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Comparison of Personality and Psychological Characteristics in Successful and Unsuccessful Organ Transplant Patients

Jalal Moghari[1], HamidReza Vatankhah[2]

1- Master student of Clinical Psychology, West Tehran Branch, Islamic Azad University, Tehran, Iran

2- Assistant Professor, Department of Psychology, West Tehran Branch, Islamic Azad University, Tehran, Iran

* Corresponding author's Email: vatankhah.hanidreza@wtiau.ac.ir

Abstract: Although, the organ transplantation has many benefits for patients in need but a large ratio of organ transplant recipients suffer psychological problems including depression, anxiety and post-traumatic stress disorder. Therefore, the aim of this study was to compare personality and psychological characteristics in successful and unsuccessful transplant patients. In a causal-comparative study, two groups of successful and unsuccessful transplant patients (all organ transplant groups including kidney, heart, liver...) were compared. For this purpose, 100 transplant patients (50 people in each group) who lived in Tehran in the second six months of 2022 were selected by purposive sampling. Participants answered the questionnaire of Costa- & McCrae (1992) personality traits and researcher-made psychological traits. Data were analyzed using SPSS software version 22 and multivariate analysis of variance. The results indicated there is a significant difference between two groups in personality traits (irritability, extroversion, openness, being conscientious and Compatibility) and psychological characteristics (risk-taking, self-control, ambiguity tolerance, daydreaming, challenging). Overall, the results supported from attention to the personality and psychological characteristics of patients with need of organ transplantation and designing psychological interventions for them.

Keywords: Personality Traits, Psychological Characteristics, Transplant Patients

Introduction

Organ transplantation is considered a medical procedure with life-saving potential and a marvel of modern technology (Kapikiran et al., 2022). And it is one of the brilliant actions that have been done so far to prolong life (Liester, 2020). Organ transplantation is a surgical procedure that involves taking an organ from a healthy donor and transplanting it into a recipient patient (Yates et al., 1998). Deceased donors can provide skin, cornea, bone marrow, kidney, heart, lungs, liver, pancreas, and gastrointestinal tract, and living donors can provide kidneys or livers (Thisayakorn et al., 2021). All organ transplant recipients suffer from transplant-related comorbidities, such as hypertension, new-onset diabetes mellitus, cardiovascular events, infections, and cancer, and despite these limitations, organ transplantation increases life expectancy and generally improves quality of life (Grinyó, 2013). Despite the progress of medical science and technology in the field of organ transplantation, there are still problems that affect the rate of transplants as well as their success (Fahimi et al., 2020). In addition to the insufficient number of organs donated by donors, one of the main problems is the management of pre- and post-transplant pathways, which are often exclusively medical-surgical, emphasizing the importance of integration between mind and body (e Silva et al., 2022). Transplantation is a very difficult and especially stressful event that requires the patient to use his

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biological-psychological-social skills in order to accept and integrate the new organ physically and mentally; therefore, this surgery includes many psychological, existential, emotional, relational and social changes for both the patient and his family context (e Silva et al., 2022).

The success rate of organ transplant surgery is continuously increasing (Besser et al., 2004). At the same time, the worry of transplant rejection may lead to the emergence of new psychological disorders in the patient and reduce the patient's cooperation in preserving the transplanted organ (Omranifard et al., 2017). Knowing the psychological characteristics are useful and can be a factor for making informed decisions related to the disease to help prevent and treat people, and in the present study, the psychological characteristics mean the examination of factors such as (risk tolerance, self-confidence, self-control, tolerance of ambiguity, dreaming, challenging). Changes in personality characteristics after organ transplantation is a topic that has been noticed for half a century, however, this phenomenon is not well understood by theorists and researchers (Liester, 2020). Personality traits are stable patterns of perception, communication and thinking about the environment and oneself that appear in a wide range of social and personal contexts. When the personality traits are inflexible and inconsistent and cause noticeable disturbance in mental function, they constitute personality disorders (Sheyda et al., 2021). Personality and psychological differences are important factors that lead to different reactions to stress and may be the basis of individual and social problems (Nazari et al., 2020). Numerous studies in personality and clinical psychology have aimed to understand the relationship between mental disorders and changes in normal personality dimensions. Many of these studies have used the five-factor model of personality structure and have generally shown results consistent with the conceptual relationships between personality dimensions and various disorders (Ashton & Lee, 2009). The five-factor theory of personality was presented by Costa Jr and McCrae (1995). From the point of view of Costa Jr and McCrae (1995), the five dimensions that make up the personality model are neuroticism (tendency to experience anxiety, tension, narcissism, hostility and impulsiveness, shyness, depression and low self-esteem), extroversion (tendency to be positive, decisiveness, mobility, kindness and sociability), openness to new experiences (tendency to curiosity, artistry, wisdom, flexibility, intellectuality and innovation), agreeability (tendency to forgive, kindness, generosity, trust, empathy, obedience, sacrifice and loyalty), and conscientiousness (tendency to organize, efficiency, trustworthiness, self-control, rationality and deepening).

According to the study of Yousefie et al. (2020), dealing with psychological challenges is very important for health and mental health professionals, and studying these challenges can provide a deeper understanding of psychological problems and their adaptation after surgery. In transplantation, surgery allows for fast performance from an anatomical and physiological point of view, but cognitive and emotional integrity is also necessary. In the previous researches, attention to the psychological experiences of the patients about the events that occur after the transplant operation had not been investigated. In addition, as the investigators know, in the previous studies, we have not found the living experiences of these patients and the lives of these patients after the transplant operation, and what psychological conditions they experience after the operation. Due to the type of difference in the

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disease and the different type of view that people have on psychological experiences and challenges, it seems that this research is new in Iran. Therefore, the present study was conducted with the aim of comparing the personality and psychological characteristics of successful and unsuccessful organ transplant patients and seeks to answer the question whether there is a difference between the successful and unsuccessful organ transplant patients in personality and psychological characteristics.

Material and Methods

The present study was a causal comparative study. The statistical population of the research consisted of organ transplant patients (all organ transplant groups including kidney, heart, liver, etc.) successful and unsuccessful in Tehran in the second six months of 2021. Participants were 100 people were selected by purposive sampling method (50 people with successful organ transplant and 50 people with unsuccessful organ transplant). In the successful organ transplant group, inclusion criteria included the passing of at least 3 months after the successful organ transplant, the age range of 20 to 55 years, no substance abuse and not undergoing special treatment or training, and the exclusion criteria included the unwillingness to cooperate and the questionnaire being distorted. In the unsuccessful transplant group, the inclusion criteria included having an unsuccessful transplant, age range of 20 to 55 years, and not being under special training, and the exclusion criteria included unwillingness to cooperate and distortion of the questionnaire. The data collection tools included the following questionnaires:

The NEO personality questionnaire: The NEO questionnaire is one of the most used questionnaires related to the evaluation of personality construction based on the perspective of factor analysis, which was created by Costa and McCrae (1992). The short form of this questionnaire is a 60-question questionnaire and is used to evaluate five main personality factors, including neuroticism, extroversion, openness, agreeableness, and conscientiousness. The scoring method of this scale is with the Likert method from completely disagree, score one to completely agree: score is five and the range of scores is between 60 and 300. In the standardization of the NEO test by Garrosi Farshi et al. (2001), the content validity and reliability of Cronbach's alpha coefficients for the factors of neuroticism, extroversion, openness, agreeableness, and conscientiousness were 0.86, 0.68, 0.73, 56 and 0.87 respectively.

Psychological Characteristics Questionnaire: This researcher-made questionnaire has 30 statements that include six psychological characteristics, including risk-taking, self-confidence, self-control, ambiguity tolerance, dreaming, and seeking challenges on a five-point Likert scale from very low: a score of one to very high: a score of five. The range of scores is between 30 and 150, and higher scores in each subscale indicate higher psychological characteristics. Content validity was confirmed by the professors of the psychology department of Islamic Azad University, Tehran West Branch, and reliability was obtained by Cronbach's alpha method for the subscales of risk-taking, self-confidence, self-control, tolerance of ambiguity, dreaming, seeking a challenge, in the range between 0.73 and 0.94.

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In gathering the information, first the purpose of the research was explained to participants and then the research tests were provided to them and they were asked to express their opinion carefully and the information was collected individually. All relevant ethical principles, including the confidentiality of questionnaires, the informed consent of the participants in the research, and the right to withdraw from the research, have been observed. After collecting the data, the data were analyzed with the help of SPSS version 22 software and descriptive indicators such as mean and standard deviation, and in the inferential the multivariate analysis of variance was used.

Results

The mean and standard deviation of the scores of personality and psychological characteristics in two groups of successful and unsuccessful organ transplant patients provided in Table 1.

Table 1. Statistical description of scores of personality and psychological characteristics by group

Variable	Unsuccessful organ transplant		Successful organ transplant	
	Mean	SD	Mean	SD
Neurosis	39.20	4.802	34.80	3.528
Extroversion	32.56	3.339	35.72	3.849
Openness to experience	31.50	3.705	34.86	3.517
Conscientiousness	33.84	3.940	37.08	4.814
Agreeableness	30.16	2.244	33.62	3.313
Risk aversion	14.53	4.824	18.41	3.836
Tolerance of ambiguity	11.86	4.815	17.32	6.115
Self Confidence	13.98	4.549	16.84	3.563
Self-control	10.40	1.979	13.10	2.159
Challenging	14.12	3.330	17.16	2.780
Dreaming	12.48	1.741	14.44	2.168

In order to compare personality traits in successful and unsuccessful organ transplant patients, multivariate analysis of variance test was used. The Shapiro-Wilk test was used to check the normality of the distribution of scores, which confirmed the assumption of normality of the distribution of scores due to the non-significance of the obtained values. The results of Levin's test to check the homogeneity of the variance of the dependent variables in the groups showed that the variance of neuroticism ($F = 3.349$, $p < 0.05$), extraversion ($F = 0.337$, $p < 0.05$), openness to Experience ($F = 1.110$, $p < 0.05$), conscientiousness ($F = 0.428$, $p < 0.05$) and agreeableness ($F = 0.617$, $p < 0.05$) were equal in groups. The results of the M-box test to check the equality of the covariance matrix of the dependent variables between the experimental and control groups also showed that the covariance matrix of the dependent variables is equal in the two groups ($F=1.212$, Box $M=19.233$, $p < 0.05$). After examining the assumptions of multivariate variance analysis, the test results showed that there is a significant difference between the personality traits of the two groups ($F=16.185$, Wilks Lambda=0.537, $p < 0.01$). The result of univariate analysis of variance embedded in MANOVA was reported in table 2.

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Table 2. The results of univariate variance analysis embedded in MANOVA

Variable	Source	SS	DF	MS	F	p	Eta
Neuroticism	Between groups	484.000	1	484.000	27.260	0.001	0.218
	Error	1740.000	98	17.755			
Extroversion	Between groups	249.640	1	249.640	19.227	0.001	0.164
	Error	1272.400	98	12.984			
Openness to experience	Between groups	282.240	1	282.240	21.634	0.001	0.181
	Error	1278.520	98	13.046			
Conscientiousness	Between groups	262.440	1	262.440	13.562	0.001	0.122
	Error	1896.400	98	19.351			
Agreeableness	Between groups	299.290	1	299.290	37.387	0.001	0.276
	Error	784.500	98	8.005			

According to table 2, the results are significant for neuroticism ($F = 27.260$, $P < 0.01$), extroversion ($F = 19.227$, $P < 0.01$), openness to experience ($F = 21.634$, $P < 0.01$), conscientiousness ($F = 13.562$, $P < 0.01$) and agreeableness ($F = 38.387$, $P < 0.01$). According to these findings, it can be concluded that there is a significant difference between successful organ transplant patients and unsuccessful group, in the personality characteristics. Also, the effect size shows that group membership accounts for 21.8% of neuroticism changes, 16.4% of extraversion changes, 18.1% of openness to experience changes, 12.2% of conscientiousness changes and 27.6% of the agreeableness changes.

In order to compare psychological characteristics in successful and unsuccessful organ transplant patients, multivariate analysis of variance test was used. The Shapiro-Wilk test was used to check the normality of the distribution of scores, which confirmed the assumption of normality of the distribution of scores due to the non-significance of the obtained values. The results of Levin's test to check the homogeneity of the variance of the dependent variables in the groups showed that the variance of risk aversion ($F = 2.526$, $p < 0.05$), ambiguity tolerance ($F = 1.401$, $p < 0.05$), self-confidence ($F=1.573$, , $p < 0.05$), self-control ($F=0.520$, $p < 0.05$), challenge seeking (, $F=0.825$, $p < 0.05$) and dreaming ($F = 2.250$, $p < 0.05$) is equal in the groups. The results of the M-box test to check the equality of the covariance matrix of the dependent variables between the experimental and control groups also showed that the covariance matrix of the dependent variables is equal in the two groups ($F = 1.003$, Box M = 22.533, , $p < 0.01$). After examining the assumptions of multivariate variance analysis, the test results showed that there is a significant difference between two groups in the psychological characteristics ($F=18.712$, Wilks Lambda=0.453 $p < 0.01$)). The result of univariate analysis of variance embedded in MANOVA was reported in table 3.

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Table 3. Results of univariate variance analysis embedded in MANOVA

Variable	Source	SS	DF	MS	F	p	Eta
Risk aversion	Between groups	376.970	1	376.970	19.849	0.001	0.168
	Error	1861.175	98	18.992			
Ambiguity tolerance	Between groups	745.593	1	745.593	24.619	0.001	0.201
	Error	2967.965	98	30.285			
Self confidence	Between groups	205.071	1	205.071	12.283	0.001	0.111
	Error	1636.106	98	16.695			
Self-control	Between groups	182.250	1	182.250	42.474	0.001	0.302

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	Error	420.500	98	4.291			
Challenge seeking	Between groups	231.040	1	231.040	24.557	0.001	0.200
	Error	922.000	98	9.408			
Dreaming	Between groups	96.040	1	96.040	24.847	0.001	0.202
	Error	378.800	98	3.865			

According to table 3, results are significant for risk aversion ($F = 19.849$, $P < 0.01$), ambiguity tolerance ($F = 24.619$, $P < 0.01$), self-confidence ($F = 12.283$ $P < 0.01$), self-control ($F = 42.474$ $P < 0.01$), challenge seeking ($F = 24.557$ $P < 0.01$) and dreaming ($F = 24.847$ $P < 0.01$).

According to these findings, it can be concluded that there is a significant difference between successful and unsuccessful organ transplant patients in psychological characteristics. Also, the effect size shows that group membership is account for 16.8% of risk aversion changes, 20.1% of ambiguity tolerance changes, 11.1% of self-confidence changes, 30.2% of self-control changes, 20% of challenge-seeking changes and 20.2% of changes in dreaming.

Discussion

Organ transplantation undoubtedly has many benefits for needy patients; therefore, the aim of this study was to compare personality and psychological characteristics in successful and unsuccessful organ transplant patients. The results showed that there is a difference between successful and unsuccessful organ transplant patients in the personality traits. In the context of the above finding, a study has not been conducted directly in the target population, but it is in line with the results of similar studies in this field, for example, according to the results of Tolai et al. (2005).. According to the general health questionnaire, the most frequent symptoms were related to impairment in social functioning. Also, Safa et al. (2015) examined psychological aspects and intervening factors in lung and heart transplant candidate patients referred to Masih Daneshvari Hospital. The results of this study indicated that patients waiting for organ transplantation suffer from depression, anxiety, physical complaints, obsessive-compulsive disorder, sensitivity in interpersonal relationships, and aggression. Bunzel et al. (1992) in a research entitled ‘Does changing the heart mean changing personality? indicated that three groups of patients could be identified: 79% stated that their personality had not changed at all postoperatively. In this group, patients showed masslve defense and denial reactions, mainly by rapidly changing the subject or making the question ridiculous. Fifteen per cent stated that their personality had indeed changed, but not because of the donor organ, but due to the life-threatening event. Six per cent (three patients) reported a distinct change of personality due to their new hearts.

Another finding of the research showed that there is a difference between successful and unsuccessful organ transplant patients in the psychological characteristics. In line with the obtained findings, a research has not been conducted directly, but it is in line with the close and related results in this field, for example, the study of Sarwar Azimi Yazzdi (2019) showed that psychological well-being, life satisfaction and life expectancy were higher in the subjects of transplant patients compare to transplant

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candidates. Also, the results showed that there is a significant difference in the components of personal growth, positive relationship with others, purposefulness in life and self-acceptance in transplant candidates and transplanted patients, but there is not a significant difference between the scores of independence and mastery of the environment in transplant candidates and transplanted patients. Furthermore, Ong et al. (2021) investigated the effect of depression, anxiety and related psychological consequences in organ transplant donors. The results showed that post-transplant depression and the prevalence of anxiety were not significantly different from before transplant.

It should be noted that along with the progress of organ transplantation, the changes caused by treatments have increased significantly. For example, the physical, emotional and social effects that causes psychological changes in the exposed patient, such as self-concept, personal frame of mind, family behavior, gender and social mood. These issues should be resolved from time to time by starting personal assistance programs. In the biopsychosocial model, the bonding experience brings together the mind-body relationship. The holistic principle of this model includes the concept of health based on harmony between the body, mind and the outside world.

The present research was conducted in a small sample and therefore it is necessary to repeat it in larger samples. On the other hand, considering that the research was done in a causal-comparative design, it should not be inferred that personality and psychological traits are the reason for the success or failure of organ transplantation, for this purpose, extensive and longitudinal research should be carried out in order to understand the beneficial relationships more precisely. In this research, a questionnaire was used to collect data; therefore, due to the fact that the questionnaires were self-assessment, there may be bias in the answers. It is suggested to use both interview and observation methods to collect information in future researches. Overall, the results of the research show more attention to the personality and psychological characteristics of patients requiring organ transplantation in future researches and the need to design psychological interventions for these patients by the health system and medical and nursing community.

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[DOI: 10.52547/ieepj.4.3.625]

References

Ashton, M. C., & Lee, K. (2009). The HEXACO–60: A short measure of the major dimensions of personality. *Journal of personality assessment*, *91*(4), 340-345.

Besser, A., Amir, M., & Barkan, S. (2004). Who signs an organ transplant donor card? A study of personality and individual differences in a sample of Israeli university students. *Personality and Individual Differences*, *36*(7), 1709-1723.

Bunzel, B., Schmidl-Mohl, B., Grundböck, A., & Wollenek, G. (1992). Does changing the heart mean changing personality? A retrospective inquiry on 47 heart transplant patients. *Quality of Life Research*, *1*(4), 251-256.

Costa Jr, P. T., & McCrae, R. R. (1995). Domains and facets: Hierarchical personality assessment using the Revised NEO Personality Inventory. *Journal of personality assessment*, *64*(1), 21-50.

Costa, P. T., & McCrae, R. R. (1992). *Neo personality inventory-revised (NEO PI-R)*. Psychological Assessment Resources Odessa, FL.

e Silva, V. S., Hornby, L., Lotherington, K., Rochon, A., Silva, A. R., Pearson, H., MacNutt, L., Robertson, A., Werestiuk, K., & Kuhl, D. (2022). Burnout, compassion fatigue and work-related stressors among organ donation and transplantation coordinators: A qualitative study. *Intensive and Critical Care Nursing*, *68*, 103125.

Fahimi, M., Sirafi, M. R., & Soodagar, S. (2020). Structural Modeling of Treatment Adherence Based on Personality Traits, Social Support, and Disease Perception in Hemodialysis Patients [Original Research Article]. *Middle Eastern Journal of Disability Studies*, *10*(1), 195-195. http://jdisabilstud.org/article-1-2186-fa.html

Garrosi Farshi, M., Mehryar, A. H., & Qazi Tabatabai, M. (2001). he application of the new Neo personality test and the analysis of its characteristics and factor structure among Iranian university students. *Scientific-Research Quarterly of Human Sciences of Al-Zahra University*, *39*, 173-198.

Grinyó, J. M. (2013). Why is organ transplantation clinically important? *Cold Spring Harbor perspectives in medicine*, *3*(6), a014985.

Kapikiran, G., Bulbuloglu, S., & Saritas, S. (2022). The Effect of Video Training before Organ Transplant Surgery on Patient Satisfaction and Anxiety: Head Mounted Display Effect. *Clinical Simulation in Nursing*, *62*, 99-106.

Liester, M. B. (2020). Personality changes following heart transplantation: The role of cellular memory. *Medical hypotheses*, *135*, 109468.

Nazari, E., Mohamadzadeh, J., Khosravi, A., Ahmadi, V., & Kikhawani, S. (2020). Investigating of the Relationship of Psychological Factors with Immunological and Physiological Factors According to Moderator Role of Type D Personality Characteristic in Patients a waiting for Surgery in Imam Khomeini Hospital, Ilam, Iran [Research]. *journal of ilam university of medical sciences*, *28*(2), 94-103. https://doi.org/10.29252/sjimu.28.2.94

Omranifard, V., Ebrahimi, A., Basti, T., Sharbafchi, M. R., Sajjadieh, S., & Mortazavi, M. (2017). The Relationship of Drug Compliance with Depression, Anxiety and Coping Strategies in Patients with

[Downloaded from ieepj.hormozgan.ac.ir on 2026-10-15]

[DOR: 20.1001.1.25884395.2022.4.3.19.3]

[DOI: 10.52547/ieepj.4.3.625]

Kidney Transplantation. *Journal of Isfahan Medical School*, *34*(409), 1430-1438. http://jims.mui.ac.ir/article_15106_a252b52e7817e7462d1874e44754cfa6.pdf

Ong, J. Q., Lim, L. J., Ho, R. C., & Ho, C. S. (2021). Depression, anxiety, and associated psychological outcomes in living organ transplant donors: A systematic review. *General hospital psychiatry*, *70*, 51-75.

Safa, M., Mahmoudi, G. A., Najafizadeh, K., Ghassem Boroujerdi, F., & Khoddami Vishteh, H. R. (2015). Psychological Aspects of Confounding Factors in Patients Undergoing Lung Transplantation and Heart to Masih Daneshvari Hospital [Research Article]. *Iranian Journal of Forensic Medicine*, *21*(3), 179-188. http://sjfm.ir/article-1-723-en.html

Sarwar Azimi Yazzdi, M. (2019). *Comparison of psychological well-being, life expectancy and life satisfaction of transplant patients and kidney and liver transplant candidate patients* First national conference of psychopathology, Ardabil.

Sheyda, S., Razairoodi, D., Froughi, E., & Masoudi, S. (2021). Predicting self-differentiation based on family communication models and personality types of married women. *Family and Health*, *11*(3), 79-98. http://journal.astara.ir/article_248645_22776e3d18016825ffdbf03785d28d32.pdf

Thisayakorn, P., Sakunwetsa, D., Tangwongchai, S., Jirakran, K., Lolak, S., & Maldonado, J. R. (2021). The Psychosocial Assessment of Transplant Candidates: Internal Consistency, Interrater Reliability, and Content Validity of the Thai Version of the Stanford Integrated Psychosocial Assessment for Transplantation (SIPAT–Thai Version). Transplantation Proceedings,

Tolai, S. A., Maghani Lankarani, M., Naderi, Z., & Najafi, M. (2005). Personality traits and mental health of kidney transplant patients. *JOURNAL OF PSYCHOLOGY*, *9*(4), 429-439.

Yates, W. R., LaBrecque, D. R., & Pfab, D. (1998). Personality disorder as a contraindication for liver transplantation in alcoholic cirrhosis. *Psychosomatics*, *39*(6), 501-511.

Yousefie, H., Khodabakhshi-Koolaee, A., & Falsafinejad, M. R. (2020). Psychological Challenges of Patients After of With Renal Disease After Transplantation: A Qualitative Study [Qualitative Study]. *Journal of Arak University of Medical Sciences*, *22*(6), 204-217. https://doi.org/10.32598/jams.22.6.5888.2

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