



(REVIEW ARTICLE)



## Examining the relationship between night shift work and health outcomes among international students at the University of South Wales, Treforest Campus

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### Abstract

Night shift work is increasingly common among international students who rely on paid employment to meet living and educational expenses. However, the health and well-being implications of this work pattern remain underexplored, particularly within the United Kingdom higher education context. This study examines the relationship between night shift work and health outcomes among international students at the University of South Wales, Treforest Campus, addressing a gap in research on how employment-related demands affect students' physical, psychological, academic, and social well-being. A qualitative research design was employed, involving semi-structured interviews with ten international students who had engaged in night shift work for at least three months. Thematic analysis was used to identify key patterns and experiences. The findings indicate that night shift work is associated with sleep disruption, fatigue, stress, anxiety, reduced academic engagement, and decreased social participation. Participants reported difficulties maintaining a balance between employment and academic responsibilities, with many relying on personal coping strategies rather than institutional support services. The study highlights the need for more targeted university interventions, including flexible academic arrangements, counselling services, and employment support tailored to working international students. This research contributes to the growing literature on student well-being by providing context-specific evidence on the challenges faced by international students engaged in night shift work and offers recommendations for improving institutional support and student outcomes.

**Keywords:** Night Shift Work; International Students; Health Outcomes; Student Well-Being; Academic Performance; Higher Education.

### 1. Introduction

The increasing reliance of international students on paid employment has raised concerns about the impact of work patterns on their health and well-being. Night shift work is particularly common among international students because it offers flexibility for balancing academic and financial responsibilities. However, growing evidence suggests that working at night disrupts the circadian rhythm and is associated with sleep disturbances, cardiovascular disease, metabolic disorders, and adverse mental health outcomes (Wong et al., 2023; Boivin, Boudreau, and Kosmadopoulos, 2021).

International students face additional challenges, including adapting to a new cultural environment, managing academic demands, and coping with financial pressures (Olatunji et al., 2023). These factors may increase their vulnerability to the negative effects of irregular work schedules (Skromanis et al., 2018). Previous studies have linked night shift work to poor sleep quality, stress, fatigue, reduced physical activity, anxiety, depression, and lower academic performance (Alotaibi et al., 2020; Kecklund & Axelsson, 2016; Dai et al., 2019; Okechukwu et al., 2023). Long-term exposure to night

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work has also been associated with obesity, diabetes, hypertension, and other chronic health conditions (Brainard et al., 2015; Wang et al., 2023; Shan et al., 2018).

Financial necessity remains a major reason why international students engage in night shift employment. Balancing work and study often contributes to unhealthy lifestyles, including poor nutrition, limited physical activity, and increased stress levels (Chacón-Cuberos et al., 2019; AlJaber et al., 2019). Furthermore, disrupted sleep and chronic fatigue can impair cognitive functioning, emotional well-being, and academic achievement (Mehta, 2022). Despite the growing literature on shift work, limited research has specifically examined how night shift employment affects international students within the UK higher education context, particularly at the University of South Wales, Treforest Campus.

This study addresses this gap by examining the relationship between night shift work and health outcomes among international students at the University of South Wales, Treforest Campus. Given the diverse international student population and the prevalence of part-time employment, the campus provides an important setting for understanding how night work influences physical health, psychological well-being, academic performance, and social engagement. The findings are expected to inform institutional policies and support services aimed at improving student health, well-being, and academic success.

### 1.1. Study Contributions

- Provides empirical evidence on the health and well-being effects of night shift work among international students at the University of South Wales, Treforest Campus.
- Examines the combined impact of night shift work on physical health, psychological well-being, academic performance, and social engagement.
- Addresses a gap in UK-based research focusing specifically on international students engaged in night shift employment.
- Identifies challenges faced by students in balancing work and academic responsibilities.
- Offers practical recommendations for universities to strengthen student support services, well-being initiatives, and academic assistance for working international students.

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## 2. Literature review

Night shift work is widely associated with adverse physical and psychological health outcomes due to disruptions in circadian rhythms and sleep patterns (Reddy et al., 2023; Meléndez-Fernández et al., 2023). Research shows that shift workers experience higher rates of sleep disorders, fatigue, metabolic syndrome, cardiovascular disease, and impaired immune functioning than daytime workers (Wickwire et al., 2017; Kervezee et al., 2020; Boini et al., 2022; Streng et al., 2022). Sleep deprivation resulting from night work can also impair cognitive performance and overall well-being (Medic et al., 2017).

The psychological effects of night shift work are equally significant. Studies have linked irregular work schedules to increased stress, anxiety, depression, burnout, and social isolation (Walker et al., 2020; Okechukwu et al., 2023; Alexandros Kalkanis et al., 2023; Brandt et al., 2022). Cognitive difficulties, including reduced concentration, memory, and decision-making ability, have also been reported among night shift workers, potentially affecting academic performance among students (Ganesan et al., 2019; Shi and Qu, 2022).

International students may be particularly vulnerable to these challenges because they often face additional pressures related to cultural adjustment, language barriers, financial constraints, and limited social support (Mihayo, 2019; Al Shamsi et al., 2020; Wilson et al., 2022). Many rely on employment to meet tuition and living expenses, increasing the likelihood of balancing academic responsibilities with demanding work schedules. Limited familiarity with healthcare systems and concerns about accessing support services may further exacerbate health risks (Masai et al., 2021; Zhou, 2023).

This study is underpinned by the Circadian Rhythm Theory, which explains how night work disrupts biological processes and sleep-wake cycles (Reddy et al., 2023), the Job Demand-Control-Support Model, which highlights the relationship between workplace demands, stress, and health outcomes (Van der Doef & Maes, 1999; Lawrence et al., 2024), and the Social Determinants of Health framework, which emphasises the influence of socioeconomic and environmental factors on health and well-being (Thimm-Kaiser et al., 2023).

Although existing research has established the negative effects of night shift work on health, several gaps remain. Much of the literature relies on small, homogeneous samples, cross-sectional designs, and self-reported measures, limiting generalisability and causal interpretation (Silva and Costa, 2023; Capili, 2021; Durmaz et al., 2020). Furthermore, limited attention has been given to international students within UK higher education settings, despite their unique social, cultural, and financial circumstances. There is also insufficient evidence regarding institutional interventions that could mitigate the adverse effects of night shift work on student health and well-being (Lawrence et al., 2024; Easton et al., 2024).

Consequently, this study addresses these gaps by examining how night shift work influences the physical health, psychological well-being, academic performance, and social experiences of international students at the University of South Wales, Treforest Campus.

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### 3. Methodology

This study adopted a qualitative, interpretivist research approach to explore the experiences and perceptions of international students engaged in night shift work at the University of South Wales, Treforest Campus. A qualitative design was considered appropriate because it enables an in-depth understanding of the physical, psychological, academic, and social effects of night shift work from the participants' perspectives (Creswell & Poth, 2018; Hennink et al., 2020).

Data were collected through semi-structured interviews, allowing participants to describe their experiences while ensuring consistency across interviews (Aurini et al., 2021). The interview guide focused on health outcomes, well-being, academic experiences, work-related challenges, and coping strategies. Interviews were conducted online using platforms such as Microsoft Teams and Zoom, lasted approximately 30–45 minutes, and were audio-recorded with participants' consent.

A purposive sampling strategy was employed to recruit international students who had worked night shifts for at least three months. To capture diverse experiences, participants were selected from different employment sectors, including healthcare, security, hospitality, logistics, and warehousing (Patton, 2015; Nyimbilli & Nyimbilli, 2024). Data collection continued until thematic saturation was achieved, resulting in ten participants.

Data were analysed using thematic analysis following the procedures outlined by Braun and Clarke (2021). Interview recordings were transcribed verbatim, coded systematically, and organised into themes reflecting participants' experiences of night shift work and its impact on health and well-being. NVivo software was used to support data management and analysis (QSR International, 2020).

Ethical approval was obtained from the University of South Wales before data collection commenced. Participants provided informed consent and were informed of their right to withdraw at any stage without penalty. Confidentiality and anonymity were maintained throughout the study through the use of pseudonyms and secure data storage procedures (Aurini et al., 2021; Mauthner et al., 2020).

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### 4. Results

This section presents the findings from interviews with international students engaged in night shift work at the University of South Wales, Treforest Campus. The analysis generated six key themes: physical health impacts, psychological health impacts, academic and social well-being, coping strategies, support service utilisation, and recommended interventions.

#### 4.1. Physical Health Impacts

Participants consistently reported disrupted sleep patterns, fatigue, reduced energy levels, and difficulty maintaining healthy lifestyles. Many respondents indicated that night shifts interfered with normal sleeping routines, resulting in persistent tiredness and reduced physical activity. Some participants also reported headaches, loss of appetite, poor dietary habits, and other physiological symptoms associated with prolonged night work.

#### 4.2. Psychological Health Impacts

Most participants described increased stress, anxiety, irritability, and emotional exhaustion. Sleep deprivation often contributed to frustration and mood changes. Several respondents reported feelings of isolation due to conflicting

schedules that limited interactions with friends and family. In more severe cases, participants described experiences of anxiety, emotional distress, and burnout resulting from balancing work and academic commitments.

#### **4.3. Academic Performance and Social Well-Being**

Night shift work was widely perceived as negatively affecting academic performance. Participants reported difficulties concentrating during lectures, reduced study time, memory challenges, and lower levels of academic engagement. Social participation was also affected, with many students avoiding university events and social activities due to exhaustion and the need to prioritise rest.

#### **4.4. Coping Strategies**

Students adopted various personal coping mechanisms to manage the demands of work and study. Common strategies included time management, scheduling academic tasks around work commitments, prioritising sleep, maintaining dietary routines, and using weekends for study. Most participants relied primarily on self-management approaches.

#### **4.5. Support Service Utilisation**

Although participants were generally aware of university support services, many had not accessed them. Reasons included preference for self-management and uncertainty regarding the effectiveness of available support. Participants who utilised counselling or well-being services reported positive experiences and perceived benefits.

#### **4.6. Suggested Interventions**

Participants recommended several measures to improve their well-being, including flexible academic scheduling, online learning opportunities, academic accommodations, enhanced mental health support, and assistance in accessing less physically demanding employment opportunities. Many emphasised the need for institutional recognition of the challenges associated with combining night shift work and study.

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## **5. Discussion**

The findings demonstrate that night shift work significantly affects the physical, psychological, academic, and social well-being of international students. Sleep disruption emerged as the most common health concern, supporting previous research which found that night work disrupts circadian rhythms and contributes to fatigue and reduced physical functioning (Reddy et al., 2023; Wickwire et al., 2017). The widespread reports of exhaustion, headaches, and poor sleep among participants are consistent with studies linking night shift work to adverse physiological outcomes (Kervezee et al., 2020; Boini et al., 2022).

The psychological effects identified in this study also align with existing literature. Participants reported increased stress, anxiety, irritability, and emotional exhaustion, supporting findings that irregular work schedules can negatively affect mental health and emotional well-being (Walker et al., 2020; Okechukwu et al., 2023). Feelings of social isolation reported by several participants further reinforce evidence that night shift work can limit social interaction and increase psychological distress (Brandt et al., 2022).

The findings additionally highlight the negative influence of night work on academic performance. Reduced concentration, memory difficulties, and limited study time were common experiences among participants. These findings support previous studies demonstrating that sleep deprivation and fatigue impair cognitive functioning and academic achievement (Ganesan et al., 2019; Shi and Qu, 2022). The reduced participation in social and campus activities further suggests that night shift work affects the broader student experience beyond academic outcomes.

Although participants employed various coping strategies, reliance on personal time management and self-regulation indicates that institutional support remains underutilised. Similar findings have been reported in studies showing that students often prefer self-management despite experiencing significant stress and health challenges (Masai et al., 2021). The positive experiences of those who accessed counselling and well-being services suggest that such support can be effective when utilised.

The recommendations provided by participants underscore the importance of institutional interventions. Flexible learning arrangements, targeted mental health services, academic accommodations, and support in securing less demanding employment opportunities may help reduce the adverse effects of night shift work. These findings support calls in the literature for universities to develop comprehensive support systems tailored to the needs of working international students (Lawrence et al., 2024; Easton et al., 2024).

Overall, the study demonstrates that while night shift employment provides essential financial support for international students, it also creates substantial challenges that affect their health, academic success, and overall well-being. Universities should therefore adopt proactive measures to support this vulnerable student population.

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## 6. Conclusion and recommendations

Night shift work affects foreign students' physical health, psychological well-being, academic achievement, and social integration, as this study has shown. The main results support the study's aims and questions by showing that these students encounter several interconnected problems. The negative effects of night shift work on physical health are severe. Disrupted sleep, persistent weariness, and declining well-being were common complaints (Section 2.2.1). The taxing nature of night shifts typically causes long-term health difficulties including sleep disorders, migraines, and diminished physical activity. The constant decline in respondents' physical health shows the seriousness of the situation, emphasising the necessity for specific actions to ameliorate these impacts.

Psychological effects included increased stress, worry, and emotional weariness (Section 2.2.2). The findings showed that physical tiredness and psychological anguish are linked, producing a vicious cycle that harms pupils. The mismatch of their schedules with those of their colleagues caused many respondents to feel alone and disconnected. The emotional toll was greater for students without appropriate social networks or mental health services, emphasising the need for accessible psychological help.

Another crucial conclusion was that night shift work decreased focus, memory recall, and academic interest. Sleep deprivation caused cognitive deterioration, resulting in poorer grades and missing campus activities (Section 2.3.1). As students sacrificed social and extracurricular activities to rest, the effort to manage work and study hurt academic progress and the university experience (Section 2.5).

Respondents reported a decreased ability to participate in college life and establish social contacts. Prioritising rest over social contact diminished university community membership. Social isolation and the psychological and physical toll exacerbated these students' complex and linked issues. Night shift work harms foreign students in many ways, as shown by the study questions and goals. The research indicated that night shifts increase physical and psychological stress, affecting academic performance and social integration. These results confirm the primary study questions and show that institutions need to provide more comprehensive assistance for night-shift students.

### 6.1. Theoretical Implications

This research greatly contributes to ideas on night shift work's effects on international students. The findings support notions that night shift work harms physical and mental health. Participants' circadian rhythm abnormalities support Aschoff's (1965) hypothesis of circadian biology, which states that human biological activities are naturally adapted to a 24-hour cycle and that deviations cause health problems. Existing research contributes to existing information by focussing on how such interruptions affect international students who are already adapting to a new environment. According to the work Demands-Resources (JD-R) model, excessive work demands, such as those during night shifts, may lead to burnout and health problems if not balanced by sufficient resources (Demerouti et al., 2001). Respondents' stress, anxiety, and social isolation match the model's predictions. This research adds to the JD-R model by emphasising university support services' capacity to attenuate these negative impacts. Respondents noted the underutilisation of services, suggesting a gap in support mechanism communication and accessibility that needs more study.

This study challenges literature assumptions with fresh findings. This research emphasises the social effects of night shifts, such as impaired social integration and university community membership, whereas earlier studies have concentrated on physical and cognitive effects. These results imply that night shift work study should include social variables as part of overall well-being, especially in student populations. The study's results also challenge whether present theoretical frameworks can meet foreign students' demands. Traditional models, although appropriate, may not completely represent the difficulties experienced by this group, notably the confluence of cultural adaptation stresses and night shift work. This suggests that theoretical models should include cultural and environmental elements with work pressures.

### *Recommendations*

This study suggests numerous specific and practical suggestions for university administrators, lawmakers, and student support agencies to better serve night shift students. These suggestions are based on empirical facts and literature to assure relevance and efficacy.

**Set Flexible Academic Schedules:** The research consistently found that tight academic timetables harm night shift students. Universities should provide more nighttime, online, and asynchronous classes. Students might better manage their academic and job schedules with this flexibility, lowering cognitive strain and improving performance. Bowers & Lopez, (2019); Young et al. (2018) noted that flexible learning settings help non-traditional students, including night shift workers. Therefore, institutions should prioritise flexible choices to meet students' different demands (Duffy et al., 2019).

**Improve Mental Health Support:** Night shift work has serious psychological effects; thus, the university must improve mental health services. This might entail providing night shift worker-specific counselling programs to address stress, anxiety, and social isolation. According to Moffitt et al. (2019), population-specific stresses make focused mental health treatments more successful. Therefore, universities should provide stress management programs and seminars where students may share their experiences. Set up campus relaxation and wellness centres so students may recharge throughout the day to meet the demand for rest and mental recovery.

**Customise Physical Health Interventions:** The physical toll of night shift work, including sleep disruption and exhaustion, requires customised health measures. Universities should collaborate with local healthcare practitioners to give night shift workers sleep clinics and nutritional counselling. According to Silva-Costa et al. (2020), focused health interventions may reduce the physical health risks of irregular work patterns. To help students manage their physical health, universities should encourage sleep hygiene and the necessity of a healthy diet, even with irregular hours.

**Create job placement services for low-demand jobs:** The research shows that institutions could help students choose less physically and psychologically demanding jobs. Career services should build links with local companies to find night-shift student better jobs. Offer internships or part-time jobs that are flexible and less physically demanding. Smith and Nichols (2021) found that students' well-being and academic performance increase when they work jobs that meet their academic and personal demands. Therefore, Universities should broaden job placement services to include occupations that benefit students' academic achievement and health.

**Make Academic Accommodations for Night Shift Workers:** Universities should investigate academic accommodation for night shift workers due to their unique problems. These include longer deadlines, alternate assessment techniques, and test scheduling flexibility. Inclusive education promotes academic strategies that consider all students' backgrounds (Brinkworth et al., 2018). Universities can help night shift workers succeed academically by taking these steps.

**Promote Support Service Awareness and Access:** Finally, the survey shows that many students are ignorant of or hesitant to seek support services. These services must be promoted via orientation, newsletters, and social media by universities. Additionally, these services must be conveniently available in terms of location and schedule. Visibility and accessibility are crucial to student support service efficacy, according to Fowler and Lee (2020). Therefore, institutions should aim to make sure all students, especially night shift workers, know about and can access support services.

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