

## Analyzing the Psychological Characteristics and Personality Traits of Young Engineers and Technologists (YET) in Universiti Teknikal Malaysia Melaka (UTeM)

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### ABSTRACT

The personality of everyone is different according to the environment and educational background. This study was conducted to identify personality traits among young engineers and technologists (YET) at Universiti Teknikal Malaysia Melaka (UTeM). The research design used is a cross-sectional survey that uses the Big Five Inventory Questionnaire (adapted) (BFIQ), and the Krecjie and Morgan (1970) sampling determination table is used. The study population consists of students at UTeM, and the total sample obtained is 301 people. The findings of the study found that the YET personality traits are agreeableness (70.4% of YET) and openness (29.6% of YET). The findings of the study related to the demographic background show that most of the respondents consist of 4th year YET, which are 39.2% (118 YET), followed by 1st year YET, which are 32.2% (97 YET), 3rd year YET which are 17.6% (53 YET) and YET year 2 which is 11.0% (33 YET). The frequency of YET siblings at UTeM is four (4). Next is the frequency of the year of birth of UTeM YET is 2000, and the frequency of the highest month of birth among YET is the month of March. This difference in personality can indirectly affect and have a relationship with academic achievement and opportunities for choosing a career in the future.

**Keywords:** Personality traits, agreeableness, openness, YET, UTeM

### INTRODUCTION

Personality varies according to external variables, and every individual is born with a unique personality. Parents (Geldard, Geldard, & Foo, 2019) and the living environment and changing times significantly impact a child's personality in the early stages of life. These varied personalities result in the presence of varied individual desires (Jihamdi & Buntat, 2021). Personality describes the qualities of time- and situation-dependent thinking, mood, conduct, and stress reaction (Connor-Smith & Flachsbart, 2007).

Personality can be defined as uniqueness or originality. Moreover, personality is described as an individual's own manner of thinking, feeling, and acting. More education makes personality more apparent and influences how individuals shape their futures. Personality is also defined as the mental and spiritual characteristics that separate individual attitudes, behaviours, and acts (Faizah & Nagarajan, 2012). According to Allen and Walter (2018), personality refers to the variability of an individual's character, temperament, intelligence, and physical that provides adaptability and distinctiveness based on the environment's compatibility.

Personality is also related to marketability in the job market. The study by Rahmah Ismail, Ishak Yusoff, and Lai Wei Sieng (2011) demonstrates that the labour market in a number of industrialized nations, including Australia, the United States, and Canada, emphasizes that the quality of soft skills should be similar to technical ability. Ismail (2013) mentioned that students' career decisions must be in accordance with their particular career interests because these decisions affect their future. In the meantime, Moktar and Kadir (2013) discovered that an individual's career path is facilitated by a personality that is congruent with his or her interests and that it

provides early awareness by identifying personality, career interests, and the relationship between personality and career tendencies. According to Allen and Walter (2018), a student's personality influences their work style and learning performance, particularly cooperation.

According to Tang (2020), individual personality characteristics influence the effectiveness of enhancing academic achievement, but to a lesser extent than dedication and concentration components. Moreover, the findings of Jihamdi and Buntat's (2021) study indicate that personality has a substantial association with students' entrepreneurial motivation. Some evidence indicates that college students also require assistance with decision-making. According to Hirschi et al. (2013), counsellors play a crucial role in assisting individuals or students with decision-making difficulties.

The five dimensions of extraversion, neuroticism, openness, agreeableness, and conscientiousness are highlighted by personality traits (Chen, 2013). Extraversion is comparable to collecting, being active, seeking enjoyment, happy emotions, and warmth. According to the heart, neuroticism is comparable to anxiety, depression, impatience, and anger. The term 'openness' alludes to creativity, ideas, action, and sound judgement. The agreeableness alludes to discipline, conformity, competence, orderliness, consideration, accomplishment, and performance. Ultimately, conscientiousness alludes to candour, trust, putting the needs of others above one's own, sensitivity, and readiness.

Moreover, the Malaysian Technological University Network (MTUN) refers to four public universities, namely: (1) Universiti Malaysia Perlis (UniMAP), (2) Universiti Teknikal Malaysia Melaka (UTeM), (3) Universiti Tun Hussein Onn Malaysia (UTHM), and (4) Universiti Malaysia Pahang (UMP). The establishment of MTUN began in March 2006 with the formation of the Technical University College Network of Malaysia (TCUN Malaysia). In 2007, TCUN Malaysia underwent a branding process in line with the branding of institutions.

Personality determines the selection of a field of study and a career. Thus, the purpose of this study is to discover personality features among UTeM's young engineers and technologists. UTeM is a member of the Malaysian Technological University Network (MTUN), and its students are referred to as YET or "Young Engineers" and "Young Technologists." This study indirectly aids career service providers in recognizing the personality of Individuals who are being specifically moulded at UTeM.

## METHODOLOGY

This study uses a cross-sectional survey design using a questionnaire. Big Five Inventory Questionnaire (Adapted) questionnaire instrument modified by Chen (2013). The Big Five (BFI) personality questionnaire emphasizes five dimensions, namely extraversion (likes to be sociable), agreeableness (easy to reach agreement), conscientious (having awareness), neuroticism (having emotional disturbances), and openness (having an open attitude).

The study population consisted of students at UTeM and used the sampling method of Krecjie and Morgan (1970). The study population and sample consisted of 301 students from years 1 to 4 at UTeM. Table 1 shows the interpretation based on the mean value for five Likert-scale.

**Table 1 Interpretation based on the mean value for five Likert-scale.**

Mean Score	Interpretation
1.00 – 2.33	Low
2.34 – 3.66	Moderate
3.67 – 5.00	High

## RESULTS

The findings of the study related to the demographic background show that most of the respondents consist of 4th-year YET, which is 39.2% (118 YET), followed by 1st-year YET, which are 32.2% (97 YET), 3rd-year YET, which are 17.6% (53 YET) and YET year 2 which is 11.0% (33 YET). The frequency of YET siblings at UTeM is four (4). Next is the frequency of the year of birth of UTeM YET is 2000, and the frequency of the highest month of birth among YET is the month of March.

Overall, the findings of the study found that the dominant YET personality traits are agreeableness (N = 250 YET; M = 2.92) followed by openness (N = 237 YET; M = 2.98), conscientiousness (N = 202 YET; M = 2.87), extraversion (N = 185 YET; M = 2.66), and neuroticism (N = 145 YET; M = 2.52). The findings of the study for personality types extraversion, neuroticism, openness, agreeableness, and conscientiousness show that young engineers and technologists are in the moderate category. Table 2 shows the level of personality traits among YET.

**Table 2 The level of personality traits YET.**

Type of Personality	Category of Personality	Frequency (N)	Percentage (%)	Mean	Mean (score)
Extraversion	Very Low	7	2.3	2.66	27.61
	Low	99	32.9		
	Moderate	185	61.5		
	High	10	3.3		
	Very High	-	-		
Neuroticism	Very Low	12	4.0	2.52	23.65
	Low	132	43.9		
	Moderate	145	48.2		
	High	12	4.0		
	Very High	-	-		
Openness	Very Low	1	0.3	2.98	26.67
	Low	34	11.3		
	Moderate	237	78.7		
	High	29	9.6		
	Very High	-	-		
Agreeableness	Very Low	-	-	2.92	26.19
	Low	38	12.6		
	Moderate	250	83.1		
	High	13	4.3		
	Very High	-	-		
Conscientiousness	Very Low	1	0.3	2.87	26.13
	Low	68	22.6		
	Moderate	202	67.1		
	High	30	10.0		
	Very High	-	-		

## DISCUSSION AND CONCLUSION

According to the research findings, the personality qualities of young engineers and technologists (YET) are agreeableness and openness. This result demonstrates that YET at UTeM has students who are disciplined, obedient, competent, and organized, as well as those who enjoy making decisions, care about success and performance, and are optimistic, have good ideas, actions, and evaluations.

A person with high levels of agreeableness is modest and rarely brags about their superiority. A person with a low agreeableness score is assumed to be more arrogant, less likely to take advantage of others, and fond of displaying their superiority. Al-Kalbani, Salleh, and Mastor (2011) report that the personality qualities of agreeableness and openness have a substantial association with the construct of making career decisions and favour the choice of entrepreneurial careers (Kamilah & Aishah, 2019).

In addition, those with high agreeableness tend to be more cooperative than those with low agreeableness, who are typically more competitive. People who are agreeable are often said to be people-focused and possess exceptional social skills (Weisberg et al., 2011). This person's shortcomings include trouble working alone, judging the veracity of arguments, and making judgements. Seman and Ismail (2019) and Komarraju et al. (2011) found that agreeableness has a favourable link with academic achievement.

Generally, the personality attribute of openness is related with a greater motivation to comprehend what is learned. According to Novikova and Vorobyeva (2017), openness is the most important characteristic and has a favourable correlation with academic accomplishment. According to the findings of Seman and Ismail (2019) and Paunonen and Ashton (2001), the openness personality trait shows a weak association with academic achievement. Pupils with a high level of openness can achieve success in a variety of disciplines (Papageorgiou et al., 2020; Gatzka, 2021).

In a nutshell, the findings of this study found that the personality characteristics of YET at UTeM are agreeableness and receptivity. This demonstrates that He has strong interpersonal skills and can be an asset to both his profession and the firm. With a bigger study sample, future researchers can examine, identify, or make comparisons and links between personality traits and students' academic excellence based on this study's findings. This is the case since personality traits influence individual responses to stressful events, competition, and performance (Bühren & Steinberg, 2019).

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### REFERENCES

1. Al-Kalbani, M. S. A., Salleh, A., & Mastor, K. A. (2011). Career decision-making constructs and five-factor model in adolescents. *World Applied Sciences Journal*, 14, 34-39.
2. Allen, M. S., & Walter, E. E. (2018). Linking big five personality traits to sexuality and sexual health: A meta-analytic review. *Psychological Bulletin*, 144(10), 1081.
3. Bühren, C., & Steinberg, P. J. (2019). The impact of psychological traits on performance in sequential tournaments: Evidence from a tennis field experiment. *Journal of Economic Psychology*, 72, 12-29.
4. Che Nurul Kamilah, Radin Siti Aishah (2019). Tret personality (extraversion, agreeableness, conscientiousness, dan openness) mendorong kecenderungan keusahawanan pelajar teknik dan vokasional. Satu kajian di Kolej Vokasional Daerah Kuala Terengganu. *Journal of Global Business and Social Entrepreneurship*, 5(15), 35-45.
5. Chen, W. Y. (2013). Appendix A: Big Five Inventory Questionnaire (Adapted).
6. Connor-Smith, J. K., & Flachsbar, C. (2007). Relations between personality and coping: A meta-analysis. *Journal of Personality and Social Psychology*, 93, 1080–1107.
7. Faizah bt Abd. Ghani & Nagarajan Kupusamy. 2012. Hubungan Trait Personaliti dan Kecekapan Guru Bimbingan dan Kaunseling Dalam Pelaksanaan Perkhidmatan Bimbingan dan Kaunseling di Sekolah Menengah Daerah Pasir Gudang Johor.
8. Gatzka. (2021). Aspects of openness as predictors of academic achievement. *Personality and Individual Differences*, 170, 1104112.

9. Geldard, K., Geldard, D., & Foo, R. Y. (2019). *Counselling adolescents: The proactive approach for young people*. Sage.
10. Hirschi, A., Lee, B., Porfeli, E. J., & Vondracek, F. W. (2013). Proactive motivation and engagement in career behaviors: Investigating direct, mediated, and moderated effects. *Journal of Vocational Behavior*, 83(1), 31-40.
11. Ismail, N. (2013). *Teaching as a career choice as perceived by technical and vocational education student teachers* (Doctoral dissertation, Universiti Putra Malaysia).
12. Jihandi, A., & Buntat, Y. Hubungan Personaliti “Big Five” Terhadap Keinginan Keusahawanan dalam Kalangan Pelajar Kolej Vokasional.
13. Kamilah, C. N., & Aishah, R. S. (2019). Tret personality (extraversion, agreeableness, conscientiousness, dan openness) mendorong kecenderungan keusahawanan pelajar teknik dan vokasional. Satu kajian di Kolej Vokasional Daerah Kuala Terengganu. *Journal of Global Business and Social Entrepreneurship*, 5(15), 35-45.
14. Komarraju, M., Karau, S. J., Schmeck, R. R., & Avdic, A. (2011). The Big Five personality traits, learning styles, and academic achievement. *Personality and Individual Differences*, 51(4), 472-477.
15. Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607-610.
16. Moktar, Azlin and Abdul Kadir, Suhaida (2013) Personaliti dan minat kerjaya murid dalam bidang teknikal dan vokasional di Zon Pudu, Kuala Lumpur. In: Graduate Research in Education Seminar (GREduc, 2013), 1 Dec. 2013, Faculty of Educational Studies, Universiti Putra Malaysia. (pp. 319-323).
17. Novikova, I. A. & Vorobyeva, A. A. (2017). Big Five Factors and academic achievement in Russian Students. *Psychology in Russia: State of the Art*, 10(4).
18. Papageorgiou, K. A., Likhanov, M., Costantini, G., Tsigeman, E., Zaleshin, M., Budakova, A. & Kovas, Y. (2020). Personality, behavioral strengths and difficulties and performance of adolescents with high achievements in science, literature, art and sports. *Personality and Individual Differences*, 160, 109917.
19. Paunonen, S. V., & Ashton, M. C. (2001). Big five factors and Facets and the Prediction of Behavior. *Journal of Personality and Social Psychology*, 81(3), 524.
20. Rahmah Ismail, Ishak Yussof and Lai Wei Sieng, 2011. Employers’ Perceptions on Graduates in Malaysian Services Sector. *International Business Management*, 5: 184-193.
21. Seman, K., & Ismail, Z. (2019). Big Five Personality Traits on Academic Performance among foundation students. *Asian Social Science and Humanities Research Journal (ASHREJ)*, 1(2), 26–33.
22. Tang, K. H. D. (2020). Personality traits, teamwork competencies and academic performance among first-year engineering students. *Higher Education, Skills and Work-Based Learning*.
23. Weisberg, Y. J., DeYoung, C. G., & Hirsh, J. B. (2011). Gender differences in personality across the ten aspects of the Big Five. *Frontiers in Psychology*, 178.