

## **THE RELATIONSHIP BETWEEN NEUROTICISM AND STRESS LEVELS AMONG EARLY CHILDHOOD EDUCATION STUDENTS AT A UNIVERSITY**

**\*Nurul Nabila Binti Ibrahim**  
University Selangor

**Azwidah Fariha Binti Ramli**  
University Selangor

**Azeera Asyikin Binti Nahar Efairuz**  
University Selangor

**Hannah Balqis Binti Khairun Nidzam**  
University Selangor

### **Abstract**

It is crucial to investigate the decreasing quality of study performances and the level of stress among students. This is because psychological instability or neuroticism is associated with stress and affects the quality of studying and academic performance. The purpose of the study is to identify the relationship between neuroticism and stress levels in a sample of Early Childhood Education (ECE) students in Universiti Selangor (UNISEL). Neuroticism is a broad personality trait dimension that represents how distressing, frightening, and unsafe a person can perceive the world. Meanwhile, the stress level is any change that creates discomfort and is referred to as stress either physically, emotionally, or psychologically. In this study, quantitative data collection and correlational research were used, in which the data was collected via an online survey. We also used convenient sampling to collect data among the respondents. We measured the neuroticism level of participants using Eysenck's Five-Factor Model and we also assessed participants' levels of stress using the stress component of the Depression, Anxiety, and Stress Scale (DASS). The questionnaires were scored on a five Likert-scale rating. We analysed our variables using SPSS. Responses were analysed using reliability statistics of Cronbach's Alpha. The results concluded that the Cronbach's Alpha for the overall reliability of the pilot study is 0.810 where the instrument is concluded as reliable and can be accepted for the study. The result revealed that there is a significant positive relationship between the levels of neuroticism and stress among ECE students at UNISEL.

*Keywords: Neuroticism, stress, mental health, personality, Early Childhood Education (ECE)*

## **INTRODUCTION**

Stress is significant in the acute phases of major threats to mental health range. Besides that, It appears plausible that neuroticism and the subjective, physiological, and cognitive responses to stress are linked via multiple pathways involving a variety of mediating and moderating factors (Mohiyeddini et al., 2015). Disturbances and instability in emotion are agreed to have an impactful effect emotionally and cognitively on an individual in living their life. Stress is the most common effect to be mentioned. Students experience stress sourced from daily hassles in university such as packed schedules, academic workload, co-curricular participation, and pressure from competitions among peers while maintaining a functional social life. It shows the importance for students to be aware of their stress situation to avoid unmanageable negative implications.

While stress is one's emotional state, neuroticism might have a similar concept but is rooted in the personality trait component. Neuroticism is associated with emotional distress, attitudes, experiences, and behaviours toward life that influence individuals' subjective well-being, according to the Big Five personality theory (Han et al., 2021; Yusoff et al., 2021). Furthermore, neuroticism describes the tendency to respond to stressors with negative emotions such as fear, sadness, anxiety, guilt, shame, and others. Unfortunately, psychologically, fear is a response to danger and guilt which means people with high levels of neuroticism are most likely to sense and accept something negatively. The purpose of this research is to identify the levels of stress and neuroticism among students and the relationship between these two factors.

## **METHODOLOGY**

### **RESEARCH DESIGN**

This study used a quantitative research approach with data processing tools i.e., SPSS software. Quantitative research examines the relationships between variables. It is defined as social research that makes use of empirical methods and statements according to Cathala & Moorley (2018). In this research, we will collect numerical data, and analyse them based on mathematically based methods to attain the result.

According to Akoglu (2018), correlation is defined as a relationship that exists between phenomena or things, or between mathematical or statistical variables, that tend to vary, be associated, or occur together in ways that are not predictable by chance alone. In this study, we conducted a survey to gain, acknowledge, and truly understand the correlation between two specific variables, which are the neuroticism level and the stress level.

### **SAMPLING METHOD**

According to Amuti et al. (2022), a population refers to a specific group, such as people, institutions, time periods, or geographic areas. In the present study, the population of interest consists of Early Childhood Education (ECE) students currently enrolled at UNISEL, who were targeted for participation through an online survey. Wani (2017) defines the sample as a subset of the population from which data is collected. In this study, the sample includes 180 ECE students, comprising both males and females from diploma and degree programs. Furthermore, we aimed to include students from every semester, resulting in a diverse age range spanning from 18 to 26 years old.

Sampling, as described by Majid (2018), involves selecting a representative sample from a larger population. Due to the impracticality of including the entire population, sampling is crucial in research studies. In our study, we employed a convenience sampling method, as outlined by Etikan (2016). This nonprobability sampling approach involves selecting individuals from the target population based on practical criteria, such as accessibility, proximity, availability, or willingness to participate. In our case, participants were able to complete the survey at their convenience, allowing flexibility in terms of time and location.

## RESEARCH PROCEDURE

This research was carried out at the University of Selangor (UNISEL), Bestari Jaya, Selangor. This research is a quantitative type of research design with a convenient sampling data process method. In the convenient sampling, all participation is voluntary and flexible. The population of this research consists of 180 Early Childhood Education (ECE) students from different genders, a range of 18 to 26 years old, and from every semester of both diploma and degree courses. This research started off by first identifying significant issues that are commonly happening among ECE students. All the information made were then gathered and discussed among the researchers. A few factors were identified as related to each other, but the confirmation of the relationship between these two factors was subjected to the results of this study. Hence, the researcher came up with a study with these two factors as the variables, which are neuroticism and stress among ECE students.

Next, the online survey was distributed among ECE students. The survey was then distributed to a pool of Early Childhood Education students from the Diploma and Degree programs. There is no incentive given to the respondents who responded to our survey. First, 10 responses were taken to run a pilot study of Pearson's correlation test on the SPSS to test its reliability, inferential statistics, and descriptive statistics. Once every three days, we followed up and reminded the respondents to participate in our survey while reminding them that their participation is voluntary. There were 184 responses, which were then used to run data analysis in SPSS.

## INSTRUMENT

The researchers used a survey as a guide for the data collection process that includes certain questions for the Diploma and Degree students of Early Childhood Education (ECE) to obtain the relevant quantitative data. The survey consists of 20 instruments with two sections. Each section contains 10 items, respectively. The survey consists of neuroticism instruments from the Eysenck five-factor model to measure neuroticism and the Depression Anxiety Stress Scale (DASS) to measure stress level. Because research has found that neuroticism is associated with emotional instability and is an essential stress-coping mechanism, the goal is to determine how stress levels and neuroticism interact (Weston & Jackson, 2018). There were 20 questions in total, which were scored on a 5-point Likert scale (1 being Never, 5 being Often). The questions were adopted from currently established instruments which are the Eysenck five-factor model to measure neuroticism and the Depression Anxiety Stress Scale (DASS).

## RESULTS AND DISCUSSION

After the data were collected, information was analysed in the SPSS for data reporting. Descriptive and inferential analyses were conducted to fulfil the research objectives as follows.

## DESCRIPTIVE ANALYSIS

**Table 1:** The distribution of respondents' age

Age	Frequency	Percent
18-20	1	0.5
21-23	120	65.2
24-26	63	34.2

**Table 2:** The distribution of respondents' gender

Gender	Frequency	Percent
Male	14	7.6
Female	170	92.4

**Table 3:** The distribution of respondents' academic programs

Study Level	Frequency	Percent
Diploma	142	77.2
Degree	42	22.8

The frequency distributions presented in the tables provide an overview of the participants' characteristics. According to Table 1, a majority of the participants (65.2%) fell within the age range of 21 to 23 years old, indicating that this age group represented the largest proportion of the sample. The remaining participants were divided between the age ranges of 24 to 26 years old (34.2%) and 18 to 20 years old (0.5%), suggesting a smaller representation within those groups. Meanwhile, Table 2 displays the gender distribution of the participants, indicating that 7.6% of the participants were male, while the majority (92.4%) were female. This reveals a significant gender imbalance within the sample, with female participants being more prevalent. Lastly, Table 3 demonstrates that the majority of participants (77.2%) were enrolled in the Diploma program, while the remaining participants (22.8%) were pursuing a Degree. This suggests that the Diploma students constituted a larger portion of the sample compared to the Degree students.

## INFERENTIAL ANALYSIS

At the beginning of this research, the null hypothesis was formulated to assert that no relationship exists between neuroticism and stress levels among ECE students at UNISEL

**Table 4:** Relationship between neuroticism and stress

		Neuroticism	Stress
Neuroticism	<i>r</i>	1	.727**
	Sig. (2 tailed)	.000	
	n	184	184
Stress	<i>r</i>	.727**	1
	Sig. (2 tailed)		
	n	184	184

\*\* Correlation is significant at the 0.01 level (2-tailed)

Based on the analysis presented in Table 4, the results indicate a significant rejection of the null hypothesis, providing evidence of a strong positive relationship between neuroticism levels and stress among ECE students ( $r = .727$ ,  $p < .01$ ). This finding suggests that as neuroticism levels increase in ECE students, their stress levels also tend to increase. These results align with previous studies that have consistently reported a link between neuroticism and heightened perceptions of stress (Bellingtier et al., 2021; Yusoff et al., 2021). The association between neuroticism and increased stress may be attributed to the inherent characteristics of individuals with high neuroticism, such as heightened emotional instability. For example, individuals with high neuroticism may experience greater anxiety and tension compared to those with lower levels of neuroticism, making them more vulnerable to distress when confronted with negative life events. These findings contribute to our understanding of the relationship between neuroticism and stress among ECE students, emphasizing the importance of addressing neurotic tendencies and implementing effective stress management strategies in educational settings.

## CONCLUSIONS

This study investigates the correlation between neuroticism and stress levels among Early Childhood Education (ECE) students at the Universiti Selangor (UNISEL). The results of the study support previous research indicating a significant positive relationship between neuroticism and stress perception in ECE students. These findings have important implications for educational institutions aiming to provide appropriate support mechanisms for their students. One crucial implication is the need for early identification and intervention for students exhibiting high levels of neuroticism. UNISEL can implement targeted interventions, such as counselling services and stress management programs, to help students effectively cope with their stress. Additionally, adapting the curriculum to include stress management techniques, resilience-building exercises, and strategies for managing neurotic tendencies is essential. This will equip ECE students with the necessary skills to navigate stressors in both their academic and professional lives, resulting in improved mental health outcomes. Furthermore, UNISEL could offer student support services like counselling, workshops, and support groups tailored to address stress and neuroticism, fostering a supportive environment and promoting emotional resilience. It is crucial for future research to explore additional factors that may moderate or mediate the relationship between neuroticism and stress. Lastly, integrating stress management and mental health topics into the professional development of ECE educators and practitioners will enable them to recognize and address these issues effectively, creating a more supportive and conducive learning environment overall. To enhance the validity of future studies, it is important to address the limitations of this research, such as the unbalanced representation of male and female students and the use of convenience sampling. Researchers should consider including gender as a variable and employ random sampling methods to generalize the findings.

## REFERENCES

- Abdullah, S. F., Shah, N. A., & Idaris, R. M. (2020). Stress and its relationship with the academic performance of higher institution students. *International Journal of Advanced Research in Education and Society*, 2(1), 61–73.
- Akoglu, H. (2018). User's guide to correlation coefficients. *Turkish Journal of Emergency Medicine*, 18(3), 91–93. <https://doi.org/10.1016/j.tjem.2018.08.001>
- Amuti, T., Mageto, J., & Dennis, N. (2022). Anatomical variations of the fifth Lumbar artery in a sample kenyan population. *Annals of African Surgery*, 19(2), 100–107.
- Bellingtier, J. A., Mund, M., & Wrzus, C. (2021). The role of extraversion and neuroticism for experiencing stress during the third wave of the COVID-19 pandemic. *Current psychology (New Brunswick, N.J.)*, 1–11. Advance online publication. <https://doi.org/10.1007/s12144-021-02600-y>
- Cathala, X., & Moorley, C. (2018). How to appraise quantitative research. *Evidence-Based Nursing*, 21(4), 99–101. <https://doi.org/10.1136/eb-2018-102996>
- Cha, E.-J., & Hyun, M.-H. (2021). Mediating effects of attentional control in the relationship between neuroticism and repetitive negative thinking. *Korean Journal of Clinical Psychology*, 40(2), 167–175. <https://doi.org/10.15842/kjcp.2021.40.2.005>
- Costa P Jr, Terracciano A, McCrae RR. (2001). Gender differences in personality traits across cultures: Robust and surprising findings. *Journal of Personality and Social Psychology*, 81(2), 322–331.
- Cuartero, N., & Tur, A. M. (2021). Emotional intelligence, resilience and personality traits neuroticism and extraversion: predictive capacity in perceived academic efficacy. *Nurse Education Today*, 102. <https://doi.org/10.1016/j.nedt.2021.104933>
- De Feyter T, Caers R, Vigna C, Berings D. (2012). Unraveling the impact of the Big Five personality traits on academic performance: The moderating and mediating effects of self-efficacy and academic motivation. *Learning and Individual Differences*, 22(4), 439–448. <https://doi.org/10.1016/j.lindif.2012.03.013>
- Emmert-Streib, F., & Dehmer, M. (2019). Understanding statistical hypothesis testing: The logic of statistical inference. *Machine Learning and Knowledge Extraction*, 1(3), 945–961. <https://doi.org/10.3390/make1030054>
- Etikan, I. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1. <https://doi.org/10.11648/j.ajtas.20160501.11>
- Garth, A. (2008). *Analysing data using SPSS (A practical guide for those unfortunate enough to have to actually do it)*. Sheffield Hallam University. [https://students.shu.ac.uk/lits/it/documents/pdf/analysing\\_data\\_using\\_spss.pdf](https://students.shu.ac.uk/lits/it/documents/pdf/analysing_data_using_spss.pdf)
- Gillian C. Tohver (2020) *The Wiley Encyclopedia of personality and individual differences: Personality processes and individual differences*. Volume III, First Edition. John Wiley & Sons Ltd. Published 2020 by John Wiley & Sons Ltd. <http://doi.org/10.1002/9781119547174.ch203>
- Han, J., Leng, X., Gu, X., Li, Q., Wang, Y., & Chen, H. (2021). The role of neuroticism and subjective social status in the relationship between perceived social support and life satisfaction. *Personality and Individual Differences*, 168. <https://doi.org/10.1016/j.paid.2020.110356>

- Jaalam, K., Bhagat, V., Haque, M., & Simbak, N. (2016). Study on personality dimension negative emotionality affecting academic achievement among Malaysian medical students studying in Malaysia and overseas. *Advances in Medical Education and Practice*, 11(7), 341–346. <http://doi.org/10.2147/amep.s108477>
- Kwon, S. and Weed, . Nathan C. (2019). *Neuroticism*. <https://www.britannica.com/science/neuroticism>
- Landmann, H., & Rohmann, A. (2022). When loneliness dimensions drift apart: Emotional, social and physical loneliness during the COVID-19 lockdown and its associations with age, personality, stress and well-being. *International Journal of Psychology*, 57(1), 63–72. <https://doi.org/10.1002/ijop.12772>
- Lovibond, S. H., and Lovibond, P. F. (1995). *Manual for the depression anxiety stress scales*. Sydney: Psychology Foundation.
- Majid, U. (2018). Research fundamentals: study design, population, and sample size. *Undergraduate Research in Natural and Clinical Science and Technology (URNCSST) Journal*, 2(1), 1–7. <https://doi.org/10.26685/urncst.16>
- McCrae RR, Costa PT. (1996). *The five-factor theory of personality: Theoretical perspective*. [https://www.researchgate.net/publication/247880369\\_The\\_five\\_factor\\_model\\_of\\_personality\\_Theoretical\\_Perspective](https://www.researchgate.net/publication/247880369_The_five_factor_model_of_personality_Theoretical_Perspective)
- Milic, V., Grujic, M., Barisic, J., Marinkovic-Eric, J., Duisin, D., Cirkovic, A., & Damjanov, N. (2019). Personality, depression and anxiety in primary Sjogren’s syndrome; Association with sociodemographic factors and comorbidity. | *PLOS ONE*, 14(1). <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0210466>
- Mohler-kuo, M., Dzemaili, S., Foster, S., Werlen, L., & Walitza, S. (2021). Stress and mental health among children/adolescents, their parents, and young adults during the first COVID-19 lockdown in Switzerland. *International Journal of Environmental Research and Public Health*, 18(9). <https://doi.org/10.3390/ijerph18094668>
- Mohiyeddini, C., Bauer, S., & Semple, S. (2015). Neuroticism and stress: The role of displacement behavior. *Anxiety, Stress and Coping*, 28(4), 391–407. <https://doi.org/10.1080/10615806.2014.1000878>
- O’Connor, D. B., Thayer, J. F., & Vedhara, K. (2021). Stress and health: A review of psychobiological processes. *Annual Review of Psychology*, 72, 663–688. <https://doi.org/10.1146/annurev-psych-062520-122331>
- Scott, Elizabeth . (2020). *How is stress affecting my health?* Verywell Mind <https://www.verywellmind.com/stress-and-health-3145086>
- Saeed Abbasi, I., Rattan, N., Kousar, T., & Khalifa Elsayed, F. (2018). Neuroticism and close relationships: How negative affect is linked with relationship disaffection in couples American. *Journal of Family Therapy*, 46(2), 139–152. <https://doi.org/10.1080/01926187.2018.1461030>
- Smallfield, J., & Kluemper, D. H. (2022). An explanation of personality change in organizational science: Personality as an outcome of workplace stress. *Journal of Management*, 48(4), 851–877. <https://doi.org/10.1177/0149206321998429>
- Tananuvat, N., Tansanguan, S., Wongpakaran, N., & Wongpakaran, T. (2022). *Role of neuroticism and perceived stress on quality of life among patients with dry eye disease*.Scientific Reports: Nature. [www.nature.com](http://www.nature.com). <https://www.nature.com/articles/s41598-022-11271-z#citeas>



- Wani, S. R. (2017). Edu/Research Methodology/Sampling. Population and Sample, 1–7. Metts, A., Yarrington, J., Enders, C., Hammen, C., Mineka, S., Zinbarg, R., & Craske, M. G. (2021). Reciprocal effects of neuroticism and life stress in adolescence. *Journal of affective disorders*, 281, 247–255. <https://doi.org/10.1016/j.jad.2020.12.016>
- Wang, Y., Zhu, Y., Chen, P., Yan, F., Chen, S., Li, G., Hu, X., Wang, L., & Yang, Z. (2018). Neuroticism is associated with altered resting-state functional connectivity of amygdala following acute stress exposure. *Behavioural Brain Research*, 347, 272–280. <https://doi.org/10.1016/j.bbr.2018.03.021>
- Ward, R. N., Brady, A. J., Jazdzewski, R., & Yalch, M. M. (2021). Stress, resilience, and coping. In R.K. Pradhan & U. Kumar (Eds.), *Emotion, well-being, and resilience: Theoretical perspectives and practical applications* (pp. 3-14). Apple Academic Press/Routledge
- Weston, S. J., & Jackson, J. J. (2018). The role of vigilance in the relationship between neuroticism and health: A registered report. *Journal of Research in Personality*, 73, 27–34. <https://doi.org/10.1016/j.jrp.2017.10.005>
- Yusoff et al. (2021). The roles of emotional intelligence, neuroticism, and academic stress on the relationship between psychological distress and burnout in medical students. *BMC Medical Education*. 293. <https://doi.org/10.1186/s12909-021-02733-5>