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Coping strategies and resilience of New Zealand tradeswomen in construction: navigating challenges

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ABSTRACT

In a world where trade industries are often seen as male-oriented, the resilience and adaptability of women carving out their success in these sectors stand as a testament to their fortitude and ingenuity. This study aims to explore the various coping strategies employed by women in trade, focusing on how they navigate and succeed in environments that may present unique challenges to their success. In this qualitative research study, in-depth interviews were conducted with 21 women working in different construction trades in New Zealand (NZ). The aim was to understand not only the strategies they use but also the underlying perspectives that influence these approaches. Employing advanced analytical capabilities of NVivo and Atlas.ti, the current study categorizes these coping mechanisms, providing a comprehensive insight into the adaptive strategies that allow these women to confront and overcome the unique challenges they experience. This exploration sheds light on the resilience and adaptability of women in trade and contributes to the broader discourse on gender dynamics within construction industries. Valuable insights are provided for both academia and industry practitioners aiming to foster a more inclusive and equitable professional environment.

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KEYWORDS
Construction; challenges; coping strategies; tradeswomen; women

Introduction

The proportion of women in the New Zealand (NZ) construction industry is increasing; they now make up 17.8% of total employment in the industry. However, women constitute only 15.6% of all full-time paid employees in the construction industry (Stats NZ, 2024). In a recent report by Carters (2024), it was revealed that the majority of women are working in support services and only 3% in trades. Another report by Sweet Analytics (2024) provided more detailed information, indicating that brick and block layers, plumbers, drain layers, and gas fitters each account for less than 1% of the total number of tradeswomen. Taffard and Murray (2022) suggest that this underrepresentation of tradeswomen exacerbates New Zealand's skills shortages and impacts its productivity. This underrepresentation is not due to personal choices but is a result of deep-rooted societal norms, educational biases, and structural barriers within the sector (English & Le Jeune, 2012; Simon & Clarke, 2016). The exclusion of women from entering the construction trades often results from stereotypes questioning their capability, unaddressed safety concerns, and a lack of supportive networks, hindering their progress and career development. Their exclusion is perpetuated through gender interactions and identity negotiation (Curtis et al., 2022; Denissen, 2010).

It is clear that men hold a significant presence in the construction industry, and women often encounter unique challenges in establishing themselves in the construction trades (Carters, 2024). As a minority group, women in construction experience unique, underresearched workplace challenges and wellbeing outcomes (Rotimi et al., 2023). Women in construction often report feeling more stressed than their male counterparts (Bowen et al., 2014). Literature presents a litany of issues that women in construction repeatedly endure. These include attrition and recruitment barriers, poor working conditions, health hazards, work-family life imbalance, inflexible work arrangements, masculine culture, male-dominated workplaces, harassment and bullying, and perceptions of gender inferiority

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(Denissen & Saguy, 2014; English & Le Jeune, 2012; Galea et al., 2021; Kamardeen & Sunindijo, 2017; Lingard et al., 2007; Thenguzhali & Veerachamy, 2015; Wright, 2016b). Despite the awareness of gender inequality and related issues in the workplace since the nineteenth century (Norgren, 2005), the problems persist (Abdel-Raouf & Buhler, 2021; Cortis et al., 2022; Navarro-Astor et al., 2017; Olofsdotter & Rasmusson, 2016).

More specifically, tradeswomen face a spectrum of gender-based discrimination, from subtle exclusions to overt harassment and intimidation, which leads to isolation, increased stress, and diminished belonging (Ness, 2012; Watts, 2009a). Moreover, the physical demands of construction work, coupled with a lack of gender-appropriate amenities like separate restrooms and changing areas, pose additional burdens on tradeswomen. With these formidable obstacles, tradeswomen must develop strategies to navigate their work environments. An earlier study by Denissen (2010) posits that there is limited research on women in trades. Further, research on tradeswomen tended to focus on the experiences of working in construction, the reasons why they work in construction, and the ways by which the industry can attract and retain women in trades (Denissen, 2010; Ness, 2012). More recently, Rotimi et al. (2023) conducted a study on women in construction, including those working on-site and in trade, which revealed under-researched workplace challenges and well-being outcomes within this minority group. Research on tradeswomen is significant as the industry seeks to change its image and promote diversity within the work environment. Understanding the challenges and coping strategies requires tracking the strategies over time and how tradeswomen appraise those challenges. This approach had been suggested by Denissen and Saguy (2014) as a way of overcoming hostilities and the unsupportive work environment. Also, an understanding of gendered dynamics is significant for responding to these negative experiences (Kelly et al., 2015). In essence, the challenges faced by tradeswomen are multifaceted and require systemic changes in policies and practices.

This research builds on previous studies on the challenges and wellbeing of women in construction (Rotimi et al., 2022; Rotimi et al., 2023; Rotimi et al., 2024). Thus, this current study investigates the various coping strategies adopted by tradeswomen in NZ that enable them to thrive in a field that often presents challenges to their growth. The intent is to provide a comprehensive understanding of the specific coping strategies of NZ tradeswomen, given the gendered impact of external barriers, workplace hostility, and the tailored approaches required to address these issues. Thus, three key research questions are answered in this study:

(RQ1) What coping strategies do tradeswomen in the NZ construction industry employ (and the ones they observe in their peers) to navigate the challenges they face?

(RQ2) What coping strategies would do they recommend to other women in the construction industry, along with the rationale for their recommendations?

(RQ3) What organisational support is available for mental health issues in the construction industry?

Brief literature review

Stress, coping, and resilience in perspective

Research distinguishes between two major stress theories in organizational psychology and organizational behaviour, namely the transactional theory of Lazarus and Folkman (1984) and the Conservation Of Resources (COR) theory of Hobfoll (1989). The transactional theory is based on self-reported measures and emphasizes the personal experience of stress and appraisal processes. Appraisal and perception play key roles in the understanding of stress and the coping process (Folkman et al., 1986). In contrast, COR theory postulates that events are objectively stressful, and the stress reactions reflect inborn psychological and physiological survival responses to regain resources (Hobfoll et al., 2018). However, several scholars emphasize the differences between objectively measurable stressors and individually perceived stress (Shields et al., 2023). This reflects that knowledge of stress is partial and typically based on a perspective due to used methods (Braun & Clarke, 2025). Sue (2010) argues that subtle racist and sexist behaviours are real and not just perceived. The blaming of a victim's perception of stress might embody the denial of objectively stressful workplace situations. Therefore, in coping strategies, it is vital to distinguish between major stressful conditions and just perceived stressors (Hobfoll et al., 2018). Perceived (subjective) stress, which is influenced by both individual and situational factors, seems to have a stronger impact on health outcomes (Lebois et al., 2016; Slavich & Shields, 2018). Loosemore and Waters (2004) argue that the levels and sources of stress in the construction industry between genders are different, with slightly higher levels of stress for men. Similarly, van Heerden et al. (2025) confirmed the difference in stress levels with higher average perceived stress by males at the individual level, mainly at lower qualification levels. However, at the group, organizational, and extra-organizational levels, there is no significant gender difference.

This study conceives coping as a stress management and modification process involving several cognitive and behavioural strategies to control a situation or condition and regulate emotions (Lazarus & Folkman, 1984; Pearlin & Schooler, 1978). Cognitive coping consists of diverse mental strategies to manage personal thoughts and emotions, whereas behavioural coping uses diverse activities and skills, such as sports, intake of substances, and verbal utterances (Astor-Dubin & Hammen, 1984). Coping responses contain various interchangeable meanings with diverse concepts, such as defence, adaptation, competence, and mastery (Short & Hess, 1983). Another distinction is between avoidance and approach coping (Sears & Kraus, 2009; Weinstein et al., 2009). Avoidance as a passive coping strategy might temporarily mitigate the stressful experience (Sherman & Cohen, 2006). However, in the long term, avoidance prohibits situational learning and worsens well-being (Bhandarker & Rai, 2019; Holahan et al., 2005). On the contrary, an approach coping, such as mindful acceptance, enhances engagement in current experiences (Donald & Atkins, 2016; McBride et al., 2022; Weinstein et al., 2009). The complexity of coping strategies reflects the multitude of environments, personality characteristics, and relationships between a person and the environment that influence the choice and effect of the coping process (Frydenberg, 2014). Therefore, 'coping is a critical point of entry for protecting mental and physical health from the harmful effects of stress' (Folkman, 2010).

Contemporary coping research mainly employs the cognitive approach (Ewert et al., 2021; Lee & Lee, 2001), despite the continued development of defence-focused coping models (Silverman & Aafjes-van Doorn, 2023; Vaillant, 2000; Vaillant et al., 1986). The difference between these two approaches is that coping is generally understood as conscious, stressor conditional, and purpose-oriented (Lazarus, 2000; Silverman & Aafjes-van Doorn, 2023), while defense mechanisms are unconscious and related to personality characteristics (Cramer, 2000; Silverman & Aafjes-van Doorn, 2023). In addition to the originally proposed two major factors of coping, namely problem-focused and emotion-focused (Folkman & Lazarus, 1980), scholars continue adding further categories. For example, meaning-focused coping by Park and Folkman (1997), social coping and support seeking (Carver et al., 1989), future-oriented proactive coping (Aspinwall & Taylor, 1997), and a dual-process model of coping (Keech & Hamilton, 2022; Stroebe & Schut, 1999, 2001). Problem-focused coping addresses the stress-causing problem through active cognitive coping, such as threat devaluation, positive reappraisal, and denial (Davey, 1993), or active planning and focusing on the next step (Folkman & Moskowitz, 2004). Davey (1993) argues that cognitive coping is contingent upon an individual's perception of circumstances, the belief in their own ability to manage problems, and the level of problem-solving confidence. Emotion-focused coping aims to mitigate negative emotions associated with a stressful situation not only through positive reframing, humour, and acceptance (Britt et al., 2016; Patnaik & Dash, 2013) but also through error strain and covering up (Rybowiak et al., 1999). Social coping involves support-seeking from friends, family, co-workers, or community groups (Frydenberg, 2014).

Resilience at the workplace represents a person's ability to manage work-related challenges and cope with job duties despite the induced stress (Turner et al., 2021). Therefore, resilience constitutes a personal coping resource, as it helps to comprehend that mobilization of inner resources allows for an adjustment to diverse stressful events (Bridges et al., 2023; Skinner & Zimmer-Gembeck, 2016). Resilience is composed of two processes, representing challenge and adaptation (Masten, 2015). The adversity creating a challenge or threat might be in a different form or level of intensity, which evokes positive adaptation to achieve well-being (Moya & Goenechea, 2022). Rabenu and Yaniv (2017) suggest that a high level of resilience corresponds with approach coping, while avoidance reflects low resilience. Higher levels of resilience by construction workers are associated with problem-focused coping, positive reappraisal behaviour, and decreased anxiety and depression (Nwaogu et al., 2022). Resilience might be influenced by personal characteristics, such as coping skills and personality traits (Campbell-Sills et al., 2006; Westphal et al., 2008) or external factors, such as social or psychological characteristics (Moya & Goenechea, 2022). Resilience, being a process of adaptation, constantly evolves and works at personal, organizational, management, or team levels (Hartmann et al., 2020; Williams et al., 2017).

The diversity of women challenges and coping strategies

Working women experience diverse challenges, and the adopted coping strategies are distinct depending on the organizational context and workplace culture (Acker, 2006; Dellinger & Williams, 2002), work location, organization, career type (Ibáñez, 2017), and age (Wright, 2016a). Although women working on-site are more exposed to the rules of 'men's world' than those working in office environments (Denissen & Saguy, 2014; Ness, 2012; Wright, 2013), there is a limited amount of research on women in trades (Bridges et al., 2020). Additionally, a discrepancy exists between the legal and scholarly definitions of sexual harassment

and the way women perceive and label their experiences (Denissen, 2010; Denissen & Saguy, 2014). Trade women often interpret sexual conduct from multiple aspects, based on relational and interactional associations pertaining to workplace, social, and personal norms, as stated by Denissen (2010). Patnaik and Dash (2013) argue that there is a statistically insignificant difference between the coping mechanisms of men and women. Therefore, studies of stress coping styles in the construction industry might be used as a valuable source regardless of sexes. Although all construction on-site workers are at potential health risk under harsh working conditions, women are more vulnerable (Pamidimukkala & Kermanshachi, 2022). Additionally, due to the diverse normative pressures and personal worries of how to gain or maintain their position at work, women frequently downplay or ignore the ongoing stress, including sexual harassment (Betz, 2023; Betz & Fitzgerald, 1987; Fitzgerald & Harmon, 2005). The existing masculine cultural norms and values in the construction industry pose invisible pressure on women to adopt masculine behaviour to be accepted and respected as equal members of the working team (Cheryan & Markus, 2020; Powell et al., 2018; Watts, 2009a). However, with such behaviours, women unconsciously support the gendered system and devalue some feminine qualities (Cech, 2013; Connell, 2011). Even in countries internationally ranked as the most gender-equal, such as Sweden, ever-persisting but often hidden 'gender contracts' maintain gender role expectations (Tokbaeva & Achtenhagen, 2023).

The analysis of existing research on challenges and coping strategies of women reveals that the challenges are not only gender-based between the different sexes but also other women within the organization and across the occupational status hierarchies (Cardador et al., 2022; Wright, 2016b). The status-based challenges in certain workplace cultures might lead women to feel socially isolated from their co-workers (Robinson & McIlwee, 1991) and, consequently, suffer mental ill-health, such as imposter syndrome (Crawford, 2021). To cope with industry-specific challenges, women in male-dominated professions often engage in diverse types of relational strategies, such as status-levelling (Cardador et al., 2022) or adopting masculine management styles (Watts, 2009b) to leverage socio-emotional support and reduce pertaining status tensions (Cardador et al., 2022; Morand, 2010; Richman et al., 2011).

Women in construction frequently experience a cognitive imbalance between knowing their own skills and being stereotyped as low-competent (Bridges et al., 2020; Lekchiri & Kamm, 2020). This state of imbalance affects mainly low-status occupations (Torre, 2017). These stressors, together with the life-work imbalance (Lekchiri & Kamm, 2020), activate cognitive deficits, physiological and psychological markers of stress, and negatively influence the ability to cope (Abrams et al., 2022; Parker et al., 2014). Coping seems to interrelate with the styles of self-presentation and interactional styles (Robinson & McIlwee, 1991) and the level of resilience to stereotype and social identity threats (Schmader et al., 2008). Women who believe to belong are more resilient against these threats, where the absence of discrimination, having female role models and social supporting networks uphold the resilience (Richman et al., 2011). Therefore, occupational resilience is a complex process involving psychological, emotional, and physical ability to access the inner resources to regain balance or improve stressful circumstances (Kossek & Perrigino, 2016). Women-specific networks within the industry provide a platform for sharing experiences, advice, and opportunities, fostering a sense of community and belonging (Denissen & Saguy, 2014). Mentorship, particularly from other women in leadership roles, can offer guidance, encouragement, and practical strategies for career advancement. Adaptation and innovation in the use of tools and equipment represent another coping strategy. Women have advocated for ergonomic changes to tools and personal protective equipment, making them more accessible and suitable for a diverse workforce (Messing, 1998).

Simon and Clarke (2016) provide an insightful analysis of the challenges and strategies associated with increasing female participation in apprenticeships highlighting the systemic and cultural barriers that deter young women from entering these professions. Although Simon and Clarke (2016) discuss introducing female-friendly workplace policies, it lacks a detailed exploration of how these policies could be enforced and sustained, especially in smaller businesses with limited resources. Additionally, the challenge of aligning educational strategies with real-world employment opportunities remains underexplored, raising questions about the practical implementation of the educational reforms it advocates. These include establishing supportive tradeswomen networks, securing mentorship, and advocating for inclusive workplace policies (Dainty et al., 2004; Watts, 2009a). Personal resilience tactics like cultivating emotional fortitude, maintaining optimism, and enhancing skills are also crucial for strengthening confidence and asserting competence in a male-dominated field (Denissen & Saguy, 2014; Ness, 2012).

The current study, based on the above review, aims to address the gaps in the literature, such as the lack of understanding of the ability of tradeswomen in the construction industry to cope with the challenges they face. The coping strategies used by tradeswomen and the

extent of organizational support have not been sufficiently explored in the literature.

Research methodology

This study aims to understand the coping strategies used by tradeswomen to successfully navigate the male-dominated construction industry in NZ. An experiential qualitative research approach was adopted, using semi-structured interviews to collect in-depth insights. Reicher (2000) describes experiential qualitative research that acknowledges personal viewpoint and appraisal as '… politically radical but epistemologically conservative' (Braun & Clarke, 2025, p. 404). Ontologically, the research adopts a relativist view, recognizing that reality is socially constructed and varies across perspectives (Sherratt & Leicht, 2020). This ontology is based upon constructionism, assuming that knowledge is constructed by the thinking and interacting of humans, and therefore, the social world structures are complex (Masaryk & Stainton Rogers, 2024). The relativist approach acknowledges the influence of personal, social, cultural, and gendered contexts on the experiences of tradeswomen in construction. The questions and analysis of answers draw from the personal experience of stress and appraisal processes and are based on the transactional theory (Folkman, 2010). Consequently, the relativist paradigm includes the reflexivity of researchers and their personal experience in the research process (Sherratt & Leicht, 2020). The role of the researchers in this research is based on decades of personal experiences as women working in the construction industry. We acknowledge reflexivity in the research as a necessity of qualitative experiential research, and simultaneously as a potential bias (Denzin & Lincoln, 2005). Our motivation is to collect information about the state of the art of coping strategies and support for women in the male-dominated construction sector.

Mental health challenges and coping strategies in the industry must be understood through lived experience, considering multiple subjective realities. This justifies the use of qualitative methods, particularly open-ended interviews, to capture the diverse experiences of tradeswomen. The selection of interviews and thematic analysis prioritizes understanding participants' subjective experiences and the meanings they attach to them. This research report follows the reporting guidelines for qualitative research by Braun and Clarke (2025).

Participant recruitment and selection

According to Carters (2024), the total number of women actively working in trade roles within the construction industry is about 720. However, a total of 53 tradeswomen were invited to participate in the research through industry networks and the Women in Trades NZ association. After conducting 21 interviews with construction women working across various trades in 21 different NZ companies, data saturation was observed (Guest et al., 2006). The eligibility criteria require having at least one year of experience in the construction industry within the last five years, whether currently employed or temporarily out of the workforce. Participants were selected through a combination of purposive sampling and the snowballing technique, ensuring the inclusion of individuals with relevant industry experience and a nuanced understanding of the local context (Saunders, 2012). Willingness to share knowledge relevant to the research was important to this study, in line with Creswell and Poth (2016). The participants were from diverse backgrounds in terms of their trade (plumbers, electricians, carpenters, painters, etc.) and distinct companies. This study has not collected any information about the size of the employer. Particularly by self-employed tradespeople who perform work under a contract, the size of the company they work for might vary. However, the question about the business hierarchy revealed that 75% of tradeswomen in employee status do not have any management responsibilities. In contrast, 61.5% of self-employed respondents manage one to five people. None of the participants has been previously known to the researchers to minimize any personal influence. Table 1 presents the results for the demographic characteristics of the participants. The results indicate that the majority of the participants (16) were under the age of 40, with five between the ages of 40 and 60. In terms of trade types, the research included six builders, two plumbers, four carpenters, two electricians, three painters, and three other trades: roof installer, foremen, scaffolder, and wallpaper installer. Among the participants, three were married, eight were in de facto relationships, and five were not in a relationship. 14 out of 21 had no children, while six had one or more children. A significant number (16) of the participants had between one to 10 years of experience as tradeswomen in NZ construction, and five had 16–20 years of experience. The sample consisted of 13 self-employed and eight tradeswomen in employment.

Data collection process

The semi-structured interviews were conducted via Microsoft Teams based on institutional ethics approval. Although the interviews followed a pre-set structure, the participants were encouraged to express their thoughts,

Table 1. Demographic data.

Demographic Data		Frequency	
		Group	Total
Age	30 or below	9	21
	31–40	7	
	41–50	4	
	51–60	1	
Types of trade	Builder	6	21
	Plumber	2	
	Carpenter	4	
	Electrician	2	
	Painters	3	
	Other	4	
Relationship status	Married	3	21
	Divorced	1	
	Single	5	
	De facto	8	
	Other	4	
No. of children	0	14	21
	1	6	
	2	1	
Years of experience	1–5 years	10	21
	6–10 years	6	
	11–15 years	0	
	16–20 years	4	
	21–25 years	0	
	Over 25 years	1	
Employment status	Employed	8	21
	Self-employed	13	

experiences, and opinions freely, allowing for rich and detailed insights Moser and Korstjens (2018). The interview questions were structured around two key topics: coping strategies and support systems. The coping strategies covered personal and observed coping mechanisms, recommended strategies, and reasons for top strategies. The support systems included questions on mental health support provided by organizations, mental health leave, duration, and reasons for taking time off. The interview and results section for the study are organized as such:

- General coping strategies and strategies for supporting mental health
- Coping strategies observed in other tradeswomen
- Top recommended strategies for other tradeswomen and the reasons for recommended strategies
- Organization support for mental health issues and seeking mental health help
- Mental health leave and duration, and reasons for taking time off

To ensure clarity in the interview questions, participants were provided with a set of 52 concerns related to the construction industry to contextualize their responses. These included 26 challenges, 9 consequences, and 17 wellbeing outcomes, following Rotimi et al. (2022). The 52 challenges were provided to contextualize the interview responses around what the women were 'coping' with so as not to direct them off-topic to challenges that were not related to the construction industry. The interviews were recorded verbatim and transcribed for analysis. The interview took between 45–60 minutes.

The study adhered to ethical guidelines and was conducted in accordance with the Auckland University of Technology Human Ethics Guidelines, with approval from the Human Ethics Committee (Reference number: 21/357). To maintain anonymity, a coding system 'Woman Tradesperson 1 – Woman Tradesperson 23' (WT1 – WT23) was used in line with standard practice in qualitative research (Nespor, 2000). However, two interviews (WT15 and WT17) were removed due to a lack of relevance to the research objectives. Despite this removal, the remaining interviews met the criteria for data saturation.

Inductive thematic analysis and coding were employed to analyze the qualitative data, aligning with Bryman (2016). Since exploratory studies often deal with diverse data types, multiple analytical approaches were used, as recommended by Henn et al. (2009) and Lune and Berg (2017). Two data analysis software packages, namely NVivo and Atlas.ti 9, were used to facilitate explicit content and presentation of findings.

First, NVivo software was used to identify key topics related to coping strategies and support systems, with thematic patterns systematically categorized and coded. Next, interview responses were structured in a spreadsheet based on coding, questions, and identified subject-matters to facilitate organized data management. A comparative analysis was then conducted to identify recurring topics, subtopics, similarities, contrasting opinions, and emerging relationships between responses, following the approach outlined by Miles and Huberman (1994).

The key topics and subtopics were imported into Atlas.ti 9, which is an intelligent data analysis tool for extracting insights from qualitative data. This software is widely considered a potent tool for qualitative analysis, especially in situations involving large textual and graphical data sets. The results obtained from Atlas.ti 9 were presented along with visualizations to facilitate easy understanding. The findings were subsequently discussed in light of the existing literature and research questions, leading to a formulation of conclusions, study contributions, and suggestions for future research avenues.

Results and presentation of findings

Coping strategies

Based on the thematic analysis of the responses on how tradeswomen in construction cope with challenges

related to their work, a visual representation of the topics and subtopics was generated using Atlas.ti. Figure 1 depicts four main topics and nine subtopics.

The first set of coping strategies is grouped under coping mechanisms as a main theme. These include cognitive coping in the form of meditation, in which one tradeswoman, for example, uses … *transcendental meditation 20 minutes twice a day for stress relief.* A second strategy under this main theme is the use of behavioural coping in the form of physical health management, where four of the participants engage in exercises and physical activities like yoga, and use health aids (such as wheat packs and ice packs) to maintain their physical health. The last strategy under the theme is professional adaptation. In this case, participants indicate they create a supportive work environment as an approach coping strategy by employing more females in their work teams. One tradeswoman confirmed that this has lowered the level of perceived stress. According to her, … *anyone who kind of gets in automatically supports women in trade.*

A second significant theme arising from the coping strategies of women in the construction trades is strategies supporting mental health. This encompasses aspects, such as mental resilience, work-life balance, and the establishment of support systems. The importance of mental fortitude was highlighted by three participants, who mentioned the necessity of resilience, the value of taking mental breaks, and the management of stress through practices, such as 'zenning moments' and the use of mental health days. Furthermore, the importance of maintaining clear boundaries between work and personal life was highlighted, with two of them noting the need to leave work-related issues at the workplace to safeguard mental well-being. The establishment of support networks was also emphasized, as two participants recognized the crucial role of open communication with employers and family members in promoting mental health.

Furthermore, the analysis of coping strategies revealed the emergence of a key theme: support systems. Within this theme, communication and team support have been identified as significant subtopics. In terms of communication, one tradeswoman underscores the importance of maintaining open dialogue with her father, who also serves as her employer, to effectively address any concerns that may arise. Also, another participant highlights the reassurance felt when approaching colleagues or superiors to discuss various issues. The final theme examines gender dynamics, particularly in the context of the coping strategies used by women within the construction industry. Basically, the participants often use empowerment and advocacy because of the unique challenges encountered by women. One of them articulates the establishment of policies aimed at promoting the involvement of women in trades and

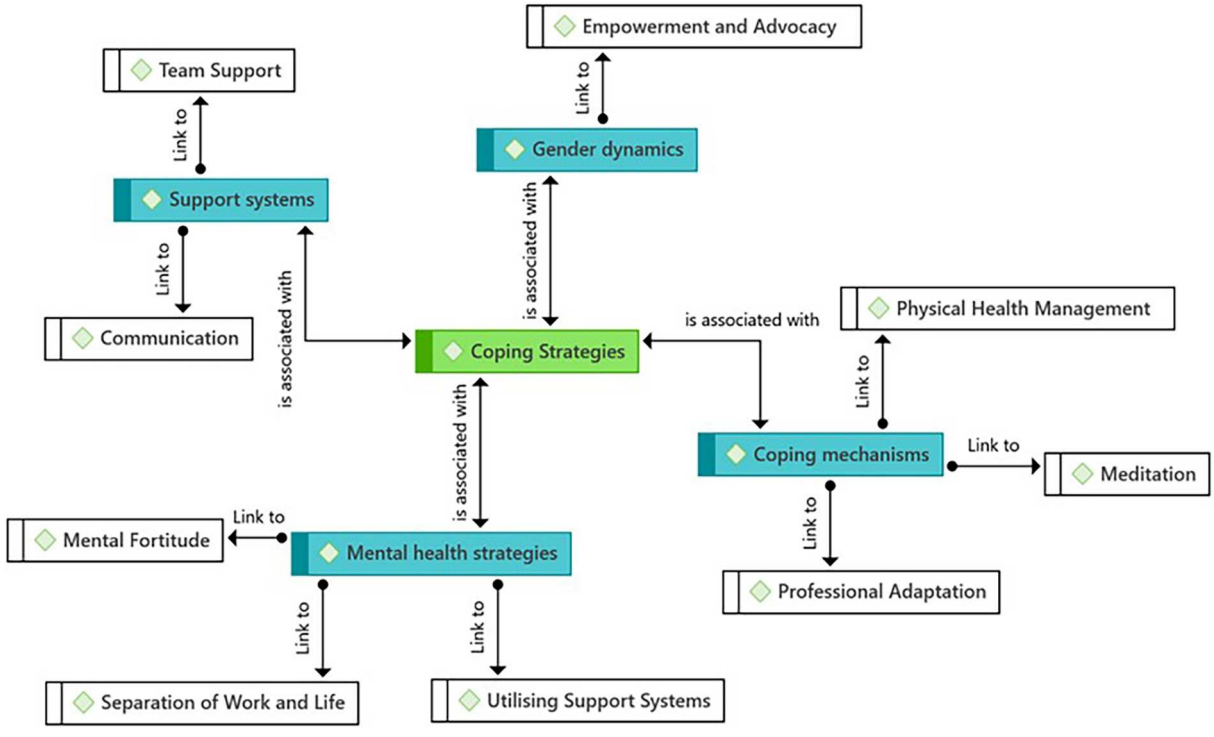

Figure 1. Coping strategies.

the implementation of a zero-tolerance stance towards discrimination as a mechanism for empowerment. Similarly, another one stressed the need for a supportive workplace that prioritizes the employment of women as a strategy that can have a significant positive impact.

Finally, it is useful to understand the contextual backgrounds of the coping strategies described. The participants highlighted physical challenges, such as general strain, specific health conditions, and menstrual pain. General strain involves physical discomfort commonly experienced, such as sore feet and back. Specific health conditions include asthma, working through broken fingers, and managing severe menstrual pains.

Coping strategies supporting mental health

Participants were further scrutinized to explore their coping strategies for dealing with mental health challenges within the work environment. Figure 2 depicts the responses from each of them. Similar to the findings from Figure 1, the participants' responses can be categorized into six broad topics: meditation/spiritual practices, physical activity and exercise, seeking support from family and friends, establishing work boundaries, seeking professional counselling, and taking time off. Noteworthy points from the responses include the use of meditation and spiritual practices, seeking support from loved ones to manage mental health, seeking external advice, maintaining work-life balance, persevering in the face of fear, addressing unhealthy habits, practising self-care, journaling, and abstaining from substance use. In the words of one of the participants, they have kept a flexible work pattern to cope with work demands

… I personally had to put certain boundaries on myself, so I don't work more than six hours a day. And I only start working at 10:00 am and I leave the job the moment I'm feeling too tired. But that's because I'm able to be flexible.

Coping strategies observed in other tradeswomen

The question prompts participants to reflect on their experiences with women facing mental health challenges and to identify the coping strategies that these individuals employ. The key topics that emerged

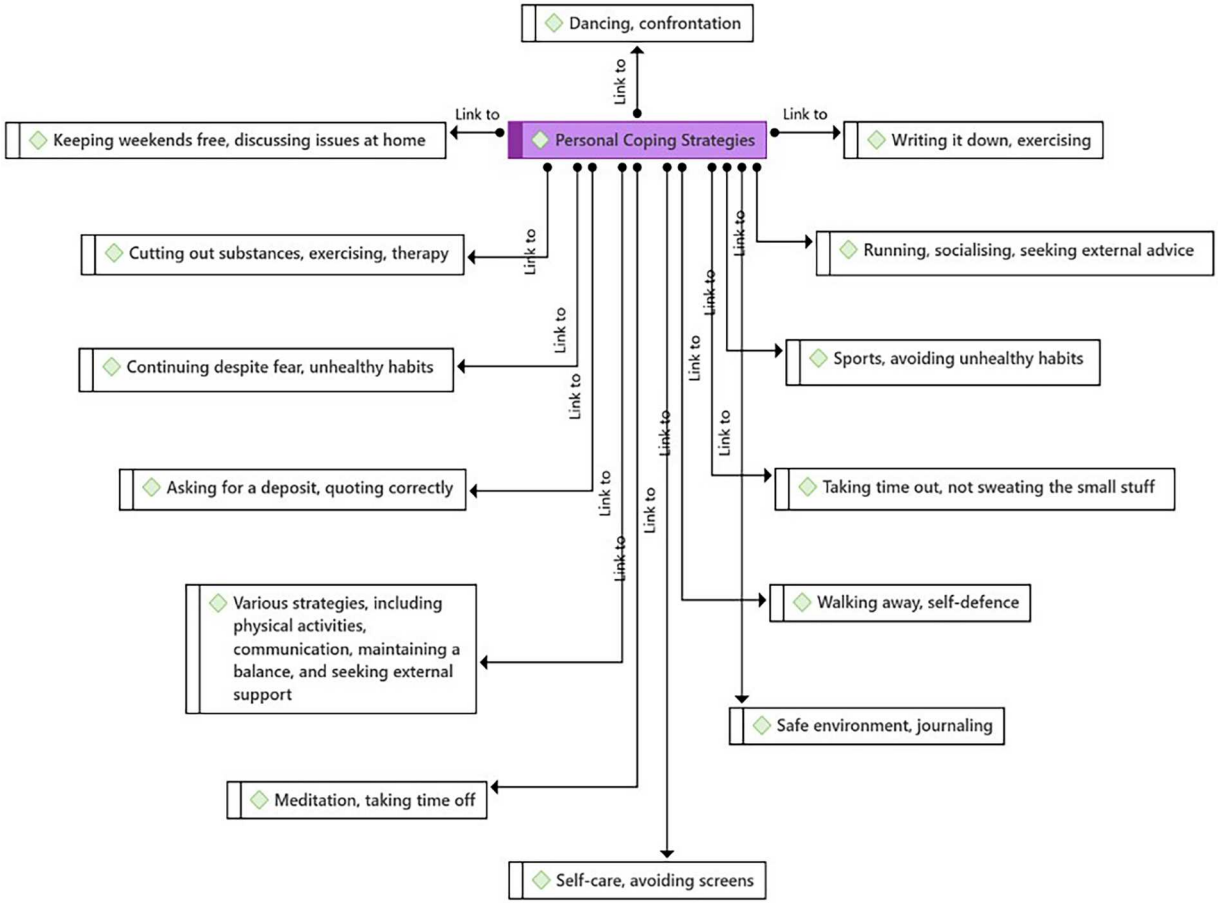

Figure 2. Personal coping strategies.

encompass mindfulness (cognitive) and physical activity (behavioural), social support and communication (approach coping), professional help (emotion-focussed), leaving the industry (avoidance), substance use (avoidance), and resilience and assertiveness (approach coping).

Within the mindfulness and physical activity topic, five tradeswomen highlighted their preference for mindfulness exercises, walks, self-defence, self-care, reiki healing, gym, and Brazilian jujitsu. In terms of social support and communication, five interviewees emphasied the importance of noticing struggles in colleagues, initiating supportive conversations, seeking advice in forums, and talking things out with colleagues or friends. In the words of one participant … . *Us girls, when there's a little group of us … we are able to talk to each other about these things and we kind of get it. We understand from one another, the boys (sic) what they sometimes might not understand what we are …*

Regarding professional help and leaving the industry, one woman presented two main coping strategies: seeking counselling and leaving the industry altogether for those who find the stress too overwhelming. This highlights a stark contrast between seeking professional mental health support and the ultimate decision to exit a stressful working environment. Substance use has been identified as a concerning issue, with evidence suggesting a prevalence of alcohol consumption and, to a lesser extent, drug use among tradeswomen as coping mechanisms for stress. This indicates the potential for unhealthy habits that may be prevalent within the industry. In the participant's own words … *lots of them drink. Lots, lots of people drink. Um, I do know of few, who go to drugs quite often as well … I don't know many who have healthy coping strategies. It's this culture that's generally on construction site, you know, towards the end of the day shift, everybody opens beer. So it's so common to drink*. Lastly, the importance of resilience and assertiveness in coping with stressful situations was highlighted by three tradeswomen, emphasizing the need to stand up for oneself and maintain a strong, resilient mindset. One woman says: … *I think you just gotta stand up for yourself. Yeah, you can't let anything get to you. Yeah, so I think that's part of it. … not leaving anything get to you.*

Addressing coping, the tradeswomen referred to some of the reasons why the coping strategies they observed may have occurred. Two additional topics, such as challenges and industry attitude, emerged from the analysis of their responses. Four respondents expressed a lack of female peers in the construction industry, highlighting feelings of isolation and difficulty in finding relatable coping strategies among colleagues. Additionally, work-related stress was noted as a significant issue, with one woman emphasizing the stressful nature of the construction environment, characterized by noise, dust, and high demands. Cultural and gender-related challenges were also discussed, with two participants pointing to issues, such as substance abuse and the necessity of maintaining a tough exterior. In terms of industry attitudes, they observed two primary issues. Firstly, there exists a stigma and taboo surrounding mental health topics, leading to a notable lack of open discussion. Two of the participants suggested that this reflects perceived barriers within the industry that hinder addressing mental health issues openly. Secondly, one tradeswoman noted a shift in attitudes within certain sectors of the industry, where companies are becoming more open-minded about mental health. This change could foster the development of better coping mechanisms among workers. Furthermore, the importance of having supportive figures, such as employers or family members, was mentioned by one participant as crucial for overcoming challenges and advocating for oneself in the workplace.

Top recommended strategies for other tradeswomen

Figure 3 presents responses from the participants when asked about the top recommended coping strategies for other tradeswomen. Based on the responses provided, they would recommend three main coping strategies for another woman working in the construction trade. Firstly, seven participants emphasized the importance of communication as a coping strategy. They suggested that coworkers should communicate openly with their employer, management, or other colleagues in the trade about their issues or struggles. Open communication can help relieve stress, address concerns, and potentially find solutions or accommodations. Specific recommendations included talking to the employer or management, chatting with other women in the trade, telling someone about the problem or confronting it directly, and setting boundaries and addressing the issue with management or a support person.

Secondly, mindfulness practices were recommended as one of the top coping strategies to manage stress and maintain a positive perspective. Three participants suggested activities, such as meditation, taking deep breaths, and taking time out for oneself. These practices can help cultivate a sense of calm, clarity, and resilience in the face of challenging situations. Specific recommendations included engaging in meditation or taking time out, depending on the stress level, taking deep breaths and keeping a positive perspective. One woman makes

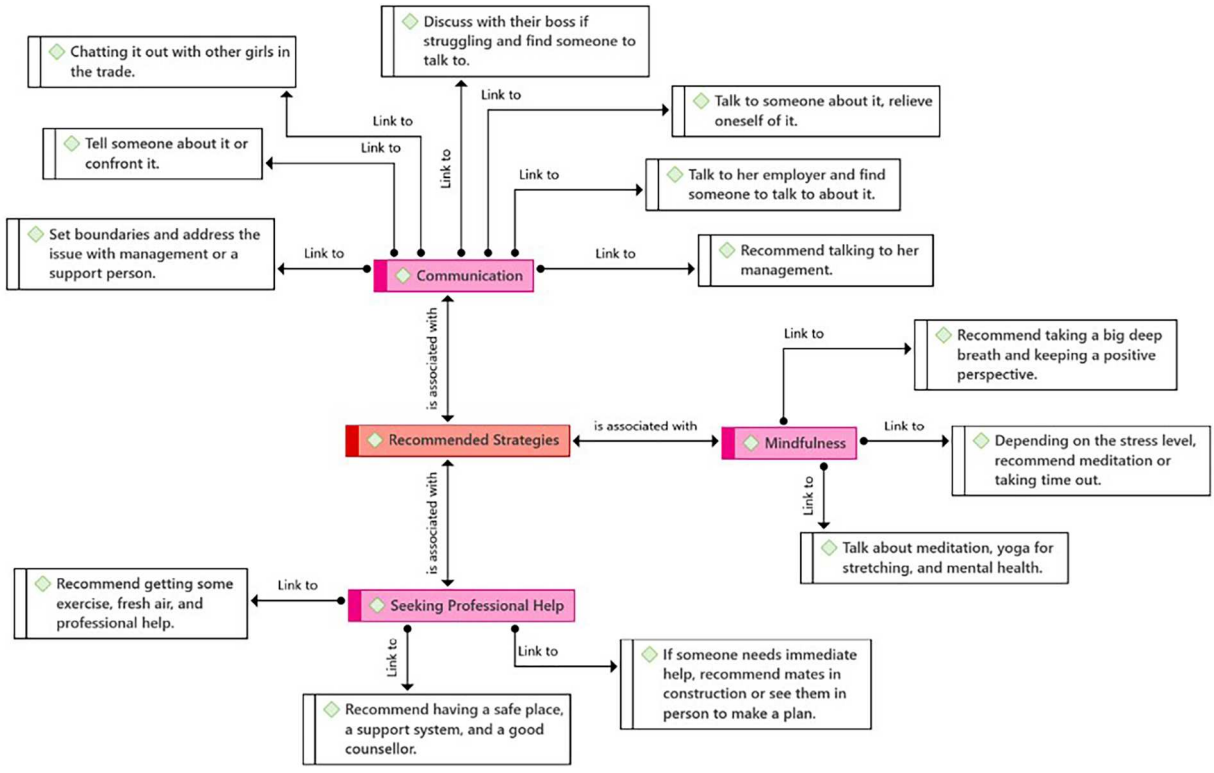

Figure 3. Recommended strategies.

a point about record keeping thus: … *if you think something's going on, you don't have to blow up immediately, but you can go home and have a diary or … phone … calendar. We can make a note of, just like, hey, this happened on site. … you can keep a pattern of information which I think is really important. That's something that I've learned along the way. If something isn't right, start noting it down. Intuition is a really strong thing as well, being able to recognise those things because then, it's not about building evidence, but it is about just confirming.*

Thirdly, another three participants recognized the potential need for professional support and recommended seeking help from mental health professionals, counsellors, or support organizations. This approach acknowledges that sometimes, the challenges faced in the construction industry may require professional intervention or guidance. Some specific suggestions they mentioned included seeking help from mental health professionals, counsellors, or organizations like Mates in Construction, having a good counsellor and a support system, and getting professional help, along with exercise and fresh air.

These three topics represent a holistic approach to coping with the challenges and stresses faced by tradeswomen. Communication fosters understanding and problem-solving, mindfulness practices promote emotional well-being and resilience, and professional help provides specialized support and resources when needed.

Reasons for recommended strategies

Having recommended some key strategies that could help tradeswomen better cope with mental health challenges, they were asked to provide reasons for their suggestions. Five key topics emerged from their responses: emotional release, physical and mental relief, setting boundaries, seeking and offering support, and personal development (Figure 4). The theme of emotional release encompasses a subtheme focused on the importance of discussing and sharing experiences. This is evident in the responses, such as … *it's like a weight lifted … just an absolute weight lifted,* or the necessity of … *getting it out of yourself and seeking help*.

The topic of physical and mental relief encompasses several subtopics, including exercise and therapy, surfing as a form of release, and mindfulness. This is evident in the assertion of one of the participants that *exercise is scientifically proven to produce endorphins*, highlighting the need for subsidized therapy services. Additionally, another participant mentioned that engaging in surfing allows individuals to immerse themselves in the experience, temporarily alleviating distractions and concerns. According to them: … *in the water … you don't*

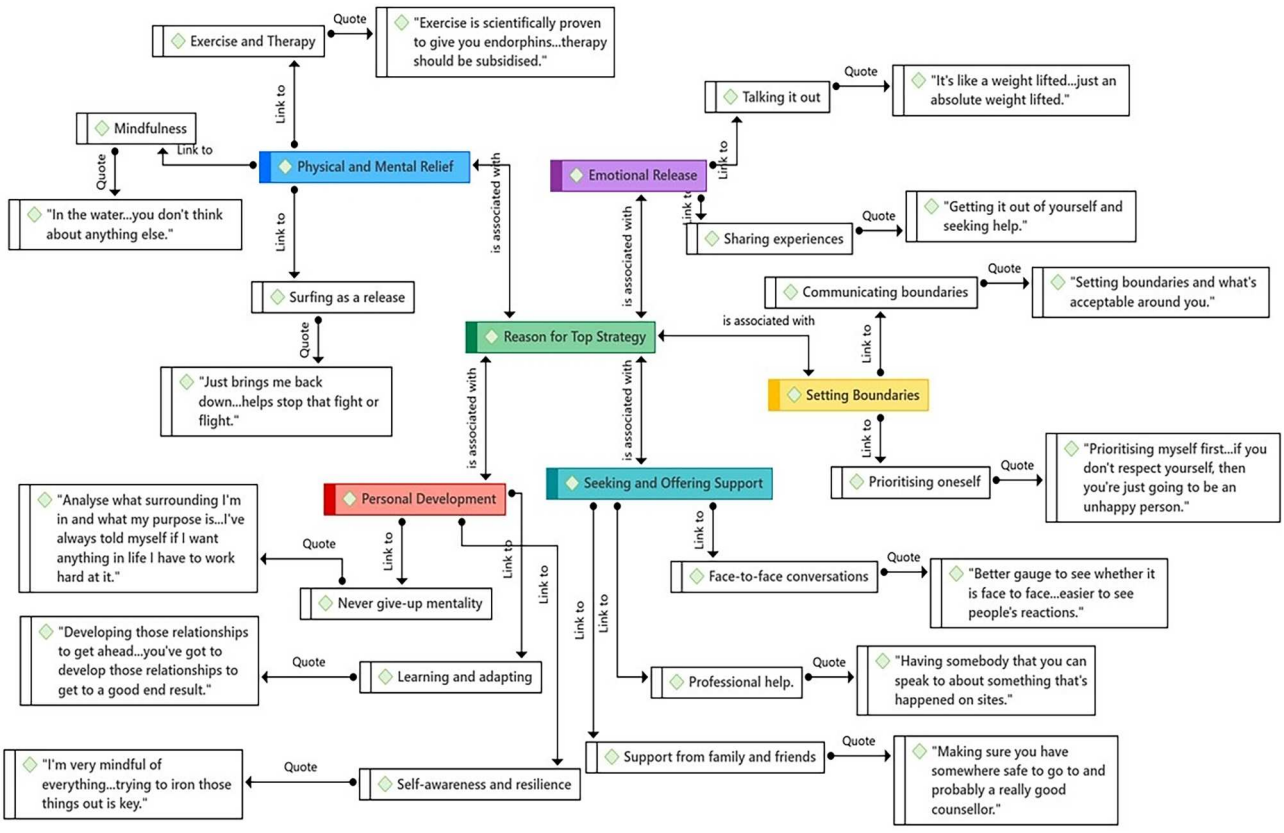

Figure 4. Reason for top strategy.

think about anything else. Furthermore, mindfulness practices were reported by one participant to assist individuals in regaining composure and mitigating the physiological responses associated with stress. They expressed that mindfulness … *just brings me back down … helps stop that fight or flight*. Setting boundaries had two subtopics: prioritizing oneself and communicating boundaries. One participant stated, … *prioritizing myself first … if you don't respect yourself, then you're just going to be an unhappy person*, and another mentioned … *setting boundaries and what's acceptable around you*.

The topic of seeking and offering support covers subtopics related to face-to-face conversations, support from family and friends, and professional assistance. The importance of face-to-face interactions is emphasized by the quote, *better gauge to see whether it is face-to-face … easier to see people's reactions*. Furthermore, the significance of having a safe space and access to qualified professionals is highlighted in the statement: … *making sure you have somewhere safe to go to and probably a really good counsellor*. Additionally, the value of having a confidant to discuss experiences from various contexts is expressed through the quote: … *having somebody that you can speak to about something that's happened on sites*.

Finally, personal development encompasses subtopics of a never-give-up mentality, learning and adapting, and self-awareness and resilience. One participant stated thus: … *analyze what surrounding I'm in and what my purpose is … I've always told myself if I want anything in life I have to work hard at it*. Another one emphasized the importance of relationships, stating that: *developing those relationships to get ahead … you've got to develop those relationships to get to a good end result*. Furthermore, a third one noted as follows: … *I'm very mindful of everything … trying to iron those things out is key*. Overall, the responses indicate a diverse array of reasons for identifying the predominant coping strategies. These strategies encompass emotional release, self-care, the pursuit of support, the establishment of boundaries, and avenues for personal growth.

Organization support for mental health issues

Participants were asked to propose initiatives that their organization could implement to support women in managing mental health challenges. Figure 5 presents the topics and subtopics that emerged from their responses. Two of the four identified topics concerning the provision of support systems are supportive

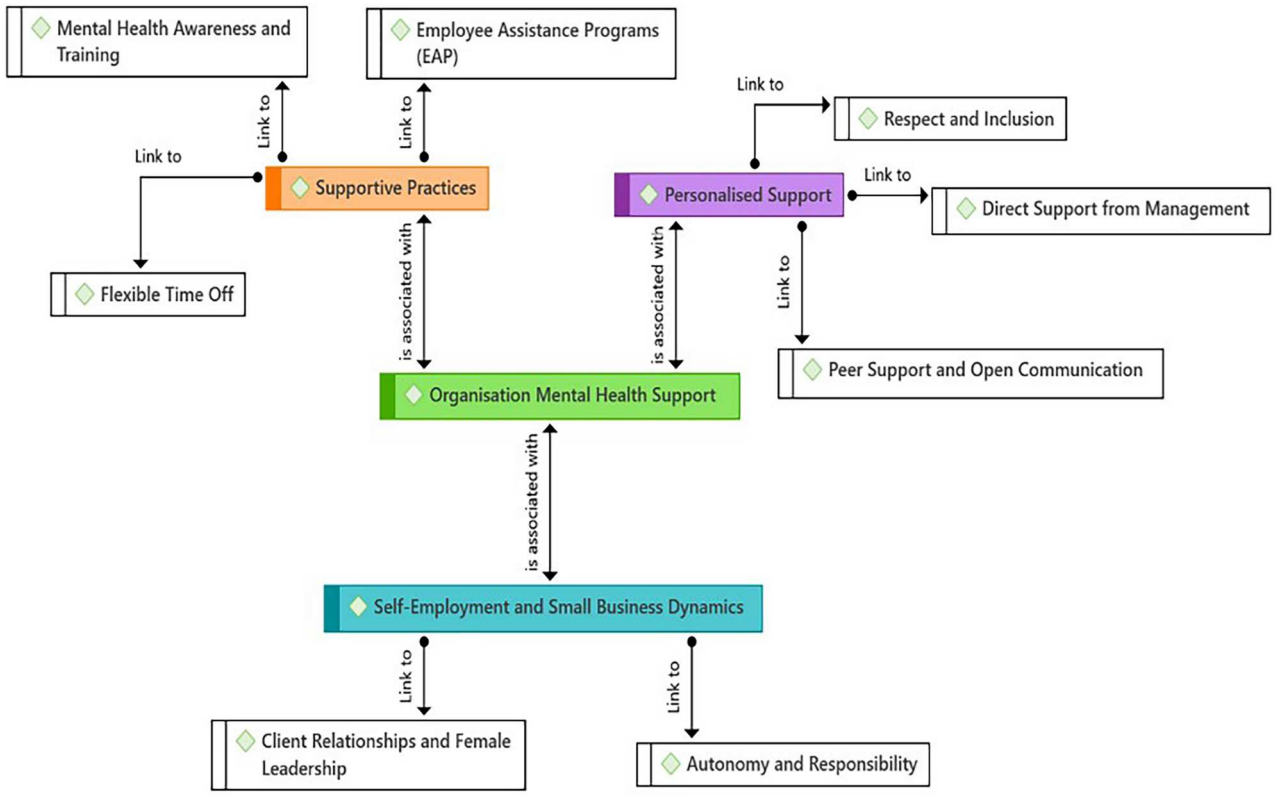

Figure 5. Organization mental health support.

practices and personalized support. Participants provided various examples of supportive practices, including: (i) flexible time off to enable women to manage family commitments and personal issues, such as menstrual breaks; (ii) mental health awareness initiatives through collaboration with 'Mates' and training designed to educate employees on workplace etiquette and healthy coping mechanisms; and (iii) Employee Assistance Programs (EAP), encompassing counselling services, team-building workshops, and regular mental health check-ins. With regard to personalized support, two participants highlighted the significance of direct support from management and business owners, peer support, and open communication within teams.

There seems to have been some improvement in the support that women receive in recent times. According to a participant: … *to be honest with you, before I joined the roofing association and got into the roofing industry, there was nothing. There was nothing, so like 10 years of nothing. And then 10 years with the Roofing Association of New Zealand. And they've been so supportive of me and so have the Skills Organization, that take care of all the roofing trainings. So but prior, there was no support. It's more like 'hey girl, deal with that'*. Another participant commended existing support organizations, thus: … *so we work quite closely with the Mates and construction organization in New Zealand, so they come round and they do the Mate's induction so people on site can become certified Mates and then we get our faces and numbers put on a poster that gets put around sites and then if anyone feels that they need someone to talk to them, they can call us a Connector and then we can get them in touch so we do quite a bit of stuff with that.*

Additionally, respect and inclusion through non-discriminatory treatment were noted by two tradeswomen as key elements in creating an environment where women feel empowered to voice their concerns without fear of repercussions. The final theme that was identified involves issues associated with self-employment and the dynamics of small businesses. Also, four participants noted that self-employment provides a sense of autonomy and responsibility that can be self-sustaining, while a participant indicated that positive client relationships and female leadership within small businesses contribute to a supportive work environment.

Seeking mental health help

This question required tradeswomen to indicate whether they had considered seeking help to manage their mental health issues. Figure 6 shows the topics and subtopics that emerged. Almost half (11) of the

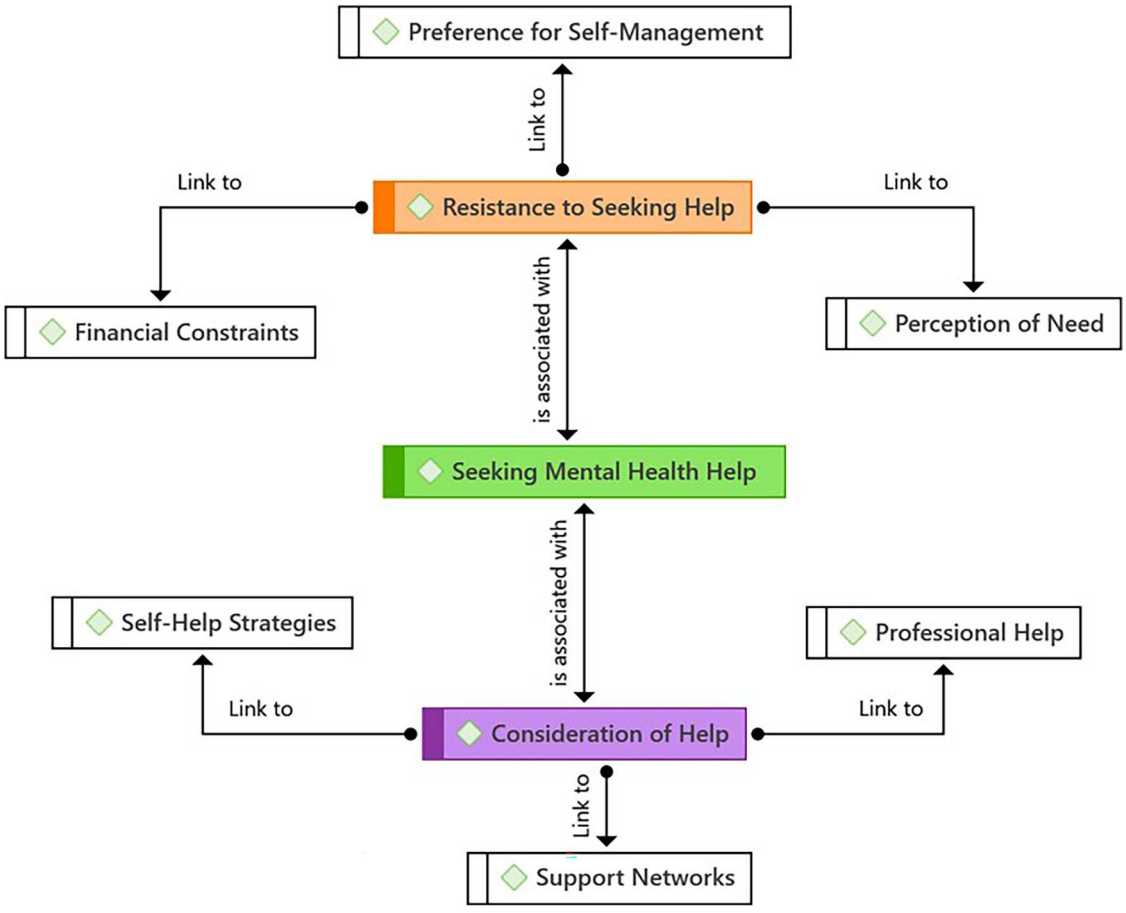

Figure 6. Seeking mental health help.

participants' responses revealed that many of them, have considered seeking professional help, ranging from therapy to counselling services provided by employers. Remarkably, three of them particularly emphasized the benefits of therapy. Additionally, some indicated that they have considered self-help strategies. Another three mentioned using self-help strategies, such as meditation, cultural practices, or self-reflection during tough times. A participant also noted the approach of *pushing through* stress without seeking professional help. Furthermore, one highlighted the importance of support networks, especially in professional environments.

In their responses to the question of whether they have considered seeking help, interviewees also referred to some factors that could prevent them from seeking mental health support: financial constraints, preference for self-management, and perception of need. Regarding financial constraints, one participant observed that financial constraints were a barrier to seeking help earlier in their careers. Concerning preference for self-management, four tradeswomen preferred managing issues on their own, citing personal strength, a lack of perceived need, or a focus on self-care. Another participant's narrative focused on a significant personal decision in response to workplace stress. Lastly, five respondents expressed that they had not felt a need to seek help or were able to manage without it, with variations in their reasoning and circumstances, reflecting the theme of perception of need.

Mental health leave

Participants were asked about taking time off from work due to mental health issues (Table 2). Nine of 21 confirmed taking time off, while 10 had not taken any time off. Additionally, one participant expressed that they would have liked to take time off.

Duration and reasons for taking time off

The final question asked participants to specify the amount of time they had taken off work due to mental health issues (see Table 3). This inquiry followed up on whether they had previously taken time off. The responses revealed a range of time taken off work, from a few days to as long as six months. Respondents cited various reasons for their absences, including

Table 2. Mental health leave.

Key Themes	Subthemes	Participants' Remarks
Taking Time Off	Yes	WT1: Related to past employment. WT4: Significant amount of time last year. WT5, WT7, WT8 (occasionally), WT10, WT12, WT13, WT16: Yes.
	No, but should have	WT6: Mentioned not taking extended time off but felt the need to.
	No	WT2, WT3, WT9, WT11, WT18, WT19, WT20, WT21, WT22, WT23: Have not taken time off due to mental health.
Impact of External Factors	Relationship issues, Physical health impacts	WT7: Time off due to a breakup and subsequent ex-partner's suicide, and physical health impacting mental health.
Awareness and Prevention	Consideration without action	WT20: Considered seeking help during training. WT23: Mentioned a conflict at work but didn't take time off.

migraines, stress, personal crises, physical injuries, and the necessity for stress relief or psychological support. For instance, one woman reported taking six months off due to migraines that were exacerbated by stress and personal circumstances. Another one avoided taking time off during their apprenticeship but later took four months for stress relief. A different respondent indicated taking approximately one month off for an injury and related mental health reasons. According to her: … *I had to take a month off work because I was (sic) just got really depressed. Couldn't function at work. Started building up over like 3 months and I just hit the wall and had to take a month off.* One self-employed tradeswoman noted that they take time off as needed, with a maximum of three weeks at a time. One participant mentioned taking half a day every two weeks for psychological support but faced pressure to discontinue this practice. Another is estimated to have taken two months off over a span of three years, with the longest continuous absence being one week. One participant reported not needing time off due to having a supportive home environment, while another indicated that they had not taken any days off for mental health despite facing challenging work situations.

The responses highlight the varied experiences and approaches to taking time off work for mental health reasons. Some tradeswomen took extended periods off while others took shorter breaks or did not take any time off at all. The reasons ranged from specific health issues like migraines and injuries to more general stress and the need for psychological support or stress relief. Overall, the responses demonstrate the potential impact of mental health issues on work attendance and the diverse coping strategies employed by individuals in the construction trade.

Discussion

The results from the study provide important insights into the complex work environments that tradeswomen have to deal with. They highlight both individual and organizational aspects of working in the industry as described in the literature review (Bridges et al., 2020; Bridges et al., 2023). Reporting qualitative research represents a challenge as the evidence-based model of quantitative research methods that follows the positivist-empiricist or objectivist measures or standards is still considered the only scientific method (Denzin, 2009). In this report, the Big Q Qualitative Reporting Guidelines by(Braun & Clarke, 2025, pp. 418–431). This discussion is structured into three sections: coping strategies, mental health support, and expected organizational support.

Concerning personal coping strategies and their effectiveness, the study identified six principal categories: meditation and spiritual practices, physical activity,

Table 3. Duration and reasons for taking time off.

Key Themes	Subthemes	Participants' Remarks
Duration and Reasons for Taking Time Off Due to Mental Health	Duration: One week to six months. Reasons: Migraines, stress, personal crises, physical injuries.	WT1: About a week due to unspecified issues. WT2: Six months due to migraines exacerbated by stress and personal circumstances. WT4: Approximately two weeks per year. WT5: Varied; as an apprentice, I avoided taking time off and later took four months for stress relief. WT6: Occasionally finished early but did not take extended time off. WT7: About a month due to an injury and mental health. WT8: A few days, including a planned week off before starting a new job. WT10: Self-employed, takes time off as needed, up to three weeks. WT12: Half a day every two weeks for psychological support, faced pressure to stop. WT13: A week and additional days, not specifying the total duration. WT16: Estimated two months over three years, with the longest stretch being a week. WT18: Has not needed to take time off and mentions a supportive home environment. WT20: No days off for mental health, despite challenging work situations. WT21: At least one day off, unrelated to work but for personal and emotional reasons.

social support networks, the establishment of work boundaries, professional counselling, and strategic time management. This comprehensive array of approaches indicates that tradeswomen employ a combination of problem-focused, emotion-focused, and social coping strategies, in accordance with Lazarus and Folkman (1984) transactional model of stress and coping. Tradeswomen appraise their stressful situations and then employ coping strategies to manage their responses.

The study's findings underscore the complexity of coping strategies utilized by tradeswomen in the construction industry, indicating a multilayered approach that encompasses both proactive and reactive mechanisms. This nuanced understanding of coping strategies aligns with the work of Folkman and Moskowitz (2004), who emphasize the significance of adaptive coping in managing stressors. Specifically, the prominence of meditation and physical exercise as key proactive coping strategies resonates with the findings of Walsh et al. (2019), reinforcing the notion that such approaches not only facilitate emotional regulation but also enhance overall well-being in high-stress environments.

Meditation was recognized in the current study for its potential to foster resilience and promote mental clarity, making it an invaluable tool for individuals facing the unique challenges of the construction industry (Zeidan et al., 2010). Similarly, physical exercise was mentioned by participants. This has been well-documented for its psychological benefits, including reduced anxiety and depression (Craft & Perna, 2004). These strategies were not only employed by the respondents but were also observed in their colleagues, with many actively recommending them to others. This collective endorsement indicates a shared recognition of their effectiveness, thus contributing to a culture of resilience among tradeswomen (Rabenu & Yaniv, 2017).

However, the study also highlights that coping strategies are not universally adaptive, as evidenced by the reliance on avoidance mechanisms in certain circumstances. The utilization of substance use as a means of emotional mitigation reflects findings by Sherman and Cohen (2006), who articulate the risks associated with avoidance coping. This form of coping can be particularly detrimental, as it may lead to further emotional distress and exacerbate existing challenges within the workplace. Additionally, the choice to leave a company or the industry altogether can signify a coping strategy that, while protective in the short term, ultimately raises concerns about the sustainability of such exits for women in trades. This finding echoes the work of Yan et al. (2024), who argue that workplace environments must evolve to foster inclusivity and support for women.

The preference in the current study for approach and emotion-focussed coping in the form of mindfulness activities and physical exercise, particularly self-defence and martial arts, represents an interesting intersection between physical empowerment and mental well-being that has not been extensively documented in previous construction industry studies. The multi-faceted nature of these coping strategies demonstrates remarkable resilience among tradeswomen. Particularly noteworthy is the integration of both preventive and reactive measures in their coping strategies.

Recent investigations into the adaptive strategies employed by women in trades have illuminated the transition from traditional reactive coping mechanisms to more proactive and preventive approaches in the face of workplace challenges. Astor-Dubin and Hammen (1984) underscored the importance of reactive coping strategies, which respond to stressors after they occur. However, the findings from this current study suggest that tradeswomen in the construction industry are increasingly using preventive strategies that empower them to navigate potential adversities before they escalate.

In addition to examining coping strategies, a critical aspect of this research involved a thorough assessment of the organizational support structures available to tradeswomen, alongside the structural impediments they encounter in their work environments. The results indicated a notable disparity in the levels of organizational support within the construction sector. However, the reasons for the differences in organizational support have not been investigated in this study. Some participants highlighted their engagement with formal support mechanisms, including Employee Assistance Programs (EAP) and flexible leave policies, which provided essential resources for mental health and job security. These findings align with those of Sherman and Cohen (2006), who emphasized the role of self-affirmation in enhancing resilience in challenging environments.

Conversely, more than a half of respondents, particularly those within self-employed or small business contexts, reported facing considerable structural barriers that limit their access to such support systems. This dichotomy not only underscores the variability of support structures in the industry but also raises critical questions regarding equity and accessibility for all tradeswomen. The implications are profound, particularly when considering that 10 out of 21 participants disclosed taking mental health leave, with durations varying from several days to as much as six months. This statistics point to a pressing need for the construction industry to reassess and enhance its support infrastructure to adequately address the diverse needs of its female

workforce. As such, this research contributes to the ongoing discourse surrounding gender equity and mental health in traditionally male-dominated fields (Rotimi et al., 2023; Yan et al., 2024).

Furthermore, the investigation into organizational support mechanisms illustrated a complex interplay between formal and informal support systems. While many organizations have implemented gender-responsive facilities and targeted employment programmes, the effectiveness of these initiatives appears contingent upon the presence of supportive management and inclusive team dynamics. The emergence of self-employment as a coping strategy also presents an intriguing phenomenon; it may signify both a response to organizational limitations and a proactive effort to foster more supportive work environments. This demonstrates individual and personal resilience tactics for strengthening confidence and asserting competence in a male-dominated field, as outlined in Denissen and Saguy (2014), Ness (2012), and Bridges et al. (2023). Therefore, mere structural changes may prove insufficient without accompanying cultural and personal transformations.

While this study provides valuable insights, some limitations should be noted. The sample size, while appropriate for qualitative research, may not have captured the full range of experiences across different construction sectors and geographical areas in NZ. Additionally, the self-reported nature of the data may be subject to recall bias and social desirability effects (Bergen & Labonté, 2020; Colombo et al., 2020).

Conclusion

The present study was designed to investigate the coping mechanisms employed by tradeswomen to address the daily challenges encountered in the NZ construction sector. The study validated the multifaceted challenges faced by tradeswomen in the NZ construction industry and the diverse coping strategies they have employed to navigate these challenges. Thus, specific interventions are required to address individual and systemic factors that hinder the improvement of the working environment for this underrepresented group. Construction organizations would need to implement comprehensive mental health support programmes specifically tailored to tradeswomen's needs. This includes establishing flexible leave policies, providing accessible professional counselling services, and creating confidential channels for reporting workplace challenges. The high proportion of participants requiring mental health leave indicates this is a critical area for immediate action. Further, organizations could develop formal mentorship and peer support networks. The study's findings highlight the significance of social support and communication among tradeswomen. Structured mentorship programmes can provide essential guidance while fostering a sense of community and belonging within the industry.

In a similar vein, this study recommends that workplace policies be redesigned to acknowledge and accommodate gender-specific challenges. This includes implementing appropriate facilities, flexible working arrangements for family commitments, and clear protocols for addressing gender-based discrimination and harassment. Another dimension to offering support to tradeswomen could be through educational institutions by creating individual awareness of young women's inner strength, assertiveness, and enhanced knowledge about social dynamics. The success of self-employed tradeswomen in creating supportive environments suggests that traditional workplace structures can be effectively modified. Finally, organizations should invest in regular monitoring and evaluation of workplace culture and support systems. This includes conducting periodic assessments of workplace satisfaction, tracking the effectiveness of support programmes, and maintaining open dialogue with tradeswomen about their needs and experiences.

Several practical implications arise from these findings. Construction organizations must develop more nuanced and comprehensive support systems that address the unique challenges faced by tradeswomen. The high incidence of mental health leave highlights the necessity for preventive measures rather than solely reactive responses. Also, the demonstrated success of peer support networks signals an opportunity for organizations to formalize and bolster these naturally occurring support systems within these small yet significant work groups. The insights regarding coping strategies provide a framework for designing targeted interventions through open communication, mindfulness practices, and professional support.

This study has implications for both the research community and policymakers in improving the experiences of tradeswomen in the construction industry. Researchers can build on these findings by exploring the long-term effectiveness of diverse coping strategies, the impact of workplace interventions on mental health outcomes, and the role of intersectionality in shaping tradeswomen's experiences. Future studies could also assess how mentorship programmes and industry-wide cultural shifts contribute to gender equity in construction. Comparative studies across different construction sectors and organizational sizes could provide a more nuanced understanding of how context

influences both challenges and coping strategies. For policymakers, the findings highlight the need for gender-inclusive workplace policies, including mental health support, anti-harassment measures, and improved work-life balance provisions. Investing in mentorship programmes, regulatory oversight, and self-employment initiatives could help create a more supportive environment for tradeswomen. Additionally, ongoing data collection and reporting will be essential to tracking progress and ensuring sustained improvements in gender equity within the construction sector.

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Data availability statement

The data that support the findings of this study are available on request from the corresponding author, [FER]. The data are not publicly available due to their containing information that could compromise the privacy of research participants.

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