



Understanding the Resilience of Female Students Working in Occupational Health and Safety: A Qualitative Study

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ABSTRACT

Background: Balancing dual roles as a professional and a student is a significant challenge, especially for women in the Occupational Health and Safety (OHS) field. Resilience is crucial for managing these responsibilities while ensuring workplace safety.

Objective: This study examines the lived experiences of women pursuing postgraduate education while working full-time in OHS, focusing on factors contributing to resilience.

Method: A qualitative phenomenological approach was used to explore participants' experiences. Two postgraduate students from Universitas Gadjah Mada, aged 18–45 years and actively employed in OHS, were recruited through purposive sampling. Semi-structured interviews were conducted via Zoom, addressing challenges, coping strategies, and institutional support. Data were analyzed using Braun and Clarke's thematic analysis, with validation techniques including member checking and triangulation.

Results: Four themes emerged: social support, adaptive coping strategies, self-efficacy, and institutional flexibility. Emotional support from family, practical assistance from colleagues, effective time management, self-reflection, and accommodating workplace policies were key enablers of resilience. These factors collectively supported participants in balancing dual roles while maintaining workplace safety.

Conclusion: This study highlights the importance of targeted support systems to enhance resilience among working students in demanding fields like OHS. Insights from this research provide a framework for institutions and policymakers to address challenges and promote safer, healthier workplaces.

Keywords: *resilience, occupational health and safety, dual roles, qualitative study, workplace safety.*

INTRODUCTION

Balancing multiple roles as a professional and a student is a complex and challenging endeavor. For women in the field of Occupational Health and Safety (OHS), these dual responsibilities often demand a high level of resilience, as they navigate between the rigorous demands of their careers and the expectations of academic achievement [1–3]. Understanding how these women persevere and succeed in such demanding contexts is critical, as their experiences can provide insights into fostering resilience in others facing similar challenges [4,5].

Resilience, broadly defined as the capacity to adapt positively in the face of adversity, is influenced by both internal and external factors [6–8]. Internal factors such as self-efficacy and adaptive coping strategies empower individuals to remain steadfast in achieving their goals despite obstacles [1,6,7]. External factors, including social support and institutional flexibility, provide the necessary scaffolding to help individuals navigate their roles more effectively [2,5,8]. While much of the existing literature has explored resilience in specific contexts, there remains a gap in understanding how these factors interplay within the unique challenges faced by women in the OHS field who simultaneously pursue postgraduate education [3,7,9].

Occupational Health and Safety professionals play a critical role in creating safer workplaces, ensuring that employees operate in environments that prioritize health and safety [4,6,10]. However, maintaining professional excellence while pursuing academic advancement requires a nuanced understanding of how resilience operates within this dual-role context [2,5,7]. Previous research has largely focused on resilience among students or working professionals independently, without addressing the overlapping challenges

faced by those managing both roles simultaneously [1,3,9].

This study adopts a phenomenological approach to explore the lived experiences of women who navigate these dual roles [5,7,8]. By delving into their perspectives, the research aims to uncover the factors that contribute to their resilience and how they ascribe meaning to their experiences [4,6,10]. The findings aim to offer valuable insights for educational institutions, workplaces, and policymakers in supporting individuals who juggle professional and academic commitments, particularly in high-stakes fields like OHS [2,7,8].

This study specifically seeks to answer “*How do women in the OHS field manage the dual roles of professional work and postgraduate education, and what factors contribute to their resilience while ensuring workplace safety and security?*”. By addressing this question, the research provides a foundation for understanding the interplay of personal, social, and institutional factors that enable these women to succeed in their demanding dual roles.

METHODS

Research Design

This study employed a qualitative approach with a phenomenological design. This approach was chosen to explore in-depth the subjective experiences of postgraduate students working in the field of occupational health and safety (OHS). The phenomenological design enabled the researcher to understand the essence of participants' experiences in facing academic and professional challenges and the mechanisms they employed to build resilience. Semi-structured interviews allowed for flexible exploration of emerging themes, while thematic analysis provided a systematic framework for understanding complex data.

Participants

Participants in this study were postgraduate students enrolled in the Applied Occupational Health and Safety Master's program at Universitas Gadjah Mada, actively employed in the OHS field, aged between 18–45 years to reflect the productive working age range, and willing to provide informed consent to participate. Conversely, exclusion criteria included students not actively working in the OHS field or individuals unable to provide written consent.

Sampling Method

While a larger sample size would provide a broader range of experiences, this study utilized a purposive sampling strategy to select participants who were highly relevant to the research question, ensuring that the data obtained would reflect meaningful insights. As is common in qualitative phenomenological studies, the aim was to achieve depth of understanding of the participants' lived experiences rather than seeking broad generalization^[11]. Data saturation was achieved with the two participants, as no new themes emerged during the analysis.

Two participants had diverse backgrounds but shared common experiences as postgraduate students working in the OHS field. Sociodemographic characteristics of the participants are presented in Table 1 in the Results section.

Data Collection

In-depth semi-structured interviews were conducted online using the Zoom platform. Semi-structured interviews provided flexibility in exploring themes, allowing the researcher to gather relevant information based on participants' responses. The interview guide was developed based on theoretical frameworks of resilience and coping strategies, focusing on key areas relevant to participants' experiences^[12]. The guide aimed to explore themes such as academic and professional challenges, coping strategies like time management and

emotional support, factors influencing resilience including self-efficacy and institutional policies, and participants' views on institutional support. Representative questions included: “What are the biggest challenges you face as both a student and a worker?” and “What strategies do you use to manage those pressures?”

Ethical Considerations

This study received ethical approval from Research Ethics Committee, Faculty of Medicine, Universitas Sebelas Maret, with approval number 257/UN27.06.11/KEP/EC/2024. The approval covered research procedures, data confidentiality, and participants' rights.

Participants were provided with comprehensive information about the research objectives, procedures, benefits, and their rights. Written consent documents were signed by participants before the interviews commenced.

Participants' identities were anonymized using pseudonyms (P1, P2). All data were securely stored in encrypted formats, accessible only to the lead researcher. Participants were free to withdraw from the study at any time without consequences. They also had the right to decline answering specific questions if they felt uncomfortable.

Data Analysis

Data were analyzed using thematic analysis^[13]. The steps included:

1. Familiarization
Repeatedly reading interview transcripts to understand context and patterns.
2. Initial Coding
Assigning labels to meaningful data segments related to resilience.
3. Theme Identification
Grouping codes into major themes reflecting participants' experiences.
4. Theme Refinement
Ensuring themes were consistent and aligned with the research objectives.
5. Data Interpretation

Linking findings to themes and prior studies.

Data coding and theme development were conducted manually using Microsoft Excel, which allowed for systematic organization and analysis of qualitative data.

Validation techniques employed in this study included member checking, where participants reviewed interview summaries to ensure accuracy and triangulation through discussions among the research team to maintain consistency in coding and analysis^[14,15].

RESULT

This study presents two main sections in the results: the sociodemographic characteristics of the participants (Table 1) and the thematic findings derived from qualitative analysis (Table 2). The sociodemographic characteristics include age, work

experience, current occupation, and academic status, providing a context for understanding participants' personal and professional circumstances. Additionally, the qualitative analysis identified four key themes reflecting participants' resilience in managing dual roles as students and employees: Social Support, Adaptive Coping Strategies, Self-Efficacy, and Institutional Support. These findings offer insights into the factors contributing to participants' ability to navigate academic and professional challenges simultaneously.

Table 1 shows that the participants were aged 42–43 years, with 16–19 years of experience in occupational health and safety (OHS). Both participants are enrolled in the Applied Occupational Health and Safety Master's program at Universitas Gadjah Mada while maintaining full-time employment.

Table 1. Sociodemographic Characteristics of Participants

Participant	Age	Work Experience	Current Occupation	Academic Status
P1	42	16 years	Occupational Safety Specialist (Manufacturing)	Master's Student in Applied OHS
P2	43	19 years	Freelance Consultant (Construction Projects)	Master's Student in Applied OHS

The qualitative analysis revealed four major themes that encapsulate the participants' resilience in balancing their dual roles. Each theme is further categorized into subthemes derived from the interview data. Table 2 provides a summary of the themes, subthemes, frequency of occurrence, and representative quotes.

The analysis highlights the critical role of social support, coping strategies, self-efficacy, and institutional flexibility in enabling participants to manage their dual roles. Emotional support, time management, self-reflection, and online learning emerged as the most frequently mentioned subthemes, underscoring their importance in maintaining balance.

Table 2. Distribution of Themes, Subthemes, and Representative Quotes

Theme	Subtheme	Representative Quote
Social Support	Emotional Support	<i>"My family always supports me when I feel overwhelmed."</i>
	Practical Help from Colleagues	<i>"My coworkers often help with major tasks."</i>
	Academic Guidance	<i>"Professors guide me in understanding how to write reports."</i>
Adaptive Coping	Time Management	<i>"Using a daily planner helps me stay organized."</i>
	Relaxation and Exercise	<i>"Stretching in the morning makes me feel refreshed."</i>
Self-Efficacy	Self-Reflection	<i>"I remind myself of my goals in the OHS field."</i>
	Prioritization	<i>"I focus on completing the most urgent tasks first."</i>
Institutional Support	Flexible Online Learning	<i>"The online learning system makes it easier to study anytime."</i>
	Supportive Work Policies	<i>"My manager allows me to take leave for exams."</i>

Theme 1: Social Support

Social support emerged as a vital factor in participants' resilience, including emotional encouragement from family, practical assistance from colleagues, and academic guidance from faculty.

Representative Quotes:

P1: *My family, especially my husband and children, are very supportive.*

P2: *My family always encourages me, and my children keep motivating me.*

Theme 2: Adaptive Coping Strategies

Participants employed various strategies to manage stress, such as effective time management, physical activity, and spiritual practices.

Representative Quotes:

P1: *I work during the day and focus on studying at night.*

P2: *Stretching in the morning helps me feel relaxed.*

Theme 3: Self-Efficacy

Participants' confidence in their ability to overcome challenges was a key factor in their resilience.

Representative Quotes:

P1: *I understand my capacity and remain committed to balancing work and study.*

P2: *I feel a strong sense of responsibility to manage my roles.*

Participants' experiences reveal not only the practical strategies for managing dual roles but also the underlying personal beliefs and values that informed their resilience. For instance, the theme of self-efficacy was linked to participants' sense of personal responsibility and their belief in their ability to balance work and study, which reflects key aspects of Bandura's self-efficacy theory. This personal drive was essential in navigating their demanding roles.

Theme 4: Institutional Support

Flexibility from both educational institutions and workplaces played a significant role in supporting participants' dual roles.

Representative Quotes:

P1: *The online learning system greatly helps me manage my schedule.*

P2: *Flexible work policies allow me to focus on exams when needed.*

The findings emphasize the interplay of internal and external factors in fostering resilience among participants, providing valuable insights for institutions aiming to support working students in the OHS field.

DISCUSSION

The findings of this study highlight the critical role of resilience in enabling postgraduate students to manage dual roles as full-time employees and students in the field of Occupational Health and Safety (OHS). Specifically, the themes of social support, adaptive coping strategies, self-efficacy, and institutional support emerged as central to participants' ability to navigate their academic and professional responsibilities effectively. This section discusses these findings in the context of previous research, focusing on both convergent and divergent perspectives.

Social Support

Social support, including emotional encouragement, practical assistance, and academic guidance, was identified as a vital factor for resilience. This finding aligns with previous studies that emphasized the importance of emotional and instrumental support in reducing stress and enhancing performance among working students^[16]. Social support likely plays this role because it provides both psychological comfort and practical resources, which reduce the perceived severity of challenges^[17]. Conversely, over-reliance on social support might hinder the development of self-efficacy, as individuals could become dependent on external assistance rather than honing their own coping mechanisms^[18]. This highlights the necessity of maintaining a balance to foster both interpersonal and intrapersonal resources.

Adaptive Coping Strategies

Participants in this study employed various adaptive coping strategies, including time management, relaxation

techniques, and spiritual practices such as prayer and reflection, to mitigate stress. These strategies align with Lazarus and Folkman's transactional model of stress and coping, which underscores the importance of adaptive responses to stress^[19]. Spiritual practices may be particularly effective because they provide emotional solace and a sense of purpose, which are crucial for maintaining psychological stability^[20]. However, the effectiveness of these strategies depends on their integration with broader resilience-building practices, as reliance on a single method (e.g., time management) without addressing deeper stressors might lead to burnout^[21].

These findings are also in line with previous research, where personal values related to professional development were found to play a significant role in resilience^[22]. The participants' commitment to their careers and their sense of responsibility to succeed in both academic and professional environments served as additional sources of motivation, allowing them to better manage the pressures associated with their dual roles. The interplay of internal factors (such as self-efficacy) and external factors (like social support) created a balanced and robust resilience framework for participants.

Self-Efficacy

The role of self-efficacy in resilience was evident in participants' confidence in managing dual responsibilities. This is supported by self-efficacy theory, which posits that belief in one's capabilities significantly influences goal achievement and stress management. High self-efficacy has also been found to correlate with better work-life balance and academic performance^[23]. Furthermore, participants' adaptive coping strategies were often rooted in their self-efficacy, as they believed that their actions directly influenced outcomes.

In contrast, another research highlighted potential challenges, noting

that inflated self-efficacy could lead to overcommitment, resulting in diminished performance and increased stress ^[24]. This underscores the need for realistic self-assessment and the development of balanced confidence.

Institutional Support

Institutional support, such as flexible online learning systems and supportive workplace policies, played a significant role in participants' resilience. This aligns with findings that highlight how institutional flexibility reduces stress by accommodating the dual demands of work and study [25]. Such support mechanisms are effective because they enable individuals to allocate time and energy more efficiently, thereby preventing overload [26]. However, the success of institutional support depends on its complementarity with individual initiative and strong peer networks, as standalone measures might be insufficient to address all challenges [27].

Limitations of the Study

One limitation of this study is the small sample size, which restricts the ability to generalize the findings to a larger population. However, as a qualitative phenomenological study, the primary goal was to achieve depth of insight into the lived experiences of the participants, rather than to generalize results. While the small sample size provides rich, detailed data, it limits the generalizability of the findings. The data saturation reached with the two participants highlights the depth of the analysis, but future research could benefit from replicating this study with a larger and more diverse sample to strengthen the findings and better explore the generalizability of these insights. Thus, the findings should be interpreted with caution, acknowledging that the small sample size, while offering valuable insights, cannot be generalized to broader populations.

Implications for OHS Performance

The findings of this study reaffirm that resilience is a critical determinant of performance in both academic and professional settings. A strong sense of resilience enables individuals to adapt to challenges, maintain productivity, and prioritize safety and health in the workplace. As demonstrated by Hartmann et al.12, resilient employees are more likely to adhere to safety protocols and contribute to a culture of health and safety in their organizations.

CONCLUSION

The interplay of social support, adaptive coping strategies, self-efficacy, and institutional flexibility provides a comprehensive framework for understanding resilience. Building resilience is not only essential for managing dual roles but also for ensuring optimal OHS performance, thereby contributing to safer and healthier workplaces.

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