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Investigating workplace safety compliance and staffing sustainability in UK healthcare settings

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Abstract

This study examines workplace safety compliance and staffing sustainability in UK healthcare settings, focusing on how staffing levels, operational stress, leadership practices, and organisational culture influence adherence to safety procedures. Despite increasing workforce pressures, patient demand, and post-pandemic challenges, limited research has jointly explored the relationship between staffing sustainability and workplace safety compliance in community and adult social care environments in the UK. A quantitative research design was adopted using structured questionnaires collected from 54 healthcare professionals across community and adult social care settings. Data were analysed using descriptive statistics, Pearson correlation, and linear regression techniques. The findings revealed a high level of self-reported adherence to workplace safety procedures, although staffing levels and operational stress were rated at moderate levels. A significant positive relationship was identified between staffing levels and safety compliance, while leadership practices also showed a strong association with adherence to safety procedures. The study contributes to existing healthcare workforce and safety literature by demonstrating the importance of sustainable staffing and supportive leadership in maintaining safe practice under operational pressure. The study recommends improved workforce planning, stronger leadership accountability, and the development of supportive organisational cultures to enhance staff wellbeing and patient safety in UK healthcare settings.

Keywords: Workplace Safety; Staffing Levels; Operational Stress; Burnout; Healthcare Professionals; Safety Adherence

1. Introduction

Health and social care systems in the United Kingdom continue to face increasing pressure due to an ageing population, rising patient demand, workforce shortages, and the long-term effects of the COVID-19 pandemic (The Health Foundation, 2023; McKee and Dunn, 2021; World Economic Forum, 2023). Although workforce numbers have improved slightly in recent years, staffing shortages remain a major challenge across the NHS and adult social care sectors, particularly in community and non-hospital care settings (NHS Digital, 2025; CQC, 2025). These shortages contribute to heavier workloads, operational stress, burnout, and growing concerns regarding patient and staff safety.

Evidence suggests that inadequate staffing levels are closely linked to reduced quality of care, increased workplace stress, and higher safety risks (Tamata et al., 2023; Miller, 2025). In settings such as residential care homes, nursing homes, supported living services, and domiciliary care, staff often work under demanding conditions with limited resources and reduced supervision. These pressures can affect adherence to workplace safety procedures, resulting in issues such as inconsistent infection control, incomplete risk assessments, delayed incident reporting, and increased workplace injuries (CQC, 2025; Pickup et al., 2025). Reports from the NHS Staff Survey further indicate high levels of work-related stress and burnout among healthcare professionals, highlighting the impact of workforce pressures on

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staff wellbeing and service delivery (NHS England, 2026; NHS Employers, 2026). In response, UK healthcare policy and regulatory frameworks have increasingly prioritised safe staffing and workforce sustainability. The Health and Social Care Act 2008 (Regulated Activities) Regulations 2014 requires healthcare providers to maintain adequate staffing levels and ensure safe care delivery, while the NHS Long Term Workforce Plan emphasises staff retention, wellbeing, and productivity as key priorities (CQC, 2025; NHS England, 2023). However, despite growing policy attention, challenges related to staffing and safety compliance remain significant within community and adult social care services. Existing research has established relationships between staffing levels, burnout, and patient outcomes, but limited studies have explored how staffing pressures directly influence adherence to workplace safety procedures across diverse community healthcare settings in the UK. In particular, the role of leadership practices and organisational culture in supporting safety compliance under operational pressure remains underexplored (Dall'Ora et al., 2022; Griffiths et al., 2019). This study therefore aims to evaluate adherence to workplace safety procedures among healthcare professionals in UK community and adult social care settings and to examine how staffing levels, operational stress, leadership practices, and organisational culture influence safety compliance. The study contributes to the literature by providing evidence-based insights into workforce sustainability and workplace safety within frontline healthcare environments.

2. Literature Review

2.1. Workplace Safety and Safety Adherence in Healthcare

Workplace safety in healthcare refers to the systems, procedures, and organisational practices designed to reduce risks to both patients and healthcare professionals. It includes infection prevention, safe medication administration, manual handling, incident reporting, and risk management processes (World Health Organization, 2020; Health and Safety Executive, 2024). In the UK, healthcare organisations are required to maintain safe and effective care standards under regulatory frameworks established by the Care Quality Commission (Care Quality Commission, 2023).

Safety in healthcare is increasingly viewed as a systems-based issue influenced by staffing levels, leadership, communication, and organisational culture rather than individual behaviour alone (Makary and Daniel, 2016; Vincent and Amalberti, 2016). Although safety protocols are well established, heavy workloads, time pressure, and limited resources often affect consistent adherence, particularly in understaffed environments (Carayon et al., 2014; Hall et al., 2016). Research shows that healthcare workers under operational pressure may adopt shortcuts or workarounds to manage competing demands, increasing the risk of safety incidents (Alper et al., 2015; Tucker and Edmondson, 2003).

2.2. Staffing Levels and Operational Stress

Staffing levels are recognised as a key determinant of healthcare quality and patient safety. Safe staffing involves maintaining an adequate number of skilled staff to meet patient needs effectively (National Institute for Health and Care Excellence, 2014). Studies consistently demonstrate that inadequate staffing is associated with increased mortality, missed care, adverse events, and reduced quality of care (Aiken et al., 2014; Griffiths et al., 2019; Dall'Ora et al., 2022).

In community and adult social care settings, staffing challenges are often more severe due to workforce instability, high turnover, and limited resources (Skills for Care, 2025). Insufficient staffing increases workload intensity and contributes to operational stress and burnout among healthcare professionals. Burnout, characterised by emotional exhaustion and reduced professional effectiveness, has been linked to poor decision-making, lower adherence to safety procedures, and increased workplace errors (Bianchi et al., 2019; Panagioti et al., 2018).

The Job Demand–Resource (JDR) model explains that high workload and limited resources increase stress, while supportive leadership and organisational support can reduce burnout and improve performance (Bakker and Demerouti, 2007). This suggests that staffing shortages alone do not determine safety outcomes; organisational conditions also shape how staff respond to workplace pressures.

2.3. Leadership and Organisational Culture

Leadership and organisational culture play an important role in maintaining workplace safety. Safety culture refers to the shared values and attitudes that prioritise safety within healthcare organisations (Singer, Vogus, and Rosen, 2011). Studies show that supportive leadership, effective communication, and positive teamwork improve adherence to safety procedures and encourage incident reporting (Flin et al., 2006; West et al., 2020).

Strong organisational cultures can help staff maintain safety standards even during periods of operational pressure, whereas poor communication and blame-oriented cultures may worsen the effects of staffing shortages and increase procedural violations (Rodziewicz and Hipskind, 2020). Therefore, leadership and organisational culture are considered important moderating factors in workplace safety performance.

2.4. Theoretical Framework

This study is informed by three key theories: the Donabedian Structure–Process–Outcome Model, Safety Culture Theory, and the Job Demand–Resource (JDR) Model. The Donabedian model explains how organisational structures such as staffing levels influence care processes and safety outcomes (Donabedian, 1988). Safety Culture Theory highlights the importance of leadership, communication, and organisational values in shaping safety behaviours (Makary and Daniel, 2016). The JDR model explains how high workload and insufficient resources contribute to stress and burnout, which may reduce adherence to safety procedures (Bakker and Demerouti, 2007). Together, these theories provide an integrated understanding of how staffing levels, operational stress, leadership practices, and organisational culture influence workplace safety compliance in healthcare settings.

2.5. Empirical Review

Empirical studies consistently show that lower staffing levels are associated with poorer patient outcomes, increased missed care, and reduced adherence to safety procedures (Aiken et al., 2014; Griffiths et al., 2019). Research also demonstrates that operational stress and burnout negatively affect concentration, decision-making, and safety performance (Dyrbye et al., 2017; Panagioti et al., 2018).

However, much of the existing literature focuses on hospital environments, with limited attention given to community and adult social care settings where staffing challenges and organisational structures differ significantly (Baxter et al., 2020). In addition, previous studies have mainly focused on patient outcomes rather than examining adherence to workplace safety procedures as a distinct process influenced by staffing and organisational factors.

2.6. Research Gap

Although previous research has established links between staffing levels, burnout, and patient outcomes, limited studies have examined how staffing pressures influence adherence to workplace safety procedures in UK community and adult social care settings. Existing studies also provide limited consideration of the moderating role of leadership practices and organisational culture in maintaining safety compliance under operational pressure (Dall'Ora et al., 2022; West et al., 2020). This study addresses these gaps by examining the combined influence of staffing levels, operational stress, leadership, and organisational culture on workplace safety adherence among frontline healthcare professionals in UK community and adult social care environments.

3. Methodology

This study adopted a quantitative research approach to examine the relationship between staffing levels, operational stress, and adherence to workplace safety procedures in UK healthcare settings. A deductive approach was used to test relationships identified in existing literature and theoretical frameworks (Saunders, Lewis, and Thornhill, 2019). The study focused on healthcare professionals working within community and adult social care settings across the United Kingdom.

3.1. Research Design

A quantitative research design was employed using structured questionnaires to collect numerical data on staffing levels, operational stress, safety adherence, leadership practices, and organisational culture. This design enabled the use of statistical analysis to identify patterns and relationships between variables (Creswell, 2014; Bryman, 2016).

3.2. Study Population and Sampling

The study population consisted of healthcare professionals involved in patient care, including nurses, allied health professionals, healthcare assistants, and support workers. Participants were required to have at least six months of work experience in UK healthcare or adult social care settings. Purposive and snowball sampling techniques were used to recruit participants with relevant experience and knowledge of workplace safety practices (Bryman, 2016). A total of 54 participants took part in the study.

3.3. Data Collection

Data were collected through an electronically distributed structured questionnaire consisting of five sections: demographic information, staffing levels and workload, operational stress and burnout, adherence to safety procedures, and leadership and organisational culture. Responses were measured using a five-point Likert scale ranging from strongly disagree to strongly agree. The use of questionnaires ensured consistency and allowed efficient data collection from healthcare professionals with demanding workloads (Saunders, Lewis, and Thornhill, 2019).

3.4. Data Analysis

Data were analysed using SPSS version 26. Descriptive statistics, including frequencies, means, and standard deviations, were used to summarise the data. Inferential analyses included Pearson correlation and linear regression to examine relationships between staffing levels, operational stress, leadership practices, and adherence to safety procedures (Field, 2018).

3.5. Validity and Reliability

Validity was ensured through the use of established literature and previously validated measurement scales. The questionnaire was pretested to improve clarity and consistency. Reliability was assessed using Cronbach's alpha, with values above 0.80 considered acceptable (Field, 2018).

3.6. Ethical Considerations

Ethical approval was obtained from the appropriate university ethics committee before data collection. Participants were informed about the purpose of the study and provided informed consent prior to participation. Confidentiality and anonymity were maintained throughout the study, and all data were securely stored in accordance with UK GDPR requirements. Participants were also informed of their right to withdraw from the study at any stage without penalty (Bryman, 2016).

4. Results

Data collected for this study were analysed using IBM SPSS Statistics version 26. Both descriptive and inferential statistical techniques were employed to address the research objectives, in line with the analytical procedures outlined in the study methodology. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarise the socio-demographic characteristics of respondents and key study variables, while inferential statistics, specifically Pearson correlation and linear regression analyses, were conducted to examine relationships among staffing levels, operational stress, leadership practices, and adherence to workplace safety procedures. 54 questionnaires were completely analysed.

4.1. Socio-Demographic Characteristics of Respondents

The socio-demographic characteristics of respondents are presented in terms of age and gender. As shown in Table 4.1, the majority of respondents were within the 36–45 years age group, accounting for 27 (50.0%) of the total sample. This was followed by respondents aged 26–35 years, who constituted 18 (33.3%). Participants aged 46–55 years represented 7 (13.0%), while those within the 18–25 and 56+ age categories each accounted for 1 (1.9%) respectively. This distribution indicates that the study population was largely composed of mid-career healthcare professionals.

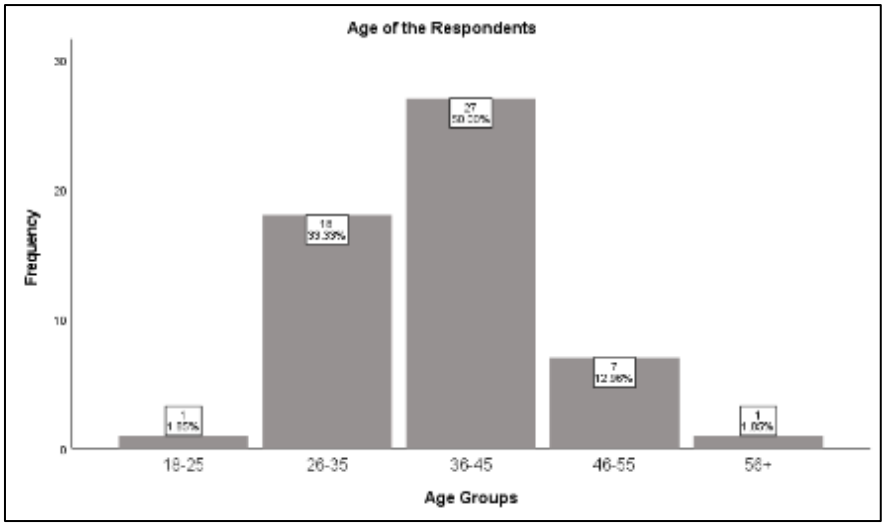

Figure 1 Distribution of Respondents by Age Group

In terms of gender, the distribution of respondents was evenly balanced, with 26 (48.1%) identifying as male and 26 (48.1%) as female. A small proportion of respondents, 2 (3.7%), preferred not to disclose their gender. This suggests a relatively equal representation of male and female participants in the study.

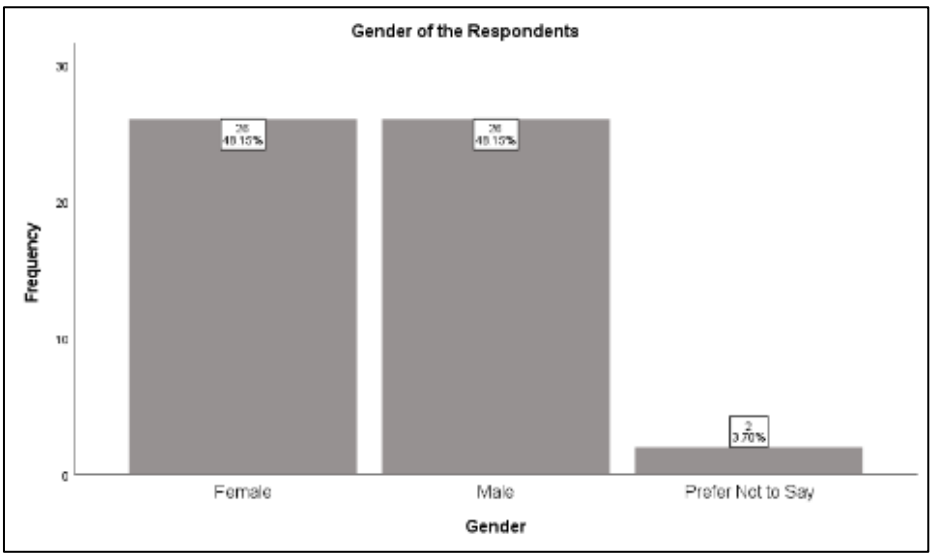

Figure 2 Distribution of Respondents by Gender

Table 1 Socio-Demographic Characteristics of Respondents (n = 54)

Variable	Category	Frequency (n)	Percentage (%)
Age (years)	18–25	1	1.9
	26–35	18	33.3
	36–45	27	50.0
	46–55	7	13.0
	56+	1	1.9
	Total	54	100.0
Gender	Male	26	48.1

	Female	26	48.1
	Prefer not to say	2	3.7
	Total	54	100.0

4.2. Adherence to Workplace Safety Procedures

As shown in Table 2, the majority of respondents strongly agreed that they personally follow established workplace safety procedures during their duties, with 37 (68.5%) indicating strong agreement and 15 (27.8%) agreeing, while only 1 (1.9%) strongly disagreed and 1 (1.9%) remained neutral. Similarly, adherence to infection prevention and control guidelines was high, with 36 (66.7%) strongly agreeing and 17 (31.5%) agreeing, while only 1 (1.9%) strongly disagreed. In terms of reporting safety incidents or near misses, 32 (59.3%) of respondents strongly agreed and 20 (37.0%) agreed that they report such occurrences, while 1 (1.9%) strongly disagreed and 1 (1.9%) was neutral. The use of appropriate personal protective equipment (PPE) was also widely practiced, with 37 (68.5%) strongly agreeing and 14 (25.9%) agreeing, whereas 2 (3.7%) were neutral and 1 (1.9%) strongly disagreed. Regarding adherence to manual handling and patient safety protocols, 33 (61.1%) strongly agreed and 19 (35.2%) agreed, while 1 (1.9%) strongly disagreed and 1 (1.9%) was neutral. Confidence in personal knowledge of workplace safety procedures was also high, with 35 (64.8%) strongly agreeing and 16 (29.6%) agreeing, while 2 (3.7%) were neutral and 1 (1.9%) strongly disagreed. Furthermore, familiarity with safety guidelines set by regulatory bodies was reported by 25 (46.3%) of respondents who strongly agreed and another 25 (46.3%) who agreed, while 3 (5.6%) were neutral and 1 (1.9%) strongly disagreed. Finally, regarding the communication of safety protocols within the workplace, 29 (53.7%) strongly agreed and 19 (35.2%) agreed that safety protocols are clearly communicated, while 5 (9.3%) were neutral and 1 (1.9%) strongly disagreed.

Table 2 Adherence to Workplace Safety Procedures (n = 54)

Statement	**SD N (%)**	**D N (%)**	**N N (%)**	**A N (%)**	**SA N (%)**
Follow established workplace safety procedures during duties	1 (1.9)	0 (0.0)	1 (1.9)	15 (27.8)	37 (68.5)
Adhere to infection prevention and control guidelines	1 (1.9)	0 (0.0)	0 (0.0)	17 (31.5)	36 (66.7)
Report safety incidents or near misses when encountered	1 (1.9)	0 (0.0)	1 (1.9)	20 (37.0)	32 (59.3)
Use appropriate personal protective equipment (PPE) when required	1 (1.9)	0 (0.0)	2 (3.7)	14 (25.9)	37 (68.5)
Follow manual handling and patient safety protocols during tasks	1 (1.9)	0 (0.0)	1 (1.9)	19 (35.2)	33 (61.1)
Demonstrate confidence in knowledge of workplace safety procedures	1 (1.9)	0 (0.0)	2 (3.7)	16 (29.6)	35 (64.8)
Demonstrate familiarity with safety guidelines set by regulatory bodies	1 (1.9)	0 (0.0)	3 (5.6)	25 (46.3)	25 (46.3)
Safety protocols are clearly communicated within the workplace	1 (1.9)	0 (0.0)	5 (9.3)	19 (35.2)	29 (53.7)

4.2.1. Composite Score and Level of Adherence to Workplace Safety Procedures

As presented in Table 3, the mean adherence score among respondents was 4.52 (SD = 0.63), indicating a high level of adherence to workplace safety procedures. To provide a clearer interpretation of adherence levels, the composite scores were categorised into three groups: low, moderate, and high adherence. The results show that the majority of respondents, 45 (83.3%), demonstrated a high level of adherence to workplace safety procedures. A smaller proportion, 8 (14.8%), exhibited a moderate level of adherence, while only 1 (1.9%) respondent was classified as having a low level of adherence.

Table 3 Composite Score and Level of Adherence to Workplace Safety Procedures

Variable	Category	Frequency (n)	Percentage (%)
Adherence Mean Score	Mean ± SD	4.52 ± 0.63	
Level of Adherence	Low	1	1.9
	Moderate	8	14.8
	High	45	83.3
	Total	54	100.0

4.3. Staffing Levels and Work Conditions

As shown in Table 4.4, 21 (38.9%) respondents agreed and 12 (22.2%) strongly agreed that staffing levels during their shifts are sufficient, while 11 (20.4%) were neutral, and a combined 10 (18.5%) disagreed or strongly disagreed. However, a substantial proportion of respondents indicated that understaffing affects their ability to fully follow safety procedures, with 24 (44.4%) agreeing and 18 (33.3%) strongly agreeing, while only 5 (9.3%) disagreed or strongly disagreed. Similarly, 23 (42.6%) respondents agreed and 20 (37.0%) strongly agreed that high patient-to-staff ratios can lead to problems in care delivery, whereas 7 (13.0%) disagreed or strongly disagreed and 4 (7.4%) remained neutral. Regarding shift patterns, 24 (44.4%) agreed and 12 (22.2%) strongly agreed that shift schedules provide enough time to complete safety-related tasks, while 12 (22.2%) were neutral and 6 (11.2%) disagreed or strongly disagreed.

Furthermore, the majority of respondents acknowledged that staffing shortages may increase the risk of adverse patient outcomes, with 29 (53.7%) strongly agreeing and 18 (33.3%) agreeing, while only 3 (5.6%) disagreed or strongly disagreed. In addition, 39 (72.2%) strongly agreed and 13 (24.1%) agreed that maintaining adequate staffing levels contributes positively to workplace safety, indicating strong consensus on its importance. Perceptions regarding the use of temporary staff showed more variation, with 18 (33.3%) agreeing and 15 (27.8%) strongly agreeing that the use of agency or bank staff may affect safety, while 9 (16.7%) were neutral and 12 (22.2%) disagreed or strongly disagreed.

Table 4 Perception of Staffing Levels and Work Conditions (n = 54)

Statement	SD N (%)	D N (%)	N N (%)	A N (%)	SA N (%)
Staffing levels during shifts are sufficient	6 (11.1)	4 (7.4)	11 (20.4)	21 (38.9)	12 (22.2)
Understaffing affects ability to fully follow safety procedures	2 (3.7)	3 (5.6)	7 (13.0)	24 (44.4)	18 (33.3)
High patient-to-staff ratios lead to problems in care delivery	1 (1.9)	6 (11.1)	4 (7.4)	23 (42.6)	20 (37.0)
Shift patterns provide sufficient time to complete safety tasks	3 (5.6)	3 (5.6)	12 (22.2)	24 (44.4)	12 (22.2)
Staffing shortages increase the risk of adverse patient outcomes	1 (1.9)	2 (3.7)	4 (7.4)	18 (33.3)	29 (53.7)
Maintaining adequate staffing levels improves workplace safety	1 (1.9)	0 (0.0)	1 (1.9)	13 (24.1)	39 (72.2)
Use of temporary staff affects safety	4 (7.4)	8 (14.8)	9 (16.7)	18 (33.3)	15 (27.8)

4.3.1. Composite Score and Level of Staffing Conditions

The overall perception of staffing levels and work conditions was further assessed using a composite mean score. As presented in Table 4.5, the mean staffing score among respondents was 3.98 (SD = 0.61), indicating a moderate to high perception of staffing adequacy and its influence on workplace safety. To enhance interpretation, the composite scores

were categorised into low, moderate, and high levels. The findings reveal that the majority of respondents, 31 (57.4%), reported a moderate perception of staffing conditions, while 22 (40.7%) indicated a high level. Only 1 (1.9%) respondent was classified as having a low perception.

Table 5 Composite Score and Level of Staffing Conditions (n = 54)

Variable	Category	Frequency (n)	Percentage (%)
Staffing Mean Score	Mean ± SD	3.98 ± 0.61	
Level of Staffing Conditions	Low	1	1.9
	Moderate	31	57.4
	High	22	40.7
	Total	54	100.0

4.4. Operational Stress and Burnout

As shown in Table 4.6, 20 (37.0%) respondents strongly agreed and 18 (33.3%) agreed that they personally experience work-related stress due to workload demands, while 8 (14.8%) were neutral and 8 (14.9%) disagreed or strongly disagreed. Similarly, a majority of respondents indicated that staffing shortages contribute to stress, with 26 (48.1%) strongly agreeing and 17 (31.5%) agreeing, while only 5 (9.3%) disagreed or strongly disagreed. In terms of operational pressure, 19 (35.2%) respondents agreed and 14 (25.9%) strongly agreed that pressure affects their concentration and decision-making, whereas 11 (20.4%) were neutral and 10 (18.5%) disagreed or strongly disagreed. Emotional exhaustion was also reported, with 18 (33.3%) agreeing and 18 (33.3%) strongly agreeing that they feel emotionally exhausted after many work shifts, while 8 (14.8%) were neutral and 10 (18.6%) disagreed or strongly disagreed.

Furthermore, 22 (40.7%) respondents agreed and 17 (31.5%) strongly agreed that burnout can affect their ability to consistently follow safety procedures, while 8 (14.8%) were neutral and 7 (13.0%) disagreed or strongly disagreed. Additionally, 24 (44.4%) agreed and 23 (42.6%) strongly agreed that workplace stress can influence safety practices, with only 7 (13.0%) disagreeing or strongly disagreeing. However, perceptions of support during stress were more varied. While 18 (33.3%) agreed and 9 (16.7%) strongly agreed that they feel supported when experiencing work-related stress, 11 (20.4%) were neutral and a notable proportion, 16 (29.6%), disagreed or strongly disagreed.

Table 6 Operational Stress and Burnout among Respondents (n = 54)

Statement	SD N (%)	D N (%)	N N (%)	A N (%)	SA N (%)
Experience work-related stress due to workload demands	5 (9.3)	3 (5.6)	8 (14.8)	18 (33.3)	20 (37.0)
Staffing shortages contribute to stress levels	4 (7.4)	1 (1.9)	6 (11.1)	17 (31.5)	26 (48.1)
Operational pressure affects concentration and decision-making	6 (11.1)	4 (7.4)	11 (20.4)	19 (35.2)	14 (25.9)
Feel emotionally exhausted after many work shifts	7 (13.0)	3 (5.6)	8 (14.8)	18 (33.3)	18 (33.3)
Burnout affects ability to consistently follow safety procedures	4 (7.4)	3 (5.6)	8 (14.8)	22 (40.7)	17 (31.5)
Workplace stress influences safety practices	2 (3.7)	5 (9.3)	0 (0.0)	24 (44.4)	23 (42.6)
Feel supported when experiencing work-related stress	8 (14.8)	8 (14.8)	11 (20.4)	18 (33.3)	9 (16.7)

4.4.1. Composite Score and Level of Operational Stress

The overall level of operational stress was further assessed using a composite mean score. As presented in Table 4.7, the mean stress score among respondents was 3.77 (SD = 0.86), indicating a moderate level of stress among the study population. To enhance interpretation, the composite scores were categorised into low, moderate, and high stress levels. The results show that 24 (44.4%) respondents experienced a moderate level of stress, while 21 (38.9%) reported a high level of stress. A smaller proportion, 9 (16.7%), experienced low levels of stress.

Table 7 Composite Score and Level of Operational Stress (n = 54)

Variable	Category	Frequency (n)	Percentage (%)
Stress Mean Score	Mean ± SD	3.77 ± 0.86	
Level of Stress	Low	9	16.7
	Moderate	24	44.4
	High	21	38.9
	Total	54	100.0

4.5. Leadership Practices and Organisational Culture

As shown in Table 4.8, 29 (53.7%) respondents agreed and 17 (31.5%) strongly agreed that management emphasises the importance of following safety procedures, while 4 (7.4%) were neutral and 4 (7.5%) disagreed or strongly disagreed. Similarly, 21 (38.9%) agreed and 13 (24.1%) strongly agreed that leadership actively monitors adherence to safety protocols, although 16 (29.6%) respondents remained neutral. In terms of role modelling, 23 (42.6%) respondents agreed and 13 (24.1%) strongly agreed that senior staff demonstrate safe practice behaviours, while 11 (20.4%) were neutral and 7 (13.0%) disagreed or strongly disagreed. Additionally, a large proportion of respondents reported receiving workplace training related to safety procedures, with 30 (55.6%) agreeing and 20 (37.0%) strongly agreeing, while only 4 (7.4%) disagreed or strongly disagreed.

Regarding accountability, 21 (38.9%) agreed and 14 (25.9%) strongly agreed that corrective action is taken when safety procedures are not followed, while 13 (24.1%) were neutral and 6 (11.1%) disagreed or strongly disagreed. Furthermore, 28 (51.9%) agreed and 13 (24.1%) strongly agreed that there is open communication about safety concerns, while 6 (11.1%) were neutral and 7 (13.0%) disagreed or strongly disagreed. Encouragement to report safety issues without fear was also noted, with 22 (40.7%) agreeing and 16 (29.6%) strongly agreeing, while 9 (16.7%) were neutral and 7 (13.0%) disagreed or strongly disagreed. Finally, 31 (57.4%) respondents agreed and 17 (31.5%) strongly agreed that workforce planning influences safe staffing levels, indicating strong recognition of its importance.

Table 8 Leadership Practices and Organisational Culture (n = 54)

Statement	SD N (%)	D N (%)	N N (%)	A N (%)	SA N (%)
Management emphasises the importance of following safety procedures	3 (5.6)	1 (1.9)	4 (7.4)	29 (53.7)	17 (31.5)
Leadership monitors adherence to safety protocols	2 (3.7)	2 (3.7)	16 (29.6)	21 (38.9)	13 (24.1)
Senior staff demonstrate safe practice behaviours	2 (3.7)	5 (9.3)	11 (20.4)	23 (42.6)	13 (24.1)
Receive workplace training related to safety procedures	2 (3.7)	2 (3.7)	0 (0.0)	30 (55.6)	20 (37.0)
Corrective action is taken when safety procedures are not followed	2 (3.7)	4 (7.4)	13 (24.1)	21 (38.9)	14 (25.9)
Open communication exists regarding safety concerns	4 (7.4)	3 (5.6)	6 (11.1)	28 (51.9)	13 (24.1)

Staff are encouraged to report safety issues without fear	3 (5.6)	4 (7.4)	9 (16.7)	22 (40.7)	16 (29.6)
Workforce planning influences safe staffing levels	2 (3.7)	1 (1.9)	3 (5.6)	31 (57.4)	17 (31.5)

4.5.1. Composite Score and Level of Leadership Practices

The overall perception of leadership practices and organisational culture was further assessed using a composite mean score. As presented in Table 4.9, the mean leadership score among respondents was 3.90 (SD = 0.83), indicating a moderate to high perception of leadership support for workplace safety. To enhance interpretation, the composite scores were categorised into low, moderate, and high levels. The findings reveal that 28 (51.9%) respondents reported a moderate level of leadership support, while 22 (40.7%) indicated a high level. A smaller proportion, 4 (7.4%), reported a low level.

Table 9 Composite Score and Level of Leadership Practices (n = 54)

Variable	Category	Frequency (n)	Percentage (%)
Leadership Mean Score	Mean ± SD	3.90 ± 0.83	
Level of Leadership Practices	Low	4	7.4
	Moderate	28	51.9
	High	22	40.7
	Total	54	100.0

4.6. Inferential Statistics

4.6.1. Correlation Analysis

Pearson correlation analysis was employed to examine the relationships among the key study variables: adherence to workplace safety procedures, staffing levels, operational stress, and leadership practices. The analysis was conducted using composite mean scores derived from Likert-scale items, which were treated as continuous variables. This approach is consistent with standard practice in social and public health research, where aggregated Likert-scale scores are analysed using parametric tests (Norman, 2010; Sullivan & Artino, 2013). The choice of Pearson correlation was appropriate as the study sought to determine the strength and direction of relationships between continuous variables, in line with the stated research objectives and hypotheses (Pallant, 2020). The results of the correlation analysis are presented in Table 4.10.

Table 10 Correlation Matrix of Key Study Variables (n = 54)

Variables	Mean Adherence Score	Mean Staffing Score	Mean Stress Score	Mean Leadership Score
Mean Adherence Score	1			
Mean Staffing Score	0.659**	1		
Mean Stress Score	0.227	0.531**	1	
Mean Leadership Score	0.566**	0.553**	0.414**	1

Note: $p < 0.01$ (2-tailed)

4.6.2. Test of Hypotheses

Based on the results of the correlation analysis presented above, the study hypotheses were tested to determine the statistical significance of the relationships between the key variables. Hypothesis One (H_{01})

- H_{01}: There is no significant relationship between staffing levels and adherence to workplace safety procedures.
- H_{01}: There is a significant relationship between staffing levels and adherence to workplace safety procedures.

The results revealed a strong positive and statistically significant relationship between staffing levels and adherence to workplace safety procedures ($r = 0.659$, $p < 0.001$). This indicates that improvements in staffing levels are associated with increased adherence to workplace safety procedures among respondents. Since the p-value is less than 0.05, the null hypothesis ($H_{01}a$) is rejected, while the alternative hypothesis ($H_{01}b$) is supported.

Hypothesis Two (H_{02})

Following the examination of the relationship between staffing levels and adherence to workplace safety procedures, the study further assessed the relationship between staffing conditions and operational stress.

- H_{02}: There is no significant relationship between workload (staffing conditions) and operational stress.
- H_{02}: There is a significant relationship between workload (staffing conditions) and operational stress.

The findings showed a moderate positive and statistically significant relationship between staffing levels and operational stress ($r = 0.531$, $p < 0.001$). This suggests that staffing conditions are significantly associated with stress levels among respondents. Thus, the null hypothesis ($H_{02}a$) is rejected, and the alternative hypothesis ($H_{02}b$) is supported.

Hypothesis Three (H_{03})

Furthermore, attention was directed towards assessing the role of leadership practices in influencing adherence to workplace safety procedures.

- H_{03}: Leadership practices do not significantly influence adherence to workplace safety procedures.
- H_{03}: Leadership practices significantly influence adherence to workplace safety procedures.

The results indicated a moderate positive and statistically significant relationship between leadership practices and adherence ($r = 0.566$, $p < 0.001$). This implies that improvements in leadership practices are associated with better adherence to workplace safety procedures. Accordingly, the null hypothesis ($H_{03}a$) is rejected, while the alternative hypothesis ($H_{03}b$) is supported.

Hypothesis Four (H_{04})

Finally, the study evaluated the relationship between adherence to workplace safety procedures and operational stress.

- H_{04}: There is no significant relationship between adherence to workplace safety procedures and operational stress.
- H_{04}: There is a significant relationship between adherence to workplace safety procedures and operational stress.

The analysis showed a weak positive relationship between adherence and stress, which was not statistically significant ($r = 0.227$, $p = 0.099$). This indicates that adherence to workplace safety procedures is not significantly associated with stress levels among respondents. Since the p-value is greater than 0.05, the null hypothesis ($H_{04}a$) is not rejected, and the alternative hypothesis ($H_{04}b$) is not supported.

Further analysis revealed that leadership practices had moderate positive and statistically significant relationships with staffing levels ($r = 0.553$, $p < 0.001$) and operational stress ($r = 0.414$, $p = 0.002$). This suggests that leadership plays a critical role in shaping both organisational conditions and staff experiences within the workplace.

4.6.3. Regression Analysis

Model 1: Staffing Levels as a Predictor of Adherence to Workplace Safety Procedures

A simple linear regression analysis was conducted to determine whether staffing levels significantly predict adherence to workplace safety procedures. As shown in Table 4.11, staffing levels significantly predicted adherence to workplace safety procedures, $F(1, 52) = 39.95$, $p < 0.001$. The model explained 43.4% of the variance in adherence ($R^2 = 0.434$), indicating a strong explanatory power. Furthermore, staffing levels were found to be a significant positive predictor of adherence ($\beta = 0.659$, $p < 0.001$), suggesting that improvements in staffing levels are associated with increased adherence to workplace safety procedures among respondents.

Table 11 Regression Analysis of Staffing Levels Predicting Adherence

Variable	B	Std. Error	Beta (β)	T	Sig.
Constant	1.813	0.433	—	4.184	0.001
Staffing Level	0.681	0.108	0.659	6.320	0.001

Model Summary: $R = 0.659$, $R^2 = 0.434$, Adjusted $R^2 = 0.424$; ANOVA: $F(1, 52) = 39.948$, $p < 0.001$

Model 2: Staffing Levels as a Predictor of Operational Stress

A simple linear regression analysis was conducted to assess whether staffing levels predict operational stress. As presented in Table 4.12, staffing levels significantly predicted operational stress, $F(1, 52) = 20.39$, $p < 0.001$. The model accounted for 28.2% of the variance in operational stress ($R^2 = 0.282$), indicating a moderate explanatory effect. Staffing levels were also found to be a significant positive predictor of operational stress ($\beta = 0.531$, $p < 0.001$), suggesting that staffing conditions are significantly associated with stress levels among respondents.

Table 12 Regression Analysis of Staffing Levels Predicting Operational Stress

Variable	B	Std. Error	Beta (β)	T	Sig.
Constant	0.790	0.667	—	1.184	0.242
Staffing Level	0.749	0.166	0.531	4.515	0.000

Model Summary: $R = 0.531$, $R^2 = 0.282$, Adjusted $R^2 = 0.268$; ANOVA: $F(1, 52) = 20.389$, $p < 0.001$

Model 3: Leadership Practices as a Predictor of Adherence to Workplace Safety Procedures

A simple linear regression analysis was conducted to evaluate whether leadership practices predict adherence to workplace safety procedures. As indicated in Table 4.13, leadership practices significantly predicted adherence, $F(1, 52) = 24.48$, $p < 0.001$. The model explained 32.0% of the variance in adherence ($R^2 = 0.320$), indicating a moderate level of explanatory power. Leadership practices were found to be a significant positive predictor of adherence ($\beta = 0.566$, $p < 0.001$), suggesting that improvements in leadership practices are associated with higher adherence to workplace safety procedures.

Table 13 Regression Analysis of Leadership Practices Predicting Adherence

Variable	B	Std. Error	Beta (β)	t	Sig.
Constant	2.840	0.347	—	8.184	0.000
Leadership Practices	0.431	0.087	0.566	4.948	0.000

Model Summary: $R = 0.566$, $R^2 = 0.320$, Adjusted $R^2 = 0.307$; ANOVA: $F(1, 52) = 24.483$, $p < 0.001$

Model 4: Adherence to Workplace Safety Procedures as a Predictor of Operational Stress

A simple linear regression analysis was conducted to examine whether adherence to workplace safety procedures predicts operational stress. As shown in Table 4.14, adherence did not significantly predict operational stress, $F(1, 52) = 2.82$, $p = 0.099$. The model explained only 5.1% of the variance in operational stress ($R^2 = 0.051$), indicating a weak explanatory power. Additionally, adherence was not a significant predictor ($\beta = 0.227$, $p = 0.099$), suggesting that adherence to workplace safety procedures does not significantly influence stress levels among respondents.

Table 14 Regression Analysis of Adherence Predicting Operational Stress

Variable	B	Std. Error	Beta (β)	t	Sig.
Constant	2.369	0.842	—	2.812	0.007
Adherence	0.310	0.185	0.227	1.679	0.099

Model Summary: $R = 0.227$, $R^2 = 0.051$, Adjusted $R^2 = 0.033$; ANOVA: $F(1, 52) = 2.819$, $p = 0.099$

5. Discussion of Findings

This study examined adherence to workplace safety procedures among healthcare professionals in UK healthcare settings, focusing on staffing levels, operational stress, and leadership practices. The findings showed a generally high level of adherence to safety procedures, suggesting that healthcare professionals recognise the importance of maintaining safe practices. This supports previous research highlighting strong awareness of safety protocols within healthcare environments (World Health Organization, 2020; Vincent and Amalberti, 2016). However, existing studies also suggest that adherence is influenced by workplace conditions such as workload and staffing pressures (Alper et al., 2015; Tucker and Edmondson, 2003).

The study identified a significant positive relationship between staffing levels and adherence to safety procedures. This finding supports previous evidence that adequate staffing contributes to improved safety performance and quality of care (Aiken et al., 2014; Griffiths et al., 2019; Dall'Ora et al., 2022). Consistent with the Donabedian Structure–Process–Outcome model, staffing levels act as a structural factor that influences the ability of healthcare professionals to consistently follow safety procedures (Donabedian, 1988). Inadequate staffing may increase workload pressures and reduce the time available for safe practice (Carayon et al., 2014).

The findings also revealed that staffing shortages contribute significantly to operational stress and burnout among healthcare professionals. This aligns with the Job Demand–Resource model, which explains how high workload and limited resources increase stress levels (Bakker and Demerouti, 2007). Similar findings have been reported in previous healthcare studies linking understaffing to emotional exhaustion and fatigue (Hall et al., 2016; Panagioti et al., 2018). Although operational stress was common, the study did not find a significant direct relationship between stress and adherence to safety procedures. This may suggest that healthcare professionals continue to prioritise safety-critical tasks even under stressful conditions, reflecting adaptive coping behaviours within healthcare environments (Carayon et al., 2014). However, the use of self-reported measures may not fully capture subtle deviations from safety procedures.

Leadership practices also emerged as a significant factor influencing adherence to safety procedures. Supportive leadership, clear communication, and reinforcement of safety standards were associated with improved safety behaviours. This finding is consistent with safety culture theory and previous studies emphasising the role of leadership in promoting workplace safety and staff engagement (Singer, Vogus and Rosen, 2011; West et al., 2020).

Overall, the findings demonstrate that workplace safety adherence is influenced by a combination of structural and organisational factors. While adequate staffing provides the resources necessary for safe practice, effective leadership and organisational support help maintain safety standards under operational pressure. These findings reinforce the importance of workforce planning, supportive leadership, and organisational culture in improving patient and staff safety within UK healthcare settings.

6. Conclusion

This study examined the relationship between staffing levels, operational stress, leadership practices, and adherence to workplace safety procedures among healthcare professionals in the United Kingdom. The findings indicate that adherence to safety procedures is generally high, reflecting strong professional awareness and commitment to safe

practice. However, the study also demonstrates that adherence is significantly influenced by staffing levels and leadership practices. Adequate staffing was found to be a key determinant of adherence, highlighting the importance of workforce capacity in enabling safe care delivery. Similarly, leadership practices were shown to play a critical role in reinforcing safety behaviours and shaping organisational culture. The study further revealed that staffing levels significantly influence operational stress, confirming that workforce conditions are a major contributor to staff wellbeing. However, contrary to expectations, stress was not found to have a significant direct effect on adherence, suggesting that healthcare professionals may maintain safety practices even under pressure.

Recommendations

Based on the findings of this study, several practical and policy-relevant recommendations are proposed to enhance adherence to workplace safety procedures within healthcare settings. First, healthcare organisations should prioritise strategic workforce planning aimed at achieving and sustaining optimal staffing levels. Given the strong predictive role of staffing in influencing both adherence and operational stress, there is a need for targeted interventions that address workforce shortages, improve staff retention, and ensure an appropriate skill mix across units. This may involve long-term investment in recruitment pipelines, as well as organisational policies that promote job satisfaction and reduce turnover among healthcare professionals.

In addition, leadership development should be strengthened as a central component of organisational improvement strategies. The findings highlight the significant role of leadership practices in shaping adherence behaviours, suggesting that managers and supervisors must be equipped with the skills necessary to foster a strong culture of safety. Leadership training programmes should therefore emphasise effective communication, accountability, and the consistent reinforcement of safety protocols. Leaders should also be encouraged to model safe practices and create environments where adherence is both supported and expected. Healthcare organisations should implement comprehensive staff wellbeing and stress management initiatives. Although stress was not found to significantly predict adherence, it remains a critical factor affecting workforce sustainability and overall performance. Interventions such as psychological support services, workload redistribution, and flexible scheduling may help to reduce burnout and improve staff resilience. Ensuring that staff feel supported in managing work-related stress is essential for maintaining both wellbeing and long-term safety outcomes.

There is also a need to strengthen systems for monitoring and evaluating adherence to workplace safety procedures. Organisations should adopt structured approaches such as routine safety audits, feedback mechanisms, and digital reporting tools to track compliance and identify areas for improvement. Continuous monitoring will not only enhance accountability but also provide data-driven insights that can inform policy and practice. Additionally, greater emphasis should be placed on ongoing training and professional development in relation to workplace safety. Continuous education programmes can reinforce knowledge, update staff on evolving safety guidelines, and ensure that best practices are consistently applied across healthcare settings.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of ethical approval

This study was reviewed and approved by the Ethics Committee of the University of Salford. All procedures performed in this study were conducted in accordance with the ethical standards of the institutional research committee.
Informed consent was obtained from all participants prior to their participation in the study.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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