WORK HEALTH AND SAFETY RESEARCH HORIZON SCAN, SCOPING REVIEW AND EVIDENCE GAP MAPPING PROJECT

Scoping review and case study findings: Shifting mindsets around WHS fundamentals

A report prepared for Safe Work Australia

ACADEMY OF THE SOCIAL SCIENCES IN AUSTRALIA

ATSE

About this project

This project was commissioned by Safe Work Australia, and it maps the existing landscape of work health and safety and workers' compensation research across the five Safe Work Australia *Research and Evaluation Strategy* initial priority areas to provide a data driven understanding of the current evidence base, gaps, and emerging research areas.

This report was developed with guidance from an Expert Working Group of experts from across work health and safety research and related areas. The Academy of the Social Sciences in Australia and the Australian Academy of Technological Sciences and Engineering gratefully acknowledges the Expert Working Group for their contributions.

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Introduction

This report is part of a series of five reports presenting the consolidated findings from a scoping literature review, horizon scan, and evidence gap mapping undertaken by the Academy of the Social Sciences in Australia for Safe Work Australia (SWA) as part of the 2025 Horizon Scan & Evidence Gap Mapping Project. Each report in the series focuses on one of five research priority areas from SWA's Research and Evaluation Strategy, supported by a case study looking into a known and related driver of change for Work Health and Safety (WHS) in Australia over the coming decade.

The purpose of the project is to ensure future research development, policy and regulatory decisions are evidence informed. To achieve this, each report brings together the results from three integrated research methods. A scoping literature review that maps the depth, breadth and characteristics of Australian WHS and workers' compensation research for a research priority area, a horizon scan which, using a case-study based approach, evaluates research related to a known driver of change to examine how it is manifesting in relation to WHS research, and an evidence gap mapping that integrates insights from the scoping literature review and the horizon scan to show where the evidence is absent, sparse, or misaligned between the evidence base, priority area and case study.

Together, these methods help us understand what evidence currently exists, how it is distributed across research priority areas and case studies, and how well positioned the Australian research evidence base is to respond to future WHS challenges. The following sections present a summary of key findings that integrates insights from the scoping literature review, horizon scan, and evidence gap mapping. The remainder of the report then unpacks these findings in detail.

Research Priority Area	Case Study	
P1: Psychosocial harm prevention and recovery	C1: Psychological injury and increasing time off work	
P2: Advances in technology	C2: GenAI and work design	
P3: Shifting mindsets around WHS fundamentals	C3: Respect@Work	✓
P4: Effectiveness of systems and frameworks	C4: Electrification and emerging hazards	
P5: Changing nature of work	C5: Algorithmic management in gig platforms	

Shifting mindsets around WHS fundamentals

This report focuses on the research priority area of shifting mindsets around WHS fundamentals identified in SWA's *Research and Evaluation Strategy*. The *shifting mindsets around WHS fundamentals focuses* on strengthening foundational WHS understanding and decision-making. It emphasises building an evidence base that supports organisations, workers, regulators, and system partners to adopt proactive approaches to preventing harm and improving workers' compensation outcomes. The priority centres on improving how WHS principles such as risk management, consultation, leadership responsibility, and continuous learning are understood and applied.

Research within this area aims to identify barriers and enablers to WHS competence, including cultural, organisational, and structural factors, as well as effective methods for developing WHS capability (e.g. behaviour change strategies, governance models, data literacy), and opportunities to embed WHS as a core organisational value. It also explores ways to enhance the broader WHS research ecosystem, supporting shared learning and evidence translation across regulators, industry, unions, practitioners, and academia.

Shifting mindsets around WHS fundamentals represents a substantial but diffuse slice of the Australian WHS evidence base. The scoping review identified 734 records within the 7,027-record dataset as relevant to this priority area (collectively referred to as P3). Publication activity has increased over time, with higher volumes observed in more recent years, indicating sustained engagement with organisational and behavioural dimensions of WHS.

However, taxonomy-based analysis shows relatively low coverage of the terms specific to this priority area. Of the 44 taxonomy terms, fewer than half are associated with publications, and tags are applied infrequently relative to the size of the screened dataset. In contrast, many screened records for this priority area are more strongly tagged with psychosocial risk and mental health terms associated with taxonomy terms operationalised for the psychosocial harm prevention and recovery priority area.

System-generated topic clustering reinforces this pattern. Publications cluster around psychosocial outcomes, job demands, safety climate, organisational stressors and sectoral contexts. Concepts central to this priority area's taxonomy terms, such as leadership capability, shared responsibility, consultation and mindset are present in the literature but rarely function as organising principles or the targets of intervention. Instead, they are typically embedded within outcome-focused framings aligned with psychosocial risk prevention.

Taken together, these findings suggest that issues central to shifting mindsets around WHS fundamentals are actively engaged within the evidence base, but are more often articulated through psychosocial, organisational and cultural framings than through explicit capability or mindset terminology. Rather than indicating an absence, this pattern suggests that foundational WHS concerns are being explored through different conceptual lenses, resulting in diffuse representation within taxonomy-based analysis.

Respect@work

The case study of Respect@Work (designated C3) was selected for horizon scanning to understand how the Australian Human Rights Commission Respect@Work inquiry (2020) manifested in WHS research in Australia.

The inquiry identified sexual harassment as a pervasive and preventable workplace harm requiring a systemic, proactive approach. It established that gender inequality is the primary driver of workplace sexual harassment and recommended a shift from complaint-based responses to primary prevention, supported through coordinated WHS, anti-discrimination, and industrial relations reforms. From a WHS and workers' compensation perspective, Respect@Work reframed sexual harassment as a preventable risk to safety that can be managed under general WHS duties. Rising expectations for respectful, inclusive workplaces are a known and emerging driver of change in WHS, with the potential to continue driving change over the immediate time horizon (1-3 years).

Research relevant to the Respect@Work case study includes studies that examine workplace sexual harassment as a psychosocial hazard, its drivers (particularly gender inequality), and the organisational systems that influence prevention, reporting, and recovery. This encompasses Australian and international WHS research on psychosocial risk assessment, organisational justice, leadership, culture change, and the effectiveness of integrated regulatory approaches reflecting findings across futures and scenario-based publications. This highlights psychosocial risks as a growing and often exacerbated hazard in the changing nature of work. It also includes research on vulnerable or precarious workers, digitalisation-enabled harassment, and the role of work design and employment arrangements in shaping exposure and outcomes. Evidence that evaluates interventions, organisational capabilities, or policy mechanisms that support safer, more respectful workplaces is highly relevant, as is research identifying gaps in prevention practice or system integration across WHS, anti-discrimination, and workers' compensation frameworks.

The Respect@Work case study provides a focused lens on cultural and relational dimensions of work that align closely with the priority area. The horizon scan identified 49 publications directly relevant to this case study, with the majority published following the 2020 inquiry, indicating a recent increase in research attention.

In contrast to the broader scoping review dataset, the case study literature is conceptually distinct and only minimally overlaps. Taxonomy tagging shows strong concentration around harassment and sexual harassment, while terms specific to the priority area are limited. System-generated topic clusters derived from the case study literature are organised around themes of gender inequality, power imbalance, organisational culture, leadership behaviour, worker voice and institutional responsibility.

These clusters foreground social and relational conditions of work as central objects of inquiry, rather than secondary factors influencing psychosocial outcomes. Although this literature does not consistently adopt established WHS terminology, it engages directly with issues that align with the priority area themes related to shared responsibility, cultural conditions and foundational understandings of safe work.

The Respect@Work case study therefore surfaces a body of research that is thematically aligned with the priority area, but structurally distinct from the scoping review dataset. It brings into focus cultural, relational and responsibility-based dimensions of WHS that align closely with foundational WHS concerns – a role that demonstrates the emerging impact of this driver of change on WHS research in Australia.

Evidence gap mapping

Evidence gap mapping integrates findings from the scoping review and the horizon scan to identify patterns of absence, sparsity and alignment.

At the level of absence, several priority area taxonomy terms show limited or no explicit coverage within the dataset. However, when considered alongside topic clustering results, this absence is better understood as a difference in perspective rather than an absence of substantively relevant research. Many publications engage with leadership, consultation, organisational responsibility and culture, but do so through psychosocial or sector-specific lenses rather than through foundational WHS terminology.

Sparsity is evident in the relatively low frequency of priority area-specific taxonomy tagging across both the priority area and case study datasets. Where terms appear, they are applied unevenly and rarely in combination, suggesting the limited development of a cohesive body of research. The most significant evidence gap concerns alignment between the priority area taxonomy and the way foundational WHS change is conceptualised in the literature. The scoping review shows that issues such as leadership, consultation, organisational responsibility and cultural conditions are actively examined, but are typically embedded within psychosocial or sector-specific framings rather than articulated as discrete mindset or capability topics.

The horizon scan reinforces this pattern, foregrounding cultural, relational and power-based dimensions of safe work that align substantively with the priority area but are organised using different conceptual language. The alignment gap therefore lies between the taxonomy's framing of foundational WHS concepts and the broader ways in which mindset-related change is expressed within the research landscape. This has implications for how the strength and maturity of the priority area are interpreted. Where foundational WHS topics are articulated through psychosocial, cultural or relational framings, taxonomy-based analyses may understate the extent of WHS research engagement with the themes identified in this priority area.

Taken together, the findings suggest that the evidence base contains substantial material relevant to shifting mindsets around WHS fundamentals, but that these topics are distributed across the literature rather than consolidated as a distinct and explicitly articulated research domain.

Key findings

The shifting mindsets around WHS fundamentals evidence base is substantial but diffuse. The scoping review identified 734 publications associated with this priority area, with consistent growth over time. However, taxonomy-based analysis shows that priority area-specific terms appear relatively infrequently and unevenly across the dataset in relation to this research. Many publications screened into the priority area are more strongly tagged with psychosocial risk and mental health terms associated with the *Psychosocial harm prevention and recovery* priority area. This indicates that issues central to foundational WHS understanding are often examined through outcome-focused psychosocial framings rather than through capability or mindset terminology.

System-generated concept clustering reinforces this interpretation. The literature is organised around psychosocial outcomes, organisational stressors, safety climate, and industry contexts. Concepts such as leadership, consultation, responsibility and organisational culture are present but rarely function as primary organising topics. As a result, foundational WHS concerns appear embedded within broader research streams rather than consolidated as a distinct conceptual domain.

The Respect@Work case study provides a complementary perspective. The horizon scan identified 49 publications directly addressing workplace sexual harassment and related cultural conditions, with most published following the 2020 inquiry. This literature is structurally distinct from the screened priority area dataset and shows minimal overlap in tagging. Concept clusters derived from the case study foreground harassment, gender inequality, power imbalance, organisational culture, leadership behaviour and worker voice as central objects of inquiry. These themes align substantively with priority area concerns but are articulated through social, relational and rights-based framings rather than through established WHS capability language.

Taken together, the findings suggest that foundational WHS change is actively used within the evidence base, but is conceptualised using different language than that reflected in the priority area-specific taxonomy. The primary evidence gap therefore concerns alignment. While research relevant to shifting mindsets is present and growing, it is distributed across psychosocial, cultural and sector-specific literatures, limiting its visibility as a consolidated domain within taxonomy-based analyses drawn from framings grounded in the language of policy. This has implications for how the maturity and strength of the priority area are interpreted and monitored over time, and presents an opportunity for the gap between research and policy framing of this priority area to be explored.

Scoping literature review

This scoping review draws on the full dataset of 7,027 records to provide an overview and synthesis of the WHS research landscape for the research priority area of shifting mindsets around WHS fundamentals and the related behaviours that increase understanding and capability (P3). The 734 records screened by the AI panel form a focused subset of this dataset that will be compared and contrasted with the full dataset to understand priority area research and taxonomy coverage.

Tagging

A total of 44 taxonomy terms were operationalised from the P3 taxonomy to tag the 7,027 records in the full dataset. Of those, 21 terms were associated with at least one publication, while 23 terms had no associated publications (see Appendix 3 for a list of terms and their frequency).

Table 1 shows that a total of 1,032 tags were applied to records in the P3 priority area. Of these, 77 tags were from the P3 taxonomy. The total number of P3 tags applied across the dataset (428) was significantly higher than the number of tags applied to P3 records (77) but lower than the number of tags applied to P3 records from the full taxonomy (1,032). This indicates that the topics covered by P3 records are cross cutting, particularly with priority areas P1 and P4. Many publications reference P3-related concepts without being classified as primary sources for this priority area.

This indicates that while the priority area represents a relatively small subset of the broader WHS literature, associated terminology is more widely used. Appendix 3 presents the distribution of publications across P3 taxonomy terms for the dataset, ordered by total publication count. It shows that a small number of taxonomy terms account for a large proportion of publications, with a long tail of terms with relatively low counts.

The most frequently observed taxonomy terms were *consultation* (66 publications) and *accountability* (51 publications), followed by *representation* (49 publications), *duty of care* (40 publications), and *task design* (34 publications). Together, these relatively highest-frequency terms account for the majority of P3 taxonomy-tagged publications.

In contrast, many taxonomy terms were associated with relatively small numbers of publications. Fifteen taxonomy terms were associated with fewer than twenty publications. This comprised a diverse set of terms, such as *fair process, professional standards, trust and transparency, participatory ergonomics,* and *worker centred design*.

Twenty-three taxonomy terms were not associated with any publications, indicating an absence of explicit coverage for these concepts within the dataset. Absence in this context refers to a lack of explicit taxonomy tagging in the dataset and does not imply the absence of research on these subjects more broadly.

Screened record categories

Tags applied	P1	P2	P3	P4	P5	Unscreened	Multi***	Total**
P1	2079	140	625	183	138	1843	678	4330
P2	63	232	49	24	28	388	66	718
P3	68	40	77	41	19	183	58	370
P4	130	144	226	97	29	477	126	977
P5	150	37	55	26	45	406	71	648
Total*	2490	593	1032	371	259	3297	999	7043

Table 1: A matrix showing the number of tags applied to screened records across the 7027-record dataset. P3 tags are highlighted. The Y-axis is priority area tags and X-axis is the screened record categories, e.g. cell P3/P3 shows the number of P3 tags applied to P3 screened records. The table also includes columns with the number of unscreened records that were tagged, the number of tags that were counted multiple times (Multi) and the total tags applied. Figures reflect total tag counts. Tagging is not exclusive and a term might appear on records in each priority area. Records can also be screened into more than one priority area – hence tag counts are higher than the number of records in the dataset.
** Total tags on P1, P2, P3 etc. records, **Total P1, P2, P3 tags on all records. ***The number of terms that are counted more than once.*

Patterns over time

Time-based analyses of the 743 screened records show variation in output across the period covered by the dataset (Table 2), with higher volumes observed in more recent years and steady year-on-year growth over the fifteen-year period. Figure 1 shows the top ten terms over the period, and the number of publications tagged in the full dataset. This highlights the consistent and stable growth of research on P3 topics within the dataset. When it comes to P3 terms, coverage grows over time, but there are fluctuations year to year.

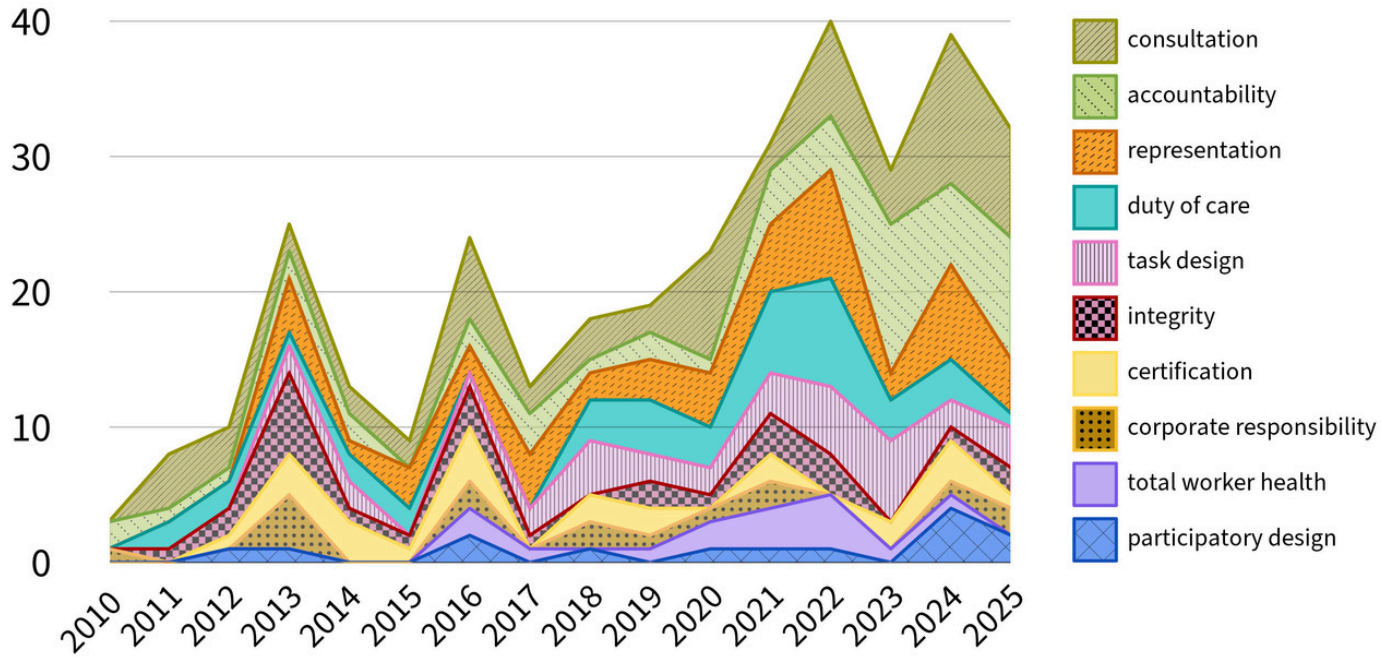

Figure 1: Stacked area chart of the top ten terms by year and number of publications tagged in the full dataset.

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
All	18	18	23	36	31	29	35	51	56	43	57	69	71	58	77	61
P3	3	8	10	25	13	9	24	13	18	19	23	31	40	29	39	32

Table 2: Table showing all P3 records, and P3 screened records tagged by year of publication.

High-level concept clusters derived from VOSviewer

To complement taxonomy-based tagging, high-level concept clusters were generated using VOSviewer[1] based on co-occurrence of key terms in titles and abstracts within the P3 screened dataset. This approach provides an inductive, data-driven view of how concepts are organised in the dataset, enabling comparison between emergent research themes and the deductively defined P3 taxonomy.

[1] *Nees Jan van Eck and Ludo Waltman, "Software Survey: VOSviewer, a Computer Program for Bibliometric Mapping," Scientometrics 84, no. 2 (2010): 523–538, https://doi.org/10.1007/s11192-009-0146-3.*

Alignment between taxonomy terms and system-generated concepts was examined for P3 taxonomy terms. However, none appeared in the concepts derived from VOSviewer. The concept map shows publications cluster primarily around a set of well-established themes related to psychosocial health and organisational contexts of work.

The most prominent concepts include terms such as *workplace, workers, employees, management, job demands, job control, stress, mental health, wellbeing, safety climate,* and *organisational factors*.

These concepts form several interconnected clusters that reflect outcome-focused research on psychological health, stress-related exposures, and organisational conditions, as well as sectoral groupings linked to construction, health, and human services. Methodological concepts, including survey-based assessment and self-reported outcomes, also feature prominently, indicating a strong reliance on observational and questionnaire-driven study designs. Together, these clusters suggest that the literature is organised around psychosocial outcomes, work environment characteristics, and industry contexts. The clusters are presented in Table 3, and Table 4 lists the top 5 concepts. The cluster/concept network is visualised in Appendix 4 Figure 2.

#	Cluster	Concepts	Description
1	Health, care, and psychosocial outcomes	115	Concepts relating to health and wellbeing outcomes, healthcare and care settings, workers' mental health, burnout, distress, and service delivery contexts.
2	Construction, safety management, and organisational factors	93	Concepts associated with construction and high-risk industries, safety performance, accidents and fatalities, organisational practices, leadership, and management processes.
3	Work engagement and employment conditions	24	Concepts focused on employment, engagement, frontline work, job conditions, and worker experience in organisational settings.
4	Attitudes, perceptions, and survey-based assessment	16	Concepts relating to attitudes, perceptions, questionnaires, and cross-sectional survey approaches used to assess worker views and experiences.
5	Drivers and contextual influences	2	Concepts capturing high-level drivers and contextual factors influencing work and safety outcomes.

Table 3: The clusters resulting from VOSviewer analysis, number of concepts included, and summary descriptions.

Concept	Occurrences	Cluster
Workplace	138	1
Workers	116	2
Employees	110	1
Safety climate	84	3
Management	75	2

Table 4: The top five concepts by the number of occurrences, and their associated cluster.

Sources and contributing organisations

Examination of the co-authorship network further clarifies how research contributing to this priority area is organised. The network is characterised by several tightly connected clusters of authors, with a high degree of collaboration among researchers working in psychosocial health, organisational psychology, and mental health–related fields (Table 7).

Prominent contributors are primarily affiliated with Australian universities and research centres with established expertise in psychosocial risk, work stress, and wellbeing, and they frequently co-author across multiple publications (Table 6). Publication output is also concentrated within a small number of established journals, with the top five sources accounting for a substantial proportion of the literature and reflecting long-standing disciplinary homes for psychosocial and organisational research (Table 5).

Taken together, these patterns indicate that a relatively cohesive research community and set of publication venues are shaping much of the evidence relevant to this dataset, even where it is not explicitly framed using the terminology of the P3 taxonomy.

Source Title	Publications
Safety Science	43
International Journal of Environmental Research and Public Health	20
Journal of Construction Engineering and Management	15
The APPEA Journal	15
Accident Analysis & Prevention	13

Table 5: The top five publication sources by the number of associated publications.

Organisation	Publications
Griffith University	62
Monash University	56
UNSW Sydney	55
University of South Australia	47
Queensland University of Technology (QUT)	45

Table 6: Top five affiliated organisations noted on publications, by number of publications they are listed on.

Author	Publications
Maureen Frances Dollard	21
Samuel B Harvey	16
Mark Anthony Griffin	14
Anthony Daniel Lamontagne	13
Xiaowen Hu	11

Table 7: Top five authors, by the number of publications they are listed on.

Summary of taxonomy-based evidence coverage

The taxonomy-based analysis shows that publications in the priority area are characterised by relatively low coverage of P3 taxonomy terms, alongside much stronger tagging against concepts associated with the psychosocial harm prevention and recovery priority area (P1). Terms relating to psychosocial risk, mental health, wellbeing, job demands, and organisational stressors appear frequently, while P3 concepts linked to foundational WHS understanding, shared responsibility, capability development, and mindset are applied to a smaller proportion of publications.

This pattern does not indicate an absence of research relevant to P3. Rather, it reflects the way in which P3 issues are embedded within broader psychosocial and organisational health research, where they are not typically articulated as discrete objects of study. Many publications engage substantively with leadership, management practices, consultation, and organisational conditions, but do so through outcome-focused framings that align more closely with P1 terminology, resulting in stronger P1 tagging despite conceptual relevance to P3.

The taxonomy results are consistent with the VOSviewer concept and co-authorship analyses, which show that the literature is organised around psychosocial outcomes, industry contexts, and methodological approaches, rather than around the foundational WHS capability concepts articulated in the P3 taxonomy. As a result, P3 concepts tend to function implicitly within the evidence base rather than as organising principles. This distribution of taxonomy coverage provides important context for interpreting subsequent horizon scan findings and evidence gaps, particularly those related to alignment and conceptual framing.

Horizon scan

The horizon scan was conducted following a case-study based deductive approach that recognises existing research on the future of work health and safety and known drivers of change. Drivers of change identified by leading international institutions and global WHS research programs were used as an organising frame for the horizon scan and to help manage its scope. These drivers represent well-established and emerging trends on the global WHS horizon. A case study approach was then used to examine how these identified drivers are manifesting within the Australian WHS research evidence base. Case studies were selected through literature review and in consultation with SWA and the project's Expert Working Group (EWG).

Case study	Drivers of change	Rationale	Time frame	Publications	Publishing	Status
Respect@Work Inquiry (AHRC, 2020–2021)	Cultural transformation and gender equity in workplaces.	This case study exemplifies long-term cultural change around respect, inclusion, and prevention of psychosocial harm.	Near (Next 1–3 years)	49	Since 2010, increasing from 2020	Emerging

This section presents the results of analysis for the case study of Respect@Work, which was chosen to reflect the growing importance of cultural transformation and gender equity in Australian workplaces. It focuses on research relevant to shifting mindsets around WHS fundamentals, such as risk assessment, organisational justice, leadership, culture change, and the effectiveness of regulatory approaches. This driver of change has been reshaping WHS in Australia since 2020 and is set to continue having an impact into the near future (1-3 years).

Overview of results

The case study dataset comprises 49 publications identified through the AI screening method. Records were tagged with terms from the full taxonomy of 304 terms across the five priority areas. The purpose was to examine the cross-cutting nature of the research and related concepts across the priority areas.

Across these 49 records, all were tagged to at least one taxonomy term from the full taxonomy of 304 terms (Table 8). The most frequently observed taxonomy terms within case study records were *harassment* (35 publications) and *sexual harassment* (35). A long tail of terms appeared infrequently, such as *monitoring, incident analysis* or *discrimination* (see Table 9).

Measure	Number of publications
Publications in the case study	49
Publications with ≥1 taxonomy tag in the matrix	49
Publications with no taxonomy tags in the matrix	0

Table 8: Summary of the publications included in the case study and taxonomy tagging results

Taxonomy term	Priority Area	Publications
Harassment	P1	35
Sexual harassment	P1	35
Shifts	P1	4
Empowerment	P1	2
Duty of care	P3	2

Table 9: Top five taxonomy terms by the number of publications tagged, using the full taxonomy of 304 terms.

Patterns over time

Time-based analyses (Table 10) showed annual publication counts growing over time, with higher volumes in more recent years. This pattern is consistent with results seen in the scoping review and that support activity following the Respect@Work inquiry, reflecting a current and emerging driver of change.

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Freq	1	1	0	0	0	3	4	0	1	2	5	5	2	3	11	11

Table 10: The number of publications per year in the case study dataset.

High-level concept clusters from VOSviewer

System-generated concept clusters derived from VOSviewer provide a complementary, high-level overview of concept co-occurrence. The concept map derived from the horizon scan literature is characterised by a diverse set of loosely connected clusters organised around social, cultural, and relational dimensions of work. Prominent concepts include *harassment, gender-based violence, abuse, power imbalance, fear of retaliation, organisational culture, leadership*, and *respectful workplaces*, alongside sector-specific terms relating to education, healthcare, garment manufacturing, and migrant labour. Several clusters are oriented around lived experience and qualitative inquiry, with frequent use of concepts such as *in-depth interviews, coping strategies, disclosure culture,* and *experiences of workers*. Policy- and rights-oriented concepts, including *human rights, equality, duty of care,* and *institutional responses*, also feature, indicating engagement with governance and accountability from perspectives adjacent to WHS. Overall, the horizon scan concept network reflects an emerging literature that foregrounds social relations, power, and culture at work, with concepts organised around issues and contexts rather than established WHS taxonomy categories.

These clusters are independent of the taxonomy and reflect frequently occurring and distinctive concepts extracted from titles and abstracts. These are presented in Table 11 and visualised in Appendix 4 Figure 3.

#	Cluster	Concepts	Description
1	Gendered power, retaliation, and workplace culture	20	Concepts relating to gender inequality, everyday sexism, gender-based harassment, fear of retaliation, disclosure culture, and equitable workplaces. This cluster captures the cultural and power dynamics underpinning harmful workplace behaviours.
2	Garment sector and global supply chains	15	A sector-specific cluster focused on garment workers (particularly female workers), the ready-made garment sector, factory owners, and harassment-free workplaces. It reflects globalised, low-regulation work contexts and gendered labour exploitation.
3	Gender theory and inequality framing	12	Concepts including gender, gender norms, gender inequality, women's work, and complex theorisation. This cluster anchors the case study literature in feminist and sociological theory, rather than operational WHS language.
4	Qualitative methods and healthcare case studies	18	Methodologically oriented concepts (in-depth interviews, content analysis, qualitative study design) combined with healthcare worker contexts. This cluster reflects evidence generated through qualitative case study approaches, especially in health settings.
5	Education sector and institutional settings	10	Concepts linked to schools, educational institutions, principals, bullying, and gender-based violence. It highlights education as a distinct institutional case study domain.
6	Legal duties, employment, and employer responsibility	12	Concepts such as duty of care, employment, employees, employer actions, fear of reprisal, and cross-sectional surveys. This is the cluster most closely aligned with regulatory and organisational accountability framings.

#	Cluster	Concepts	Description
7	Policy, justice, and institutional imaginaries	10	Concepts including education policy, gender justice, classroom safety, and critical theory of technology. This cluster reflects policy-facing and normative analysis, rather than outcome measurement.
8	Violence, abuse, and health outcomes	14	Concepts capturing abuse, assault, gender violence, human trafficking, and health outcomes. This is a harm- and impact-focused cluster, linking violence directly to worker wellbeing.

Table 11: The clusters resulting from VOSviewer analysis, number of concepts included, and summary descriptions.

Comparison of scoping literature review and horizon scan results

Comparison of the scoping literature review and the horizon scan highlights a clear contrast in how issues relevant to the priority area are conceptualised and articulated within the evidence base. The scoping review literature is dominated by research organised around psychosocial health outcomes, organisational stressors, and industry contexts, with concepts clustered around mental health, wellbeing, job demands, and safety climate. Within this body of work, themes relevant to P3 such as leadership, consultation, culture, and responsibility are present but typically embedded within outcome-focused framings aligned more closely with psychosocial risk prevention.

In contrast, the horizon scan surfaces a body of literature that engages more explicitly with the social, cultural, and relational dimensions of work. The VOSviewer concept clusters derived from the case study literature are organised around issues such as harassment, gender-based violence, power imbalance, organisational culture, leadership behaviour, and respect at work. These concepts are frequently examined through qualitative and rights-based perspectives and are often situated within specific sectors or worker populations. While this literature does not consistently use the terminology of the P3 taxonomy, it foregrounds concerns closely aligned with P3 themes related to foundational WHS understanding, shared responsibility, and cultural conditions that shape safe work.

Publications identified for this case study are clearly distinct from the broader P3 dataset. A substantial proportion of case study publications are not present within the screened priority area dataset (Table 12). This pattern indicates that the case study represents a discrete body of research.

Measure	Publications
Publications in C3 dataset	49
Publications in P3 dataset	734
Publications appearing in both C3 and P3	3

Table 12: Comparison of publications in the priority area (P1) and the case study (C3).

Comparison of taxonomy tagging highlights the strong distinction between C3 and P3, with few tags shared between them. System-generated concepts derived from VOSviewer reinforce this, showing substantial thematic differences between the C3 and P1 datasets. Tags in C3 are highly concentrated around the key concept of harassment (Table 15). In contrast, the P3 evidence base exhibits broader dispersion across taxonomy terms, with a longer tail of concepts appearing at low frequencies.

Taxonomy term	C3 publications	P3 publications	Total
Harassment	35	10	88
Sexual harassment	35	4	61

Table 13: Top five taxonomy terms shared by the P1 and C3 datasets.

Temporal patterns of publication in C3 and P1 are distinct but growing. Higher publication volumes are observed in more recent years in both datasets. However, growth in case study publications appears to just be getting started, consistent with the recent nature of the Respect@Work inquiry.

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
P3	18	18	23	36	31	29	35	51	56	43	57	69	71	58	77	61
C3	1	1	0	0	0	3	4	0	1	2	5	5	2	3	11	11

Table 14: Comparison of P1 and C3 dataset publications per year.

Taken together, this comparison indicates that the scoping review and horizon scan capture different aspects of related issues. The scoping review reflects a mature evidence base that addresses behavioural and organisational factors primarily through their relationship to health and safety outcomes, whereas the horizon scan points to emerging research that treats culture, power, and responsibility as central objects of inquiry in their own right. As a result, concepts that remain implicit or secondary in the scoping review become more explicit and central within the horizon scan literature, demonstrating that a conceptual shift is occurring.

Signal scanning

Signals represent observable directional patterns and configurations within the existing evidence base that may warrant monitoring or further investigation. Signals were identified using the horizon scanning questions and criteria specified in the horizon scanning methodology, focusing on changes in volume or concentration of research activity; shifts in conceptual emphasis; recombination or co-occurrence of concepts; boundary-crossing across domains or priority areas; and consolidation or dispersion of the evidence base. The signals identified in Table 15 do not, in themselves, constitute evidence gaps. Rather, they provide structured inputs for evidence gap mapping.

Signal	Measure	Insight
Explicit naming of culture and respect as foundations of safe work	Prominence of concepts such as *respectful workplaces, organisational culture, harassment,* and *gender-based violence* in horizon scan VOSviewer clusters. Weak representation of these concepts as organising terms in the scoping review.	The horizon scan indicates increasing research attention to culture and respect as explicit foundations of safe work, rather than as secondary or implicit organisational factors. These issues have long been present in WHS-relevant research but are now being more directly named and examined, signalling a shift in how foundational conditions for safety are articulated.
Leadership and accountability emerging as explicit objects of inquiry	Horizon scan concepts related to *leadership behaviour, responsibility, power,* and *duty of care.* Absence of P3 leadership and capability terms from scoping review concept clusters.	Research in the horizon scan increasingly treats leadership and accountability as central elements shaping safe work. This signal suggests growing interest in how responsibility for safety is exercised and experienced.
Worker voice, disclosure, and fear of retaliation gaining visibility	Horizon scan clustering around *disclosure culture, fear of retaliation, speaking up,* and *lived experience.* Frequent use of qualitative methods.	The horizon scan highlights increasing attention to worker voice and disclosure as conditions that enable or constrain safe work. These themes signal a growing focus on trust, power relations, and the social dynamics that shape whether hazards are identified and addressed, areas that are only indirectly captured in the scoping review literature.
Foundational WHS understanding reframed through social and relational lenses	Horizon scan engagement with concepts such as *power imbalance, relationships at work,* and *social norms.* *L*imited alignment with deductive P3 taxonomy terms	Emerging research frames foundational aspects of WHS understanding through social and relational lenses, rather than through formal capability or mindset terminology. This signal indicates that core P3 concerns are being explored using different conceptual language, contributing to their diffuse representation within the existing taxonomy structure.

Table 15: Table of horizon scanning signals.

Evidence gap mapping

This evidence gap mapping brings together results from the scoping review and the horizon scan case study to systematically document gaps in the evidence base, drawing on patterns in taxonomy tagging, temporal patterns of publication, and concepts and clusters emerging from VOSviewer.

Three kinds of evidence gaps were observed in results from the scoping literature review and horizon scan case study:

- **Absence:** taxonomy terms or concept areas with no explicit coverage;
- **Sparsity:** concepts represented by very small numbers of publications relative to the size of the evidence base; and
- **Alignment:** mismatches between conceptual centrality (as indicated by system-generated concept clusters) and explicit taxonomy coverage.

Absence

At a surface level, the taxonomy analysis suggests an absence of publications explicitly addressing P3 terms, as reflected in the low frequency of P3-specific tags across the dataset. However, when considered alongside the VOSviewer concept and co-authorship analyses, this absence is better understood as an absence of framing, rather than an absence of relevant research. Publications frequently engage with leadership, culture, responsibility, and organisational conditions, but do so through outcome-focused psychosocial or sectoral lenses that align more closely with P1 priority area.

For the case study, the horizon scan highlights a growing body of research that explicitly addresses issues such as respect at work, power imbalances, harassment, and worker voice. These topics align closely with foundational WHS understanding and cultural conditions for safe work but are largely absent within the core WHS evidence base. The gap, therefore, lies in the limited articulation of these issues as foundational WHS concerns within existing research, despite their substantive relevance. This suggests that a conceptual shift is starting to occur as a result of the Respect@Work inquiry, but research is still situated within the domain of psychosocial and related research. There is limited research that engages with the change itself.

Sparsity

When P3 terms do appear, their representation is limited and uneven. The taxonomy analysis shows that P3 tags are applied to only a small proportion of publications, and rarely in combination with other foundational or capability-focused terms. Table 16 illustrates this point. The top 10 terms that P3 records are tagged with are from across the four other priority areas. This sparsity constrains the development of a coherent body of evidence that explicitly examines how shared understanding, leadership, consultation, and cultural conditions contribute to safe work.

For the case study, although the horizon scan reveals multiple clusters of research engaging with cultural and relational dimensions of work, these studies are dispersed across disciplines, sectors, and methodologies. As a result, insights relevant to P3 are fragmented and without a strong presence alongside foundational WHS concepts.

Priority	Term	Total	P3	C3
P1	mental health	851	116	1
P4	safety climate	132	100	0
P1	burnout	378	52	1
P1	social support	237	43	0
P1	psychosocial climate	53	39	0
P1	psychosocial safety climate	46	38	0
P1	shifts	489	34	4
P1	workload	253	28	0
P4	work design	219	28	0
P2	productivity	279	27	0
P1	workplace bullying	76	25	1
P5	on demand work	221	24	0

Table 16: Top ten terms that P3 records are tagged with.

Alignment

The most significant evidence gap for P3 concerns alignment between how foundational WHS concepts are defined in the taxonomy and how related issues are conceptualised in the literature. There is a clear misalignment between the taxonomy, priority area, and case study. This is illustrated by the small number of publications in the priority area and case study dataset tagged with taxonomy terms, in contrast to the number of publications tagged in the full dataset of 7,027 records (Table 17). Additionally, there is only a weak connection between the priority area and case study, through shared tagging of the terms *harassment* and *sexual harassment.*

For the case study, the horizon scan indicates an emerging shift toward explicitly naming cultural, relational, and responsibility-based dimensions of safe work. However, these emerging framings are not yet well aligned with the deductive structure of the P3 taxonomy or with established WHS research categories. This misalignment contributes to the under-representation of P3 in taxonomy-based analyses, even where the underlying issues are being actively explored. The alignment gap therefore reflects differences in language, framing, and conceptual emphasis, rather than a lack of engagement with P3-relevant concerns.

Term	Total Tagged	Tagged in P3	Tagged in C3
consultation	66	5	0
accountability	51	18	1
representation	49	5	0
duty of care	40	7	2
task design	34	2	0
integrity	27	5	0
certification	24	2	0
corporate responsibility	16	6	0
total worker health	15	0	0
participatory design	14	3	0

Table 17: Top ten P3 taxonomy terms and their association with all records (total), P3 and C3 records.

Appendix 1: Data and screening

This section reports on the method and approach followed to conduct the horizon scan, scoping literature review and evidence gap mapping.

The dataset of 7,028 WHS research publications (see Note below) was screened for records relevant to the research priority area of shifting mindsets around WHS fundamentals and the case study of Respect@Work. Screening was conducted by a panel of four large language models (LLMs) which included ChatGPT 4.1 Mini, Claude 3 Haiku, Gemini 2.5 Flash and Grok 4.1 Fast Reasoning.[2]

The LLMs were asked to classify records into three categories using a schema, primary research, secondary research or irrelevant, and to provide confidence scores along with their decision. This information was used to calculate inter-panel agreement following an established method which led to records being labelled as green (high confidence and agreement), amber (intermediate) or red (low confidence and agreement). Only records categorised as primary, where the panel showed a high level of confidence and agreement (green records) were selected.

The panel identified 734 records (Table 18) potentially relevant to the priority focus area of shifting mindsets on WHS fundamentals and 49 records (Table 19) relevant to Respect@Work case study. These records were then checked by human reviewers for relevance. These records were not excluded but identified for the purpose of comparison and audit. It is the case that there can be a high level of ambiguity and interpretation when deciding if a record, based on its title and abstract, is a primary, secondary or irrelevant source of evidence for a priority focus area or case study.

Results were then tagged with taxonomy terms and described using bibliometrics. The results of this analysis are provided in the following section and discussed as part of the scoping literature review and horizon scan that follow.

[2] *Zhilong Zhao and Yindi Liu, A Confidence–Diversity Framework for Calibrating AI Judgement in Accessible Qualitative Coding Tasks (Guangzhou: School of Journalism and Communication, South China University of Technology, 2025). https://doi.org/10.48550/arXiv.2508.02029.*

	Green	Amber	Red
Primary	734	1158	419
Secondary	13	404	270
Irrelevant	2029	1582	419

Table 18: Model ratings and risk matrix for the priority area in the set of 7,028 records (Green – low risk, Amber – medium risk, Red – high risk).

	Green	Amber	Red
Primary	49	32	11
Secondary	2	17	4
Irrelevant	6469	422	22

Table 19: Model ratings and risk matrix for the case study in the set of 7,028 records (Green – low risk, Amber – medium risk, Red – high risk).

Note: Tables 18 and 19 contain an extra record, which was removed after screening was completed, making the total 7,027.

Appendix 2: Schema and instructions

This appendix presents the instructions provided to large language model (LLM) panel members when reviewing records, and the specific categorisation schemes that were used.

Scheme P	Shifting mindsets around Work Health and Safety (WHS) fundamentals
Instruction	Classify each text as Primary, Secondary, or Irrelevant based only on what the text explicitly states. The key distinction is whether Shifting mindsets around Work Health and Safety (WHS) fundamentals is the central focus (Primary), discussed but not central (Secondary), or not present (Irrelevant).
Primary category	Research where the main focus is WHS mindsets, behaviours, safety culture, leadership capability, or understanding and enactment of WHS duties, including mechanisms that improve WHS capability or embed WHS as an organisational value.
Secondary category	Research that refers to WHS mindsets, culture, behaviours, or fundamental duties but not as the main focus, or includes them as supporting or contextual factors within a broader organisational or technical topic.
Irrelevant category	Research with no meaningful focus on WHS mindsets, behaviours, culture, leadership capability, or foundational WHS duties.

Scheme C	Respect@Work Inquiry (Australian Human Rights Commission, 2020–2021)
Instruction	Classify each text as Primary, Secondary, or Irrelevant based only on what the text explicitly states. The key distinction is whether the themes of workplace sexual harassment or gendered violence as a psychosocial hazard are central (Primary), peripheral (Secondary), or absent (Irrelevant).
Primary category	Research where the main focus is workplace sexual harassment or gendered violence as a psychosocial hazard, including its drivers (e.g. gender inequality, power, culture) and organisational or system-level approaches to prevention, response, support, or regulation.
Secondary category	Research where sexual harassment, gendered violence, or gender inequality is mentioned but not the main focus, or appears as one hazard among others in broader psychosocial or organisational studies.
Irrelevant category	Research with no substantive focus on workplace sexual harassment, gendered violence, or closely related organisational/systemic prevention themes.

Appendix 3: Tagging results

This appendix lists taxonomy terms for the research priority area, ranking them by the total number of records tagged in the full dataset of 7,027 records and providing a breakdown of tagged records in the priority area and case study datasets.

Rank	Normalised term	P3 records tagged	C3 records tagged	Total tagged
1	consultation	5	0	66
2	accountability	18	1	51
3	representation	5	0	49
4	duty of care	7	2	40
5	task design	2	0	34
6	integrity	5	0	27
7	corporate responsibility	6	0	16
8	total worker health	0	0	15
9	participatory design	3	0	14
10	openness	4	0	13
11	incident learning	5	0	11
12	health and safety leadership	6	0	10
13	resilience engineering	3	0	6
14	leadership commitment	3	0	5
15	hew view of safety	3	0	3
16	fair process	0	0	3
17	beyond compliance	0	0	2

Rank	Normalised term	P2 records tagged	C2 records tagged	Total tagged
18	professional standards	1	0	2
19	just culture and learning	1	0	1
20	trust and transparency	0	0	1
21	Participatory ergonomics	0	0	1
22	WHS as a value	0	0	0
23	safety first mindset	0	0	0
24	health safety and wellbeing integration	0	0	0
25	integrated safety and wellbeing	0	0	0
26	worker voice and participation	0	0	0
27	HSR empowerment	0	0	0
28	officer due diligence	0	0	0
29	learning organisations	0	0	0
30	no blame culture	0	0	0
31	safety differently Safety II	0	0	0
32	integration with ESG	0	0	0
33	sustainability reporting	0	0	0
34	worker centred design	0	0	0
35	human centred design	0	0	0
36	wellbeing metrics and reporting	0	0	0

Rank	Normalised term	P2 records tagged	C2 records tagged	Total tagged
37	psychosocial metrics	0	0	0
38	safety climate surveys	0	0	0
39	safety climate vs culture	0	0	0
40	culture audits	0	0	0
41	safety climate surveys	0	0	0
42	competency frameworks	0	0	0
43	systems of work design	0	0	0
44	valuing humanity	0	0	0
	Total	**77**	**3**	**370**

Appendix 4: Network visualisations

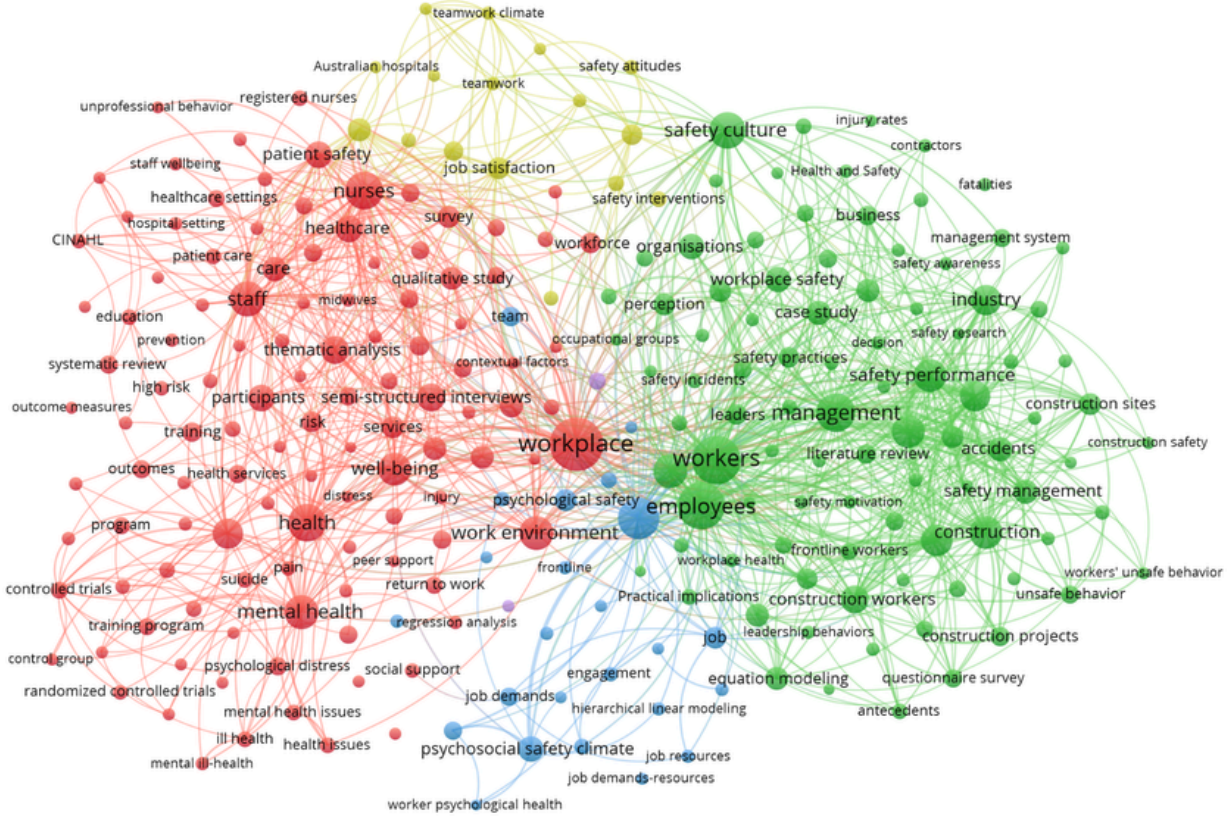

Figure 2: Co-occurrence network map for 250 concepts derived from titles and abstracts in the priority area dataset using VOSviewer. Cluster 1:red, Cluster 2: green, Cluster 3: blue, Cluster 4: yellow, Cluster 5: purple.

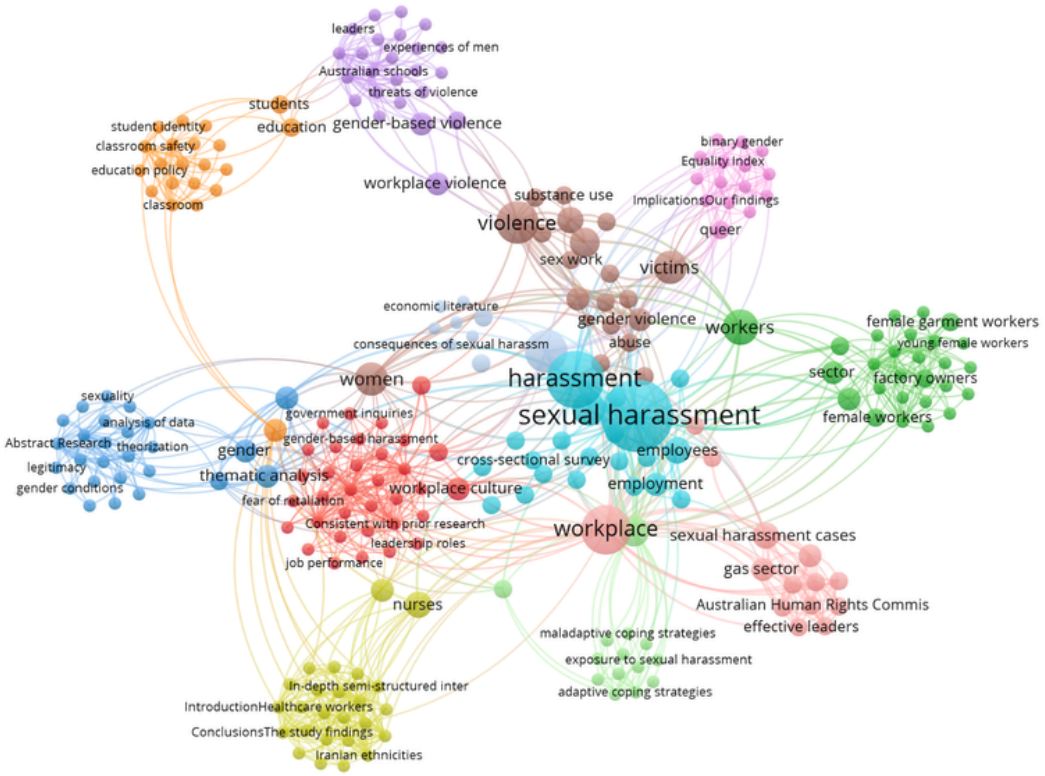

Figure 3: Co-occurrence network map for 250 concepts derived from titles and abstracts in the case study dataset using VOSviewer. Cluster 1:red, Cluster 2: green, Cluster 3: blue, Cluster 4: yellow, Cluster 5: purple, Cluster 6: light blue, Cluster 7: orange, Cluster 8: brown, Cluster 9: pink, Custer 10: peach, Cluster 11: mint-green, Cluster 12; sky-blue.