

Impact of Socio-Demographic Factors on Different Personality Types in Individuals

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ABSTRACT

Objective: To assess the impact of socio-demographic factors on different personality types in individual.

Methodology: A Cross-sectional descriptive study was conducted in College of Dentistry, Sharif Medical and Dental College, Lahore over a period of 5 months from July to November 2021. Data was collected using a ten-item personality inventory scale (TIPI). The sociodemographic variables included age, gender, marital status, occupation and educational level. All individuals irrespective of their age and gender were included in the study. Individuals with a history of psychiatric illness were excluded from the study.

Results: There was a statistically significant difference in conscientiousness personality traits among age groups ($p=0.006$). Similarly, the difference in the personality trait of agreeableness ($p\leq 0.001$), conscientiousness ($p=0.016$), and emotional stability ($p=0.007$) across gender was statistically significant. There was also a statistically significant difference in the scores of agreeableness among the employed and unemployed individuals ($p=0.044$).

Conclusion: The conscientiousness personality trait score among age groups was the highest for the age group 50 to 59. The personality trait scores of agreeableness, conscientiousness, emotional stability across gender were higher in females in comparison to males. The contrary was true for emotional stability. The score of agreeableness was higher for unemployed individuals in comparison to employed individuals.

Keywords: extraversion, agreeableness, conscientiousness, emotional stability, openness to experience, sociodemographic factors.

INTRODUCTION

People usually deal with different situations and interact with their environment according to their personality traits. Knowledge about an individual's personality can provide valuable information pertaining to what is the best method of communicating with them and it is also the key indicator of traits of an individual's life, including innovativeness and satisfaction with life¹. Personality is influenced by genetic and environmental factors. Researchers proposed a number of models but the most recognized and widely used is the Five-Factor Model (big five)². Five-factor model is a hierarchical organization of personality traits in terms of five dimensions: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience³.

Extrovert individuals interact with the external world and experience enthusiasm and positive emotions. People with extroversion personalities are generally more socially confident⁴. Agreeable individuals have an optimistic nature. They are honest, trustworthy, sympathetic, affectionate, and cooperative individuals⁵. Conscientiousness is persistent, goal-oriented tends to control impulses and is usually very organized⁶. People with Openness to experience generally try new experiences, artistic and curious. They have intellectual curiosity, aesthetic sensitivity, and creative imagination.⁷

Extraversion and Openness are negatively associated with age. Terracciano et al. found that Extraversion generally declined from age 30 to 90, the drop is more pronounced after the mid-50s while Agreeableness and Conscientiousness are positively associated with age⁸. Agreeableness increases with age whereas the pattern for Conscientiousness is curvilinear. Neuroticism is generally negatively associated with age. Young people have usually higher scores than old people⁹.

Higher levels of extraversion and agreeableness in women compared to men have been consistently observed in prior research. Higher levels of neuroticism were observed in women compared to men¹⁰. Extroverts behave impulsively than introverts and have strong leadership ability. Women exhibited higher extraversion and lower levels of neuroticism in association with desirable physical activity habits, in line with the previous research¹¹. People with high extraversion and conscientiousness

are more likely to engage in healthy dietary behaviors. People with high conscientiousness have a high level of awareness, responsibility, and compliance regarding their health promotion behaviors¹². For success in work, health, and other aspects of life, higher levels in conscientiousness and extraversion and lower levels in neuroticism are important¹³. To assess the impact of socio-demographic factors on different personality types in individual.

METHODOLOGY

A Cross-sectional descriptive study was conducted in College of Dentistry, Sharif Medical and Dental College, Lahore over a period of 5 months from July to November 2021. Ethical approval was obtained from Sharif Medical Research Center (SMRC) (No. SMDC/SMRC/205-21). The sampling technique used was Convenience sampling. A sample size of 200 was calculated with the help of WHO sample size determination software keeping the confidence level of 95% with anticipated population proportion of 52.86% with teeth clenching and an absolute precision of 0.07%¹⁴. All individuals irrespective of their age and gender were included in the study. Individuals with a history of psychiatric illness were excluded from the study. Data was collected using ten item personality inventory scale (TIPI). The sociodemographic variables included age, gender, marital status, occupation and educational level. The Ten Item Personality Inventory scale consisted of a pre-validated self-reported questionnaire¹⁵. SPSS 23 was used for statistical analysis. P values less than equal to 0.05 was considered significant. Kruskal Wallis test was used to find the difference in personality trait scores among age groups, levels of education and marital status. Mann Whitney U test was used to find the difference in the personality trait scores among gender and status of employment.

RESULTS

A cross-sectional descriptive study was conducted on 200 participants with a mean age of 24.93 ± 6.759 year out of which 29% were males while 71% were females. Table 1 shows that the extraversion personality trait score was the highest for the age

group 50 to 59, that for agreeableness trait was for the 60 to 69 age group, conscientiousness personality score trait was the highest for the age group 50 to 59, emotional stability score was the highest for the age group 60 to 69 while that for openness to experience was for the age group 60 to 69. It was also seen that

the strength of association of age was small with personality traits of extraversion, agreeableness, emotional stability and openness to experience but was medium with conscientiousness as shown in table 1.

Table 1: Difference in the Personality Trait Scores Across Age Groups

Personality trait	AGE	N	Mean Rank	df	Chi square	P value	Epsilon square
Extraversion	18 TO 29	174	100.31	4	6.384	0.172	0.032
	30 TO 39	17	94.71				
	40 TO 49	3	56.50				
	50 TO 59	5	154.50				
	60 TO 69	1	94.50				
Agreeableness	18 TO 29	174	98.86	4	4.161	0.385	0.022
	30 TO 39	17	105.09				
	40 TO 49	3	90.50				
	50 TO 59	5	129.50				
	60 TO 69	1	192.00				
Conscientiousness	18 TO 29	174	96.16	4	14.531	0.006	0.072
	30 TO 39	17	115.32				
	40 TO 49	3	164.33				
	50 TO 59	5	172.90				
	60 TO 69	1	51.00				
Emotional stability	18 TO 29	174	98.71	4	3.281	0.512	0.017
	30 TO 39	17	107.35				
	40 TO 49	3	93.83				
	50 TO 59	5	128.70				
	60 TO 69	1	174.00				
Openness to experience	18 TO 29	174	102.36	4	3.019	0.555	0.018
	30 TO 39	17	78.59				
	40 TO 49	3	112.00				
	50 TO 59	5	98.10				
	60 TO 69	1	127.50				

Table 2 shows that the extraversion, emotional stability and openness to experience personality trait scores were higher for males in comparison to females while that for agreeableness and conscientiousness scores were higher for females.

Table 2: Difference in the Personality Trait Scores Across Gender

Personality trait	Gender	N	Mean Rank	Sum of Ranks	Mann Whitney U	Z	P value
Extraversion	male	58	101.78	5903.00	4044.00		-0.201
	female	142	99.98	14197.00			
Agreeableness	male	58	74.72	4333.50	2622.500		-4.062
	female	142	111.03	15766.50			
Conscientiousness	male	58	85.22	4942.50	3231.500		-2.406
	female	142	106.74	15157.50			
Emotional stability	male	58	117.82	6833.50	3113.500		-2.720
	female	142	93.43	13266.50			
Openness to experience	male	58	100.63	5836.50	4110.500		-0.020
	female	142	100.45	14263.50			

Table 3 shows that the personality trait scores of extraversion, agreeableness, conscientiousness and emotional stability were the highest for married individuals while that for openness to experience were greatest for un-married individuals. It was seen that the strength of association was small between marital status and all the personality traits as shown in table 3.

Table 3: Difference in the Personality Trait Scores Across Marital Status

Personality trait	Marital status	N	Mean Rank	df	Chi square	P value	Epsilon square
Extraversion	married	40	109.85	1	1.329	0.249	0.005
	single	160	98.16				
Agreeableness	married	40	102.13	1	0.040	0.841	0.000
	single	160	100.09				
Conscientiousness	married	40	115.28	1	3.311	0.069	0.014
	single	160	96.81				
Emotional stability	married	40	105.60	1	0.393	0.531	0.003
	single	160	99.23				
Openness to experience	married	40	96.06	1	0.300	0.584	0.001
	single	160	101.61				

Table 4 shows that the personality trait scores for extraversion, conscientiousness, emotional stability and openness to experience were the highest for individuals with tertiary level of education while that for agreeableness were the highest for individuals with higher secondary level of education. It was seen that strength of association was small between level of education and all the personality traits as shown in table 4.

Table 4: Difference in the Personality Trait Scores Across Level of Education

Personality trait	Education level	N	Mean Rank	df	Chi square	P value	Epsilon square
Extraversion	Primary	1	94.50	3	1.359	0.715	0.004
	Lower secondary	1	94.50				
	Higher secondary	15	84.10				
	Tertiary or quaternary	183	101.91				
Agreeableness	Primary	1	74.50	3	1.486	0.685	0.006
	Lower secondary	1	42.00				
	Higher secondary	15	107.77				
	Tertiary or quaternary	183	100.37				
Conscientiousness	Primary	1	51.00	3	1.505	0.681	0.006
	Lower secondary	1	51.00				
	Higher secondary	15	100.13				
	Tertiary or quaternary	183	101.07				
Emotional stability	Primary	1	93.00	3	0.386	0.943	0.001
	Lower secondary	1	93.00				
	Higher secondary	15	92.10				
	Tertiary or quaternary	183	101.27				
Openness to experience final	Primary	1	43.50	3	3.297	0.348	0.013
	Lower secondary	1	43.50				
	Higher secondary	15	84.87				
	Tertiary or quaternary	183	102.40				

Table 5 shows that the personality trait score for extraversion, conscientiousness, emotional stability and openness to experience were the highest for individuals who were employed while that for agreeableness were the greatest for unemployed individuals.

Table 5: Difference in the Personality Trait Scores Across Status of Employment

Personality trait	Status of employment	N	Mean Rank	Sum of Ranks	Mann Whitney U	Z	P value
Extraversion	employed	85	108.24	9200.00	4230.000	-1.640	0.101
	unemployed	115	94.78	10900.00			
Agreeableness	employed	85	90.98	7733.00	4078.000	-2.018	0.044
	unemployed	115	107.54	12367.00			
Conscientiousness	employed	85	103.86	8828.50	4601.500	-0.713	0.476
	unemployed	115	98.01	11271.50			
Emotional stability	employed	85	104.75	8904.00	4526.000	-0.899	0.369
	unemployed	115	97.36	11196.00			
Openness to experience	employed	85	102.52	8714.00	4716.000	-0.428	0.669
	unemployed	115	99.01	11386.00			

DISCUSSION

Personality traits are known to be strong predictors that contribute significantly towards cognitive and emotional vulnerability that influence the risk of having depressive disorder. Studies have reported a strong association of socioeconomic factors and personality trait¹⁶.

Research suggests that biological and environmental factors including age, gender, employment, education and marital status has an association with personality of individuals.

Studies have reported that age may have an impact on the personality traits^{17, 18}. As people age, they tend to become less extraverted, less neurotic, and less open to the experience. Agreeableness and conscientiousness, on the other hand, tend to increase as people grow older. These results are similar to the results of our study.

The investigation of personality differences among gender is controversial. Men and women have different biological characteristics which along with exposure to different social and evolutionary processes that lead them to have different personalities. However, Gender has an influence on personality type with more women found to be more agreeable than men¹⁹. This is similar to results of our study with highest rank of female falling in agreeable personality trait. This is attributed to nurturing nature of women as they are more concerned about successfully raising their children. Women scored higher than men on Conscientiousness, such as order, dutifulness, and self-discipline. However men have ranked higher for emotional stability followed by extraversion trait.

This study reported association of marital status with personality traits to be insignificant with higher ranking for all the personality traits in married as compared to single. Similarly employed participants had higher ranking for all personality traits than unemployed one. This can be attributed to the fact that employed people are more open to rank for all personality traits

with any hesitancy. The researchers analyzed a large set of data on job interviews to find out which personality traits companies look for when they're hiring. Sackett and Walmsley reported that conscientiousness was the most highly suitable personality trait for job applicants. Agreeableness—being cooperative, flexible and tolerant—was the second most suitable personality trait. Conscientiousness and Agreeableness are relevant to success in many jobs, from low to high levels of job complexity²⁰.

A study conducted in Pakistan has reported openness, agreeableness and conscientiousness have the most significant correlation with academic performance in students. However, neuroticism and extraversion have no significant correlation with academic performance²¹.

CONCLUSION

There was a significant difference of conscientiousness personality trait among age groups with the highest conscientiousness scores for the age group 50 to 59. Similarly, the difference of the personality trait of agreeableness, conscientiousness, emotional stability across gender was significant with agreeableness and conscientiousness scores being higher in females in comparison to males. The contrary was true for emotional stability. There was also a significant difference in the scores of agreeableness among the employed and un- employed individuals with unemployed individuals having a higher score in comparison to the employed individuals.

Limitation: A larger sample size and a multicenter study would have helped us unravel more findings.

REFERENCES

1. Ali I. Personality traits, individual innovativeness and satisfaction with life. *J. Innov. Knowl.* 2019 Jan 1;4(1):38-46.

2. Rossberger RJ. National personality profiles and innovation: The role of cultural practices. *Creativity Innov. Manag.*. 2014 Sep;23(3):331-48.
3. Zeigler-Hill V, Shackelford TK, editors. *Encyclopedia of personality and individual differences*. Cham: Springer International Publishing; 2020.
4. Ariga RA, Amelia R, Sari S. Relationship of extrovert and introvert personality types against student achievement faculty of nursing USU. *J. Phys. Conf. Ser.* 2018 Dec 1 (Vol. 1116, No. 5, p. 052007). IOP Publishing.
5. Li M, Mobley WH, Kelly A. Linking personality to cultural intelligence: An interactive effect of openness and agreeableness. *Pers. Individ. Differ.*. 2016 Jan 1;89:105-10.
6. Henriques-Calado J, Duarte-Silva ME, Junqueira D, Sacoto C, Keong AM. Five-factor model personality domains in the prediction of Axis II personality disorders: An exploratory study in late adulthood women non-clinical sample. *Personal Ment Health.* 2014 May;8(2):115-27.
7. Alghamdi NG, Aslam M, Khan K. Personality traits as predictor of emotional intelligence among the university teachers as advisors. *Educ. Res. Int.*. 2017 May 14;2017.
8. Baptiste B. The relationship between the big five personality traits and authentic leadership.
9. Olivares-Tirado P, Leyton G, Salazar E. Personality factors and self-perceived health in Chi-lean elderly population. *Health.* 2013 Dec 10;5(12):86.
10. Bunker CJ, Saysavanh SE, Kwan VS. Are gender differences in the Big Five the same on social media as offline?. *Comput. Hum. Behav.* 2021 Jan 1;3:100085.
11. Kekäläinen T, Laakkonen EK, Terracciano A, Savikangas T, Hyvärinen M, Tammelin TH, Rantalainen T, Törmäkangas T, Kujala UM, Alen M, Kovanen V. Accelerometer-measured and self-reported physical activity in relation to extraversion and neuroticism: a cross-sectional analysis of two studies. *BMC Geriatr.*. 2020 Dec;20(1):1-1.
12. Stieger M, Eck M, Rügger D, Kowatsch T, Flückiger C, Allemann M. Who wants to become more conscientious, more extraverted, or less neurotic with the help of a digital intervention?. *J Res Pers.* 2020 Aug 1;87:103983.
13. Soto CJ. How replicable are links between personality traits and consequential life outcomes? The life outcomes of personality replication project. *Psychol. Sci.* 2019 May;30(5):711-27.
14. Bernardes A, Almeida M, Araújo T, Ferreira C, Bernardes L, Almeida C. Prevalence of Parafuncional Habits in Dental Students from the Interior of the State of São Paulo, Brazil. *J Orthod Endod.* 2018;4(3):1-6.
15. Gosling SD, Rentfrow PJ, Swann Jr WB. A very brief measure of the Big-Five personality domains. *J Res Pers.* 2003 Dec 1;37(6):504-28.
16. McKenzie SH, Jayasinghe UW, Fanaian M, Passey M, Lyle D, Davies GP, Harris MF. Socio-demographic factors, behaviour and personality: associations with psychological distress. *Eur. J. Prev. Cardiol.* 2012 Apr 1;19(2):250-7.
17. Donnellan MB, Conger RD, Burzette RG. Personality development from late adolescence to young adulthood: Differential stability, normative maturity, and evidence for the maturity-stability hypothesis. *J Pers.* . 2007 Apr;75(2):237-64.
18. Donnellan MB, Lucas RE. Age differences in the Big Five across the life span: evidence from two national samples. *Psychol Aging.* 2008 Sep;23(3):558.
19. Weisberg YJ, DeYoung CG, Hirsh JB. Gender differences in personality across the ten aspects of the Big Five. *Front. Psychol.*. 2011 Aug 1;2:178.
20. Sackett PR, Walmsley PT. Which personality attributes are most important in the workplace?. *Perspect Psychol Sci.* 2014 Sep;9(5):538-51.
21. John R, John R, Rao ZR. The Big Five personality traits and academic performance. *J Law Soc Stud.* 2020;2(1):10-9.