

## A Study on the Degree of Perceived Stress among Staff in Public University

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To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v14-i3/21088>

DOI:10.6007/IJARBSS/v14-i3/21088

**Published Date:** 07 March 2024

### Abstract

The feelings and beliefs encompassing an individual's assessment of their current or past stress levels are referred to as perceived stress. This phenomenon is common due to the high demands of contemporary responsibilities. This study delves into perceived stress experienced by staff in public universities, a segment prone to similar pressures. Reports in the media frequently highlight such stress among Malaysian public sector employees. The complex challenges faced by public sector staff require thorough resolution for effective job performance. Focusing on this, the article investigates perceived stress within the context of Malaysian public university staff. Through an online survey involving 72 university staff, we employed the Perceived Stress Scale (PSS) to gauge the extent of perceived stress. The findings reveal that all staff members encountered moderate levels of perceived stress. This study contributes to a deeper understanding of perceived stress dynamics among Malaysian public university staff, inviting further exploration into effective stress management strategies.

**Keywords:** Perceived Stress, University Staff, Public University, Perceived Stress Scale, Degree of Perceived Stress.

### Introduction

Stress is defined by the World Health Organisation (WHO) as any form of change that creates physical, emotional or psychological pressure. Stress is the body's reaction to anything that requires attention or action. Stress is a natural and instinctual response that our bodies have when confronted with difficult or demanding situations. It is a complicated biological and psychological phenomenon that can have physical, mental and emotional consequences. While stress is a normal component of life and can serve as a motivator in certain situations, excessive or extended stress can be harmful to our health. Chronic stress can have a negative

impact on both our physical and mental health. It can cause a weakened immune system, digestive issues, sleep problems, headaches and an increased chance of developing illnesses such as heart disease, obesity and mental health disorders such as anxiety and depression. It is important to recognize and address stress in its early stages to prevent it from becoming chronic and to promote our mental and physical well-being. There are a few main sources of stress that have been identified by Kapur (2018), like the environment, social stressors, physiological and thoughts. Examples of stress situations can be like, an individual, when you have lots of responsibilities that you are struggling to manage, especially in your working environment. Another example is if your family is going through a difficult time, such as financial problems.

Higher levels of exposure to stressful life events were associated with increasing and high distress profiles. The studies show, underscore variability in distress among students, as well as the strong associations between stressful experiences, perceived stress and internalizing the symptoms of stressful life (Ewing and Hamza, 2023).

Managing stress is essential for maintaining our overall well-being. Strategies for stress management can include practicing relaxation techniques like deep breathing, meditation or yoga, engaging in regular physical exercise, maintaining a healthy lifestyle with proper nutrition and sleep, setting realistic goals and priorities, seeking social support from friends, family or professionals and learning effective time management and problem-solving skills.

The main objective of this study is to identify the stress level among staff from public universities. This study was done among staff from Universiti Teknologi MARA (UiTM) from various campuses. The data samples were taken from different levels of educational background and financial status.

### **Literature Review**

Stress is a situation when a person is worried in some difficult situation. It is a natural human response that persuades us to address challenges and threats in our lives (World Health Organization, 2023). Stress is normal in human life as it is a reaction to everyday pressure. In its positive forms, stress can improve biopsychosocial health and facilitate performance and can be an important factor to motivation, adaptation and reaction to surrounding environment (Shahsavarani et al., 2015).

Nevertheless, too much stress can affect a person's mind and body which can contribute to mental health disorders and chronic health conditions, as well as decreasing work productivity and reducing the quality of life (Manosso et al., 2022). Stress can affect a person's emotions which can lead to anxiety, depression and irritability. This can cause headaches or other body pains such as stomach-ache or even insomnia. A stressful person can also lose appetite or eat more than usual. Stress can be managed by keeping a daily routine, get enough sleep and rest, spend times with family and friends, consume healthy food and exercise regularly (World Health Organization, 2023).

Perceived stress is the feelings or thoughts that a person has about the level of stress they are under at a given point in time or over a given time period. It includes the feelings about the uncontrollability and unpredictability of one's life, how often one must deal with irritating hassles, how much change is occurring in one's life and faith in one's ability to deal with problems or difficulties (Michou et al., 2021).

Perceived stress can be more at times of unexpected situational demands. It can be a serious issue and causes tension, headaches, pain and fatigue, digestive issues and stomach problems, anxiety, anger, lack of focus and motivation, depression and eating and sleeping

disorders (Health Assured, 2023). Perceived stress is associated with low life satisfaction (Kang and Kim, 2022). It is the overall evaluation of difficulty in dealing with personal and environmental challenges (Zheng et al., 2019).

Perceived stress incorporates feelings about the uncontrollability and unpredictability of one's life, how often one has to deal with irritating hassles, how much change is occurring in one's life and confidence in one's ability to deal with problems or difficulties (Phillips, 2013). Stress in the current scenario is considered to be a universal phenomenon and people in almost all walks of life experience stress to a very great extent (Rafiq et al., 2015). Researchers identify several factors associated with high stress among university teachers. These include excessive workload, lack of work-life balance, increased number of students to teach, lack of university funding, resources and recognition and lack of support from the administration and colleagues.

Women, those aged less than 40 years old, and non-academic professionals were more likely to exhibit depressive symptoms, while those with medical conditions that required hospitalizations sustained anxiety symptoms. Perceived stress was more likely to be prevalent among staff with secondary education or less and smokers. Proactive support for staff needs to be offered in sustaining their emotional well-being (Manaf et al., 2021).

### **Methodology**

This study is to determine the degree of perceived stress among Malaysian public university staff. The participants were 72 university staff who attended a webinar about handling stress on Mac 2022. The survey was distributed through an online platform. The respondents give their internet consent before proceeding to answer the survey. Only respondents with age 18 years old and above are allowed to answer the survey.

Cohen et al (1983) created the Perceived Stress Scale (PSS), which assesses global perception of stress by measuring the feelings and thoughts in the past month. It assesses the life events of an individual that happened unexpectedly and those things he/she is unable to control in their life. The wide usage of this scale can be attributed to its simplicity and its free availability for research or academic purposes. The questionnaire was divided into two sections. The first section comprises demographic questions such as age, gender, level of education and household income. The second part consists of Perceived Stress Scale (PSS) questions. This tool comprises of ten questions about feelings and thoughts during the last month (Table 1).

Table 1

*Perceived Stress Scale (PSS) items*

Items	Question
1	In the last month, how often have you been upset because of something that happened unexpectedly?
2	In the last month, how often have you felt that you were unable to control the important things in your life?
3	In the last month, how often have you felt nervous and "stressed"?
4	In the last month, how often have you felt confident about your ability to handle your personal problems?
5	In the last month, how often have you felt that things were going your way?
6	In the last month, how often have you found that you could not cope with all the things that you had to do?
7	In the last month, how often have you been able to control irritations in your life?
8	In the last month, how often have you felt that you were on top of things?
9	In the last month, how often have you been angered because of things that were outside of your control?
10	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

In each case, respondents are asked how often they felt a certain way scaled from 0 to 4. There are "0=Never", "1=Almost Never", "2=Sometimes", "3=Fairly Often" and "4=Very Often". Four positively stated items (item 4, 5, 7, and 8) are reversely scored "4=Never", "3=Almost Never", "2=Sometimes", "1=Fairly Often" and "0=Very Often". The sum of the 10 items represents the total score, with higher scores representing higher levels of perceived stress. Then, the severity for score of each level were displayed in Table 2.

Table 2

*Level of PSS score*

Level	High	Moderate	Low
Scores	40-27	26-14	13-0

From the output of reliability statistics obtained, Cronbach's Alpha value resulted 0.766 therefore this research instrument is reliable. Having tested the validity and reliability of the proven results of the questionnaire is valid and reliable performance.

The data analysis was done descriptively, and then the results were presented in tables and figures. The inferential statistics of *t*-test was used to examine the difference between gender and PSS scores. This test is used to explore whether both genders show mean differences in PSS score. Next, analysis of variance (ANOVA) test was used to discover if there was any difference between the stress score and age, level of education, neighborhood and household income.

**Result**

Table 3 presents the study's demographic composition. Females constituted the largest participant group. The most represented age group was 41 to 50 years old. Additionally, most

participants held a bachelor's degree, and the predominant household income group was less than RM4,850.

Table 3

*Demographic*

		Frequency	%
<b>Gender</b>	Male	17	23.6
	Female	55	76.4
<b>Age</b>	18 - 30 years old.	9	12.5
	31 - 40 years old.	25	34.7
	41 - 50 years old.	32	44.4
	51 - 60 years old.	6	8.3
<b>Level of Education</b>	SPM	7	9.7
	Diploma	9	12.5
	Bachelor's degree	33	45.8
	Master's degree	14	19.4
	PhD.	9	12.5
<b>Neighborhood</b>	City	26	36.1
	Rural area	5	6.9
	Sub-urban	21	29.2
	Town	20	27.8
<b>Household income</b>	Less than RM4,850	22	30.6
	RM4,850 - RM5,879	6	8.3
	RM5,880 - RM7,109	9	12.5
	RM7,110 - RM8,699	13	18.1
	RM8,700-RM10,959	14	19.4
	More than RM10,959	8	11.1

The PSS is a renowned instrument for assessing stress. Developed in 1983, this classic tool continues to be widely utilized to explore the impact of various situations on individuals' feelings and their perceived stress levels. Participants score range between 7 to 33 with an average score is 18.264 and variance of 21.352 (Table 4).

Table 4

*Descriptive statistics in PSS score*

	Mean	Variance	Std. Deviation	Minimum	Maximum
PSS score	18.264	21.352	4.621	7	33

Based on the PSS, scores between 0 and 13 are categorized as low stress, scores between 14 and 26 are considered moderate stress, and scores between 27 and 40 indicate high perceived stress. Based on the result (Figure 1) most of the participants (82%) experienced a moderate level of stress.

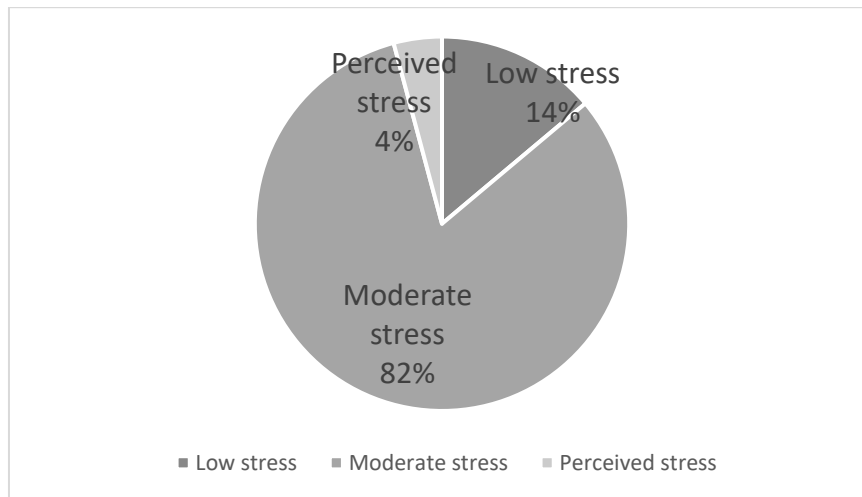


Figure 1. Level of stress

*t*-test analysis was executed to check the existence of mean difference between male and female. From the result (Table 5), mean score for female is higher than male. However, the mean difference was not statistically significant at 5% confidence level. Next, an analysis of variance (ANOVA) was conducted to investigate potential differences in various demographic characteristics, including age, level of education, neighborhood and household income. Although some slight variations were observed in each of these factors, no statistically significant differences were found. The results indicated that participants aged between 31 to 40 years obtained the highest average stress score, while those with a bachelor's degree reported the highest mean stress score among all education levels. Moreover, participants living in urban areas demonstrated higher stress levels compared to those in suburban areas and individuals with household incomes ranging from RM4,850 to RM5,879 exhibited the highest mean stress score.

Table 5

*Association between demographic characteristics and PSS score*

	N	Mean score of PSS	Std. Deviation	t-statistics	p-value
<b>Gender</b>					
Male	17	16.588	3.589		
Female	55	18.782	4.806	-1.735	0.087
<b>Age</b>					
18 - 30 years old.	9	17.444	6.635		
31 - 40 years old.	25	19.640	4.881		
41 - 50 years old.	32	18.000	3.646		
51 - 60 years old.	6	15.167	3.656		
Total	72	18.264	4.621	1.829	0.150
<b>Level of Education</b>					
SPM	9	18.778	2.774		
Diploma	9	17.111	3.621		
Bachelor's degree	7	19.429	4.614		

Master's degree	33	19.121	5.372		
PhD.	14	16.071	3.751		
Total	72	18.264	4.621	1.380	0.250
<b>Neighborhood</b>					
City	26	17.923	5.635		
Rural area	5	17.800	3.271		
Sub-urban	21	17.667	3.568		
Town	20	19.450	4.501		
Total	72	18.264	4.621	0.610	0.611
<b>Household income</b>					
Less than RM4,850	22	17.909	4.994		
More than RM10,959	14	17.357	3.478		
RM4,850 - RM5,879	8	19.625	3.739		
RM5,880 - RM7,109	6	18.500	3.146		
RM7,110 - RM8,699	9	19.333	8.201		
RM8,700-RM10,959	13	18.154	3.023		
Total	72	18.264	4.621	0.357	0.876

## Discussion

This study aimed to determine the level of perceived stress among staff in a Malaysian public university. The mean PSS score was 18.264 (4.621), categorized as a moderate level of stress. These findings are comparable with previous studies among various occupational groups. Railway workers in Malaysia reported a mean PSS score of 18.8 (4.3) (Al-Dubai et al., 2016), and nurses from a public hospital teaching in one of the states in Malaysia exhibited lower values, with a mean score of 15.66 (5.75) (Fadzil et al., 2021). However, the mean PSS score amongst family medicine physicians and nurses in Bosnia Herzegovina was reported to be slightly higher than the present study, with a mean of 21.26 (6.77) Jatic et al (2023) and caregivers of children with autism spectrum disorder in Malaysia also reported a mean score of more than 20, with a mean of 20.84 (4.72) (Adib et al., 2019). The variation of the perceived stress levels in different occupational groups can be linked to variations in job characteristics, such as job demand, job control and job strain (Dèdelè et al., 2019). Workers are exposed to occupational stress that can be caused by various factors, such as competition among employees, long working hours, perfectionism and issues with co-workers or managers (Oliveira et al., 2023).

The present study also explored the association between the mean PSS score and socio-demographic characteristics, including gender, age, education, neighborhood and household income. Regarding gender, the present study did not observe significant differences, which is inconsistent with findings from previous studies where women exhibited higher PSS scores than men, regardless of the population studied (Manaf et al., 2021; Mocny-Pachońska et al., 2020; Savage and Woloshyn, 2022). Research has consistently shown that men and women experience stress differently, with women being more susceptible to both physical and emotional problems compared to men (Mocny-Pachońska et al., 2020). In many cases, women face challenges in balancing between work and family responsibilities. For example, female educators often experience career breaks and interruptions more frequently than male colleagues due to maternity and family care reasons (Savage and Woloshyn, 2022).

Although no significant differences were observed in terms of age, this study found that staff members who exhibited higher levels of perceived stress were those aged between 31 and 50 years old. This is probably due to staff of that age being given more job responsibilities, such as being appointed as the leader of a unit in the department, which leads to excessive task demands and issues with subordinates. Meanwhile, staff aged over 50 reported lower levels of perceived stress. A study by Teles et al. (2020) among university lecturers also reported similar findings, with lecturers who are over 60 reporting lower PSS scores. This indicates that older, more experienced staff members have better equipped themselves with the use of coping strategies and stress management skills. In addition, older staff members tend to have higher incomes due to longer service duration, making their finances and job more stable compared to younger staff members (Manaf et al., 2021).

Regarding education differences, although not statistically significant, the present study showed that staff with bachelor's and master's degree education backgrounds were experiencing higher levels of perceived stress. This finding differs from two previous studies that agreed that workers with secondary education or less were more likely to experience a higher level of perceived stress compared to those with tertiary education (Al-Dubai et al., 2016; Manaf et al., 2021). The possible explanation for this finding could be linked to the job characteristics and work environment, such as more working demands and emotional demands for workers at the organizational level (Dédélé et al., 2019).

Finally, this study found that staff who live in urban areas and whose household income falls in the middle-income group (Department of Statistics Malaysia, 2023) demonstrated a higher level of stress. With such income and living in urban areas, they are struggling to make ends meet as the costs of living keep increasing, including expenses for food, transportation, education, healthcare and financial commitments such as car and home loans. These situations can increase their susceptibility to perceive stress.

## **Conclusion**

In conclusion, this study sheds light on perceived stress among staff in a Malaysian public university. The mean PSS score of 18.264 indicates a moderate stress level, consistent with various occupational groups. Demographics like age, education and location play a role. While gender surprisingly did not show significant differences, age-wise, those between 31 and 50 reported higher stress, possibly due to increased responsibilities. Contrarily, those above 50 reported lower stress, reflecting better coping mechanisms. Interestingly, staff with bachelor's and master's degrees showed higher stress, differing from typical patterns. Urban living and middle-income status were linked to elevated stress, possibly due to financial pressures. Overall, this study provides a comprehensive understanding of perceived stress among university staff. The findings underscore the multifaceted interplay of occupational factors, socio-demographics and individual coping strategies that collectively shape the perceived stress experience. This necessitates policy interventions to manage perceived stress among public sector employees, ensuring optimal productivity and well-being.

## **Acknowledgement**

Thank you to all authors who contributed significantly to the completion of this paper. A big thank you to members of the Department of Computer and Mathematical Sciences, College of Computing, Informatics and Mathematics, Universiti Teknologi MARA, Cawangan Pulau Pinang, for their help and support. We express our gratitude to everyone who has assisted us in any way.



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**References**

- Adib, N. A. N., Ibrahim, M. I., Ab Rahman, A., Bakar, R. S., Yahaya, N. A., Hussin, S., & Wan Mansor, W. N. A. (2019). Perceived stress among caregivers of children with autism spectrum disorder: A state-wide study. *International Journal of Environmental Research and Public Health*, 16(8). <https://doi.org/10.3390/ijerph16081468>
- Al-Dubai, S. A. R., Ganasegeran, K., Elkalmi, R., Alshakka, M., & Ghanem, N. (2016). Perceived stress among Malaysian railway workers. *Malaysian Journal of Medical Sciences*, 23(5), 38–43. <https://doi.org/10.21315/mjms2016.23.5.5>
- Cohen, S., Kamarck, T., & Mermelstein, R., (1983). A global measure of perceived stress. *J Health Soc Behav.* , 24(4), 385–396. <https://doi.org/10.2307/2136404>
- Dèdelè, A., Miškinytė, A., Andrušaitytė, S., & Bartkutė, Ž. (2019). Perceived stress among different occupational groups and the interaction with sedentary behaviour. *International Journal of Environmental Research and Public Health*, 16(23). <https://doi.org/10.3390/ijerph16234595>
- Department of Statistics Malaysia (2023). *Household income & basic amenities survey report 2022*. <https://www.dosm.gov.my/portal-main/release-content/household-income-survey-report--malaysia--states>
- Ewing, L. & Hamza, C.A. (2023). A person-centered investigation into the co-development of perceived stress and internalizing symptoms among post-secondary students. *J Youth Adolescence*, 52, 852–865. <https://doi.org/10.1007/s10964-023-01738-1>
- Jatic, Z., Trifunovic, N., Erkocevic, H., Hasanovic, E., Dzambo, I., & Pilav, A. (2023). Construct validity of the perceived stress scale (PSS-10) in a sample of Health Professionals in Family Medicine in Bosnia and Herzegovina. *Public Health in Practice*, 6, 100413. <https://doi.org/10.1016/j.puhip.2023.100413>
- Fadzil, N. A., Heong, W. O., Kueh, Y. C., & Phang, C. K. (2021). The effect of a mindfulness-based intervention on nurses in Kelantan, Malaysia. *Malaysian Journal of Medical Sciences*, 28(6), 121–128. <https://doi.org/10.21315/mjms2021.28.6.12>
- Health Assured. (2023). *The difference between stress and perceived stress*. <https://www.healthassured.org/blog/perceived-stress>
- Kang, S. J., & Kim, J. H. (2022). Differential roles of reflection and brooding on the relationship between perceived stress and life satisfaction during the COVID-19 pandemic: A serial mediation study. *Personality and Individual Differences*, 184, 111169. <https://doi.org/10.1016/j.paid.2021.111169>
- Kapur, R. (2018). Stress management - A case study.
- Lee, E.-H. (2012). Review of the psychometric evidence of the perceived stress scale. *Asian Nursing Research*, 6(4), 121–127. <https://doi.org/10.1016/j.anr.2012.08.004>
- Manaf, M. R. A., Shaharuddin, M. A. A., Nawati, A. M., Tauhid, N. M., Othman, H., Rahman, M. R. A., Yusoff, H. M., Safian, N., Ng, P. Y., Manaf, Z. A., Kadir, N. B. A., Yanasegaran, K., Abdul Basir, S. M., Ramakrishnappa, S., Ariff, M. I., & Ganasegeran, K. (2021). Perceived symptoms of depression, anxiety and stress amongst staff in a Malaysian public university: A workers survey. *International Journal of Environmental Research and Public Health*, 18(22). <https://doi.org/10.3390/ijerph182211874>
- Manosso, L. M., Gasparini, C. R., Réus, G. Z., & Pavlovic, Z. M. (2022). Definitions and concepts of stress. In: Pavlovic, Z.M. (eds) Glutamate and neuropsychiatric disorders. *Springer, Cham*. [https://doi.org/10.1007/978-3-030-87480-3\\_2](https://doi.org/10.1007/978-3-030-87480-3_2)

- Michou, M., Panagiotakos, B., Lionis, C., & Costarelli, V. (2021). Low health literacy and perceived stress in adults: Is there a link? *Cent Eur J Public Health*, 29 (3): 195–200. <https://doi.org/10.21101/cejph.a6692>
- Mocny-Pachońska, K., Trzcionka, A., Doniec, R. J., Sיעiński, S., & Tanasiewicz, M. (2020). The influence of gender and year of study on stress levels and coping strategies among Polish dental. *Medicina (Lithuania)*, 56(10), 1–13. <https://doi.org/10.3390/medicina56100531>
- Oliveira, P. N. de A., Filho, J. N. da S., Gurgel, J. L., Russomano, T., & Porto, F. (2023). Effects of exercises performed in the work environment on occupational stress: A systematic review. *Journal of Bodywork and Movement Therapies*, 35, 182–189. [doi.org/https://doi.org/10.1016/j.jbmt.2023.04.061](https://doi.org/10.1016/j.jbmt.2023.04.061)
- Phillips, A. C. (2013). Perceived stress. In: Gellman MD, TurnerJR, editors. *Encyclopedia of behavioral medicine*. New York: Springer. p. 1453–1454. [https://doi.org/10.1007/978-1-4419-1005-9\\_479](https://doi.org/10.1007/978-1-4419-1005-9_479)
- Rafiq, R., & Al-Medabesh, P. A. (2015). Job stress among public and private sector workers: An empirical comparison. *International Journal of Research in Commerce, Economics and Management*, 5(4), 6-10.
- Shahsavarani, A. M., Abadi, E. A. M. & Kalkhoran, M. H. (2015). Stress: Facts and theories through literature review. *International Journal of Medical Reviews*, 2(2), 230-241.
- Savage, M., & Woloshyn, V. (2022). Coping is Crucial: Exploring relations between K-12 educators and staff coping strategies, perceived stress and psychological wellbeing. *International Journal of Emotional Education*, 14(2), 3–18. <https://doi.org/10.56300/QBVZ8040>
- Teles, R., Valle, A., Rodríguez, S., Piñeiro, I., & Regueiro, B. (2020). Perceived stress and indicators of burnout in teachers at portuguese Higher Education Institutions (HEI). *International Journal of Environmental Research and Public Health*, 17(9). <https://doi.org/10.3390/ijerph17093248>
- World Health Organization. (2023, July 1). *Stress*. [www.who.int/news-room/questions-and-answers/item/stress](http://www.who.int/news-room/questions-and-answers/item/stress)
- Zheng, Y., Zhou, Z., Liu, Q. Yang, X., & Fan, C. (2019). Perceived stress and life satisfaction: A multiple mediation model of self-control and rumination. *J Child Fam Stud*, 28, 3091–3097. <https://doi.org/10.1007/s10826-019-01486-6>