Stigma in the Air: How Stigma Moderates the Relationship between PSC and Psychological Distress

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iii. Abstract

Psychological distress and mental illness are universal health risks. The WHO estimates one quarter of the Earth's population will experience some sort of mental disorder during their lifetime. Further exacerbating this problem is the stigma toward mental illness and psychological distress. Psychosocial Safety Climate (PSC) exists to provide a scaffolding for organisations to systematically create psychologically safe work environments that prioritise and protect employee mental wellbeing. This study investigated how the shared perceptions of mental health stigma in the workplace at the organisational level may moderate the relationship between PSC at the organisational level and individual-level psychological distress. This was done using a cross-sectional study design with randomly selected population data from 545 participants. Multilevel analysis was conducted with 359 participants nested within 42 organisations. Organisational level PSC and stigma were both related to individual psychological distress as main effects. Stigma at the organisational level also moderated the relationship between PSC and psychological distress. This study is unique as it considers stigma at the organisational level as an experience that is shared amongst workers. The results underscore the need to consider, in theory and practice, the impacts of organisational-level stigma on psychological distress and the mitigating role of PSC. Future research directions are presented.

Keywords: *Psychosocial Safety Climate (PSC), Workplace Stigma, Mental Health Stigma Psychological Distress, Moderation.*

iv. 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.

v. Contribution Statement

v.i. Contributor Roles

Please refer to Table 1 for the Contributor Roles table.

v.ii. Grant Funding

The data used in this study is from the Australian Workplace Barometer project which is supported by five grants: (1) Australian Research Council (ARC) DP200102752 (103319) Dollard M.F. (2) DP087900 Australian Research Council Discovery Grant. Dollard MF, Winefield AH, LaMontagne AD, Taylor AW, Bakker AB, Mustard C. Working wounded or engaged? Australian work conditions and consequences through the lens of the job demands resources model. (3) LP100100449 Australian Research Council Linkage Grant. Dollard MF, Winefield AH, Taylor AW, Smith PM, Nafalski A, Bakker A, Dormann C. State, organisational, and team interventions to build a psychosocial safety climate using the Australian Workplace Barometer and the StressCafe. (4) FL200100025 Australian Research Council Laureate Fellowship.

1. Introduction

1.1 Overview

Health, including psychological wellbeing, is considered a fundamental human right (World Health Organization: WHO, 2022; "CESCR General Comment No. 14 (2000) on the Right to the Highest Attainable Standard of Health (Article 12)," 2006), however, in Australia just over one in six (15.4%) people reported having experienced high or very high levels of psychological distress over a four-week period (*National Study of Mental Health and Wellbeing, 2020-21*, 2022). Similar reports of poor health outcomes are being seen in Australia's workforce, which accounts for 64.5% of the population (*Labour Force, Australia, June 2023*, 2023). In their 2001 World Health Report the World Health Organisation estimated that 25% of the entire planet's population would be affected by a mental illness or behavioural disorder at some point during their lifetime (WHO, 2001). The report also stated that mental health stigma was one of the key factors hindering people receiving appropriate psychological healthcare due to people's unwillingness to seek help because of the risk of stigmatization.

Stigmatization of people with mental illness in the workplace is evident (Angermeyer et al., 2013; Glozier, 1998; Stuart, 2004) with empirical findings showing those with mental illness have more difficulties finding employment, have fewer career development opportunities, are given tasks that are not commensurate with their skills, and oftentimes face hostile work environments (Patten et al., 2016; Stuart, 2004, 2008; Thornicroft et al., 2022). Evidence also shows that people with psychiatric conditions have been treated less favourably compared to people with somatic illness (Glozier, 1998; Hampson et al., 2020; Mendel et al., 2015). Despite this pejorative treatment of workers who suffer from mental illness there have been a number of studies showing the benefits that employment holds for these people when stigma is reduced (Adu et al., 2022; Arboleda-Florez & Stuart, 2012; Hampson et al., 2020; Stuart, 2008; Stuart et al., 2019) including greater social inclusion, improved sense of utility, and the

feeling of positively contributing to the wider community through work (i.e., a stronger sense of occupational identity; (Hocking, 2000; Silván-Ferrero et al., 2022; Unruh, 2004; Yerxa, 1990).

Previous research has examined individual level relationships exploring whether PSC mediates the relationship between stigma and reporting stress-related concerns (Klinefelter et al., 2021), or stigma as a mediator of the PSC and psychological health dyad (DeOrsey, 2020), or help-seeking behaviours (Britt et al., 2020). This study makes a unique contribution to the extant literature as it considers the impact of shared perceptions of stigma at the organisational level. Shared perceptions develop in organisations because employees seek to organise complex conflicting information by discerning global patters of expected behaviour (Zohar & Luria, 2005). Thus, the purpose of this study was to investigate the moderating role that organisational-level stigma might have upon the relationship between psychosocial safety climate and psychological distress.

1.2 Psychosocial Safety Climate (PSC)

Psychosocial Safety Climate (PSC) has been described as an aspect of organisational climate that is concerned with employee psychological wellbeing and safety (Afsharian et al., 2018; Dollard & Bakker, 2010). Organisational climate, more broadly, was first conceptualised by Zohar (1980) as employees' shared perceptions of their work environment which serve to provide a psychological blue print which informs behaviour and the expected outcomes from such behaviour. Safety climate, therefore, refers to the collective perceptions of employees about safety management and systems within a company or team (Griffin & Neal, 2000), specifically in regards to the policies, procedures, and practices that are concerned with safety (Zohar, 1980). Early research on safety climate almost exclusively focused on the physical work environment and injury prevention (M. F. Dollard & T. Bailey, 2021; Idris et al., 2012) until, Dollard and Bakker (2010) introduced the PSC construct which focuses on the psychosocial, instead of physical, work environment. Therefore, PSC can be conceptualised as the collective perceptions within

an organisation of the “policies, practices, and procedures for the protection of worker psychological health and safety” (Dollard & Bakker, 2010, p. 579).

PSC is operationalised through the PSC-12 scale or its shorter version; the PSC-4 (see section *2.3.1*). Both measure perceptions of PSC through its four domains: (1) management priority to psychological health; (2) management commitment to preventing the development of psychosocial risk factors; (3) organisational communication concerning psychological safety; and (4) organisation participation, which refers to employees across all levels of the organisation being involved in psychological health and safety practice (Afsharian et al., 2018; Dollard & Bakker, 2010; Dollard & McTernan, 2011). Management commitment occurs when senior management demonstrate support and commitment to employee psychological health and wellbeing, especially by acting quickly in dealing with situations that might threaten this psychological wellbeing of team members. Management priority is demonstrated when there are clear policies, practices and procedural evidence of employee psychological health and safety being considered important over the attainment of productivity goals. Organisational communication refers to the ubiquity and effectiveness of communication across all levels of the organisation around psychological health and safety. Optimal organisational communication is multidirectional: employees feel encouraged and equipped to share concerns around psychological safety and senior management share and raise awareness about matters that may affect the psychological health of employees. Finally, organisational participation is concerned with the involvement of all stakeholders (employees, management, unions, health and safety representatives, etc) in the development, deployment, and refinement of the psychological health and safety process (Dollard & Bailey, 2019; Parkin, 2022; Zadow & Dollard, 2015).

According to PSC benchmarking (Bailey, Dollard, & Richards, 2015) scores ≥ 41 demonstrate a high level of PSC and consequently low risk, conversely scores ≤ 37 are regarded as high risk and low PSC level, an any organisation with a score less than 26 requires immediate change to prevent significant

mental ill-health development (Bailey, Dollard, & Richards, 2015; Dollard & Bailey, 2019). PSC research has shown that PSC is theoretically distinct from other safety climate constructs (M. F. Dollard & T. Bailey, 2021; Idris et al., 2012; Zadow & Dollard, 2015) including *psychological climate* (Clarke, 2010)*, team psychological safety* (Edmondson, 1999), *team climate* (Lee & Idris, 2017; Xue et al., 2011), and *perceived organisational support* (Eisenberger et al., 1986).

The job demands-resources (JD-R) model is a well-known theory of job stress (Demerouti et al., 2001) that has two main pathways: the health erosion pathway and the motivational pathway. The health erosion pathway occurs when job demands (for example, work pressure, role conflict, and emotional demands) exceed job resources (such as, supervisor and co-worker support, decision authority, and skill discretion) which can lead to the deterioration of psychological health. Then there is the motivational pathway which describes the inverse situation – when job resources are sufficient to meet the job demands. PSC theory has expanded this model by including PSC as an organisational factor that comes before job design (Idris et al., 2015; Loh et al., 2018). This is because PSC shapes the attitudes and priorities of senior management around the psychological wellbeing of workers, thus impacting how jobs are designed. Therefore, PSC informs job design and ensures sufficient resources exist to overcome all strain from job demands (Maureen F. Dollard & Tessa Bailey, 2021; Dollard & Bakker, 2010). In organisations that do not prioritise employee psychological wellbeing nor have policies or practices in place that promote mental health, PSC would be low and the organisation would be at risk of designing roles that have increasingly high job demands which can lead to an increase in psychological demands (Dollard & Bailey, 2019; Maureen F. Dollard & Tessa Bailey, 2021). Furthermore, in these situations, employees' ability to handle this increased workload diminishes which leads to further job-strain which increases the likelihood of further psychological health erosion, including the development of psychological distress (Dollard & Bakker, 2010). PSC ensures there are sufficient workplace resources which, according to COR theory, accumulate and link together to create 'resource

caravans' (Salanova et al., 2010, p. 120) which strengthens their cumulative positive impact upon workers' ability to cope and manage job demands (Demerouti & Bakker, 2011; Demerouti et al., 2001; Maureen F. Dollard & Tessa Bailey, 2021).

According to PSC theory, in a high PSC environment employees are more engaged in their work and display lower levels of emotional exhaustion (Afsharian et al., 2016). They will perceive their psychological wellbeing as being important to the organisation; demonstrated by safeguards such as vertically open communication channels that foster stakeholder participation and productivity being secondary to worker psychological health. Furthermore, a high PSC context is one where an abundance of resources exist which allow workers to feel psychologically protected and therefore focus their energy, not on protecting themselves from psychological distress or harm, but instead on completing their work well with increased engagement (Maureen F. Dollard & Tessa Bailey, 2021; Loh et al., 2018; M. Abu Elanain, 2014; Zadow & Dollard, 2015). This is theoretically aligned to Conservation of Resources theory, postulated by (Hobfoll, 1989), which explains that workers' stress increases when their resources are limited or threatened, with much empirical evidence showing the association between negative work stress with workplace injury and psychological ill-health (Birkeland et al., 2015; Duchaine et al., 2017; Gomoll, 2018; Hassard et al., 2018; Hobfoll, 2001; Jun et al., 2019; Kim et al., 2023; Santa Maria et al., 2018).

In low PSC environments, conversely, there is a paucity of resources in the presence of overwhelming demands (Dollard & Bakker, 2010) which can lead to psychological distress and depressive symptoms (Zadow et al., 2017). PSC is a lead indicator of future job design (Idris et al., 2012), so when PSC level is low, worker psychological safety and wellbeing is not be prioritised by management (Afsharian et al., 2018), thus creating an environment where demands exceed available resource along with diminished supervisor support and a lack of value placed upon worker psychological wellbeing (Dollard et al., 2012). This results in higher levels of emotional exhaustion (Afsharian et al., 2016; Zadow

et al., 2017), decreased productivity (Bailey, Dollard, McLinton, et al., 2015; Dollard & Bakker, 2010), and the reduced ability of workers to cope (Dollard et al., 2012; Loh et al., 2022) which can lead to psychological distress or even the development of mood disorders such as anxiety or depression (Ahlin et al., 2021; Almroth et al., 2022; Axisa et al., 2019; Rugulies et al., 2021; Zambrana et al., 2021; Zisook et al., 2022).

1.3 Psychological Distress

Psychological distress is a phenomenon that is all too common in the modern workplace (Parent-Lamarche et al., 2022; Saade et al., 2022) and is defined as a temporary emotional state that displays depressive and anxiety-related symptoms. In this study, psychological distress has been operationalised using the K-10 scale. Ridner (2004), in her influential paper, conceptualised psychological distress as a construct with five key attributes: "(1) perceived inability to cope effectively, (2) change in emotional status, (3) discomfort, (4) communication of discomfort, and (5) harm" (p. 539). Empirical evidence has shown a link between stressful working conditions and the development of psychological distress (Anasori et al., 2020; Belay et al., 2021; Bentley et al., 2021; Bourbonnais et al., 1998; Dunleavy et al., 2020; Hassard et al., 2018) and there is theoretical and empirical evidence that, more specifically, links high job demands to higher levels of psychosocial distress (Bakker et al., 2023; Dennerlein et al., 2021). Furthermore, if a person is subjected to chronic psychological distress at work, it is likely that this will develop into more serious mental ill-health if the working conditions remain the same(Dollard & Bakker, 2010; Dollard & Karasek, 2010; Idris & Dollard, 2011; Zadow et al., 2017). PSC operates to ensure job demands are kept to a manageable level, job resources are adequate to meet the needs of workers, whilst also to create a psychologically safe work environment. All these factors work to reduce the psychological load placed upon workers and therefore mitigate the development of psychological distress. It was therefore hypothesised:

H1. PSC (aggregated to the organisational level) is negatively related to individual-level psychological distress.

1.4 Mental Health Stigma in the Workplace

Stigma can be described as an invisible smear upon a person that marks them with judgment and rejection from society (Goffman, 1968; Stuart, 2004). According to Link and Phelan (2001) there are five conditions that need to be met for public stigma to occur. These include (1) people must perceive a difference between themselves and the stigmatised group, (2) at a societal level there are negative stereotypes attributed toward the stigmatised group, (3) people mentally separate themselves into distinct groups, thus creating in-group – out-groups, (4) individuals who are in the stigmatised group experience discrimination and a loss of status, and (5) there is a power imbalance against the stigmatised group, this could be economic, political, or social inequity. To understand the development of stigma, researchers have identified five theoretical models that can be used to help understand the psychological underpinning of this social phenomenon. These theories are the *Modified Labelling Theory,* the *Social Cognitive Model*, the *Stereotype Content Model*, the *Implicit Stigma Model*, and lastly *Attribution Theory* (Sheehan et al., 2022). Each will be outlined below.

The Modified Labelling Theory (MLT) was developed by Link and colleagues (1989) to explain how people develop stigmatising attitudes toward those with mental illness. They theorised that psychologically healthy people label those with mental illness as deviated from the 'norm' and therefore were of lesser value. This labelling and devaluation diminish the self-perception of the minority group and their behaviour. Then, through passive social influence, people adopt these negative assumptions of the mentally ill. Stigmatisation becomes ingrained to the point that when someone becomes mentally unwell, they will expect social rejection and status loss. Affected people respond by hiding their illness from others, isolating themselves so labelling cannot occur, or they educate others and reduce the stigma. This theory demonstrates the negative effects that stigma can have upon an individual who

suffers from mental illness. A limitation of this theory however is that it only accounts for individual-level stigma.

The Social Cognitive model builds upon the MLT by including thoughts, emotions, and behaviours to the stigma construct. Sheehan et al. (2017) state that stigma consists of three psychosocial components: stereotypes, prejudices, and discrimination, operating within a cognitive-behavioural process. Stereotypes form as pervasive generalisations about the group (the 'cognition' part of the process), leading to negative emotions in those upholding the stereotypes. Finally, this results in behavioural change targeted at the stigmatised group and is manifested as discrimination. For instance, encountering someone having auditory hallucinations will most likely, trigger mental illness stereotypes, which shapes their emotional response to fear or unease, leading to prejudice and discrimination. Again, it has been found that mentally ill people take steps to engage in 'label avoidance' but often this negates their opportunities to seek and receive care and support for their illness. This model allows stigma to be understood at the social and individual level.

The Stereotype Content Model suggests that people stereotype others based on two perceived dimensions: warmth (how friendly and trustworthy someone is) and competence (how capable someone is) (Fiske et al., 2002). Stigmatisation arise as mentally ill people are considered as low in both dimensions (Fiske, 2018). This model assists in explaining why some groups face different forms and intensity of stigma compared to others (Boysen, 2017).

Implicit Stigma Theory (Reeder & Pryor, 2008) is concerned with the implicit biases that people hold toward stigmatised groups and the deliberate mental process employed to override (or agree with) these heuristic assumptions. Understanding implicit stigma is important in recognising and addressing subtle forms of discrimination that may persist without being noticed unlike explicit forms of stigma. This is especially true in the workplace when people are under pressure, as research has shown that

when people are under pressure or stress, they are more likely to utilise their autonomic mental process (Hogg et al., 2023; Reeder & Pryor, 2008).

Lastly, Attribution Theory looks at how people rationalise the causes of stigmatised conditions, such as mental illness (Weiner, 1986). This is done primarily through the concept of off-set and on-set responsibility: off-set responsibility refers others' perceptions of the ability of someone to manage their recovery, whereas on-set responsibility refers to the perception toward the unwell person's role in the development of their condition (Sheehan et al., 2017). This theory explains how perceived causality can shape stigma.

For this study, stigma will be considered in the context of mental ill-health and at the organisational level. Organisational-level stigma can be defined as the shared perceptions of mental health stigma at the aggregated level of the organisation. Considering stigma at the organisational is worthwhile as it is important in research and theory to quantify higher-level aggregated variables, because they explain additional variance in individual outcomes beyond that explained by equivalent individual-level counterparts. This is in line with the proposition that the social context of climate demonstrates an emergent group effect (Beeson & Davis, 2000; Fulmer & Ostroff, 2016; Kozlowski & Bell, 2013; Kozlowski & Chao, 2012; Schneider et al., 2017).

Further to this, mental health stigma will be conceptualised as the stigmatisation of employees with mental ill-health; that is, diagnosed mental illness (such as schizophrenia and clinical depression) and psychological distress, as it has been shown that people suffering from psychological distress, have experienced stigma in the workplace (Ray, 2022; Stuart et al., 2014). Pertinent to this discussion of workplace stigma is its impact on people's willingness to be open about their psychological ill-health to co-workers or management due to fear of negative stereotyping, where workers will often choose to remain silent in order to avoid any stigmatisation (Angermeyer et al., 2013; Dewa et al., 2021; McGonagle & Barnes-Farrell, 2014; Stuart, 2008; Toth & Dewa, 2014). This withdrawing behaviour

causes people to give up opportunities to seek help , often exacerbating symptoms and creating a cycle of further isolation and sickness (Link et al., 1989; Link & Phelan, 2001; Livingston & Boyd, 2010). To empirically determine this theoretical association, it was hypothesised that:

H2. Stigma (aggregated to the organisational level) is positively related to individual-level psychological distress.

Environments with high PSC are ones where people feel psychologically safe and protected. However, if there is a high level of shared perceptions of stigma this will directly impact the perception of psychosocial safety, causing stigma to potentially moderate the effectiveness of PSC of ameliorating psychological distress. It was therefore hypothesised:

H3. Stigma moderates the negative relationship between organisational-level PSC and psychological distress experienced at the individual level. This relationship will be stronger when stigma is high compared to when stigma is low.

2. Method

2.1 Sample and Design

The data collection is part of the Australian Workplace Barometer (AWB) project (with waves of data collection from 2009, 2014-15, 2020-21 and 2023). Participants were recruited randomly from the Australian population (via the Electronic White Pages and a directory of Australian mobile phone numbers) to ensure a population-based random sampling approach including post-stratification of workers (18-65 years) across a range of industries to ensure a sample that was representative of the Australian population. This study employed a cross-sectional design using data collected in 2020-2021 (T4). At Time 4 (T4), there were 1,599 respondents in total. Only workers who were permanently employed (full- or part-time) participated in this study. To examine stigma in the workplace the study focused on those participants who self-identified as having had experienced psychological distress

symptoms at some point in the previous 12 months. We therefore excluded all respondents who did not answer 'Yes' to the question: "Do you think you have had emotional or mental health problems? [in the past 12 months]" as they were not asked any questions about stigma. The final sample of individual participants was 535 (see section *2.1.2 Demographics* below). For the multilevel analysis, organisations with less than 3 participants were removed leaving 359 participants nested within 42 organisations, thus the recommendation made by Maas and Hox (2005) to have a minimum 30 groups for multilevel analysis was achieved to provide statistical power greater than .65.

2.1.2 Demographics

These included age, gender identity, income and education. Age is measured based on year of birth. Gender identification included 1 (Male), 2 (Female), 3 (non-binary), 4 (Transgender Male) and 5 (Transgender Female). Income was measured using income ranges from 1 (up to $12,000) to 11 (More than $200,000). Education was quantified using the following item: "What best describes the highest educational qualification you have obtained?" from 1 (Still at school) to 7 (Bachelor's degree or higher). Refer to Table 2 for a summary of the descriptive statistics.

2.2 Measures

2.2.1 Psychosocial Safety Climate

Psychosocial Safety Climate was assessed using the PSC-12 measure (Hall et al., 2010). Twelve questions cover each of the four theoretical domains of PSC: management commitment to employee psychological health, management priority for psychological health, organisational communication, and organisational participation. An example item is "There is good communication here about psychological safety issues which affect me.". Responses were scored on a Likert scale from 1 (strongly disagree) to 5 (strongly agree) and summed up to present as PSC total score with scores between 5 to 60, with a higher number indicating higher levels of PSC (Bailey, Dollard, & Richards, 2015). Previous research

demonstrates the PSC-12 scale's construct validity (Hall et al., 2010), predictive validity (Dollard & Bakker, 2010; Dollard et al., 2012; Law et al., 2011), as well as conceptual distinctiveness (Idris et al., 2012). Cronbach's Alpha for this study was found to be α = .89 as well as MacDonald's Omega being Ω = .89.

2.2.2 Psychological Distress

Psychological distress was assessed using the K-10 scale (Kessler et al., 2002). The instrument has been designed to measure a person's psychological state over the previous four-week period. An example item is "In the past 4 weeks, about how often did you feel nervous?" The scale comprises of 10 questions on a 5-point Likert scale from 1 (none of the time) to 5 (all of the time). A low score of 10 indicates no psychological distress with the most distressed state being given a score of 50. Strong psychometric properties of the K10 scale have been shown in previous studies (Cairney et al., 2007; Kessler et al., 2002; Kessler et al., 2003; Kilkkinen et al., 2007). Cronbach's Alpha for this study was found to be α = .88 as well as MacDonald's Omega being Ω = .88.

2.2.3 Stigma

For the purposes of investigating stigma in the workplace a novel scale was developed by a panel of experts as part of the Australian Workplace Barometer project. A 4-question measure was developed that used a Likert scale ranging from 1 (Not at all) through to 4 (A lot). The four questions were: "Have any of your supervisors and or managers avoided you because of the emotional or mental health problems?", "Have any of your coworkers avoided you because of the emotional or mental health problems?", "Have any of your supervisors and or managers treated you unfairly or discriminated against you because of your mental health problems?", "Have any of your co-workers treated you unfairly or discriminated against you because of your mental health problems?" A score of 4 indicates little to no stigma was perceived with a score of 16 demonstrating a high level of stigma was experienced. Although further psychometric testing of this measure are recommended including factor

analysis and tests of convergent and criterion validity, the measure did show high levels of reliability in this sample, with α = .88 and Ω = .88.

2.3 Ethics

Ethics approval was provided by the University of South Australia Human Research Ethics Committee (ID: P083-08 and 0000020420). All participants gave written informed consent before enrolment in the study, which was conducted in accordance with the principles of the Australian National Statement on Ethical Conduct in Human Research.

2.4 Statistical Analysis

Pearson's correlations and descriptive statistics were analysed using SPSS v28. For the multilevel data (individuals nested in organisations), HLM v8.2 software was used to perform hierarchical linear modelling (HLM) hypotheses testing (Bliese, 2012; Bryk & Raudenbush, 1992). Level 1 data represents Psychological Distress at the individual level and Level 2 variables included PSC and Stigma, each aggregated to the organisation level. To ensure sufficient group variance, interclass coefficients (ICC), a measure of between-group variance, or the proportion of variance in each Level 2 variable due to random organisational effects, were calculated for both PSC and Stigma prior to aggregation (refer to Table ; (Dixon & Cunningham, 2006; LeBreton & Senter, 2008; Maas & Hox, 2005). Recommendations made by Aguinis et al. (2013) were followed in the reporting of the HLM results and variables were group-mean centred. To test Hypothesis 1, we regressed Psychological Distress at the individual level on organisational-level PSC, and for Hypothesis 2, we regressed Psychological Distress at the Level 1 on Level 2 Stigma. For Hypothesis 3 we generated an interaction effect between organisational-level PSC and Stigma upon Psychological Distress. Therefore, the interaction model included the main effects of PSC and Stigma, and their interaction at the level of the organisation, with the outcome of Psychological Distress (refer to Figure 1).

3. Results

By conducting Pearson correlations, we found that PSC was significantly negatively correlated to Stigma and Psychological Distress at both the individual and organisational levels (see Table 3). This indicates that those who reported higher levels of PSC also reported lower levels of stigma and psychological distress. Stigma was significantly positively associated with psychological distress. This indicates that those who reported higher levels of stigma also reported higher levels of psychological distress.

Table 3

Correlations Between PSC, Stigma, and Psychological Distress

Variables	M	SD	1	2	3	4	5	6	M (AGG)	SD (AGG)
1. Age (5-year age groups)	6.85	2.103								
2. Gender	1.66	.51	.03							
3. Income	7.05	2.26	-.05	-.30**						
4. PSC[a]	39.89	11.33	-.06	.05	-.14**		-.45**	-.35**	39.16	8.32
5. Stigma	5.22	3.30	-.02	-.02	-.01	-.21**		.53**	4.61	1.13
6. Psychological Distress	19.52	6.72	-.07	-.02	-.08	-.21**	.16**		18.89	4.83

Note. Correlations above diagonal are at the organisational level, and those below the diagonal are at the individual level. *N* = 535 participants, *n* = 42 organisations.

[a]PSC = Psychosocial Safety Climate.

***p* <.01

3.2 Hypotheses Testing

Hypothesis 1 proposed that PSC would be significantly negatively associated with psychological distress. Using hierarchical linear modelling we found that organisational-level PSC was significantly negatively related to individual-level Psychological Distress, *B* = -0.15, SE = 0.08, *p* < .01, supporting Hypothesis 1 (see Table 5, Model 1).

Table 5

Hierarchical Linear Modelling with PSC and Stigma for Psychological Distress

		Psychological Distress		
Variables	Null	Model 1	Model 2	Model 3
Cross-level effects				
Intercept (y_{00})	16.66 (.51)***	16.65 (.46)***	16.64(.46)***	16.69 (.38)***
PSC		-.15 (.08)**		-.16 (.06)**
Stigma			1.26 (.47)**	-.14 (.58)
PSC x Stigma				-.25 (.09)**
Within-team (L1) variance (r)	5.72	32.93	32.81	33.34
Intercept (L2) variance (u_0)	2.27	3.48	3.44	-628.10
Deviance	2033.06	2029.10	2023.84	2020.78
Additional Information				
-2 Log-Likelihood (FIML)	-1016.53	-1014.55	-1011.92	-1010.39
Number of est. parameters	2	2	2	2
$\mathcal{X}^2$	87.27	74.36	74.03	57.54
Degrees of freedom	41	40	40	38

Note. FIML = full information maximum likelihood; L2 = Division Level; L1 = Individual Level. *N* = 359 participants, *n* = 42 organisations. Hierarchical linear modelling parameters estimates are B coefficients with standard errors in parenthesis. All Level 2 variables are grand mean centred.

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

Hypothesis 2 proposed that Stigma aggregated at an organisational level would be significantly positively associated with Psychological Distress. Using hierarchical linear modelling we found that organisational-level stigma was significantly positively related to Psychological Distress at the individual level, $B = 1.26$, SE = 0.47, $p < .01$, supporting Hypothesis 2 (see Table 5, Model 2).

Hypothesis 3 proposed that the relationship between PSC and Psychological Distress would be moderated according to the level of Stigma, with the relationship being stronger when Stigma was high. A significant negative interaction effect was observed between PSC and Stigma, $B = -0.25$, SE = 0.09, $p < .01$, thus supporting Hypothesis 3 (Table 5, Model 3).

4. Discussion

4.2 Overview of Findings

The aim of this study was to examine mental health stigma at the organisational level and observe how it related to individual-level psychological distress. The study also investigated the moderating effects of organisational-level stigma upon the relationship between organisational-level PCS and psychological distress at the individual level. The study found that stigma did have a significant interaction effect on the relationship between PSC and psychological distress. This finding supported the hypothesis that stigma moderates the relationship between PSC and psychological distress. Interestingly, when adding the moderator, PSC was found to be significant in determining psychological distress, however stigma was no longer significant. Conversely, both stigma and PSC were found to be significant main effects in determining psychological distress. Multilevel analysis showed a significant positive relationship between organisational-level stigma and individual-level psychological distress. The significant negative relationship between PSC and psychological distress was confirmed and stigma was found to have a significant negative moderating effect upon this relationship.

The results indicated that organisations with high PSC level reported lower levels of stigma and the employees working in these organisations experienced lower levels of psychological distress. This

agrees with the findings of Inoue et al. (2023) of perceived PSC being negatively related to psychological distress. A difference between these two studies, however, was that Inoue and colleagues examined individual-level PSC, not PSC at the level of the organisation. However, this could be interpreted to demonstrate the strength of this association since significant negative associations were found at both levels. Furthermore, this finding supports other empirical research demonstrating the association between PSC and poor psychological outcomes (Bailey, Dollard, McLinton, et al., 2015; Dollard & Bakker, 2010; Dollard et al., 2012; Juutinen et al., 2023; Zadow et al., 2017). The finding of stigma level being lower in high-PSC environments aligns with the findings of Klinefelter and colleagues (2021) where they found PSC to have a buffering affect against the development of stigma. However, caution must be taken when considering these concordant findings as they conceptualised stigma as being "perceived real or imagined negative outcomes of experiencing and reporting a stress- related concern at work, including those concerns originating from others, changes in self-perceptions or both." (p. 489), measured at the individual level. As opposed to this study which investigated public stigma at the organisational level. A study conducted by DeOrsey (2020) found PSC to be reduce perceptions of stigma at the organisational level, which is concordant with the findings of this study.

The results demonstrated that when stigma level is high in an organisation the perception of PSC at the organisational level is reduced and employees within these organisations report higher levels of psychological distress. The finding that increased mental health stigma corresponds to increased psychological distressed is empirically well supported (Elraz, 2018; Hanisch et al., 2016; Klinefelter et al., 2021; Stangl et al., 2019; Stuart, 2008; Stuart et al., 2019), non-mental health stigma has also been shown to decrease psychological wellbeing (Alimoradi et al., 2020; Guo et al., 2023; Malterud & Ulriksen, 2011; McGonagle & Barnes-Farrell, 2014). There is evidence, in-line with this study, demonstrating stigmatisation occurring due to mental illness in the workplace (Arboleda-Florez & Stuart, 2012; Corrigan & Kleinlein, 2005; Nathalie Oexle & Patrick W. Corrigan, 2018; Stuart, 2004, 2008,

2017; Tei-Tominaga et al., 2014). Interestingly, however, there is also evidence showing there to be a positive impact upon mentally unwell people's psychological health when they are actively employed (Baldwin et al., 2023; Hogg et al., 2023; Silván-Ferrero et al., 2022). These studies show that the nature and relationship between mental health stigma and psychological distress is not as straightforward as the results of this study might seem.

Moderation by mental health stigma was found for the relation between organisation-level PSC and individual-level psychological distress, such that PSC had less impact in safeguarding against employees developing symptoms of psychological distress due to the presence of stigma. One explanation for this moderation effect could be due to employees avoiding help-seeking behaviours because of their fear of being stigmatised (Mendel et al., 2015; Sickel et al., 2019; Stuart, 2004; Toth & Dewa, 2014), despite PSC ensuring worker psychological health and wellbeing is prioritised and valued (Dollard & Karasek, 2010; Zadow & Dollard, 2015). Klinefelter et al. (2021) raise an important point in that PSC research has focused on the perception that organisations prioritise the mental wellbeing of its workers, but it does not inform us of whether workers are equipped to openly acknowledge when they are not coping and struggling with psychological distress. One of the 4 domains of PSC is organisational communication concerning psychological wellbeing and safety, but research has not shown whether this extends to individual employees feeling safe enough to disclose to co-workers or management their own struggles with mental ill-health. This could explain why stigma acts as a moderator upon the relation of PSC to psychological distress, despite PSC championing psychological health and wellbeing.

4.3 Theoretical and practical implications

This study has important theoretical and practical implications. The results contribute to and support past research that demonstrates PSC's negative association with psychological distress (Bailey, Dollard, McLinton, et al., 2015; Dollard & Bailey, 2019) and expanded previous research by using PSC as an independent variable (see; (Afsharian et al., 2018; Bailey, Dollard, McLinton, et al., 2015; Idris et al.,

2012). A major theoretical contribution of this study is investigating the impact of shared perceptions of stigma at the organisational level. As was outlined earlier, it is important to understand these shared perceptions as it allows researchers to observe and thus understand employee behaviours that come from these shared perceptions (Zohar & Luria, 2005). Theoretically, it makes sense to analyse stigma at this level because it provides further insight into such models as the *Social Cognitive model* and the *Stereotype Contact model* which theorise about how stigma develops at the societal level (Fiske, 2018; Fiske et al., 2002; Sheehan et al., 2017). Lastly, this study is the first time that organisational level stigma has been shown to act as a moderator upon the PSC and psychological distress relationship. This study also contributes the development of a novel scale to measure the shared perceptions of employees around mental health stigma in the workplace. Factor analysis should be conducted to establish the construct validity of the measure (Tavakol & Wetzel, 2020).

Regarding practical implications, the finding of stigma acting as moderator indicates that organisations cannot rely on high PSC levels alone to safeguard employee psychological safety. Aiming for a high level of PSC is an important goal, however this study has demonstrated that organisations must also proactively implement anti-stigma campaigns, stigma-reducing work practices and policies, and mental health awareness training and development to fully address the damaging effects of stigma (Adu et al., 2022; Hanisch et al., 2016; Hogg et al., 2023; Stangl et al., 2019; Stuart et al., 2019; Thornicroft et al., 2008; Tóth et al., 2023).

4.4 Strengths and limitations

A major strength of this study is the quality of the data – sourced from the Australian Workplace Barometer project – being population-based and randomly sampled, with post-stratification of workers across a range of industries, to ensure the data are representative of the Australian working population. Another strength of this study is its multilevel design which avoided the compositional fallacy (drawing conclusions about a variable at the organisational level using only individual-level data) which allowed

macro-level contextualization to occur, thus providing rich insight into the interactions and relationships observed (Pettigrew, 2006).

A weakness of this study is its cross-sectional design which limits the conclusions we can make from the findings regarding causality (Setia, 2016) and the direction of these relationships. This is because the data are collected at one time-point only and it is impossible to know which variable is affecting what; causality cannot be suggested as this opens the findings to the issue of reverse causality (Abadie, 2005). Another limitation was observed by Shimazu and colleagues (2010) in the use of questionaries; interpretation and meaning generated from words used in scales can differ slightly from person to person, thus giving results that do not reflect the actual situation accurately. A limitation of the study was analysing public stigma only. Given that the study analysed organisational-level stigma it would have been worthwhile to expand its operationalisation by including structural stigma (Link & Phelan, 2001; Sheehan et al., 2017) too, as this form of stigma would contribute to employee perceptions of stigma in the workplace and therefore contribute to researches' understanding of these multilevel interactions (Sheehan et al., 2022). The generalisability of the findings of this study is limited to the context of the Australian workplace. Although all variables in this study are universally shared and experienced, the etiology of their development and the symptomology can vary significantly across cultures (Afsharian et al., 2016; Inoue et al., 2023)

4.4.1 Deviation from Research Plan

One change was made to the study design from what was proposed in the Research Plan. The main reason for this change was that there was an insufficient number of participants (3 in total) who had made a workers' compensation claim. This would have not met the requirements for multilevel analysis (Maas & Hox, 2005) and even with bootstrapping the data it would have been too small a sample to work with (Carpenter & Bithell, 2000).

4.5 Future Research

Future research could replicate this study using a cohort longitudinal study design. This would allow for the underlying causal relationships to be found and explained. Further research would be needed to be able to apply these findings to workplaces other than those in Australia. Another direction for research could be to investigate the underlying mechanisms of how mental health stigma has a suppressing effect upon PSC in its moderating role in relation to PSC and psychological distress. Another avenue of research could be to granulate and expand the levels of the multilevel design to include higher macro-level groups (for example, organisations nested within industry-sector) as well as smaller within-organisation groups (for example, work teams nested within a single organisation). This would provide deep insight into the cross-level interactions and effects upon this relationship. It would also provide a path forward to better understand the extent of the moderating relationship that mental health stigma has upon PSC's relation to psychological distress.

In conclusion, this study found that organisational-level mental health stigma was significantly positively associated with psychological distress. Organisational level PSC had a significantly negative relationship to individual level psychological distress and this relationship was moderated by the strength of this stigma variable. This moderation result highlights the importance for organisations to mitigate the risks of mental health stigma separate to prioritizing psychological wellbeing of employees through increasing PSC level. A unique contribution to the literature was made by introducing a novel measure for workplace mental health stigma as well as the investigation of stigma at the level of the organisation.

Tables

Table 1

*Contributor Role**

ROLE	ROLE DESCRIPTION	STUDENT	SUPERVISOR 1	SUPERVISOR 2
CONCEPTUALIZATION	Ideas; formulation or evolution of overarching research goals and aims.	60%	X	X
METHODOLOGY	Development or design of methodology; creation of models.	60%	X	
PROJECT ADMINISTRATION	Management and coordination responsibility for the research activity planning and execution.	100%		
SUPERVISION	Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team.	0%	X	
RESOURCES	Provision of study materials, laboratory samples, instrumentation, computing resources, or other analysis tools.	20%	X	
SOFTWARE	Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code.	n/a		
INVESTIGATION	Conducting research - specifically performing experiments, or data/evidence collection.	100%		
VALIDATION	Verification of the overall replication/reproducibility of results/experiments.	80%	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.	0%	X	
FORMAL ANALYSIS	Application of statistical, mathematical, computational, or other formal techniques to analyse or synthesize study data.	80%	X	
VISUALIZATION	Visualization/data presentation of the results.	95%	X	
WRITING – ORIGINAL DRAFT	Specifically writing the initial draft.	100%		
WRITING – REVIEW & EDITING	Critical review, commentary or revision of original draft	90%	X	X

*This table is based on the CRediT Contributor Roles Taxonomy (For details see: https://credit.niso.org/). CRediT is "a high-level taxonomy, including 14 roles, that can be used to represent the roles typically played by contributors to research outputs. The roles describe each contributor's specific contribution to the scholarly output."

Table 2

Descriptive Statistics

Variable Name	%	n	Mean	SD
Age				
18 to 24 years (1)	0.4	2		
25-29 years (2)	3	16		
30-34 years (3)	5.2	28		
35-39 years (4)	5.2	28		
40-44 years (5)	8.6	46		
45-49 years (6)	13.3	71		
50-54 years (7)	17.4	93		
55-59 years (8)	17.9	96		
60-64 years (9)	15.7	84		
65-69 years (10)	5.8	31		
70-74 years (11)	0.9	5		
Sub-Total	93.5	500	6.85	2.10
Missing	6.5	35		
Total	100	535		
Gender				
Male (1)	35	187		
Female (2)	64.1	343		
Non-Binary (3)	0.0	0		
Transgender-male (4)	0.2	1		
Transgender-female (5)	0.2	1		
Sub-Total	99.4	532	1.66	.51
Missing	0.6	3		
Total	100	535		
Income				
Up to $12,000 (1)	1.9	10		
$12,001 - $20,000 (2)	2.2	12		
$20,001 - $30,000 (3)	5.2	28		
$30,001 - $40,000 (4)	5	27		
$40,001 - $50,000 (5)	7.7	41		
$50,001 - $60,000 (6)	9.2	49		
$60,001 - $80,000 (7)	17.2	92		
$80,001 - $100,000 (8)	17.2	92		
$100,001 - $150,000 (9)	22.6	121		
$150,001 - $200,000 (10)	4.3	23		
More than $200,000 (11)	3.2	17		
Sub-Total	95.7	512	7.05	2.26
Missing	4.3	23		
Total	100	535		
Education				
Left school at 16 years or less (1)	4.3	23		

Left school after age 16 (2)	10.5	56		
Left school after age 16 but still studying (3)	1.3	7		
Trade / Apprenticeship (4)	3.7	20		
Certificate / Diploma (5)	32.7	175		
Bachelor's degree or higher (6)	46	246		
Other (specify) (7)	0.4	2		
Sub-Total	98.9	529	5.92	1.49
Missing	1.1	6		
Total	100	535		

Table 4

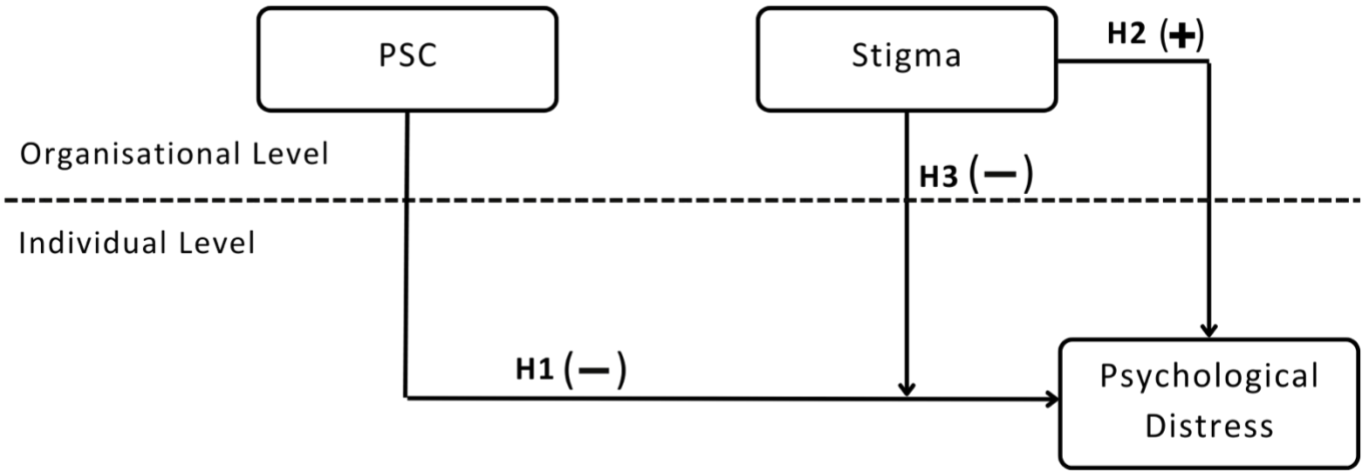
Interclass Coefficients

Variable Name	ICC (1)	%
PSC	.043	4.3
Stigma	.097	9.7

Figures

Figure 1

Theoretical Conceptualisation and Statistical Model of Study



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