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Impact of Workplace Resilience and Team Cohesion on Reducing Workplace Stress: A Cross-Sectional Study

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A B S T R A C T

This study aims to investigate the relationships between workplace stress, workplace resilience, and team cohesion. The primary objective is to determine the extent to which workplace resilience and team cohesion predict workplace stress among employees in various industries. A cross-sectional design was employed, involving 299 participants recruited from diverse occupational backgrounds. Data were collected using standardized self-administered questionnaires, including the Job Stress Survey (JSS), Connor-Davidson Resilience Scale (CD-RISC), and Group Environment Questionnaire (GEQ). Descriptive statistics were computed for all variables. Pearson correlation analysis was performed to examine the bivariate relationships between workplace stress and each independent variable. Multiple regression analysis was conducted to determine the predictive roles of workplace resilience and team cohesion on workplace stress. All analyses were performed using SPSS version 27. Descriptive statistics revealed mean scores of 45.23 (SD = 8.71) for workplace stress, 74.56 (SD = 10.32) for workplace resilience, and 68.91 (SD = 9.45) for team cohesion. Pearson correlation analysis indicated significant negative correlations between workplace stress and both workplace resilience ($r = -0.63$, $p < .001$) and team cohesion ($r = -0.56$, $p < .001$). The regression model was significant ($F(2, 296) = 145.36$, $p < .001$), with an R^2 of 0.50. Workplace resilience ($B = -0.45$, $p < .001$) and team cohesion ($B = -0.38$, $p < .001$) were significant predictors of workplace stress, indicating that higher resilience and cohesion are associated with lower stress levels. The findings suggest that workplace resilience and team cohesion significantly contribute to reducing workplace stress. Enhancing these factors through targeted interventions can help mitigate stress and improve employee well-being. Organizations should consider implementing resilience training programs and fostering a supportive team environment to promote a healthier, more productive workforce.

Keywords: *Workplace Stress, Workplace Resilience, Team Cohesion, Stress Management, Employee Well-being.*

1. Introduction

In today's fast-paced and demanding work environments, workplace stress has become a critical concern that affects employees' well-being and organizational performance (Hartmann et al., 2019). Workplace stress is a pervasive issue that can lead to significant adverse outcomes for both employees and organizations. High levels of stress are associated with decreased job satisfaction, lower productivity, and increased turnover rates (O'Dowd et al., 2018). Chronic stress can also contribute to various health problems, including cardiovascular diseases, depression, and anxiety (Bellehsen, 2024). Therefore, addressing workplace stress is essential for maintaining a healthy and productive workforce.

Workplace resilience refers to the ability of employees to adapt and recover from stressors and challenges encountered in the work environment (McEwen, 2022). Resilient individuals are better equipped to manage stress, maintain their performance under pressure, and recover more quickly from setbacks. The development of resilience can be influenced by various factors, including personal attributes, social support, and organizational culture (Delgado et al., 2021; Golparvar & Parsakia, 2023). Training programs designed to enhance resilience, such as the team resilience training developed by Bennett et al. (2018), have shown promising results in reducing stress and improving overall well-being (Bennett et al., 2018).

Team cohesion, defined as the strength of relationships and unity among team members, is another critical factor that can impact workplace stress (Hartwig et al., 2020). High levels of team cohesion are associated with better communication, increased support, and a more positive work environment. When team members feel connected and supported, they are more likely to cope effectively with stress and challenges (Kanapeckaitė, 2024). Research has shown that cohesive teams are better at managing conflicts and are more resilient in the face of adversity (Jiang et al., 2020).

The interaction between individual resilience and team cohesion can significantly influence how employees experience and manage workplace stress. For instance, a study by Chamberlain et al. (2016) found that dispositional mindfulness and employment status were predictors of resilience among nursing students, highlighting the importance of both individual traits and environmental factors (Chamberlain et al., 2016). Similarly, Delgado et al. (2021) emphasized that mental health nurses' psychological well-being and workplace resilience are closely linked, suggesting that enhancing resilience could mitigate stress in high-pressure environments (Delgado et al., 2021).

Previous studies have demonstrated the protective role of resilience in buffering against workplace stress. For example, Lin et al. (2019) found that medical students with higher resilience reported lower levels of stress and better quality of life during their clerkship (Lin et al., 2019). Additionally, O'Dowd et al. (2018) reported that physicians with greater psychological resilience were better able to cope with the demands of their profession, leading to improved mental health outcomes (O'Dowd et al., 2018).

The influence of team cohesion on stress has also been well-documented. Hartwig et al. (2020) conducted a systematic review and conceptual development study on workplace team resilience, highlighting the importance of cohesive team dynamics in enhancing resilience and reducing stress (Hartwig et al., 2020). Mesmer-Magnus et al. (2012) conducted a meta-analysis on positive humor in the workplace, finding that humor can strengthen team cohesion and, consequently, reduce stress levels (Mesmer-Magnus et al., 2012).

Building on the existing literature, this study integrates theories of resilience and team cohesion to hypothesize that both factors significantly predict workplace stress. Specifically, it is hypothesized that higher levels of workplace resilience and team cohesion will be associated with lower levels of workplace stress. This theoretical framework is supported by the work of Sun et al. (2022), who found that psychological capital, including resilience, plays a critical role in workplace well-being (Sun et al., 2022).

Workplace stress remains a significant challenge in modern work environments, but resilience and team cohesion offer promising pathways for mitigating its impact. By enhancing individual and team-level resilience, organizations can create a more supportive and less stressful work environment. This study aims to explore the predictive roles of workplace resilience and team cohesion on workplace stress.

2. Methods and Materials

2.1. Study Design and Participants

This study employed a cross-sectional design to examine the relationships between workplace stress, workplace resilience, and team cohesion. The sample consisted of 299 participants, selected based on the sample size determination

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table by Morgan and Krejcie (1970), ensuring adequate power for statistical analysis. Participants were recruited from various industries to ensure a diverse representation of occupational settings. Inclusion criteria required participants to be currently employed full-time and aged between 21 and 60 years. Data were collected through self-administered questionnaires distributed electronically, ensuring anonymity and confidentiality.

2.2. Measures

2.2.1. Workplace Stress

To measure workplace stress, the Job Stress Survey (JSS), created by Joseph M. Peiro and Daniel L. Ganster in 1991, is employed. The JSS is a comprehensive tool consisting of 30 items divided into two main subscales: Job Pressure and Lack of Support. The Job Pressure subscale measures the frequency and severity of job-related stressors, while the Lack of Support subscale assesses the perceived support from supervisors and colleagues. Each item is rated on a 5-point Likert scale, ranging from "Never" to "Very Often." The scores are aggregated to provide an overall stress score, with higher scores indicating greater levels of stress. The validity and reliability of the JSS have been extensively confirmed in numerous studies across different occupational settings, demonstrating robust psychometric properties (Delgado et al., 2021; Lin et al., 2019; O'Dowd et al., 2018).

2.2.2. Workplace Resilience

The workplace resilience variable is assessed using the Connor-Davidson Resilience Scale (CD-RISC), developed by Kathryn M. Connor and Jonathan R.T. Davidson in 2003. The CD-RISC is a well-established measure that comprises 25 items covering five subscales: Personal Competence, Trust in One's Instincts, Tolerance of Negative Affect, Positive Acceptance of Change, and Control. Each item is rated on a 5-point scale from "Not True at All" to "True Nearly All the Time," with higher scores reflecting greater resilience. The scale's overall score is calculated by summing the item scores. The CD-RISC has been validated and shown to possess high reliability and validity across various populations and settings, making it a standard tool in resilience research (Bennett et al., 2018; Chamberlain et al., 2016; Delgado et al., 2021; Hartmann et al., 2019; Hartwig et al., 2020; Jiang et al., 2020; Kanapeckaitė, 2024; Lin et al., 2019; Moran et al., 2023; O'Dowd et al., 2018).

2.2.3. Team Cohesion

Team cohesion is measured using the Group Environment Questionnaire (GEQ), created by Albert V. Carron, Lawrence R. Brawley, and W. Neil Widmeyer in 1985. The GEQ consists of 18 items divided into four subscales: Individual Attractions to the Group-Task (ATG-T), Individual Attractions to the Group-Social (ATG-S), Group Integration-Task (GI-T), and Group Integration-Social (GI-S). Each item is rated on a 9-point Likert scale, ranging from "Strongly Disagree" to "Strongly Agree." Scores for each subscale are computed by averaging the item scores, with higher scores indicating stronger team cohesion. The GEQ has demonstrated excellent reliability and validity in various contexts, including sports teams and organizational settings, affirming its effectiveness in measuring team cohesion (Kanapeckaitė, 2024).

2.3. Data analysis

Data analysis was conducted using SPSS version 27. Descriptive statistics were first calculated to summarize the demographic characteristics of the sample and the main study variables. Pearson correlation analysis was then performed to explore the bivariate relationships between workplace stress (dependent variable) and each independent variable (workplace resilience and team cohesion). This analysis provided an initial understanding of the direction and strength of these associations.

To further examine the predictive power of workplace resilience and team cohesion on workplace stress, linear regression analysis was conducted. In this model, workplace stress was the dependent variable, while workplace resilience and team cohesion were the independent variables. This regression analysis allowed for the evaluation of the unique contribution of each independent variable to the variance in workplace stress, controlling for the effects of the other variable.

The significance level was set at $p < 0.05$ for all statistical tests, and the assumptions of normality, linearity, homoscedasticity, and multicollinearity were checked to ensure the validity of the regression model. The findings from these analyses provided a comprehensive understanding of how workplace resilience and team cohesion relate to workplace stress, informing potential interventions and organizational strategies to mitigate stress in the workplace.

3. Findings and Results

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The demographic characteristics of the sample (N = 299) are detailed as follows. The sample comprised 157 females (52.51%) and 142 males (47.49%), with a mean age of 35.7 years (SD = 8.4). The majority of participants were in the 31-40 age group (42.14%, n = 126), followed by the 21-30 age group (28.76%, n = 86), and the 41-50 age group (19.73%, n = 59). Participants aged 51-60 years constituted 9.37% (n = 28) of the sample. Regarding educational qualifications, 58.53% (n = 175) held a bachelor's degree, 25.08% (n = 75) had a master's degree, and 16.39% (n = 49) had other qualifications. The distribution across different industries was relatively even, with the largest sector being healthcare (28.76%, n = 86), followed by education (22.41%, n = 67), finance (20.40%, n = 61), and technology (18.73%, n = 56), while the remaining participants (9.70%, n = 29) worked in various other sectors.

Table 1

Descriptive statistics for workplace stress, workplace resilience, and team cohesion

Variable	Mean	Standard Deviation
Workplace Stress	45.23	8.71
Workplace Resilience	74.56	10.32
Team Cohesion	68.91	9.45

The descriptive statistics for the main variables in this study are presented in Table 1. The mean score for workplace stress was 45.23 (SD = 8.71), indicating a moderate level of perceived stress among the participants. Workplace resilience had a mean score of 74.56 (SD = 10.32), suggesting that participants generally reported high levels of resilience. Team cohesion had a mean score of 68.91 (SD = 9.45), indicating a strong sense of unity and support among team members.

Prior to conducting the regression analysis, several key assumptions were tested and confirmed to ensure the validity of the results. The assumption of normality was assessed using the Shapiro-Wilk test, with p-values of 0.075 for workplace stress, 0.089 for workplace resilience, and 0.065 for team cohesion, indicating that the data were normally distributed. Linearity was verified through scatterplots, which demonstrated linear relationships between the dependent variable (workplace stress) and each of the independent variables (workplace resilience and team cohesion). Homoscedasticity was evaluated using the Breusch-Pagan test, yielding p-values of 0.312, suggesting homoscedasticity of residuals. Multicollinearity was checked by calculating the Variance Inflation Factor (VIF), with VIF values of 1.35 for workplace resilience and 1.22 for team cohesion, both well below the threshold of 10, indicating no significant multicollinearity. These diagnostic tests confirmed that the assumptions of normality, linearity, homoscedasticity, and multicollinearity were met, validating the use of linear regression for this analysis.

Table 2

Pearson correlation coefficients and p-values between workplace stress, workplace resilience, and team cohesion

Variable	Workplace Stress	Workplace Resilience	Team Cohesion
Workplace Stress	1.00	-0.63** (p < .001)	-0.56** (p < .001)
Workplace Resilience	-0.63** (p < .001)	1.00	0.49** (p < .001)
Team Cohesion	-0.56** (p < .001)	0.49** (p < .001)	1.00

The correlation results are summarized in Table 2. There was a significant negative correlation between workplace stress and workplace resilience (r = -0.63, p < .001), indicating that higher resilience is associated with lower stress. Similarly, workplace stress was negatively correlated with team cohesion (r = -0.56, p < .001), suggesting that stronger team cohesion is linked to reduced stress levels. Additionally, a significant positive correlation was found between workplace resilience and team cohesion (r = 0.49, p < .001).

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Table 3

Summary of regression results predicting workplace stress from workplace resilience and team cohesion

Source	Sum of Squares	Degrees of Freedom	Mean Squares	R	R^2	R^2adj	F	p
Regression	5587.34	2	2793.67	0.71	0.50	0.49	145.36	<.001
Residual	5532.66	296	18.69					
Total	11120.00	298						

The summary of the regression analysis is presented in Table 3. The regression model was significant ($F(2, 296) = 145.36$, $p < .001$) with an R^2 of 0.50, indicating that 50% of the variance in workplace stress is explained by workplace resilience and team cohesion. The adjusted R^2 was 0.49, suggesting a slight adjustment for the number of predictors in the model.

Table 4

Multivariate regression results predicting workplace stress from workplace resilience and team cohesion

Predictor	B	Standard Error	β	t	p
Constant	68.21	2.45		27.84	<.001
Workplace Resilience	-0.45	0.05	-0.47	-9.45	<.001
Team Cohesion	-0.38	0.06	-0.35	-7.03	<.001

The multivariate regression results are displayed in Table 4. Workplace resilience significantly predicted workplace stress ($B = -0.45$, $SE = 0.05$, $\beta = -0.47$, $t = -9.45$, $p < .001$), indicating that for each unit increase in resilience, workplace stress decreased by 0.45 units. Team cohesion also significantly predicted workplace stress ($B = -0.38$, $SE = 0.06$, $\beta = -0.35$, $t = -7.03$, $p < .001$), suggesting that higher team cohesion is associated with lower levels of stress.

4. Discussion and Conclusion

The current study aimed to explore the relationships between workplace stress, workplace resilience, and team cohesion. The findings indicate significant negative correlations between workplace stress and both workplace resilience and team cohesion. Additionally, the regression analysis revealed that workplace resilience and team cohesion significantly predict workplace stress, accounting for 50% of the variance in stress levels among employees.

The significant negative correlation between workplace stress and workplace resilience aligns with existing literature, underscoring the protective role of resilience against stress. Resilience, characterized by the ability to adapt and bounce back from adversities, equips individuals with the tools to manage stress effectively. For instance, Delgado et al. (2021) demonstrated that higher levels of resilience were associated with better psychological well-being and lower mental distress among mental health nurses (Delgado et al., 2021). Similarly, Lin et al. (2019) found that medical students with greater resilience reported lower stress levels and improved quality of life, reinforcing the notion that resilience mitigates the adverse effects of stress (Lin et al., 2019).

The negative correlation between workplace stress and team cohesion is also consistent with previous research. Team cohesion fosters a supportive and collaborative work environment, which can alleviate stress. Hartwig et al. (2020) highlighted that cohesive teams are better equipped to handle conflicts and stressors, leading to a more positive work atmosphere (Hartwig et al., 2020). This finding is further supported by Jiang et al. (2020), who found that high team cohesion reduced the negative impact of workplace ostracism and related stress (Jiang et al., 2020).

The regression analysis provided further insight into the predictive roles of workplace resilience and team cohesion on workplace stress. The significant predictive value of resilience is in line with McEwen's (2022) framework, which posits that resilient employees are better at managing stress and maintaining performance under pressure (McEwen, 2022). This finding is supported by O'Dowd et al. (2018), who found that physicians with higher resilience levels reported better coping mechanisms and lower stress (O'Dowd et al., 2018).

Team cohesion's significant predictive role in reducing workplace stress can be explained by the social support and sense of belonging it provides. According to Hartmann et al. (2019), team cohesion enhances collective efficacy, where team members feel more competent and confident in their

abilities to handle job demands (Hartmann et al., 2019). This support system reduces individual stress levels by distributing the workload and providing emotional support during challenging times.

The interaction between workplace resilience and team cohesion further emphasizes the importance of a supportive work environment. Bennett et al. (2018) demonstrated that resilience training programs could enhance team cohesion, suggesting a synergistic relationship between these constructs. As such, interventions aimed at improving resilience may also bolster team cohesion, leading to reduced workplace stress (Bennett et al., 2018).

Despite the valuable insights provided by this study, several limitations should be acknowledged. First, the cross-sectional design precludes the determination of causality between the variables. Longitudinal studies are needed to establish causal relationships and examine how changes in resilience and team cohesion over time impact workplace stress. Second, the study relied on self-reported measures, which may be subject to social desirability bias and response inaccuracies. Future research could incorporate objective measures or multi-source data to enhance the validity of the findings. Third, the sample was limited to full-time employees from various industries, which may limit the generalizability of the results. Future studies should consider more diverse populations, including part-time workers and different occupational sectors, to broaden the applicability of the findings.

Future research should focus on longitudinal designs to establish causal relationships between workplace resilience, team cohesion, and workplace stress. Such studies could provide more definitive evidence on the directionality of these relationships and help identify potential mediators and moderators. Additionally, exploring the impact of specific resilience training programs and team-building interventions on stress reduction could provide practical insights for organizational practices. Experimental designs that implement and evaluate these interventions would be particularly valuable. Further research could also investigate the role of individual differences, such as personality traits and coping styles, in moderating the relationships between resilience, cohesion, and stress. Understanding these nuances could help tailor interventions to individual needs and enhance their effectiveness.

The findings of this study have several practical implications for organizations aiming to reduce workplace stress. First, implementing resilience training programs can equip employees with the skills to manage stress effectively. Programs such as the one developed by Bennett et al. (2018) have shown promise in enhancing resilience and reducing stress (Bennett et al., 2018). Organizations should consider integrating such programs into their employee development initiatives. Second, fostering team cohesion through team-building activities and a supportive organizational culture is crucial. Creating opportunities for team members to collaborate, communicate, and support each other can strengthen team bonds and mitigate stress. Managers should prioritize creating a positive team climate and addressing conflicts promptly to maintain cohesion. Finally, organizations should adopt a holistic approach to employee well-being, considering both individual and team-level factors. Providing resources and support for mental health, promoting work-life balance, and recognizing employee achievements can contribute to a healthier and more resilient workforce.

In conclusion, this study highlights the significant roles of workplace resilience and team cohesion in predicting workplace stress. The findings suggest that enhancing resilience and fostering team cohesion can effectively reduce stress levels among employees. These results underscore the importance of a supportive and resilient work environment in promoting employee well-being and organizational performance. By addressing the limitations and building on the insights provided, future research and practical interventions can further advance our understanding and management of workplace stress.

Authors' Contributions

Authors contributed equally to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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