

Psychological Safety and Perceived Stress Among IT Professionals

Sankar^{1*}, Austina Joseph¹, Christo Antony¹, Aaron Raju Eapen¹

ABSTRACT

The rapid evolution of the IT industry has intensified workplace stress, necessitating a deeper understanding of factors influencing employee well-being. Psychological safety, the shared belief that individuals can express themselves without fear of negative consequences, is critical in mitigating stress. Perceived stress reflects an individual's appraisal of stressful situations. This study examines the relationship between psychological safety and perceived stress among IT professionals, exploring sex differences in these variables, and investigates the role of psychological safety in perceived stress. Data was collected from 121 IT professionals using the Psychological Safety Scale and the Perceived Stress Scale. Pearson Correlation and t-tests were employed for analysis. Results indicate a significant negative correlation between psychological safety and perceived stress. No significant sex differences were found in psychological safety or perceived stress. Additionally, perceived stress was higher among IT professionals with low psychological safety. These findings underscore the importance of fostering psychologically safe workplaces to enhance employee well-being.

Keywords: *Psychological Safety, Perceived Stress, IT Professionals, Sex Differences*

The Information Technology (IT) industry has transformed global sectors but places significant psychological pressures on its professionals. IT practitioners operate in high-stress environments characterized by tight deadlines, rapid technological advancements, and the need to balance innovation with efficiency (Rajeswari, 2002). These challenges highlight the importance of examining factors that influence psychological health, particularly psychological safety and perceived stress.

Psychological Safety

Psychological safety, first conceptualized by Schein and Bennis (1965), enables learning in organizational settings by fostering a secure environment for behavioural change. Edmondson (1999) defined it as “a shared belief held by members of a team that it is safe to take interpersonal risk-taking.” In psychologically safe workplaces, individuals feel comfortable expressing concerns, admitting mistakes, and sharing ideas without fear of retribution (Kahn, 1990). Research, including a meta-analysis by Newman et al. (2017), links psychological safety to creativity, team effectiveness, and employee engagement. It

¹Student, Dept of Psychology, St Berchmans College, Kerala

*Corresponding Author

Received: May 19, 2025; Revision Received: June 03, 2025; Accepted: June 06, 2025

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facilitates open communication, knowledge sharing, and resilience against workplace stress (Edmondson & Bransby, 2023).

Perceived Stress

Perceived stress, as defined by Cohen et al. (1983), refers to “the feelings or thoughts individuals have about how much stress they are under at a given point in time.” Unlike objective stressors, it emphasizes individual appraisals of challenges. The Perceived Stress Scale (PSS) measures stress perceptions and coping abilities, with high scores linked to burnout, mental health issues, and reduced job performance (Lazarus & Folkman, 1984). For IT professionals, managing perceived stress is crucial due to their demanding roles.

Need and Significance

The IT sector drives global economic progress but is highly competitive, requiring complex problem-solving and rapid adaptation to technological changes. These demands increase the risk of burnout and stress, as noted in Malayalam Manorama Reports (28 February 2025). While psychological safety and perceived stress have been studied separately, their interaction in the IT context remains underexplored. Understanding this relationship can guide organizations in creating supportive workplaces that enhance well-being and productivity.

Objectives

This study aims to:

- To study the relationship between psychological safety and perceived stress among IT professionals.
- To study sex differences in psychological safety and perceived stress among IT professionals.
- To study the role of psychological safety in perceived stress among IT professionals.

Hypotheses

- There is a significant relationship between psychological safety and perceived stress among IT professionals.
- There is a significant sex difference in psychological safety and perceived stress among IT professionals.
- There is a significant difference in perceived stress with respect to the degree of psychological safety.

METHOD

Participants

The study included 121 full-time IT professionals aged 21–40 years, with at least one year of work experience, selected via convenience sampling. The sample comprised 74 males and 45 females.

Procedure

Data was collected using a Google Form combining a socio-demographic datasheet, the Psychological Safety Scale, and the Perceived Stress Scale. Participants were informed of the study’s purpose, assured of confidentiality, and given the option to withdraw. Instructions emphasized honest responses. The form was administered online, and responses were compiled for analysis. Participants were thanked for their cooperation.

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Instruments

- **Psychological Safety Scale (Edmondson, 1999):** A 7-item, 5-point Likert scale measuring team psychological safety. Higher scores indicate greater safety. Reliability: Cronbach's alpha > 0.8.
- **Perceived Stress Scale (PSS) (Cohen et al., 1983):** A 10-item, 5-point Likert scale assessing stress perceptions over the past month. Higher scores reflect greater stress. Reliability: Cronbach's alpha > 0.7.
- **Socio-Demographic Datasheet:** Collected details on age, sex, work experience, and employment.

Statistical Analysis

Pearson correlation was used to assess the relationship between psychological safety and perceived stress. Student's t-tests examined sex differences and differences in perceived stress based on psychological safety levels.

RESULTS

Table 1: Descriptive Statistics of Variables

Variable	N	Mean	Median	Mode	Standard Deviation	Skewness	Kurtosis
Perceived Stress	121	19.661	20	16.0	5.0325	0.375	1.594
Psychological Safety	121	22.025	22	21.0	3.6571	0.301	0.772

The data is approximately normally distributed, allowing parametric tests.

Table 2: Correlation Between Psychological Safety and Perceived Stress

Variable	Perceived Stress
Psychological Safety	-0.520**

** Correlation is significant at the 0.01 level.

The first hypothesis suggested that there is a significant relationship between psychological safety and perceived stress among IT professionals. The results show that there is a significant negative correlation ($r = -0.520$, $p < 0.01$) which indicates that higher psychological safety is associated with lower perceived stress. Hence, hypothesis 1 is accepted.

Table 3: Sex Differences In Psychological Safety and Perceived Stress

Variable	Sex	N	Mean	Standard Deviation	t-value	p
Perceived Stress	Male	74	19.18	5.05	1.350	0.179
	Female	45	20.47	5.06		
Psychological Safety	Male	74	22.30	3.69	0.971	0.333
	Female	45	21.62	3.65		

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No significant sex differences were found in perceived stress ($t = 1.350$, $p = 0.179$) or psychological safety ($t = 0.971$, $p = 0.333$). Hence, the second hypothesis that there is a significant sex difference in psychological safety and perceived stress among IT professionals is rejected.

Table 4: Perceived Stress by Psychological Safety Level

Variable	Group	N	Mean	Standard Deviation	t-value	p
Perceived Stress	High Psychological Safety	50	17.50	4.79	4.235	0.000
	Low Psychological Safety	71	21.18	4.65		

A significant difference ($t = 4.235$, $p < 0.01$) shows lower perceived stress in the high psychological safety group. Therefore, the third hypothesis stating that there is a significant difference in perceived stress with respect to the degree of psychological safety is accepted.

DISCUSSION

The study found a significant negative correlation between psychological safety and perceived stress ($r = -0.520$, $p < 0.01$), suggesting that IT professionals in psychologically safe environments experience less stress. This aligns with Hebles et al. (2022), who noted that psychological safety fosters trust and open communication, reducing stress. The absence of sex differences in both variables supports Fida et al. (2023) and Heijdens (2023), indicating that psychological safety and stress perceptions are similar across genders in IT settings.

IT professionals with high psychological safety reported significantly lower perceived stress ($t = 4.235$, $p < 0.01$), consistent with Bahadurzada et al. (2024). Psychological safety buffers workplace stress, reducing burnout risks and enhancing well-being. These findings highlight the need for organizations to prioritize psychological safety alongside traditional stress management strategies.

The study's implications include implementing stress management programs, training leaders to foster psychological safety, and promoting supportive behaviors. Workshops on meditation, yoga, and communication can further enhance workplace resilience. However, the small sample size and online data collection may limit generalizability, as participants might have responded in socially desirable ways.

CONCLUSIONS

This study explored the relationship between psychological safety and perceived stress among IT professionals. A significant negative correlation was found, with higher psychological safety linked to lower perceived stress. No sex differences were observed, and perceived stress was significantly lower in high psychological safety environments. These findings emphasize the importance of cultivating psychologically safe workplaces to enhance employee well-being and organizational efficacy. Future research should explore socio-demographic factors and predictors of psychological safety with larger samples.

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Acknowledgment

The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest

The author(s) declared no conflict of interest.

How to cite this article: Sankar, Joseph, A., Antony, C. & Eapen, A.R. (2025). Psychological Safety and Perceived Stress Among IT Professionals. *International Journal of Indian Psychology*, 13(2), 3032-3037. DIP:18.01.270.20251302, DOI:10.25215/1302.270