The International Journal of INDIAN PSYCHOLOGY

Research Paper

Exploring the Impact of Resilience: A Comparative Study of Perceived Stress among IT And Non-IT Professionals

Mohamed Yousuf Pothakani[1]*, Keziah Mary Sam[2]

ABSTRACT

Background: The effects of globalisation and shifts in work paradigms are leading to heightened stress levels among individuals in developing nations. Acknowledging this widespread workplace stress is crucial, given its profound impact on the health of workers and the overall well-being of organizations. Perceived stress refers to the subjective experience of stress, where individuals perceive situations as being stressful or overwhelming, while resilience is the ability to bounce back or adapt in the face of challenges, difficulties, or adversity. It involves being able to cope with and overcome stressors, setbacks, and difficult situations effectively. **Objective:** The present research aims to determine the relationship between resilience and perceived stress among IT and non-IT professionals and the impact of resilience on perceived stress. **Method:** A sample of 98 professionals was selected using convenient sampling. A quantitative comparative research design was employed, utilising perceived stress and brief resilience scales to explore the relationship between resilience and perceived stress. **Findings:** The results suggest that perceived stress is negatively related to resilience ($P < 0.05$) among IT and non-IT professionals, indicating a negative correlation between resilience and perceived stress. In terms of gender, females showed increased perceived stress and decreased resilience tendency, particularly highlighting that self-employed individuals perceive more stress and have decreased resilience tendency, according to professionals. Additionally, it is stated that there is no significant difference in resilience and perceived stress among IT and non-IT professionals in terms of age and job category.

Keywords: Perceived Stress, Resilience, Work stress, IT And Non-IT Professionals

I n the fast-paced world of information technology (IT), professionals face unwelcome stress as they navigate a constantly evolving landscape. The pressure to meet deadlines, keep up with technological advancements, and stay ahead in the field creates a high-stakes environment. Tight project timelines and the responsibility to safeguard sensitive data further intensify the strain. A recent study by Rajeswari KS (2002) underscores that the IT profession is marked by various stress-inducing factors, including constant technological changes, client interaction, the fear of obsolescence, the importance of family support, long working hours, and work overload. Additionally, the profession is recognised for its

---

[1]Student, Department of Psychology, CMR University, Bangalore, India
[2]Assistant Professor, Department of Psychology, CMR University, Bangalore, India
*Corresponding Author

volatility, lack of job security, and the need for continual skill upgrading to maintain marketability. Which emphasis Understanding the stress levels among both IT and non-IT employees is crucial. The current study focuses on employee stress and individuals' resilient tendencies to overcome work- related stress.

Globalisation and changes in the way we work are causing more stress for people in developing countries. Recognising that this global work stress is a significant challenge to both workers' health and the well-being of organisations, it highlights the importance of addressing stress in workplaces. Workplace stress arises from a mismatch between job demands and pressures and the workers' knowledge and abilities to cope with them, affecting both individuals and the overall workplace (Leka, Griffiths, & Cox, 2002; Nikhil Jain, 2013). Moreover, the recent study highlights that the IT sector is characterised by high levels of work stress, with prevalence rates ranging from 44% to 85% among IT employees in India (Mohan N., Ashok J. 2011). The National Institute for Occupational Safety and Health, a division of the U.S. Department of Health and Human Services, states that job stress is currently a significant threat to both workers' well-being and organisational health (Jefferson A., 1987). In developing countries, challenges arise in obtaining specific data on work-related stress due to poor recording mechanisms and a lack of recognition of related outcomes. The work by Leka, Griffiths, and Cox (2002) emphasises the insufficient awareness of work-related stress and a shortage of resources to address this issue in developing countries. In response to these challenges, an effort is mentioned to study the levels of work stress among employees of software companies. The study aims to investigate how stress is affected by these variables: perceived stress and resilience. In a stressful situation, resilience is centred on the ability to bounce back and adapt in the face of adversity, emphasising strength and flexibility. Perceived stress refers to the subjective experience of feeling overwhelmed, anxious, or tense in response to various external or internal factors.

Perceived stress and resilience
Lazarus and Folkman's Transactional Model of Stress and Coping posits that individuals continually assess and reassess stressors based on their perceived significance and the resources available to cope with them. In this context, the perception of stress denotes how an individual subjectively assesses and interprets the demands placed on them relative to their coping abilities. When a person perceives a situation as threatening or overwhelming and deems their coping resources insufficient, it is likely to result in heightened stress levels.

Conversely, if they view the stressor as manageable and possess confidence in their coping skills, the impact of stress may be alleviated. Resilience, within the realm of psychology, significantly influences the way individuals perceive and respond to stress. Previous reports have highlighted the significant negative association between resilience and mental health and reported resilience as a protective factor against anxiety, stress, and depression (Reh.L. 2019).

In the context of stress perception, resilient individuals tend to interpret stressors in a more adaptive and constructive manner. Resilience can be understood as the capacity to bounce back from adversity, adapt positively to challenges, and maintain psychological well-being in the face of stressors. According to the American Psychological Association (APA), resilience involves developing coping strategies, fostering positive emotions, and building a support system to navigate through difficulties effectively.

Research suggests that resilience is the process of successfully adapting to life adversities and situations, including trauma, tragedy, danger, and high amounts of stress. It is a dynamic, complex, and multidimensional manner with varying degrees in different patients; also, resilience is often viewed as opportunities for growth rather than insurmountable threats (Shin YC, Kim SM H, et al. 2019). Resilience enables individuals to maintain a balanced perspective, recognising the stressor's existence but also feeling confident in their ability to cope with and overcome it. Moreover, current studies suggest resilient individuals exhibit greater emotional regulation, allowing them to manage negative emotions associated with stress. Both sexes may benefit from an improvement in resilience through training programmes focusing on mindfulness and/or cognitive and behavioural skills (Joyce et al. 2018).

Significant of the study
- This indicates a proactive approach to understanding and addressing work-related stress in the specific context of the software industry.
- The study likely aims to contribute valuable insights into the factors influencing stress levels among employees and potentially inform strategies to enhance well-being in the workplace.
- Highlights the potential of the research to contribute to mental health promotion efforts by identifying factors that can positively influence individuals' ability to navigate stressors effectively.

REVIEW OF LITERATURE

To understand the level of resilience and perceived stress among working professionals and the impact of resilience on stress perception, several studies attempted to identify a relationship between the impacts of resilience on perceived stress among IT and non-IT professionals. An analysis of the literature in those areas is given in the following sections.

In the fast-paced world of information technology (IT), professionals are the driving force behind innovation and digital advancement. However, amidst the relentless pursuit of technological excellence, a silent yet pervasive foe lurks: stress. Darshan (2013) shed light on this issue through a study focused on Indian IT professionals, particularly software engineers, uncovering alarming rates of professional stress, depression, and alcohol use. With 51.2% of participants experiencing stress and a significant association found between stress and depression, the findings underscore the urgent need to address this prevalent issue among IT workers. Echoing this concern, Naveen Ramesh et al. (2016) delved deeper into the landscape of professional stress among IT employees in Bangalore, a bustling hub of technological innovation. Despite the vibrant IT culture, their research, encompassing 149 participants, revealed a troubling reality: stress levels remain alarmingly high. While no significant correlations were found between stress and factors like gender or work experience, the prevalence of stress symptoms, notably insomnia, painted a stark picture of the challenges faced by IT professionals in the heart of India's tech industry.

A series of studies have illuminated the complex nature of stress and its impact across different segments of the population. Costa et al. (2021) focused on stress perceptions among unemployed individuals in Southern Italy, revealing gender disparities, particularly with women reporting elevated stress levels. This highlights the urgency for targeted interventions, especially within health promotion programmes, aimed at alleviating stress, particularly among vulnerable groups. Similarly, Willis and Burnett Jr. (2016) delved into

stress perceptions among college students, uncovering gender differences in perceived stress and rumination. Notably, women exhibited higher stress levels and rumination, while correlational analysis indicated a negative link between stress and self-concept clarity and resilience. Aligning with these findings, Joyce et al. (2018) conducted a meta-analysis on resilience training programmes, emphasising the beneficial effects of interventions incorporating cognitive-behavioural therapy (CBT) and mindfulness techniques. Furthermore, Shin et al. (2019) explored the protective role of resilience against depressive mood and anxiety among Korean employees, stressing the importance of cultivating resilience, particularly through interventions enhancing support and hardiness. In a similar vein, Reh et al. (2019) investigated the preventive function of resilience in stress, depression, and anxiety among university students, revealing a significant negative correlation between resilience and psychopathological symptoms. These studies collectively highlight the critical role of resilience-building interventions in mitigating the detrimental impacts of stress across diverse populations.

Gaps in Existing Knowledge

Various studies suggest that there is a significant relationship between resilience and perceived stress. Additionally, it can be said that resilience is a protective factor against anxiety, stress, and depression (Reh.L. 2019), but there is a lack of significant association between these variables among IT and non-IT professionals. Therefore, the current research explores the direct impact of resilience on perceived stress among IT and non-IT professionals. However, the present research adopts a comparative study methodology to investigate the direct association between these variables, specifically within the context of IT and non-IT professionals. By comparing these two groups, this study aims to uncover any distinctions in how resilience and perceived stress interact within their respective work environments. This approach not only offers insights into potential variations between the sectors but also provides valuable guidance for future studies seeking to explore similar relationships in different professional settings.

RESEARCH METHODOLOGY

Aim

To explore the impact of resilience: a comparative study of perceived stress among IT and non- IT professionals.

Objectives of the current study

- To find out the level of perceived stress among IT and non-IT professionals
- To find out the level of resilience among IT and non-IT professionals
- To find out the significance of the mean difference between the following sub-samples with respect to resilience and perceived stress as a demographic variable.
- To explore the impact of resilience on perceived stress among IT and non-IT professionals
- To find out the relationship between resilience and perceived stress among IT and non- IT professionals.

Hypothesis

- **H1:** The researcher hypothesised that there is a significant difference in perceived stress levels between IT and non-IT professionals, and this difference is influenced by resilience.

- **H0:** There is no significant difference in perceived stress levels between IT and non-IT professionals when considering resilience.

Research design

A quantitative-comparative research design was used in this research. Quantitative Comparative Research Design is an empirical research approach that involves comparing different groups or conditions to identify and analyse relationships between variables using numerical data and statistical methods.

Sampling Design: The sample was collected by using convenient sampling. Convenience sampling is a method often used in quantitative research to select participants based on their accessibility and availability to the researcher.

Sample Size: The sample size of the study was 98 in the Bangalore.

About The Population: The selected populations of the study were IT and non-IT professionals.

Method of Data Collection and Analysis.

The procedure involves distributing a Google Form to collect demographic data and participant consent. Once data collection is complete, scoring and subsequent data analysis will be conducted to examine the relationship between resilience and perceived stress among the participants using SPSS software.

Inclusion criteria:
- Participants were included only IT and non- IT professionals.
- Participants were include Early and Middle adulthood only.
- Participants from different geographical area were included.
- Participants from all race and gender were included.

Exclusion criteria
- Didn't include person who don't give concern or agree to research process
- Didn't include person who had diagnosis mental illness

Research tools

The Perceived Stress Scale (PSS-14), originally developed in 1983 by Cohen et al., underwent subsequent revisions, resulting in 10-item and 4-item versions. In this study, the Italian version of PSS-10 was employed, assessing the degree of unpredictability, uncontrollability, and overwhelming experiences in the preceding month, utilising a 5-point response scale (0 = "never," 1 = "almost never," 2 = "sometimes," 3 = "fairly often," 4 = "very often"). After reversing scores for positively stated items (Items 4, 5, 7, and 8), a total PSS-10 score was derived by summing all items, with higher scores indicating increased perceived stress. While not diagnostic, PSS-10 categorises respondents into four groups based on various cut-off values (1–10 = "under average," 11–14 = "average," 15–18 = "medium-high," ≥19 = "high"). The PSS-10 has good internal consistency reliability (e.g., Barbosa-Leiker et al., 2013; Golden- Kreutz et al., 2004; Reis et al., 2010) and adequate convergent validity based on associations with measures of physical and mental health (e.g., Mitchell et al., 2008; Roberti et al., 2006; Wu and Amtmann, 2013).

The Brief Resilience Scale (BRS) is a six-item assessment designed to measure an individual's perceived ability to rebound or recover from stress. Developed to evaluate a unified construct of resilience, the scale incorporates both positively and negatively worded items. The psychometric properties of the BRS items include a commendable Cronbach's alpha of 0.80, indicating strong internal consistency, as reported by Smith et al. (2008). These items also exhibit convergent validity, with significant correlations established by Smith et al. (2008) with measures of life satisfaction and positive affect, affirming their effectiveness in assessing psychological well-being.

RESULT AND DISCUSSION.

Table No. 1 Frequency and percentage distribution of participants when grouped according to demographic variables.

	Frequency	Percentage
A. Gender		
• Male	44	44.9%
• Female	54	55.1%
B. Age		
• Early Adulthood	63	64.3 %
• Middle Adulthood	35	35.7 %
C. Marital Status Marries		
• Married	46	46.9 %
• Unmarried	52	53.1 %
D. Profession		
• IT	28	28.6 %
• Non-IT	32	32.7 %
• Professors/ Teacher	15	15.3 %
• Mental Health Professionals	11	11.2 %
• Others (self-employees)	12	12.2 %
E. Family Structure		
• Joint Family	35	35.7 %
• Nuclear Family	63	64.3 %
Total(n)	**98**	**100%**

Table 1A shows the profile of the participants when grouped according to gender. Based on the table, 44.9 % of the participants are male and 55.1 %%are female. The biggest belongs to the female participants. Table 1B shows the profile of the participants when grouped according to age. As illustrated in the figure, 64.3 % of the 98 participants are in early adulthood, and 35.7 %of the 98 participants are in middle adulthood. Table 1C shows the profile of the participants when grouped according to marital status. As illustrated in the figure, 46.9 % of the 98 are married, and 53.1 are unmarried. Table 1D shows the profile of the participants when grouped according to profession. As illustrated in the figure, 28.6 % of the 98 are IT professionals, 32.7 % of the 98 are non-IT professionals, 15.3 % of the 98 are professors or teachers, 11.2 % of the 98 are mental health professionals and 12.2 % are others such as self- employees. Table 1E shows the profile of the participants when grouped according to family structure. As illustrated in the figure, 35.7 % of the 98 are joint families, and 64.3 % of the 98 are nuclear families.

Table No. 2 Independent sample T-test between two variables and gender

	Gender	N	Mean	Std. Deviation
Resilience	Male	44	18.0455	3.24184
	Female	54	17.7222	3.74376
Perceived stress	Male	44	18.9318	4.33159
	Female	54	20.1111	4.26334

The table indicates that there is a significant difference in mean value based on gender concerning perceived stress, showing that females show increased perceived stress and slightly increased resilience in males among working professionals. Similar to the earlier state that males had increased resilience compared to females (Parvar, S. Y. et al., 2022). Additionally, resilience and the perception of social support have previously been shown to be more predictive of stress perception in females than in males (Padkapayeva et al., 2018; Hjemdal et al., 2011). Consistent with prior literature, it could be inferred that women may possess a biological predisposition towards greater emotional responsiveness and empathy compared to men (Park et al., 2015), potentially rendering them more susceptible to perceiving stress. Consequently, this heightened sensitivity to stress perception may prompt women to seek out more social support compared to their male counterparts (Adamczyk, 2016).

Table No. 3 Independent sample T-test between three variables and age group.

	Age Group	N	Mean	Std. Deviation
Perceives stress	Early adulthood	63	19.7619	4.32067
	Middle Adulthood	35	19.2571	4.34093
Resilience	Early adulthood	63	17.8095	3.36901
	Middle Adulthood	35	17.9714	3.80778

The table reveals no significant difference in mean values of perceived stress and resilience across age groups, which supports the Diane E. Reed and Ashley E. Reedman studies, which state that men aged 20–29 had significantly higher resilience scores than women in the same age range. They found no significant differences or strong connections between age groups (Reed & Reedman, 2020).

Table 4 Anova between three variables and profession.

Profession	N	Perceived stress mean value	Perceived stress Std. Deviation	Resilience mean value	Resilience Std. Deviation
IT	28	18.8929	3.11911	18.1071	3.40304
Non-IT	32	19.9063	4.32069	17.5938	3.74044
Teachers	15	18.6000	4.54816	18.8667	3.35659
Mental health	11	19.2727	5.60519	18.3636	3.64068
Others (or) Self-employment.	12	21.8333	4.91442	16.3333	3.17185

The table indicates there is no significant difference in the mean value of resilience between IT and non-IT employees, which suggests both groups have a normal level of resilience. In terms of perceived stress, non-IT professionals, especially those in self-employment, exhibit increased perceived stress and a decreased mean value in resilience compared to IT professionals. As supported by previous studies, the perception of stress is considered an inherent aspect of business ownership, stemming from factors such as demanding workloads, elevated risks (Palmer, 1971), and the heightened drive for achievement among entrepreneurs (Brockhaus, 1982).
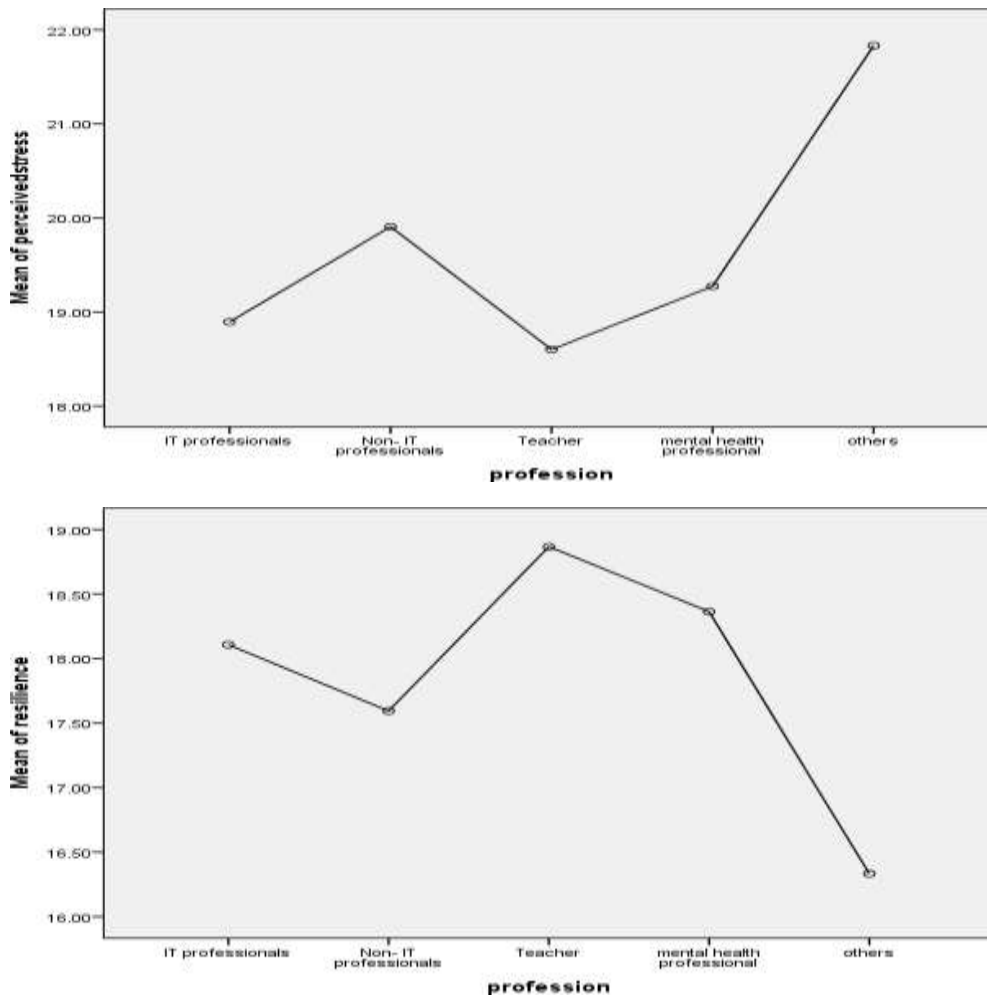

Figure 1: Show mean plot for perceived stress and resilience according to profession

Table No. 5 Anova between three variables and profession.

		Sum of Squares	Df	Mean Square	F	Sig.
Perceived stress	Between Groups	93.001	4	23.250	1.264	.290
	Within Groups	1710.846	93	18.396		
Resilience	Between Groups	49.933	4	12.483	1.012	.405
	Within Groups	1147.343	93	12.337		
	Total	1197.276	97			

The table shows that there's no significant difference between IT and non-IT professionals regarding perceived stress and resilience. In terms of significance, the value indicates the likelihood that the observed result is due to random chance rather than a real difference or relationship.

Table No. 6 Correlation test between resilience and perceived stress.

		Resilience	Perceived stress
Resilience	Pearson Correlation	1	-.350[**]
	Sig. (2-tailed)		.000
Perceived stress	Pearson Correlation	-.350[**]	1
	Sig. (2-tailed)	.000	

Table states that there is a moderate negative correlation between resilience and perceived stress, suggesting that as resilience levels rise, perceived stress tends to decrease, and conversely, as perceived stress decreases, resilience tends to increase. In terms of statistical significance, it is observed at the 0.01 level, indicating strong confidence in the relationship. As supported by previous reports, there is a significant negative association between resilience and mental health, with resilience identified as a protective factor against anxiety, stress, and depression (Reh, 2019; Wermelinger Ávila et al., 2017).

CONCLUSION
The study included 98 participants (44 male and 54 female) in early and middle adulthood. It used a descriptive research design and employed correlational and independent t-test analyses to examine relationships between variables and gender differences. The findings indicate a moderate negative correlation between resilience and perceived stress, suggesting that higher resilience corresponds to lower perceived stress and vice versa. Notably, there was a significant difference in perceived stress and resilience based on gender, with self-employed individuals reporting more perceived stress and reduce resilient capacity compared to IT professionals.

Limitations and recommendations
The study shows a significant negative correlation between resilience and perceived stress among both IT and non-IT professionals in general. However, it does not specifically explore how resilience tendencies protect employees from stress or assess the productive factors that help them cope with stress in the workplace. In this current study, the researcher

utilised convenient sampling, a method where participants are recruited based on referrals from existing participants. However, this approach has limitations. It may lead to an overrepresentation of individuals who are well-connected or possess certain characteristics, while others may be excluded. As a result, the diversity of perspectives included in the study may be limited. It is important to acknowledge this limitation, and it will be addressed in future studies.

Despite its limitations, this study has an advantage in that it conducts a comparative analysis between IT and non-IT professionals, shedding light on the fact that self-employed individuals perceive more stress and exhibit fewer resilience tendencies. This provides an opening for further research.

REFERENCES

Amstadter AB, Myers JM, Kendler KS (2014) Psychiatric resilience: longitudinal twin study. Br J Psychiatry 205:275–280

Brockhaus, R. H. (1976). *Locus-of-Control and Risk-Taking Propensity as Entrepreneurial Characteristics--A Comparative Study*. Washington University in St. Louis.

Cohen, S., & Williamson, G. (1988). Perceived stress in a probability sample of the United States. In S. Spacapan & S. Oskamp (Eds.), The social psychology of health: Claremont Symposium on applied social psychology. Newbury Park, CA: Sage.

Costa, C., Briguglio, G., Mondello, S., Teodoro, M., Pollicino, M., Canalella, A & Fenga, C. (2021). Perceived stress in a gender perspective: a survey in a population of unemployed subjects of Southern Italy. *Frontiers in public health*, *9*, 640454

Darshan, M. S., Raman, R., Rao, T. S., Ram, D., & Annigeri, B. (2013). A study on professional stress, depression and alcohol use among Indian IT professionals. *Indian journal of psychiatry*, *55*(1), 63.

Hjemdal O, Vogel PA, Solem S, Hagen K, Stiles TC (2011) The relationship between resilience and levels of anxiety, depression, and obsessive-compulsive symptoms in adolescents. Clin Psychol Psychother 18:314–321

Joyce, S., Shand, F., Tighe, J., Laurent, S. J., Bryant, R. A., & Harvey, S. B. (2018). Road to resilience: a systematic review and meta-analysis of resilience training programmes and interventions. *BMJ open*, *8*(6).

Leka, S., Griffiths, A., & Cox, T. (2005). 12 Work-related stress: the risk management paradigm. *Research companion to organizational health psychology*, 174.

Mohan, N., & Ashok, J. (2011). Stress and depression experienced by women software professionals in Bangalore, Karnataka. *Global journal of management and business research*, *11*(6), 24-29.

Padkapayeva K, Gilbert-Ouimet M, Bielecky A, Ibrahim S, Mustard C, Brisson C, Smith P (2018) Gender/sex differences in the relationship between psychosocial work exposures and work and life stress. Ann Work Expos Heal 62:416–425

Parvar, S. Y., Ghamari, N., Pezeshkian, F., & Shahriarirad, R. (2022). Prevalence of anxiety, depression, stress, and perceived stress and their relation with resilience during the COVID-19 pandemic, a cross-sectional study. *Health science reports*, *5*(1), e460.

Rajeswari, K. S., & Anantharaman, R. N. (2003, April). Development of an instrument to measure stress among software professionals: Factor analytic study. In *Proceedings of the 2003 SIGMIS conference on Computer personnel research: Freedom in Philadelphia--leveraging differences and diversity in the IT workforce* (pp. 34-43).

Ramesh, N., Joseph, B., Kiran, P. R., Kurian, J., & Babu, A. T. (2016). Perceived professional stress levels among employees in an information technology company, Bangalore. *National Journal of Community Medicine*, *7*(04), 231-234.

Reed, D. E., & Reedman, A. E. (2020, October). Reactivity and adaptability: Applying gender and age assessment to the leader resilience profile®. In *Frontiers in Education* (Vol. 5, p. 574079). Frontiers Media SA.

Reh L. Perceived stress, depression and anxiety in University Students: The Role of Resilience. University of Twente. 2019. http://essay.utwente.nl/78148/

Scott, A. (2012). Lazarus and folkman's transactional model of stress and coping.

Shin, Y. C., Kim, S. M., Kim, H., Min, K. J., Yoo, S. K., Kim, E. J., & Jeon, S. W. (2019). Resilience as a protective factor for depressive mood and anxiety among Korean employees. *Journal of Korean medical science*, *34*(27).

Smith, B.W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P. and Bernard, J. (2008). The Brief Resilience Scale: Assessing the Ability to Bounce Back. International Journal of Behavioral Medicine, 15, 194-200

Wermelinger Ávila MP, Lucchetti ALG, Lucchetti G. Association between depression and resilience in older adults: a systematic review and meta-analysis. Int J Geriatr Psychiatry. 2017; 32: 237-246. doi:10.1002/gps.4619

Wermelinger Avila, M. P., Lucchetti, A. L. G., & Lucchetti, G. (2017). Association between depression and resilience in older adults: a systematic review and meta- analysis. *International journal of geriatric psychiatry*, *32*(3), 237-246.

Willis, K. D., & Burnett Jr, H. J. (2016). The Power of Stress: Perceived Stress and Its Relationship with Rumination, Self-Concept Clarity, and Resilience. *North American Journal of Psychology*, *18*(3).