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Research Article

Overview of occupational stress and its implications for technology-based interventions in early adulthood

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Abstract

This study aims to explore the subjective experiences of occupational stress among young adults with different occupational backgrounds using a qualitative case study approach. Three participants, aged 23 to 27, were interviewed: an elementary school teacher, a finance staff member, and a special education school operator. Prior to the interviews, participants completed the Perceived Stress Scale (PSS), which indicated moderate-to-high stress levels in two participants and moderate stress in one. Semi-structured interviews were used to investigate sources of stress, its impact, and coping strategies employed. Thematic analysis revealed that excessive workload, tight deadlines, workplace conflicts, and multitasking demands were the primary stressors. Symptoms reported included physical fatigue, anxiety, sleep disturbances, and reduced work motivation. Although coping strategies such as relaxation, time management, and social support were utilized, stress continued to affect participants' psychological well-being and personal life. These findings support the transactional model of stress by Lazarus and Folkman and the buffering hypothesis by Cohen and Wills, highlighting the crucial role of social support and organizational intervention in mitigating workplace stress.

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Introduction

Occupational stress can be defined as a psychological condition related to an individual's perception of demands and resources in the workplace, where the perceived demands exceed available resources, creating an imbalance that negatively affects employee well-being. According to Vorg et al. (2019), occupational stress is a condition in which job demands are perceived to exceed a person's ability to cope, resulting in tension and disruption of psychological and physical functioning, potentially leading to suboptimal performance.

The World Health Organization (2016) defines workplace stress as a reaction occurring whenever a person feels burdened by job demands. Data from the Health and Safety Executive (HSE) (2020) reported that 828,000 employees in the UK experienced work-related stress, depression, or anxiety, with an incidence rate of 1,579 per 100,000 employees. In the Asia-Pacific region, the trend of increasing workplace stress is 48% higher than the global average. According to CFO Innovation Asia (2016), in 2012, workplace stress affected 57% of Malaysians, 62% of Hong Kong residents, 63% of Singaporeans, 73% of Chinese, 73% of Indonesians, and 75% of Thais. In Indonesia alone, this number rose 9 percentage points from the previous year to 64%, and work stress was estimated to contribute to 9.8% of mental health cases.

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Previous research has identified various predictors of stress, such as excessive workload, workplace social pressure, lack of social support, and poor emotional regulation (Qoyyimah et al., 2019). Individual factors like self-efficacy and emotional intelligence also influence how someone handles psychological pressure, either directly or through social support (Khoirurrahman et al., 2023). Adriaenssens et al. (2017) emphasized that low team support exacerbates stress and emotional exhaustion among healthcare workers.

Work-related stress also arises when employees' needs and expectations, such as adequate rest, are unmet. A high-pressure work environment can lead to emotional and mental strain and adversely affect individual performance. Anxiety may stem from physical, psychological, community, or spiritual sources. The degree of workplace stress depends on how well the individual manages it. Therefore, it is crucial for organizations to create safe and supportive working environments (Indah & Purnama, 2021).

In the digital era, technological developments offer potential in detecting and intervening in psychological disorders like occupational stress. Tools such as mobile-based self-assessment apps, wearable devices, and online counseling services can effectively monitor and manage stress in real time. Thus, integrating technology into clinical psychological approaches is vital for understanding and managing occupational stress in early adulthood.

Research Method

This study uses a qualitative case study approach to explore occupational stress experiences among three young adults from different professional backgrounds. Conducted in April 2025, the participants were:

- RS (24), a second-grade teacher at a private elementary school,
- FQ (27), an inclusion school operator and part-time student, and
- BP (25), a finance staff member at a private company.

Participants were purposively selected based on the criteria of being in early adulthood, having a permanent job, and agreeing to participate in interviews. Semi-structured interviews were conducted to gain in-depth insights into their subjective experiences with work-related stress. Prior to the interviews, participants completed the Perceived Stress Scale (PSS) developed by Cohen, Kamarck, and Mermelstein (1983), consisting of 10 items on a Likert scale (0 = Never, 4 = Very Often) to get an initial overview of stress levels.

Although the study used manual instruments, the researcher also considered the potential integration of cybernetic approaches, such as mobile stress management apps like Headspace, Riliv, or Moodpath, which could complement traditional coping strategies and help track daily symptom fluctuations.

Findings

This study aimed to explore the subjective experiences of occupational stress among three young adults. Data were collected via in-depth interviews and supported by PSS scores.

Table 1. PSS Score Range Categories

Total Score	**Category**
0–13	Low
14–26	Moderate
27–40	High

Table 2. Participants' PSS scores and interview results

Participant	PSS Score	Stress Level	Interview Summary
RS (24)	28	High	Experiences stress due to high workload, difficult students, and administrative tasks. Reports physical, mental, and personal life impact. Appreciates peer and supervisor support but hopes for simplified tasks and stress management training.
FQ (27)	22	Moderate	Experiences moderate stress from juggling work and studies, occasional conflict with supervisors, and noise disturbances. Physical symptoms include back/shoulder pain. Manages stress with gradual task completion, watching films, and "healing" activities. Hopes for a private workspace.
BP (25)	31	High	Suffers from high stress due to tight deadlines, report load, and unexpected changes. Reports significant physical and mental impact. Manages stress with rest, exercise, and peer support. Hopes for flexible work policies and stress management programs.

Discussion and Conclusion

Based on interview results and the Perceived Stress Scale (PSS) scores, the subject RS (24 years old), a second-grade elementary school teacher, scored 28, categorized as high stress. RS experiences stress due to a heavy workload, including lesson planning, student assessments, administrative reports, and extracurricular activities. She feels overwhelmed in managing her time, often overthinks, suffers from sleep disturbances, and reports physical complaints such as headaches and back pain. Difficulties in handling hyperactive students and differing approaches with coworkers add to her psychological burden. These findings support the theories of Robbins & Judge (2015) and Lazarus & Folkman (1984), which emphasize that occupational stress arises from an imbalance between demands and individual capacity, highlighting the importance of social support in coping processes. Therefore, educational institutions must pay attention to teachers' psychological well-being through humane work policies, reduced administrative load, and preventive interventions such as stress management training, allowing teachers to perform optimally without sacrificing their mental health.

The subject FQ, a 27-year-old female school operator at an inclusion school, scored 22, indicating moderate stress on the PSS. The interview revealed various work-related pressures, such as multitasking, sudden assignments, and an unconducive work environment. Despite this, FQ can still carry out daily activities adequately and demonstrates coping strategies such as watching dramas, snacking, and engaging in outdoor leisure activities. Qualitatively, stress symptoms are present but have not significantly disrupted emotional or social functioning. Thus, her stress level is still manageable and aligns with the moderate category.

According to the interview with BP, a 25-year-old finance staff member, he experiences high occupational stress. BP describes heavy workloads, especially at month-end and year-end periods, tight deadlines, and frequent policy changes. These factors make him feel overwhelmed, anxious, and rushed, affecting both his job performance and mental health. He also reports physical symptoms such as headaches, back pain, fatigue, and sleep disturbances due to work-related worries. Stress also affects his personal life, making it difficult to enjoy free time or socialize. Although he receives support from colleagues and superiors, high expectations remain a significant burden. BP has tried to manage stress through rest, exercise, and time management, but with limited effectiveness. He hopes the company provides more attention through flexible work policies, relaxation facilities, and stress management training. His PSS score of 31, categorized as high, aligns with the issues expressed during the interview. Therefore, BP is experiencing serious occupational stress that requires further support from both individual and organizational perspectives.

All three subjects identified the main stressors as unbalanced workloads relative to time and resources, and organizational expectations. Social support from colleagues and supervisors served as a key protective factor, though it did not entirely eliminate the experienced stress. This aligns with Cohen & Wills (1985), who proposed that social support can act as a buffer against stress. Interestingly, despite different professional backgrounds, all three participants expressed the need for organizational adjustments to foster a psychologically supportive work environment. According to the transactional stress and coping theory by Lazarus & Folkman (1984), stress arises when environmental demands

are perceived to exceed the individual's coping resources. In this context, both BP and RS experience such an imbalance, while FQ, despite similar pressures, demonstrates relatively more adaptive coping mechanisms.

From a cyberpsychology perspective, individuals like BP and RS, who experience high work-related stress, may benefit from digital technology. Mindfulness-based apps such as Headspace or Insight Timer can help train emotional regulation and reduce anxiety. Additionally, wearable devices for tracking heart rate and sleep quality can assist individuals in objectively recognizing stress patterns. Online counseling platforms like Riliv offer accessible psychological support without geographic limitations, which is particularly relevant in collectivist cultures where openness to counseling may be limited.

This research shows that occupational stress affects individuals across different job sectors, including both education and private industry, with distinctive triggers and responses. Common stressors include high workloads, tight deadlines, abrupt policy changes, and workplace dynamics. All three subjects exhibit both physical (e.g., fatigue, headaches) and psychological symptoms (e.g., anxiety, insomnia, overwhelm). Coping strategies involve emotional regulation (e.g., relaxation, entertainment), work planning, and social sharing. Social support plays a buffering role but does not fully alleviate stress. These findings support the transactional model of stress by Lazarus & Folkman (1984) and the buffering hypothesis by Cohen & Wills (1985), highlighting the importance of organizational interventions such as work flexibility and stress management training.

While coping strategies like relaxation, exercise, and distraction (e.g., watching or walking) are helpful, they have not entirely reduced psychological stress to manageable levels. Therefore, this study recommends further exploration into digital technology as an alternative intervention for managing occupational stress. App-based approaches, digital monitoring, and online counseling could significantly complement conventional strategies, especially for young adults familiar with technology use.

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