job”, where responses ranged from (1) “never” to (7) “everyday” on a 7-point Likert scale. The work engagement score is calculated by averaging responses on the

three items, with high scores indicating high engagement. For the current study, Cronbach's alpha = .81 and the McDonald's omega = .84, demonstrating good internal consistency.

Emotional Exhaustion Scale

The Emotional Exhaustion Scale included three items from the Burnout Assessment Tool (BAT) to assess participant's feelings of exhaustion at work (Schaufeli et al., 2020). An example item includes "At work, I feel mentally exhausted" where participant responses varied from (1) "never" to (5) "always". The emotional exhaustion score is calculated by averaging responses on the three items, with high scores indicating high emotional exhaustion. For the current study, Cronbach's alpha = .86 and the McDonald's omega = .87, demonstrating good internal consistency.

Workplace Immersion

To assess workplace immersion as a concept of employee's length of service (years) spent at their current organisation, participants were asked "how long have you been employed in your current organisation?" Participants were given the following options: Less than 1 year, 1-3 years, 4-6 years, 7-10 years, or over 10 years. Workplace immersion is calculated by generating group-level means for length of service then multiplying group-level PSC with workplace immersion to determine its moderating effects. Dichotomization of the responses at the median was considered to counter the problem that the scale was not evenly scored. However, analysis of the response distribution, including the skewness and kurtosis of the scores was carefully scrutinized, determining that the responses were normally distributed.

Perceptual Distance

To assess perceptual distance, employee PSC (PSC-12) was subtracted from their group leader PSC (PSC-4) score. In groups where there was more than one leader, these scores were averaged to generate one PSC leader score for the group.

Demographic Measures

These measures included age, gender, industry, organisation and workgroup.

Procedure

Data were collected between 29th of November 2022 and the 2nd of May 2023. The 15-minute online self-report survey was made electronically available through a link distributed by email. Participation was voluntary and participants were required to provide their informed consent digitally at the beginning of the survey. Participants completed the PSC-12 before being asked if they supervised staff. Those that answered 'yes' completed the PSC-4. All participants answered the Work Engagement and Emotional Exhaustion scales. Finally, participants answered demographic questions such as their industry of employment, the duration of employment in their current organisation, their gender, and how old they were on their last birthday.

Design

The current study implements a cross-sectional three-level multilevel analysis (individuals nested in groups nested in organisations). Individual self-report data collected from Australian employees and their leaders were aggregated to the group and organisational-levels. The data were collected using four validated tools, as previously described. The current study is part of a national project with the EAP Provider Association of Australasia supported by an Australian Research Council Laureate Fellowship (Project number: FL200100025). Ethics approval was provided by the University of South Australia Ethics Committee.

Statistical Analysis

Prior to running data regressions, data were screened. Data were normally distributed, and skew and kurtosis were within normal range. For multilevel analysis, a minimum of 30

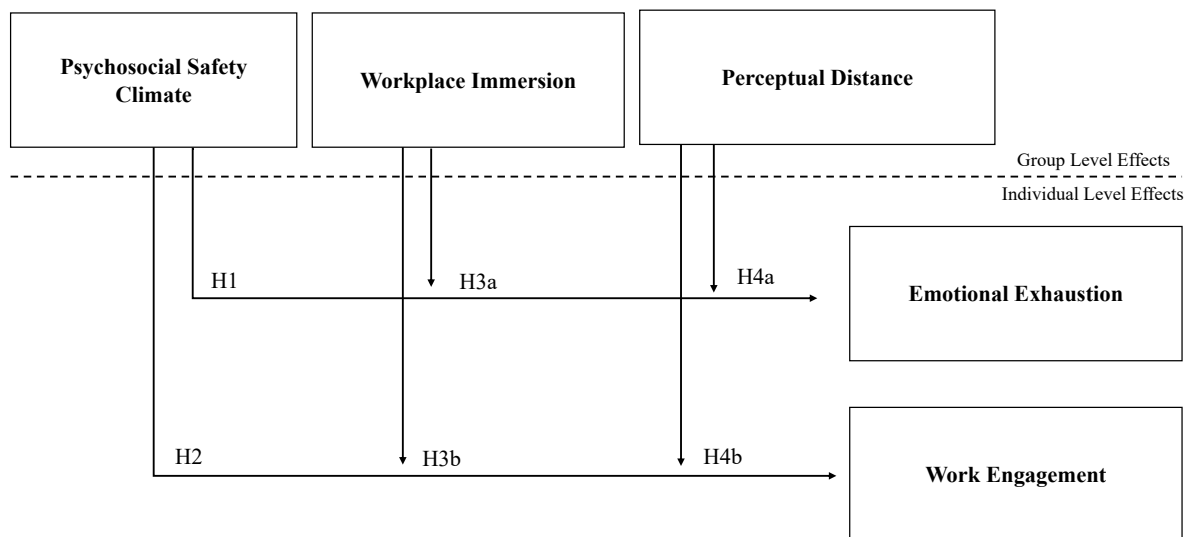
groups, ideally 50 groups, is recommended to allow for statistical power greater than 0.65 (Maas & Hox, 2005). This study achieved 76 groups. Notably, 183 participants were omitted from the study to ensure that all groups consisted of more than three employees, ensuring adequate group sizes for multilevel analysis. For multilevel analysis, employees and leaders were nested in their work groups then nested into their organisations. Due to the three-level model nature of the data (individuals nested into groups and groups nested into organisations), hierarchical linear regressions were used to test the hypotheses. Level-1 represented individual data, level-2 represented PSC aggregated to the workgroup-level and Level-3 represented PSC aggregated to the organisational-level. We tested a three-level null model, which showed significant variance in the null model with PSC as the outcome: variance due to the individual was 83% (variance component 111.47), group variance was 9% (variance component 11.87) and variance due to the organisation was 8% (variance component 10.93). For the null model with emotional exhaustion as the outcome, variance due to the occasion was 48% (variance component 68.11), individual was 44% (variance component 61.89), and group was 8% (variance component 11.41). For the null model with work engagement as the outcome, variance due to the occasion was 50% (variance component 68.4), individual was 44% (variance component 59.59), and group was 6% (variance component 8.58). These percentages of variance justified a three-level model.

To test hypothesis 1, PSC was aggregated to the workgroup-level while emotional exhaustion was assessed at the individual-level. To test hypothesis 2, PSC was aggregated to the workgroup-level to individual-level work engagement. To test hypothesis 3, group-level means for length of service were calculated to operationalise workplace immersion. Then, we mean-centered both group-level PSC and workplace immersion and multiplied them together to examine the moderating role of workplace immersion on the relationships between PSC, emotional exhaustion (hypothesis 3a), work engagement (hypothesis 3b). A positive

interaction between workplace immersion and the relationship between PSC, emotional exhaustion or work engagement indicates that as workplace immersion increases, the relationship between PSC, emotional exhaustion and work engagement becomes stronger. To test hypothesis 4, we mean centered PSC and perceptual distance scores and multiplied them together. A positive interaction between perceptual distance and the relationship between PSC, emotional exhaustion and work engagement indicates that as perceptual distance increases, the relationships between PSC, emotional exhaustion (hypothesis 4a) or work engagement (hypothesis 4b) becomes stronger. The interaction levels of workplace immersion and perceptual distance on the relationships between PSC and the outcomes of emotional exhaustion and work engagement are described in Figure 2.

Figure 2.

PSC, Workplace Immersion and Perceptual Distance Statistical Model.



Note. Organisational membership was controlled at level-3 to isolate the unique contribution of group-level predictors on individual outcomes.

Results

Pearson's correlations examine the relationships between the variables (see Table 3 and 4). PSC is negatively correlated with emotional exhaustion and positively correlated with work engagement at the individual, group and organisational-level. Workplace immersion is related to emotional exhaustion and work engagement at the individual and organisational-level but not at the group-level. Perceptual distance is related to emotional exhaustion at the individual-level but not work engagement.

Table 3.

Correlations Between PSC Total, Emotional Exhaustion, Work Engagement, Workplace Immersion and Perceptual Distance at the Individual and Group-Level.

Variables	M	SD	1.	2.	3.	4.	5.	M (AGG)	SD (AGG)
1. PSC Total	38.06	11.52	-	-.58**	.57**	-.25**	.001	38.80	9.76
2. Emotional Exhaustion	9.24	2.60	-.53**	-	-.62**	.14	.10	9.29	1.96
3. Work Engagement	16.49	3.75	.52**	-.58**	-	-.07	.14	16.71	2.75
4. Workplace Immersion	2.70	1.35	-.17**	.16**	-.10*	-	.15	2.72	1.08
5. Perceptual Distance	161.60	19.67	-.09	.001**	.06	.05	-	162.72	21.52

Note. Correlations above the diagonal are at the group-level, and those below the diagonal are at the individual-level. $N = 718$ participants, $n = 170$ workgroups.

* $p < .05$. ** $p < .01$.

Table 4.

Correlations Between PSC Total, Emotional Exhaustion, Work Engagement, Workplace Immersion and Perceptual Distance at the Individual and Organisational-Level.

Variables	M	SD	1.	2.	3.	4.	5.	M (AGG)	SD (AGG)
1. PSC Total	38.06	11.52	-	-.53**	.52**	-.17**	-.09	38.06	11.52
2. Emotional Exhaustion	9.24	2.60	-.53**	-	-.58**	.16**	.001	9.24	2.60
3. Work Engagement	16.49	3.75	.52**	-.58**	-	-.10*	.06	16.49	3.75
4. Workplace Immersion	2.70	1.35	-.17**	.16**	-.10*	-	.05	2.70	1.35
5. Perceptual Distance	161.60	19.67	-.09	.001**	.06	.05	-	161.60	19.67

Note. Correlations above the diagonal are at the organisational-level, and those below the diagonal are at the individual-level. $N = 718$ participants, $n = 170$ workgroups.

* $p < .05$. ** $p < .01$.

Hypothesis Testing

Three-level hierarchical linear modelling was used for all analyses to control for organisational membership. Hypothesis 1 proposed that PSC would be negatively associated with emotional exhaustion. Group-PSC was found to be significantly negatively related to individual emotional exhaustion, $B = -.08$, $SE = .00$, $p < .001$ (see Table 5, Model 1), supporting Hypothesis 1. Hypothesis 2 proposed that group-PSC would be positively related to individual work engagement. The results indicate that group-PSC had a significant positive relationship with individual work engagement, $B = .10$, $SE = .03$, $p < .001$ (See Table 6, Model 3), supporting Hypothesis 2.

Table 5.

Hierarchical Linear Modelling with PSC and Workplace Immersion for Emotional Exhaustion.

Variables	Emotional Exhaustion		
	Null	Model 1	Model 2
Cross-level effects			
Intercept (y_{000})	9.08 (.24)***	9.04 (.25)***	9.03 (.26)***
PSC		-.08 (.00)***	-.08 (.02)***
Immersion			.16 (.17)
PSC x Immersion			.00 (.00)
Within-team (L1/L2) variance (r)	.28	.02	.03
Intercept (L3) variance (u_{000})	.27	.43	.43
Base Model Variance			
Additional Information			
-2 Log-Likelihood (FIML)	2531.66	2515.45	2514.55
Number of est. parameters	4	5	7
χ^2		54.68	53.83
Degrees of freedom		64	62

Note. FIML = full information maximum likelihood; L1 = Individual-Level; L2 = Group-Level; L3 = Organisational-Level. $N = 535$ participants, $n = 76$ groups. Hierarchical linear modelling parameter estimates are B coefficients with standard errors in parenthesis. All Level-3 variables are grand mean centred.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 6.*Hierarchical Linear Modelling with PSC and Workplace Immersion for Work Engagement.*

Variables	Work Engagement		
	Null	Model 3	Model 4
Cross-level effects			
Intercept (y_{000})	16.76(.32)***	16.81 (.30)***	9.03 (.26)***
PSC		.10 (.03)***	-.08 (.02)***
Immersion			.16 (.17)
PSC x Immersion			.03 (.02)
Within-team (L1/L2) variance	.58	.27	.03
(r)			
Intercept (L3) variance (u_{00})	.46	.44	.43
Base Model Variance			
Additional Information			
-2 Log-Likelihood (FIML)	2902.32	2890.50 4	2514.55
Number of est. parameters	4	5	7
χ^2		31.04	70.98
Degrees of freedom		10	62

Note. FIML = full information maximum likelihood; L1 = Individual-Level; L2 = Group-Level; L3 = Organisational-Level. $N = 535$ participants, $n = 76$ groups. Hierarchical linear modelling parameter estimates are B coefficients with standard errors in parenthesis. All Level-3 variables are grand mean centred.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Hypothesis 3 proposed that the relationship between group-PSC and individual emotional exhaustion (a) and work engagement (b) would be moderated by group-workplace immersion where the relationships would be stronger as group-workplace immersion increases. These relationships were not seen for emotional exhaustion (a), or work engagement (b), therefore Hypothesis 3a ($B = .00$, $SE = .00$, $p = .10$) (see Table 5, Model 2) and 3b ($B = .03$, $SE = .02$, $p = .07$) (see Table 6, Model 4) were not supported. Of note, the main effect of group-workplace immersion as a predictor of individual work engagement was significant, $B = 16.79$, $SE = .32$, $p < .001$, with length of service positively related to work engagement (see Table 7, Model 6).

Table 7.

Hierarchical Linear Modelling with Workplace Immersion and Work Engagement.

Variables	Work Engagement		
	Null	Model 5	Model 6
Cross-level effects			
Intercept (y_{000})	16.76(.32)***	16.81 (.30)***	16.79 (.32)***
Immersion			-.60 (0.26)*
Within-team (L1/L2) variance	.58	.27	.04
(r)			
Intercept (L3) variance (u_{00})	.46	.44	.45
Base Model Variance			
Additional Information			
-2 Log-Likelihood (FIML)	2902.32	2890.50	2896.88
Number of est. parameters	4	5	5
χ^2		31.04	83.84
Degrees of freedom		10	64

Note. FIML = full information maximum likelihood; L1 = Individual-Level; L2 = Group-Level; L3 = Organisational-Level. $N = 535$ participants, $n = 76$ groups. Hierarchical linear modelling parameter estimates are B coefficients with standard errors in parenthesis. All Level-3 variables are grand mean centred.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Hypothesis 4 proposed that the relationship between group-PSC and individual emotional exhaustion (a) and work engagement (b) would be moderated by group-perceptual distance, where the relationships would be weaker when group-perceptual distance is high. Group-perceptual distance did not moderate the relationship between group-PSC and individual emotional exhaustion. Therefore, Hypothesis 4a (see Table 8, Model 8) was not supported ($B = .00$, $SE = .00$, $p = .30$). However, group-perceptual distance moderated the relationship between group-PSC and individual work engagement ($B = -.003$, $SE = .00$, $p = .01$). This suggests that under conditions of low group-perceptual distance, the impact of group-PSC on work engagement was stronger. Therefore, Hypothesis 4b was supported (see Table 9, Model 10), see Figure 3.

Table 8.

Hierarchical Linear Modelling with PSC and Perceptual Distance for Emotional Exhaustion.

Variables	Emotional Exhaustion		
	Null	Model 7	Model 8
Cross-level effects			
Intercept (y_{000})	9.08 (.24)***	9.04 (.25)***	9.02 (.27)***
PSC		-.08 (.02)***	-.09 (.02)***
Perceptual Distance			-.01 (.01)
PSC x Perceptual Distance			.00 (.00)
Within-team (L1/L2) variance (r)	.28	.02	.00
Intercept (L3) variance (u_{00})	.27	.43	.50***
Base Model Variance			
Additional Information			
-2 Log-Likelihood (FIML)	2531.66	2515.45	2514.19
Number of est. parameters	4	5	7
χ^2		54.68	52.56
Degrees of freedom		64	62

Note. FIML = full information maximum likelihood; L1 = Individual-Level; L2 = Group-Level; L3 = Organisational-Level. $N = 535$ participants, $n = 76$ groups. Hierarchical linear modelling parameter estimates are B coefficients with standard errors in parenthesis. All Level-3 variables are grand mean centred.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 9.

Hierarchical Linear Modelling with PSC and Perceptual Distance for Work Engagement.

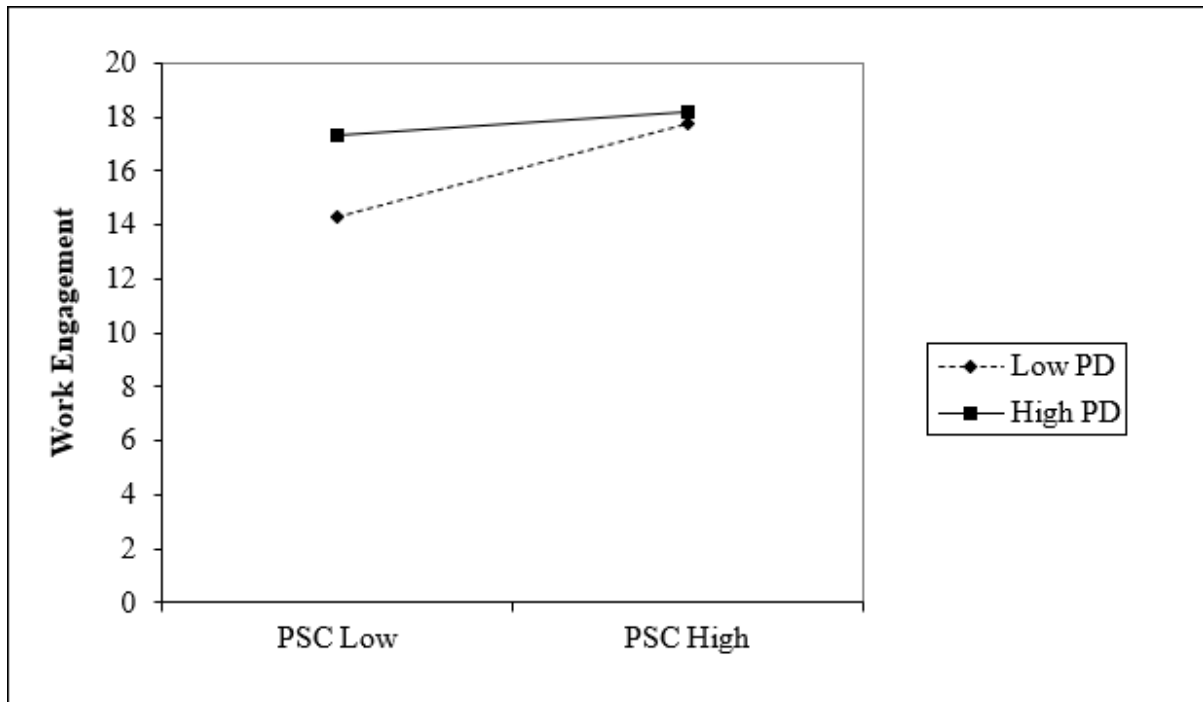
Variables	Work Engagement		
	Null	Model 9	Model 10
Cross-level effects			
Intercept (y_{000})	16.76(.32)***	16.81 (.30)***	16.91 (.31)***
PSC		.10 (.03)***	.11 (.03)***
Perceptual Distance			.04 (.01)***
PSC x Perceptual Distance			-.003 (.00)*
Within-team (L1/L2) variance (r)	.58	.27	.00
Intercept (L3) variance (u_{00})	.46	.44	.54***
Base Model Variance			
Additional Information			
-2 Log-Likelihood (FIML)	2902.32	2890.50 4	2876.74
Number of est. parameters	4	5	7
χ^2		31.04	59.46
Degrees of freedom		10	62

Note. FIML = full information maximum likelihood; L1 = Individual-Level; L2 = Group-Level; L3 = Organisational-Level. $N = 535$ participants, $n = 76$ groups. Hierarchical linear modelling parameter estimates are B coefficients with standard errors in parenthesis. All Level-3 variables are grand mean centred.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Figure 3.

PSC, Perceptual Distance (PD) and Work Engagement.



Discussion

The primary contribution of this study was to extend PSC theory using three-level hierarchical linear modelling to understand the moderating impacts of workplace immersion and perceptual distance on PSC relationships with emotional exhaustion and work engagement. Our multilevel analysis, controlling for organisational membership, showed that group-perceptual distance had a significant moderating effect on the relationship between group-PSC and individual work engagement where the relationship was stronger when group-perceptual distance was low, see Figure 3. This novel theoretical knowledge highlights the need to decrease the perceptual distance of PSC between leaders and employees to increase positive impacts on work engagement. This interaction demonstrates that when

perceptual distance is low, high-PSC will be associated with greater positive outcomes, such as improved work engagement. However, if perceptual distance is low, low-PSC may be associated with increased negative outcomes, such as heightened employee turnover (Abu Elanain, 2014; Bailey et al., 2015; Becher & Dollard, 2016). Overall, this finding demonstrates that to improve the impact of high-PSC on work engagement, low perceptual distance of PSC perceptions between leaders and employees should be promoted.

Accordant with research conducted by Gibson et al. (2009), Dollard et al. (2019), and McCusker and Dollard (2019), our finding suggests that leaders and employees are misaligned in their perceptions of climates. This may be explained by leaders having discretion in how policies, practices and procedures are enacted, therefore enjoying a more positive experience of the PSC or having a vested interest in reporting a positive climate (Dollard et al., 2019b; McCusker & Dollard, 2019). Our research endorses the suggestion that generally, leaders perceive climates more favorably than employees which is problematic as perceptual distance may impact the efficacy of interventions aiming to improve the climate (Dollard et al., 2019b; McCusker & Dollard, 2019; Zyphur et al., 2016). These findings have broader theoretical implications for all organisational climate research which does not consider the moderating impacts of perceptual distance (Ostroff et al., 2013; Schneider & Barbera, 2014; Schneider et al., 2017), including climates promoting service (Bowen & Schneider, 2014; Shepherd et al., 2020) and safety (Clarke, 2006; Griffin & Curcuruto, 2016; Nahrgang et al., 2011; Neal & Griffin, 2006; Zohar, 2010).

Consistent with previous studies (González-Rico et al., 2022; Inanen et al., 2014), our results showed that group-PSC is negatively related to individual emotional exhaustion and positively related to individual work engagement. These findings highlight the importance of organisations improving PSC and prioritising policies, practices, and procedures that protect employee psychological health and safety to reduce emotional

exhaustion and increase motivational outcomes (Dollard et al., 2014; Theorell, 2020). This includes leaders demonstrating commitment and priority to the psychological health of their employees and building organisational infrastructure to promote effective communication and participation about psychological health and safety (Dollard et al., 2014; Dollard & Bakker, 2010; Law et al., 2011; Zadow et al., 2017)

In alignment with previous studies (Bamford et al., 2013; Çemberci et al., 2022; Faskhodi & Siyyari, 2018; Poulsen et al., 2016; Sharma et al., 2017), it was found that group-workplace immersion was positively related to individual work engagement. This indicates that employees who are more immersed in their current workplace report greater work engagement than those who are less immersed. This may be explained by more immersed employees having a stronger sense of belongingness and shared social identity to their organisation (Riketta, 2005; Tajfel, 1974; Turner, 1984). As suggested by Buonocore (2010), our results may indicate that more immersed employees develop a deep-structure identity with their organisation, internalising its values.

This study showed that group-workplace immersion did not moderate the relationship between group-PSC and individual emotional exhaustion or work engagement. This demonstrates that PSC is important regardless of the length of time an employee spends at an organisation. Additionally, group-perceptual distance did not moderate the relationship between group-PSC and individual emotional exhaustion.

Theoretical and Practical Implications

This study has integral theoretical and practical implications. Concerning perceptual distance, this study refined the PSC theoretical framework by being the first to conceptualise the perceived difference between leader and employee PSC and show the moderating effects of perceptual distance on the relationship between group-PSC and individual work engagement. This research adds to the limited available climate literature surrounding

conflicting perceptions of differently ranked employees within an organisation (Gibson et al., 2009; McCusker & Dollard, 2019) and further demonstrates the importance of leaders and employees having a shared understanding of perceived PSC to enhance motivational outcomes. Additionally, this study supports pre-established findings of PSC's prognostic role on emotional exhaustion and work engagement (González-Rico et al., 2022; Inanen et al., 2014).

This study was the first to operationalise workplace immersion as the length of service in an employee's current organisation and evaluate the moderating effect of workplace immersion on the relationship between group-PSC and individual emotional exhaustion and work engagement. As there was no significant moderating interaction between group-workplace immersion and group-PSC on individual emotional exhaustion or work engagement, it demonstrates that group-PSC is important throughout the entire duration of employment. This study revealed that groups with longer tenure reported higher levels of work engagement which may have preliminary implications for organisational change and employee turnover. Future research is required to explore the effects of workplace immersion using our conceptualisation.

Regarding practical implications, this study indicates that organisations should consider reducing perceptual distance while increasing the PSC as the relationship between group-PSC and individual work engagement is stronger when group-perceptual distance is low. As perceptual distance has never been conceptualised as the difference between leader and employee perceptions of PSC, with no research examining the moderating effects of perceptual distance on the relationship between group-PSC and individual work engagement, current interventions aimed at increasing work engagement may not be completely effective. These findings demonstrate the importance of organisations implementing strategies to reduce the perceptual distance of perceived PSC between leaders and employees, such as co-

designs (Trischler et al., 2019). Co-designs allow for ‘users’, such as employees, to be integral to the design team, being equal idea contributors to ‘experts’, such as leaders, about concerns (Trischler et al., 2019). For example, aligning leader and employee perceptions of PSC.

More immersed employees reporting higher work engagement support the notion that the greater the length of service at one organisation, the more embedded the employee becomes in the organisation's policies, practices and procedures as the employee's sense of self closely aligns with organisational identification and workplace climate (Buonocore, 2010; Riketta, 2005; Tajfel, 1974; Turner, 1984). This demonstrates the importance of organisations striving to improve the PSC to improve work engagement, particularly for less immersed employees. As group-workplace immersion did not moderate the relationship between group-PSC and individual emotional exhaustion, or individual work engagement, it demonstrates that maintaining a high-PSC is important across all stages of employment. Organisations could again use co-designs to engage more immersed employees, experts, and less immersed employees, users, to increase work engagement amongst those who are newer to an organisation and discover ways to maintain a high-PSC.

Strengths of the Study

The multilevel design of this study was a strength as it enabled a comprehensive insight into emotional exhaustion and work engagement across three functional levels. Implementing a three-level model allowed for recognition of relevant hierarchical structures and investigation of individual, group and organisational-level effects, reducing the likelihood of overestimation of statistical significance. Using a three-level model allowed for control for organisational membership while examining the cross-level relationships between groups and individuals. Investigating our hypotheses across three-levels of nested data allowed us to control for shared perceptions at the group and organisational-level. Individual-

level studies do not consider the grouping of data, leading to the significant problem of overestimating relationships. The conceptualisation of workplace immersion and perceptual distance allows for a new direction of research of factors that could moderate the relationship between PSC and other psychological health symptoms and motivational outcomes suggested by the PSC theoretical framework. Our conceptualisation of perceptual distance contributes to the gap in the broader organisational climate literature which has not extensively examined the role of perceptual distance in perceptions of climates between leaders and employees. Applying workplace immersion and perceptual distance as moderating variables has addressed a gap in theoretical frameworks and practical understandings of employee psychosocial safety and wider organisational climate theories, including safety and service climates (Clarke, 2006; Shepherd et al., 2020).

Limitations of the Study and Future Research

Cross-sectional data collection was a limitation as we were restricted to examining relationships and could not determine causality. A plausible reverse causal pathway or reciprocal self-report relationship is possible. Problems related to cross-sectional individual-level data (e.g., common method variance) was managed by modelling PSC at the organisational-level while estimating between-group effects in individual-level data. Additionally, the scale used to measure workplace immersion had uneven increments. We considered dichotomization of the responses at the median to counter the problem that the scale was not evenly scored however, analysis of the response distribution, including the skewness and kurtosis of the scores, determined that the responses were normally distributed. Future research could implement a continuous variable instead, allowing for the analysis of workplace immersion patterns on work engagement across specific time periods. Our novel conceptualisation of workplace immersion begins theoretical investigations for future climate research. However, our conceptualisation may not have been the most accurate way to

measure how immersed an individual is in their current workplace and the extent they are exposed to their organisation's PSC. Future studies could conceptualise workplace immersion as an employee's full-time equivalent hours per-week or compare workplace immersion across remote and face-to-face employees. Future research could include our conceptualisation of perceptual distance and look at further motivational and health outcomes. Our finding emphasises the importance of future research not combining perceptions across functional levels, merging leader and employee perceptions, to draw conclusions about the climate (McCusker & Dollard, 2019).

The current study found that perceptual distance had a significant moderating interaction on the relationship between the PSC and individual work engagement, having stronger effects when perceptual distance was low. This emphasises the importance of aligning climate perceptions between leaders and employees to increase the positive effects of high-PSC on work engagement. Our study highlighted the importance of workplaces enacting high-PSC procedures, practices and policies to reduce emotional exhaustion and enhance work engagement. Workplace immersion's positive effect on work engagement highlights the need for further exploration of the effects with broader implications for organisational turnover and organisational change.

References

- Abu Elanain, H. M. (2014). Leader-member exchange and intent to turnover: Testing a mediated-effects model in a high turnover work environment. *Management Research News*, 37(2), 110-129. <https://doi.org/10.1108/MRR-09-2012-0197>
- Adams, J. S. (1965). Inequity In Social Exchange. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (Vol. 2, pp. 267-299). Academic Press. [https://doi.org/https://doi.org/10.1016/S0065-2601\(08\)60108-2](https://doi.org/https://doi.org/10.1016/S0065-2601(08)60108-2)
- Afsharian, A., Zadow, A., & Dollard, M. F. (2016). Psychosocial Safety Climate from Two Different Cultural Perspectives in the Asia Pacific: Iran and Australia Hospitals. In A. Shimazu, R. Bin Nordin, M. Dollard, & J. Oakman (Eds.), *Psychosocial Factors at Work in the Asia Pacific: From Theory to Practice* (pp. 187-201). Springer International Publishing. https://doi.org/10.1007/978-3-319-44400-0_10
- Al-Shammari, M., Al Qaied, B., Al-Mawali, H., & Matalqa, M. (2016). What Drives Employee's Involvement and Turnover Intentions: Empirical Investigation of Factors Influencing Employee Involvement and Turnover Intentions? *International Review of Management and Marketing*, 6, 298-306.
- Al-zawahreh, A., & Al-Madi, F. (2012). The Utility of Equity Theory in Enhancing Organizational Effectiveness. *European Journal of Economics, Finance and Administrative Sciences*.
- Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational Psychology*, 63(1), 1-18. <https://doi.org/10.1111/j.2044-8325.1990.tb00506.x>
- Baggs, J. G., Schmitt, M. H., Mushlin, A. I., Mitchell, P. H., Eldredge, D. H., Oakes, D., & Hutson, A. D. (1999). Association between nurse-physician collaboration and patient

outcomes in three intensive care units. *Critical Care Medicine*, 27(9), 1991-1998.

<https://doi.org/10.1097/00003246-199909000-00045>

Bailey, T. S., Dollard, M. F., McLinton, S. S., & Richards, P. A. (2015). Psychosocial safety climate, psychosocial and physical factors in the aetiology of musculoskeletal disorder symptoms and workplace injury compensation claims. *Work and Stress*, 29(2), 190-211.

Bamford, M., Wong, C. A., & Laschinger, H. (2013). The influence of authentic leadership and areas of worklife on work engagement of registered nurses. *Journal of Nursing Management*, 21(3), 529-540. <https://doi.org/https://doi.org/10.1111/j.1365-2834.2012.01399.x>

Bass, B. M., & Yammarino, F. J. (1991). Congruence of Self and Others' Leadership Ratings of Naval Officers for Understanding Successful Performance. *Applied Psychology*, 40(4), 437-454. <https://doi.org/https://doi.org/10.1111/j.1464-0597.1991.tb01002.x>

Becher, H., & Dollard, M. (2016). *Psychosocial safety climate and better productivity in Australian workplaces: costs, productivity, presenteeism, absenteeism*. <https://apo.org.au/node/70872>

Bell, E., & Barkhuizen, N. (2011). The relationship between barriers to change and the work engagement of employees in a South African property management company. *SA Journal of Industrial Psychology*, 37(1), 01-11. <https://doi.org/10.4102/sajip.v37i1.935>

Blau, P. M. (1964). *Exchange and power in social life*. John Wiley & Sons, Inc.

Boswell, W. R., Boudreau, J. W., & Tichy, J. (2005). The Relationship Between Employee Job Change and Job Satisfaction: The Honeymoon-Hangover Effect. *Journal of Applied Psychology*, 90(5), 882-892. <https://doi.org/10.1037/0021-9010.90.5.882>

- Boswell, W. R., Shipp, A. J., Payne, S. C., & Culbertson, S. S. (2009). Changes in Newcomer Job Satisfaction Over Time: Examining the Pattern of Honeymoons and Hangovers. *Journal of Applied Psychology, 94*(4), 844-858. <https://doi.org/10.1037/a0014975>
- Bowen, D. E., & Schneider, B. (2014). A Service Climate Synthesis and Future Research Agenda. *Journal of Service Research, 17*(1), 5-22. <https://doi.org/10.1177/1094670513491633>
- Buonocore, F. (2010). Contingent work in the hospitality industry: A mediating model of organizational attitudes. *Tourism Management, 31*(3), 378-385. <https://doi.org/https://doi.org/10.1016/j.tourman.2009.04.005>
- Çemberci, M., Civelek, M. E., Ertemel, A. V., & Cömert, P. N. (2022). The relationship of work engagement with job experience, marital status and having children among flexible workers after the Covid-19 pandemic. *PLOS One, 17*(11), e0276784. <https://doi.org/10.1371/journal.pone.0276784>
- Clarke, S. (2006). The Relationship Between Safety Climate and Safety Performance: A Meta-Analytic Review. *Journal of Occupational Health Psychology, 11*(4), 315-327. <https://doi.org/10.1037/1076-8998.11.4.315>
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology, 86*(3), 499-512.
- Dollard, M., Bailey, T., McLinton, S., Richards, P., McTernan, W., Taylor, A., & Bond, S. (2014). *The Australian workplace barometer: psychosocial safety climate and working conditions in Australia*. Australian Academic Press.
- Dollard, M. F., & Bailey, T. (2021). Building psychosocial safety climate in turbulent times: The case of COVID-19. *Journal of Applied Psychology, 106*(7), 951-964. <https://doi.org/10.1037/apl0000939>

- Dollard, M. F., & Bakker, A. B. (2010). Psychosocial safety climate as a precursor to conducive work environments, psychological health problems, and employee engagement. *Journal of Occupational and Organizational Psychology*, 83(3), 579-599. <https://doi.org/10.1348/096317909X470690>
- Dollard, M. F., Dormann, C., & Awang Idris, M. (2019a). The PSC-4; A Short PSC Tool. In (pp. 385-409). Springer International Publishing. https://doi.org/10.1007/978-3-030-20319-1_16
- Dollard, M. F., Dormann, C., & Awang Idris, M. (2019b). *Psychosocial Safety Climate A New Work Stress Theory* (1st ed. 2019. ed.). Springer International Publishing. <https://doi.org/10.1007/978-3-030-20319-1>
- Dollard, M. F., Opie, T., Lenthall, S., Wakerman, J., Knight, S., Dunn, S., Rickard, G., & MacLeod, M. (2012). Psychosocial safety climate as an antecedent of work characteristics and psychological strain: A multilevel model. *Work and Stress*, 26(4), 385-404. <https://doi.org/10.1080/02678373.2012.734154>
- Dollard, M. F., Tuckey, M. R., & Dormann, C. (2012). Psychosocial safety climate moderates the job demand-resource interaction in predicting workgroup distress. *Accident Analysis & Prevention*, 45, 694-704. <https://doi.org/10.1016/j.aap.2011.09.042>
- Edú-Valsania, S., Laguía, A., & Moriano, J. A. (2022). Burnout: A Review of Theory and Measurement. *International Journal of Environmental Research and Public Health*, 19(3), 1780. <https://doi.org/10.3390/ijerph19031780>
- Egozi Farkash, H., Lahad, M., Hobfoll, S. E., Leykin, D., & Aharonson-Daniel, L. (2022). Conservation of Resources, Psychological Distress, and Resilience During the COVID-19 Pandemic. *International Journal of Public Health*, 67, 1604567. <https://doi.org/10.3389/ijph.2022.1604567>

- Faskhodi, A. A., & Siyyari, M. (2018). Dimensions of work engagement and teacher burnout: A study of relations among Iranian EFL teachers. *The Australian Journal of Teacher Education*, 43(1), 78-93. <https://doi.org/10.14221/ajte.2018v43n1.5>
- Gabbe, S. G., Melville, J., Mandel, L., & Walker, E. (2002). Burnout in chairs of obstetrics and gynecology: diagnosis, treatment, and prevention. *American Journal of Obstetrics and Gynecology*, 186(4), 601-612. <https://doi.org/10.1067/mob.2002.122391>
- Galván, M. E., Vassallo, J. C., Rodríguez, S. P., Otero, P., Montonati, M. M., Cardigni, G., Buamscha, D. G., Rufach, D., Santos, S., Moreno, R. P., & Sarli, M. (2012). Professional burnout in pediatric intensive care units in Argentina. *Archivos Argentinos de Pediatría*, 110(6), 466-473. <https://doi.org/10.5546/aap.2012.eng.466>
- Gibson, C. B. (2001). From knowledge accumulation to accommodation: cycles of collective cognition in work groups. *Journal of Organizational Behavior*, 22(2), 121-134. <https://doi.org/https://doi.org/10.1002/job.84>
- Gibson, C. B., Cooper, C. D., & Conger, J. A. (2009). Do you see what we see? The complex effects of perceptual distance between leaders and teams. *Journal of Applied Psychology*, 94(1), 62-76. <https://doi.org/10.1037/a0013073>
- González-Rico, P., Guerrero-Barona, E., Chambel, M. J., & Guerrero-Molina, M. (2022). Well-Being at Work: Burnout and Engagement Profiles of University Workers. *International Journal of Environmental Research and Public Health*, 19(23). <https://doi.org/10.3390/ijerph192315436>
- Gopinath, M., Nair, A., & Thangaraj, V. (2018). Espoused and Enacted Values in an Organization: Workforce Implications. *Management and Labour Studies*, 43(4), 277-293. <https://doi.org/10.1177/0258042x18797757>

- Griffin, M. A., & Curcuruto, M. (2016). Safety Climate in Organizations. *Annual Review of Organizational Psychology and Organizational Behavior*, 3(1), 191-212.
<https://doi.org/10.1146/annurev-orgpsych-041015-062414>
- Halbesleben, J. R., & Bowler, W. M. (2007). Emotional exhaustion and job performance: the mediating role of motivation. *Journal of Applied Psychology*, 92(1), 93-106.
<https://doi.org/10.1037/0021-9010.92.1.93>
- Hall, G. B., Dollard, M. F., & Coward, J. (2010). Psychosocial Safety Climate: Development of the PSC-12. *International Journal of Stress Management*, 17(4), 353-383.
<https://doi.org/10.1037/a0021320>
- Hobfoll, S. E. (1989). Conservation of Resources: A New Attempt at Conceptualizing Stress. *The American Psychologist*, 44(3), 513-524. <https://doi.org/10.1037/0003-066X.44.3.513>
- Hobfoll, S. E., Halbesleben, J., Neveu, J.-P., & Westman, M. (2018). Conservation of resources in the organizational context: The reality of resources and their consequences. *Annual Review of Organizational Psychology and Organizational Behavior*, 5, 103-128. <https://doi.org/10.1146/annurev-orgpsych-032117-104640>
- Idris, M. A., & Dollard, M. F. (2011). Psychosocial Safety Climate, Work Conditions, and Emotions in the Workplace: A Malaysian Population-Based Work Stress Study. *International Journal of Stress Management*, 18(4), 324-347.
<https://doi.org/10.1037/a0024849>
- Idris, M. A., Dollard, M. F., & Yulita. (2014). Psychosocial safety climate, emotional demands, burnout, and depression: A longitudinal multilevel study in the Malaysian private sector. *Journal of Occupational Health Psychology*, 19, 291-302.
<https://doi.org/10.1037/a0036599>

- Innanen, H., Tolvanen, A., & Salmela-Aro, K. (2014). Burnout, work engagement and workaholism among highly educated employees: Profiles, antecedents and outcomes. *Burnout Research*, 1(1), 38-49.
<https://doi.org/https://doi.org/10.1016/j.burn.2014.04.001>
- Law, R., Dollard, M. F., Tuckey, M. R., & Dormann, C. (2011). Psychosocial safety climate as a lead indicator of workplace bullying and harassment, job resources, psychological health and employee engagement. *Accident Analysis & Prevention*, 43(5), 1782-1793. <https://doi.org/10.1016/j.aap.2011.04.010>
- 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.
<https://doi.org/https://doi.org/10.1111/joop.12211>
- Maas, C. J. M., & Hox, J. J. (2005). Sufficient Sample Sizes for Multilevel Modeling. *Methodology*, 1(3), 86-92. <https://doi.org/10.1027/1614-2241.1.3.86>
- Marcelino, G., Cerveira, J. M., Carvalho, I., Costa, J. A., Lopes, M., Calado, N. E., & Marques-Vidal, P. (2012). Burnout levels among Portuguese family doctors: a nationwide survey. *BMJ open*, 2(3), e001050. <https://doi.org/10.1136/bmjopen-2012-001050>
- Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. (2001). A Temporally Based Framework and Taxonomy of Team Processes. *The Academy of Management Review*, 26(3), 356-376.
<https://doi.org/10.2307/259182>
- Maslach, C., Jackson, S. E., & Leiter, M. P. (1997). Maslach Burnout Inventory: Third edition. In *Evaluating stress: A book of resources*. (pp. 191-218). Scarecrow Education.

- Mathieu, J. E., & Zajac, D. M. (1990). A Review and Meta-Analysis of the Antecedents, Correlates, and Consequences of Organizational Commitment. *Psychological Bulletin*, 108(2), 171-194. <https://doi.org/10.1037/0033-2909.108.2.171>
- McCusker, L. J., & Dollard, M. F. (2019). The Climate According to Whom? Does It Matter Who Reports PSC? In M. F. Dollard, C. Dormann, & M. Awang Idris (Eds.), *Psychosocial Safety Climate: A New Work Stress Theory* (pp. 341-362). Springer International Publishing. https://doi.org/10.1007/978-3-030-20319-1_14
- Mikalauskas, A., Širvinskas, E., Marchertienė, I., Macas, A., Samalavičius, R., Kinduris, Š., & Benetis, R. (2012). Burnout among Lithuanian cardiac surgeons and cardiac anesthesiologists. *Medicina (Kaunas, Lithuania)*, 48(9), 478-484. <https://doi.org/10.3390/medicina48090071>
- Montero-Marín, J. (2016). El síndrome de burnout y sus diferentes manifestaciones clínicas: Una propuesta para la intervención.
[The burnout syndrome and its various clinical manifestations: A proposal for intervention]. *Anestesia Analgesia Reanimación*, 29(1), 4-4.
- Montero-Marín, J., García-Campayo, J., Fajó-Pascual, M., Carrasco, J. M., Gascón, S., Gili, M., & Mayoral-Cleries, F. (2011). Sociodemographic and occupational risk factors associated with the development of different burnout types: The cross-sectional University of Zaragoza study. *BMC Psychiatry*, 11. <https://doi.org/10.1186/1471-244X-11-49>
- Nahrgang, J. D., Morgeson, F. P., & Hofmann, D. A. (2011). Safety at work: a meta-analytic investigation of the link between job demands, job resources, burnout, engagement, and safety outcomes. *Journal of Applied Psychology*, 96(1), 71-94. <https://doi.org/10.1037/a0021484>

- Neal, A., & Griffin, M. A. (2006). A Study of the Lagged Relationships Among Safety Climate, Safety Motivation, Safety Behavior, and Accidents at the Individual and Group Levels. *Journal of Applied Psychology, 91*(4), 946-953.
<https://doi.org/10.1037/0021-9010.91.4.946>
- Ostroff, C., Kinicki, A. J., & Muhammad, R. S. (2013). Organizational culture and climate. In *Handbook of psychology: Industrial and organizational psychology, Vol. 12, 2nd ed.* (pp. 643-676). John Wiley & Sons, Inc.
- Patterson, M., Warr, P., & West, M. (2004). Organizational Climate and Company Productivity: The Role of Employee Affect and Employee Level. *Journal of Occupational and Organizational Psychology, 77*, 193-216.
<https://doi.org/10.1348/096317904774202144>
- Poulsen, M. G., Khan, A., Poulsen, E. E., Khan, S. R., & Poulsen, A. A. (2016). Work engagement in cancer care: The power of co-worker and supervisor support. *European Journal of Oncology Nursing: The Official Journal of European Oncology Nursing Society, 21*, 134-138. <https://doi.org/10.1016/j.ejon.2015.09.003>
- Riketta, M. (2005). Organizational identification: A meta-analysis. *Journal of Vocational Behavior, 66*(2), 358-384. <https://doi.org/https://doi.org/10.1016/j.jvb.2004.05.005>
- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement, 66*(4), 701-716.
<https://doi.org/10.1177/0013164405282471>
- Schaufeli, W. B., Desart, S., De Witte, H., & Leerstoel, T. (2020). Burnout Assessment Tool (BAT)-Development, Validity, and Reliability. *International Journal of Environmental Research and Public Health, 17*(24), 1-21. <https://doi.org/10.3390/ijerph17249495>

- Schaufeli, W. B., Shimazu, A., Hakanen, J., Salanova, M., & De Witte, H. (2019). An Ultra-Short Measure for Work Engagement: The UWES-3 Validation Across Five Countries. *European Journal of Psychological Assessment: Official Organ of the European Association of Psychological Assessment*, 35(4), 577-591.
<https://doi.org/10.1027/1015-5759/a000430>
- Schneider, B., & Barbera, K. M. (2014). *The Oxford Handbook of Organizational Climate and Culture*. Oxford University Press.
- Schneider, B., González-Romá, V., Ostroff, C., & West, M. A. (2017). Organizational climate and culture: Reflections on the history of the constructs in the Journal of Applied Psychology. *Journal of Applied Psychology*, 102(3), 468-482.
<https://doi.org/10.1037/apl0000090>
- Shamir, B. (1995). Social distance and charisma: Theoretical notes and an exploratory study. *The Leadership Quarterly*, 6(1), 19-47. [https://doi.org/https://doi.org/10.1016/1048-9843\(95\)90003-9](https://doi.org/https://doi.org/10.1016/1048-9843(95)90003-9)
- Sharma, A., Goel, A., & Sengupta, S. (2017). How does Work Engagement vary with Employee Demography?: —Revelations from the Indian IT industry. *Procedia Computer Science*, 122, 146-153.
<https://doi.org/https://doi.org/10.1016/j.procs.2017.11.353>
- Shepherd, W. J., Ployhart, R. E., & Kautz, J. (2020). The Neglected Role of Collective Customer Perceptions in Shaping Collective Employee Satisfaction, Service Climate, Voluntary Turnover, and Involuntary Turnover: A Cautionary Note. *Journal of Applied Psychology*, 105(11), 1327-1337. <https://doi.org/10.1037/apl0000480>
- Sherman, S., Hadar, I., & Luria, G. (2018). Leveraging organizational climate theory for understanding industry-academia collaboration. *Information and Software Technology*, 98, 148-160. <https://doi.org/https://doi.org/10.1016/j.infsof.2017.12.006>

- Śliwiński, Z., Starczyńska, M., Kotela, I., Kowalski, T., Kryś-Noszczyk, K., Lietz-Kijak, D., Kijak, E., & Makara-Studzińska, M. (2014). Burnout among physiotherapists and length of service. *International Journal of Occupational Medicine and Environmental Health*, 27(2), 224-235. <https://doi.org/10.2478/s13382-014-0248-x>
- Tajfel, H. (1974). Social identity and intergroup behaviour. *Social Science Information*, 13(2), 65-93. <https://doi.org/10.1177/053901847401300204>
- Theorell, T. (2020). *Handbook of Socioeconomic Determinants of Occupational Health: From Macro-Level to Micro-level Evidence* (Vol. 2). Springer International Publishing.
- Trischler, J., Dietrich, T., & Rundle-Thiele, S. (2019). Co-design: from expert- to user-driven ideas in public service design. *Public Management Review*, 21(11), 1595-1619. <https://doi.org/10.1080/14719037.2019.1619810>
- Turner, J. C. (1984). Social identification and psychological group formation. *The Social Dimension: European Developments in Social Psychology*, 2, 518-538.
- Van Velsor, E., Taylor, S., & Leslie, J. B. (1993). An examination of the relationships among self-perception accuracy, self-awareness, gender, and leader effectiveness. *Human Resource Management*, 32(2-3), 249-263. <https://doi.org/https://doi.org/10.1002/hrm.3930320205>
- Yin, N. (2018). The influencing outcomes of job engagement: an interpretation from the social exchange theory. *International Journal of Productivity and Performance Management*, 67(5), 873-889. <https://doi.org/10.1108/IJPPM-03-2017-0054>
- Zadow, A., & Dollard, M. F. (2015). Psychosocial Safety Climate. In *The Wiley Blackwell Handbook of the Psychology of Occupational Safety and Workplace Health* (pp. 414-436). <https://doi.org/https://doi.org/10.1002/9781118979013.ch18>

Zadow, A. J., Dollard, M. F., McLinton, S. S., Lawrence, P., & Tuckey, M. R. (2017).

Psychosocial safety climate, emotional exhaustion, and work injuries in healthcare workplaces. *Stress and Health*, 33(5), 558-569. <https://doi.org/10.1002/smi.2740>

Zohar, D. (2010). Thirty years of safety climate research: Reflections and future directions.

Accident Analysis and Prevention, 42(5), 1517-1522.

<https://doi.org/10.1016/j.aap.2009.12.019>

Zyphur, M. J., Zammuto, R. F., & Zhang, Z. (2016). Multilevel Latent Polynomial Regression for Modeling (In)Congruence Across Organizational Groups: The Case of

Organizational Culture Research. *Organizational Research Methods*, 19(1), 53-79.

<https://doi.org/10.1177/1094428115588570>