



Evaluating the Role of Personality in Task Performance Across Varying Mental Workload Levels

Wiediartini^{1*}, Udisubakti Ciptomulyono², Ratna Sari Dewi²

¹Politeknik Perkapalan Negeri Surabaya, Surabaya, Indonesia

²Institut Teknologi Sepuluh Nopember, Surabaya, Indonesia

*Correspondence email: wiwid@ppns.ac.id

Received: 08/11/2025

Revised: 27/11/2025

Accepted: 02/01/2026

Abstract: Variations in task performance under different cognitive demands are often interpreted as indicating mental workload. Prior research has identified a link between personality and task performance. This study investigates whether personality traits influence performance under varying levels of mental workload in working memory tasks. Personality traits were assessed using the Eysenck Personality Inventory. Participants completed n-back tasks at three levels of difficulty to induce different levels of mental workload. The findings reveal significant differences in response times between extroverts and introverts across all task difficulties ($p < 0.05$), with introverts responding more quickly. A significant difference between neurotic and stable individuals emerged only at the medium difficulty level ($p < 0.05$), with stable individuals performing faster. Additionally, response times varied significantly across personality quadrants, with introvert-neurotic individuals showing faster responses at both low and high difficulty levels.

Keywords: EPI; response; time; n-back; task



SDGs Problem Solving

Research and problem-solving in this study support SDG 8 (Decent Work and Economic Growth). This research examines the impact of mental burden and personality on performance, therefore enhancing worker well-being, optimizing productivity, and facilitating the construction of safer, more efficient work systems in accordance with sustainable development goals.

Conflict of Interest Statement: The author(s) declares that the research was conducted in the absence of any commercial or financial relationship that could be construed as a potential conflict of interest.

Copyright: © ASIIMETRIK. This is an open access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC-BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Jurnal Asimetrik: Jurnal Ilmiah Rekayasa dan Inovasi - ASIIMETRIK is an open access and peer-reviewed journal published by Faculty of Engineering, Universitas Pancasila, Indonesia.



1. INTRODUCTION

Operator performance can be predicted by measuring or analyzing their workload. The previous research observed that performance decreases as the workload increases. Many working environments have established modern technology which causes the physical workload shift to mental workload. Mental workload is the amount of mental effort need by the operator to perform tasks (Gao *et al.*, 2013). Workload is not only affected by external factors (task quantity, task difficulty, time available, environment factors) but also by operator context (individual capabilities, training, experience, fatigue, stress, and personality) (Rusnock and Borghetti, 2018). Individual differences vary across people and personality has been widely discussed to represent individual differences.

Personality traits describe by Ashton as differences among individuals in a typical tendency to behave, think, or feel in some conceptually related ways, across a variety of relevant situations and across some fairly long period of time (Ashton, 2013). A trait level does not imply that an individual consistently or never displays certain behaviors, thoughts, or emotions; rather, it indicates a strong or weak tendency to do so. Knowing someone's traits can be used to predict someone's behavior in a given situation (Hall and Lindzey, 1978).

A number of studies have investigated how personality predicts job performance. It is assumed that the performance of the operator decreases as the workload increases. Therefore, the use of personality tests in personnel recruitment has become an interest of some research and has been implemented by organizations (Rothstein and Goffin, 2006). Correlation between personality and performance has been examined by some researchers. The studies found differences in performance for extroverts and introverts person (Thackray, Jones and Touchstone, 1974; Golmohammadi *et al.*, 2021), for pessimism and optimism personality (Damos and Bloem, 1985), and type A-B personality (Fujii and Kida, 1999). A study that considers work behavior showed that personality traits affect job performance through the working-hard work style (Hung, 2020). Operators might have a different workload from others due to individual differences in personality (Grassmann *et al.*, 2017).

An individual's working memory plays a crucial role in everyday life. The n-back task has been one of the most widely used in the studies of working memory since it reflects the general working memory process (Owen *et al.*, 2005). A study conducted by Kane *et al.*, conclude that N-back has face validity as a working memory task (Kane *et al.*, 2007). Higher 'n' in n-back task represent higher task difficulty and increasing task difficulty would degrade performance and effect physiological responses (Wiediartini, Ciptomulyono and Dewi, 2024).

There were a wide variety of personality measures have been developed. One of the personality theories was developed by Eysenck which postulates two major dimensions, neuroticism (N) and extraversion (E) in his early theoretical ideas. Extraverts tend to be sociable and impulsive, whereas introverts prefer alone time. Introverts have higher cortical arousal than extraverts, therefore extraverts need stimulation (Hall and Lindzey, 1978). Higher level of neuroticism tends to be more unstable, and neuroticism factor is related to inherited rather than learning or experience process (Eysenck, 1977). Performance tasks with more than one level of difficulty are applicable to Eysenck's theory (Cox-Fuenzalida *et al.*, 2006). The Eysenck Personality Inventory is a valid and reliable tool, demonstrating stable and consistent results across studies (Gabrys, 1982).

Previous research showed gender differences in personality traits. Women consistently report higher levels of extraversion, neuroticism, and agreeableness than men ([Schmitt *et al.*, 2008](#); [Weisberg, DeYoung and Hirsh, 2011](#); [Ali, Ali and Ahmed, 2024](#); [Riana, Toiba and Rahman, 2024](#); [Youssef and Sayour, 2025](#)). These trait differences can influence outcomes differently across genders—for example, agreeableness and neuroticism benefit female entrepreneurs during crises ([Youssef and Sayour, 2025](#)), and personality traits and work conditions contribute to burnout in gender-specific ways ([Rubio-Valdehita *et al.*, 2024](#)). Performance research also shows that personality–performance relationships may only appear when genders are analyzed separately ([Crofton, Ferraro and Mouloua, 2023](#)). Therefore, combining genders may introduce confounding variability, making it harder to interpret the true effects of personality on performance.

This study aims to examine how variations in workload levels affect performance across personality traits, with the analysis restricted to male participants to minimize gender-related confounding influences.

2. METHODOLOGY

2.1. Participants

In the experiment, 32 healthy males (mean age = 21.5, SD = 3.55) were involved, an age range that falls within the commonly defined category of young adulthood ([Simpson, 2018](#)). The subjects were all right-handed and were familiar with computer mouse use. All subjects had never participated in an n-back study to avoid the training effect. Subjects receive compensation after completion of the experiment.

2.2. Personality Questionnaires

The Eysenck Personality Inventory (EPI) was used in this study. EPI measures two central dimensions of personality, extraversion, and neuroticism, measured on a continuum. The subject answered 57 yes/no items without any repetitive items. Based on the total scores, subjects were classified as high or low on the two dimensions. For a score more than 12 in extraversion, subjects were considered as extravert and for a score more than 12 in neuroticism, subjects were considered as neurotic (unstable).

2.3. Procedure

A controlled laboratory environment was used for the experiment. Subjects were required to take a personality test before the experiment. The experiment procedure is depicted in [Figure 1](#). During the experiment, participants sat in front of a screen and adjusted their chairs to ensure a comfortable seating position. The tasks will be shown on a screen. The subject performed three conditions of n-back task (0-back, 1-back, 2-back) in a controlled lab environment. Higher n reflects higher task difficulty to manipulate mental workload. In 0-back task, subjects respond to a target letter 'X'. In 1-back task, subjects respond to the target letter which is identical to the previous letter. Two-back task requires subjects to respond to the target letter identical to that presented two trials earlier. Ten sessions were conducted in this experiment, with each session consisting of three conditions (0-back, 1-back, 2-back) and presented in pseudorandom order. In each n-back, there were 22 letters appear on the screen, and each letter displays for 500 ms. The subject is instructed to click the left

mouse button as soon as the target letter appears on the screen and click the left mouse button if it is not the target letter before the next letter appears 1.5 s later. Task performances were evaluated by accuracy and response time and recorded during the experiment.

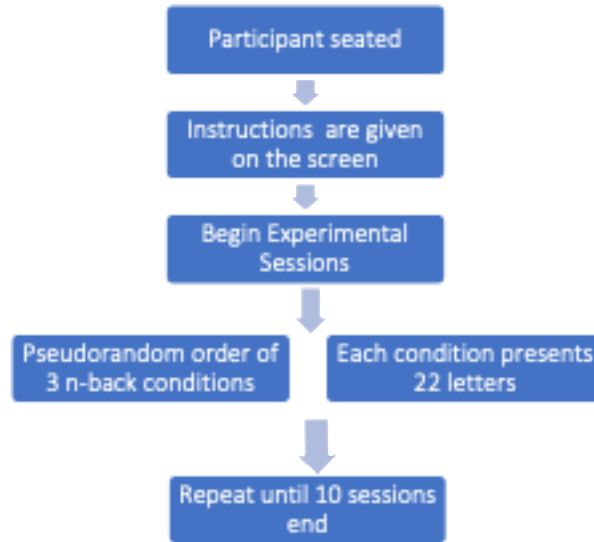


Figure 1. Flowchart of the experimental procedure

3. RESULTS AND DISCUSSION

Normality tests using Kolmogorov-Smirnov test were conducted before conducting any inferential statistics. The level of significance was set at 0.05. The result indicates that all variables were not normal. The Wilcoxon signed rank test was conducted to test the overall significant differences between personality traits. Friedman test is used to test significant differences among personality quadrants.

3.1. Personality Traits

There were 17 extrovert subjects, 15 introvert, 15 neurotic, and 17 stables. Each participant has 10 average data of performance for each task difficulty level. Descriptive statistics of performance in low, medium, and high task difficulty for extroverts and introverts show in [Table 1](#).

Table 1. Performance in three level task difficulty for extrovert and introvert

Performance	Low			Medium			High		
	Extrovert	Introvert	<i>p</i>	Extrovert	Introvert	<i>p</i>	Extrovert	Introvert	<i>p</i>
	Mean (SD)	Mean (SD)	value	Mean (SD)	Mean (SD)	value	Mean (SD)	Mean (SD)	value
Accuracy (%)	82.11 (9.63)	83.93 (4.92)	0.089	77.47 (13.25)	78.89 (8.82)	0.240	72.67 (12.15)	73.85 (11.70)	0.110
Response Time (ms)	353.06 (32.65)	334.43 (27.89)	0.000*	364.64 (38.0)	353.93 (29.05)	0.022*	369.02 (37.05)	355.41 (33.02)	0.005*

*Wilcoxon signed rank test, significant at the 0.05 level

Accuracy decreases as increasing task difficulty for both extroverts and introverts ([Figure 2](#)). However, the Wilcoxon signed-rank test revealed no significant differences in accuracy between the two personality groups across all three levels of task difficulty. It appears that accuracy was not sensitive to differences in personality traits, as evidence by their lack of significant differences.

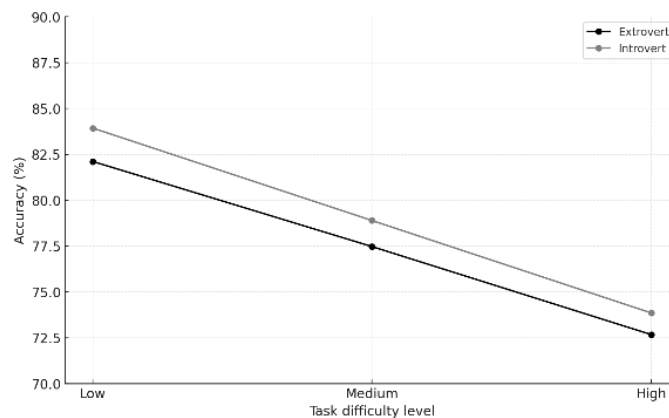


Figure 2. Accuracy across task difficulty levels for extrovert and introvert

At all three difficulty levels, there were significant differences in response time between extroverts and introverts. Response time increase with the increasing task difficulty in both extrovert and introvert. Introverts respond faster than extroverts in all levels of task difficulty (Figure 3).

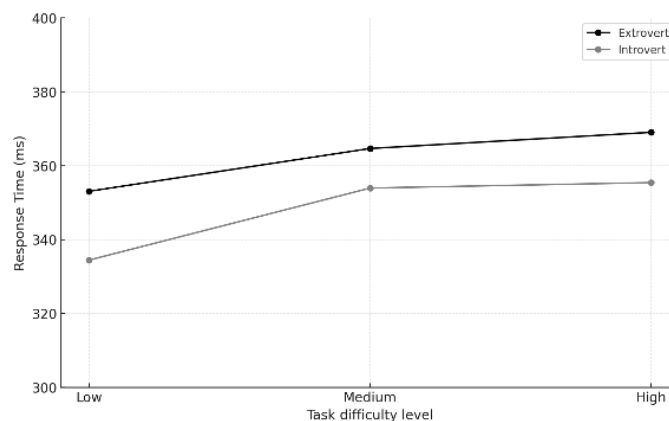


Figure 3. Response time across task difficulty levels for extrovert and introvert

Descriptive statistics for neurotic and stable are presented in Table 2. There were no significant differences in accuracy between neurotic and stable in all three-task difficulty levels. Accuracy decreases with increasing workload for both neurotic and stable (Figure 4).

Table 2. Performance in three level task difficulty for neurotic and stable

Performance	Low			Medium			High		
	Neurotic	Stable	<i>p</i>	Neurotic	Stable	<i>p</i>	Neurotic	Stable	<i>p</i>
	Mean (SD)	Mean (SD)	value	Mean (SD)	Mean (SD)	value	Mean (SD)	Mean (SD)	value
Accuracy (%)	83.05 (5.97)	82.69 (9.19)	0.437	78.64 (6.95)	78.27 (12.53)	0.432	73.31 (10.53)	73.04 (12.96)	0.280
Response Time (ms)	343.83 (29.38)	344.72 (33.97)	0.210	361.81 (31.31)	356.17 (33.66)	0.003*	358.34 (39.49)	365.77 (34.48)	0.161

*Wilcoxon signed rank test, significant at the 0.05 level

Response time increase as increasing task difficulty in stable subjects (Figure 5). For neurotic subjects, the fastest response time was in low task difficulty, and the slowest response time was in medium task difficulty. Significant differences between neurotic and stable individuals were observed only at the medium task difficulty level, with stable individuals performing better than neurotic.

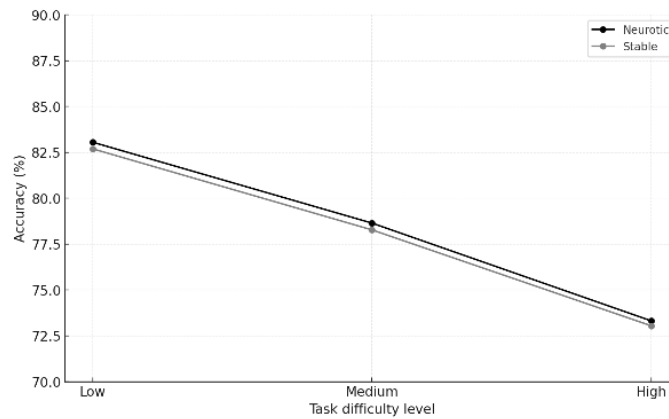


Figure 4. Accuracy across task difficulty levels for neurotic and stable

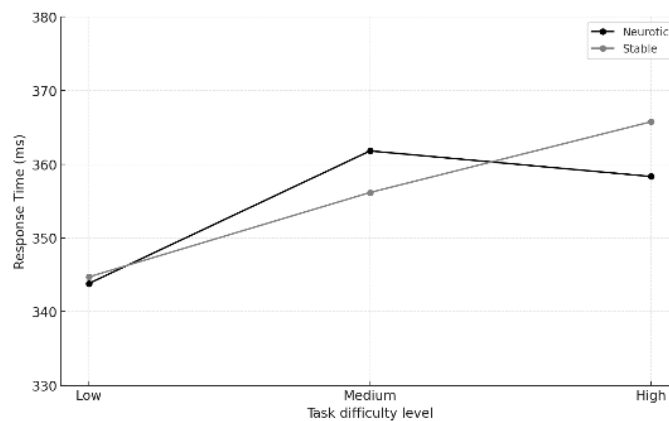


Figure 5. Response time across task difficulty levels for neurotic and stable

3.2. Personality Quadrant

The EPI questionnaire filled by subject were classified into four quadrants (extrovert-neurotic, extrovert-stable, introvert-neurotic, and introvert-stable). There were 7 subjects in extrovert-neurotic, 10 subjects in extrovert-stable, 8 subjects in introvert-neurotic, and 7 subjects in introvert-stable quadrant. Each participant has 10 average data of performance for each task difficulty level.

Table 3. Mean and standard deviation of accuracy for four personality quadrants

Accuracy (%)	Extrovert-Neurotic Mean (SD)	Extrovert-Stable Mean (SD)	Introvert-Neurotic Mean (SD)	Introvert-Stable Mean (SD)	<i>p</i> value
Low	82.39 (7.20)	83.37 (12.92)	83.64 (4.61)	84.26 (5.28)	0.885
Medium	78.32 (7.94)	81.57 (6.77)	79.25 (6.16)	78.48 (11.15)	0.061
High	71.47 (12.06)	71.38 (16.73)	75.4 (9.09)	72.08 (13.98)	0.025*

*Friedman Test, significant at the 0.05 level

Table 3 presents the mean and standard deviation of accuracy for four personality quadrants. Friedman test found significant differences in accuracy for high task difficulty among four personality quadrants. In all four quadrants, accuracy decreases as increasing task difficulty. Accuracy in low and medium task difficulty were not sensitive to differences in personality quadrant.

Table 4. Mean and standard deviation of response time for four personality quadrants

Response Time (ms)	Extrovert-Neurotic Mean (SD)	Extrovert-Stable Mean (SD)	Introvert-Neurotic Mean (SD)	Introvert-Stable Mean (SD)	p value
Low	357.08 (26.75)	343.47 (30.75)	334.01 (32.36)	334.91 (21.92)	0.000*
Medium	371.60 (26.49)	347.89 (24.24)	353.23 (32.89)	354.73 (24.13)	0.000*
High	371.60 (33.52)	371.06 (43.67)	346.89 (32.96)	365.15 (30.49)	0.003*

*Friedman Test, significant at the 0.05 level

Significant differences in response time across all three levels of task difficulty were found among the different personality quadrants (Table 4). Response time increase with the increasing task difficulty in extrovert-stable and introvert-stable. In extrovert-neurotic, response time increase from low to medium task difficulty and then reached a plateau at higher levels of task difficulty. However, the response time increase then decreases with increasing task difficulty in introvert-neurotic.

The fastest response time was performed by introvert-neurotic in low and high task difficulty and by extrovert-stable in medium task difficulty. The highest accuracy was performed by introvert-neurotic in high task difficulty.

3.3. Discussion

The pattern of decreasing accuracy and increasing response time with increasing task difficulty is consistent across groups of personality traits. The correct answer of introverts was higher than extroverts in all task difficulties, but no significant differences were found.

This study found significant differences in response time between extroverts and introverts across all levels of task difficulty. Introverts respond to the target faster than extroverts in all levels of task difficulty. This finding support previous studies that found extravert have lower task performance in monotonous task (Beauducel, Brocke and Leue, 2006). Experiment under different levels of noise conducted by Alimohammadi et al., found that working time of extroverts was higher than introverts in all levels of noise (Alimohammadi, Sandroock and Gohari, 2013).

Introverts exhibit a higher baseline level of arousal compared to extroverts (Chamorro-Premuzic, 2015), and this higher arousal level enhances their ability to respond faster and better accuracy than extravert (Cox-Fuenzalida et al., 2006). The experiment in this study presented three conditions of n-back task in pseudorandom order. The subject did not know what type of n-back task will appear next. The finding of this study supports a previous study conducted by Cox-Fuenzalida et al. (Cox-Fuenzalida et al., 2006). It suggested that introvert who has a higher level of arousal can be easier adapting to sudden changes than extrovert. Furthermore, Doucet and Stelmack shown that extroverts' movement time shorter than introverts in motoric response rate (Doucet and Stelmack, 1997). Extraverts move faster in motoric response rate, not cognitively. Introverts think faster than extroverts (Feist, Feist and Roberts, 2017). Extraversion showed no effect on working-memory tasks (Bjarnadóttir and Óskarsdóttir, 2022).

In response to a sudden change in workload demand, neuroticism was hypothesized to be significantly associated with performance decreases. In this study, no significant differences were found between neurotic and stable in accuracy. The response time of the neurotic subjects was faster than stable subjects in low and high task difficulty levels but not significant.

This is consistent with research conducted by Alimohammadi et al., that concludes that mental performance is not influenced by neuroticism (Alimohammadi, Sandroock and Gohari, 2013). Another study under noise conditions found no significant differences between two traffic noise scenarios in both simple and complex tasks (Mehri et al., 2018). In this study, significant differences were only found in medium task difficulty where stable subjects respond faster than neurotic. The previous research conducted by Newton et al., and Cox-fuenzalida et al., also found slower reaction time in higher levels of neuroticism (Newton et al., 1992; Cox-Fuenzalida, Swickert and Hittner, 2004). In driving experiment that use n-back task as the secondary task and using older male driver as subject, Biernacki and Lewkowicz found significant lower correct response with increasing task difficulty and conclude that higher level of neuroticism will encounter with larger decrease in psycho-motor skills (Biernacki and Lewkowicz, 2020). Compared with stable, neurotic subjects experienced more mental workload (Golmohammadi et al., 2021). Neuroticism showed a significant negative association with performance on the mental arithmetic task (Reynolds, McClelland and Furnham, 2014). There are some studies reported that high neurotic subjects perform better in stressful environments than subjects with low neurotic scores (Feist, Feist and Roberts, 2017). High neurotic subjects were able to achieve performance improvement more than stable subjects when they increase their effort (Smillie et al., 2006).

Previous research suggests that introvert-neurotic have worse cognitive performance compared to extrovert-stable (LeMonda et al., 2015). Introvert-neurotic generally worked faster but made more errors than the other personality quadrant (Gray and McLean, 1973). The result of this study revealed that introvert-neurotic demonstrated faster response times at both low and high task difficulty levels compared to the other personality quadrants. However, introvert-neurotics were also found to have higher accuracy in high task difficulty. A study by Cowell and Entwistle showed that introvert-neurotics personality profile tended to achieve higher academic grades compared to those in other personality quadrants (Cowell and Entwistle, 1971).

4. CONCLUSION

This study suggests that personality traits on a continuum of extraversion and neuroticism lead to different responses in performance of different workload levels. Response time is more sensitive than accuracy to the differences in task difficulty. Introverts performed faster response time than extroverts in all three tasks difficulty. Stable subjects performed faster in medium task difficulty. Introvert-neurotic performed better response times at both low and high task difficulty levels, but only in high task difficulty for accuracy.

Previous studies did not always provide similar results regarding the pattern of performance in extraversion and neuroticism dimensions. The type of task and the scenario of the experiment might affect the performance. To determine the cause of differences in response time for extroverts and introverts, more studies on motor and cognitive tasks are needed. This study is limited by its small sample size and the homogeneity of participants, who were all young males. Further studies need to consider other individual differences such as age, sex, intelligence, environment, and ethnicity.

REFERENCES

- Ali, U., Ali, A. and Ahmed, F. (2024) 'Big Five Personality Traits and Life Satisfaction related Gender Differences in the Context of Ice Hockey Team Sports', *Pakistan Social Sciences Review*, 8(2), pp. 215–225. Available at: [https://doi.org/10.35484/pssr.2024\(8-II-5\)18](https://doi.org/10.35484/pssr.2024(8-II-5)18).
- Alimohammadi, I., Sandrock, S. and Gohari, M.R. (2013) 'The effects of low frequency noise on mental performance and annoyance', *Environmental Monitoring and Assessment*, 185(8), pp. 7043–7051. Available at: <https://doi.org/10.1007/s10661-013-3084-8>.
- Ashton, M.C. (2013) 'Personality Traits and the Inventories that Measure Them', in *Individual Differences and Personality*. 2nd edn. Academic Press, pp. 27–55. Available at: <https://doi.org/10.1016/B978-0-12-416009-5.00002-5>.
- Beauducel, A., Brocke, B. and Leue, A. (2006) 'Energetical bases of extraversion: Effort, arousal, EEG, and performance', *International Journal of Psychophysiology*, 62(2), pp. 212–223. Available at: <https://doi.org/10.1016/j.ijpsycho.2005.12.001>.
- Biernacki, M.P. and Lewkowicz, R. (2020) 'Evidence for the role of personality in the cognitive performance of older male drivers', *Transportation Research Part F: Traffic Psychology and Behaviour*, 69, pp. 385–400. Available at: <https://doi.org/10.1016/j.trf.2020.02.005>.
- Bjarnadóttir, E.K. and Óskarsdóttir, H. (2022) *Extraversion and cognitive performance on working memory tasks: does speed matter?* Thesis. University of Akureyri. Available at: <https://skemman.is/handle/1946/41959> (Accessed: 10 February 2026).
- Chamorro-Premuzic, T. (2015) *Personality and Individual Differences*. John Wiley & Sons, Incorporated. [Print].
- Cowell, M.D. and Entwistle, N.J. (1971) 'The Relationships Between Personality, Study Attitudes and Academic Performance in a Technical College', *British Journal of Educational Psychology*, 41(1), pp. 85–90. Available at: <https://doi.org/10.1111/j.2044-8279.1971.tb00661.x>.
- Cox-Fuenzalida, L.-E. et al. (2006) 'Extraversion and task performance: A fresh look through the workload history lens', *Journal of Research in Personality*, 40(4), pp. 432–439. Available at: <https://doi.org/10.1016/j.jrp.2005.02.003>.
- Cox-Fuenzalida, L.-E., Swickert, R. and Hittner, J.B. (2004) 'Effects of neuroticism and workload history on performance', *Personality and Individual Differences*, 36(2), pp. 447–456. Available at: [https://doi.org/10.1016/S0191-8869\(03\)00108-9](https://doi.org/10.1016/S0191-8869(03)00108-9).
- Crofton, A., Ferraro, J.C. and Mouloua, M. (2023) 'Individual differences in personality factors as predictors of performance and situation awareness in Stealth Adapt simulated search and rescue missions', *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 67(1), pp. 2281–2284. Available at: <https://doi.org/10.1177/21695067231192517>.
- Damos, D.L. and Bloem, K.A. (1985) 'Type A behavior pattern, multiple-task performance, and subjective estimation of mental workload', *Bulletin of the Psychonomic Society*, 23(1), pp. 53–56. Available at: <https://doi.org/10.3758/BF03329777>.
- Doucet, C. and Stelmack, R.M. (1997) 'Movement time differentiates extraverts from introverts', *Personality and Individual Differences*, 23(5), pp. 775–786. Available at: [https://doi.org/10.1016/S0191-8869\(97\)00104-9](https://doi.org/10.1016/S0191-8869(97)00104-9).
- Eysenck, H.J. (1977) *Manual of the Eysenck Personality Inventory*. Hodder & Stoughton. [Print].
- Feist, J., Feist, G.J. and Roberts, T.-A. (2017) *Theories of Personality*. McGraw-Hill Education. [Print].
- Fujii, T. and Kida, M. (1999) 'Type A behavior and cognitive processings reflected in event-related brain potentials to concurrent tasks', *The Japanese journal of psychology*, 70(4), pp. 293–300. Available at: <https://doi.org/10.4992/jjpsy.70.293>.
- Gabrys, J.B. (1982) 'Validity and Reliability of the Eysenck Personality Inventory with Outpatients', *Psychological Reports*, 51(2), pp. 541–542. Available at: <https://doi.org/10.2466/pr0.1982.51.2.541>.
-

- Gao, Q. et al. (2013) 'Mental workload measurement for emergency operating procedures in digital nuclear power plants', *Ergonomics*, 56(7), pp. 1070–1085. Available at: <https://doi.org/10.1080/00140139.2013.790483>.
- Golmohammadi, R. et al. (2021) 'Role of individual and personality traits in occupational noise-induced psychological effects', *Applied Acoustics*, 173, p. 107699. Available at: <https://doi.org/10.1016/j.apacoust.2020.107699>.
- Grassmann, M. et al. (2017) 'Individual differences in cardiorespiratory measures of mental workload: An investigation of negative affectivity and cognitive avoidant coping in pilot candidates', *Applied Ergonomics*, 59, pp. 274–282. Available at: <https://doi.org/10.1016/j.apergo.2016.09.006>.
- Gray, J.E. and McLean, P.D. (1973) 'Performance on an Intelligence Test as a Function of Personality', *British Journal of Social and Clinical Psychology*, 12(1), pp. 46–49. Available at: <https://doi.org/10.1111/j.2044-8260.1973.tb00844.x>.
- Hall, C.S. and Lindzey, G. (1978) *Theories of Personality*. United Kingdom: Wiley. [Print].
- Hung, W.-T. (2020) 'Revisiting relationships between personality and job performance: working hard and working smart', *Total Quality Management & Business Excellence*, 31(7–8), pp. 907–927. Available at: <https://doi.org/10.1080/14783363.2018.1458608>.
- Kane, M.J. et al. (2007) 'Working memory, attention control, and the n-back task: A question of construct validity', *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 33(3), pp. 615–622. Available at: <https://doi.org/10.1037/0278-7393.33.3.615>.
- LeMonda, B.C. et al. (2015) 'The Association between High Neuroticism-Low Extraversion and Dual-Task Performance during Walking While Talking in Non-demented Older Adults', *Journal of the International Neuropsychological Society*, 21(7), pp. 519–530. Available at: <https://doi.org/10.1017/S1355617715000570>.
- Mehri, A. et al. (2018) 'Effect of traffic noise on mental performance with regard to introversion and task complexity', *Applied Acoustics*, 132, pp. 118–123. Available at: <https://doi.org/10.1016/j.apacoust.2017.11.019>.
- Newton, T. et al. (1992) 'Personality and performance on a simple visual search task', *Personality and Individual Differences*, 13(3), pp. 381–382. Available at: [https://doi.org/10.1016/0191-8869\(92\)90119-A](https://doi.org/10.1016/0191-8869(92)90119-A).
- Owen, A.M. et al. (2005) 'N-back working memory paradigm: A meta-analysis of normative functional neuroimaging studies', *Human Brain Mapping*, 25(1). Available at: <https://doi.org/10.1002/hbm.20131>.
- Reynolds, J., McClelland, A. and Furnham, A. (2014) 'An investigation of cognitive test performance across conditions of silence, background noise and music as a function of neuroticism', *Anxiety, Stress, & Coping*, 27(4), pp. 410–421. Available at: <https://doi.org/10.1080/10615806.2013.864388>.
- Riana, F.D., Toiba, H. and Rahman, M.S. (2024) 'Are There Variations in Personality Traits Between Men and Women? The Evidence is from Indonesian Residents', *HABITAT*, 35(1), pp. 106–113. Available at: <https://doi.org/10.21776/ub.habitat.2024.035.1.10>.
- Rothstein, M.G. and Goffin, R.D. (2006) 'The use of personality measures in personnel selection: What does current research support?', *Human Resource Management Review*, 16(2), pp. 155–180. Available at: <https://doi.org/10.1016/j.hrmr.2006.03.004>.
- Rubio-Valdehita, S. et al. (2024) 'Burnout among Retail Workers in Spain: The Role of Gender, Personality and Psychosocial Risk Factors', *Social Sciences*, 13(5), p. 264. Available at: <https://doi.org/10.3390/socsci13050264>.
- Rusnock, C.F. and Borghetti, B.J. (2018) 'Workload profiles: A continuous measure of mental workload', *International Journal of Industrial Ergonomics*, 63, pp. 49–64. Available at: <https://doi.org/10.1016/j.ergon.2016.09.003>.
-

- Schmitt, D.P. et al. (2008) 'Why can't a man be more like a woman? Sex differences in Big Five personality traits across 55 cultures', *Journal of Personality and Social Psychology*, 94(1), pp. 168–182. Available at: <https://doi.org/10.1037/0022-3514.94.1.168>.
- Simpson, R. (2018) *Young Adult Development Project, Worklife*. Harvard-MIT Division of Health Sciences & Technology. Available at: <https://hr.mit.edu/static/worklife/youngadult/changes.html> (Accessed: 10 February 2025).
- Smillie, L.D. et al. (2006) 'Benefits of all work and no play: The relationship between neuroticism and performance as a function of resource allocation', *Journal of Applied Psychology*, 91(1), pp. 139–155. Available at: <https://doi.org/10.1037/0021-9010.91.1.139>.
- Thackray, R.I., Jones, K.N. and Touchstone, R.M. (1974) 'Personality and Physiological Correlates of Performance Decrement on a Monotonous Task Requiring Sustained Attention', *British Journal of Psychology*, 65(3), pp. 351–358. Available at: <https://doi.org/10.1111/j.2044-8295.1974.tb01409.x>.
- Weisberg, Y.J., DeYoung, C.G. and Hirsh, J.B. (2011) 'Gender Differences in Personality across the Ten Aspects of the Big Five', *Frontiers in Psychology*, 2. Available at: <https://doi.org/10.3389/fpsyg.2011.00178>.
- Wiedartini, Ciptomulyono, U. and Dewi, R.S. (2024) 'Evaluation of physiological responses to mental workload in n-back and arithmetic tasks', *Ergonomics*, 67(8), pp. 1121–1133. Available at: <https://doi.org/10.1080/00140139.2023.2284677>.
- Youssef, M.H. and Sayour, N. (2025) 'Exploring Gendered Perspectives on Personality Traits and Entrepreneurial Performance in Lebanon during the COVID-19 Crisis', *Gender Issues*, 42(1), p. 8. Available at: <https://doi.org/10.1007/s12147-025-09350-2>.

This page is blank on purpose