

Prediction of Corona Anxiety based on Personality Characteristics in Vaccinated People at the Vaccination Center of the Prophet's (PBUH) Vaccination Complex

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Abstract

Purpose: The purpose of this research is to predict personality traits in vaccinated people at the vaccination center. **Method:** The method of the present research is quantitative and has been implemented in a descriptive-correlational way, and it is practical in terms of the purpose of this research. The study population of this research is all the people who visited the vaccination center of the Prophet's complex in the fall of 1400, of which 400 people were vaccinated and who received the second dose individually. Simple random and based on the values calculated by G power software were selected as samples. Personality tests were taken from the subject. The data were analyzed using the statistical method of multivariate covariance analysis. The results show that certain personality traits are predicted. Path coefficient of neuroticism ($P < 0.001$, $\beta = 0.419$), extroversion ($P = 0.002$, $\beta = 0.160$) on the display of positive and significant effects and positivity ($P < 0.001$, $\beta = -0.23$) and pleasantness ($p < 0.001$, $\beta = -0.332$) have significant and negative effects on health. Also, the path coefficient of the effect of responsibility has no significant effect on risk ($P = 0.464$, $\beta = 0.036$).

Keywords: Personality Traits, Patients, Vaccinated People, Covid-19.

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INTRODUCTION

One of the most important problems of man since the beginning of creation has been to maintain survival, and everything that can somehow cause the survival of man causes danger in man. Stress is a reactive response to threats to maintain the survival of the species. They are one of the things that threaten human health and survival during life. Throughout history, diseases have always been part of the harmful factors to human health. Epidemic diseases such as plague, smallpox, and tuberculosis cause many deaths. In 2019, the world faced an unknown virus epidemic. This virus, which was a subset of the family of viruses, was named Covid-19. This city virus started in Wuhan, China and quickly spread all over the world (Pakzad and Olya, 2019).

Corona viruses multiply in the body of animals, and some of

them are able to be transmitted from animals to humans, now it shows that they can spread themselves and thus endanger human life (Pakzad and Olya, 2019). Viruses are mainly divided into four groups and genera based on viral diseases and the digestive system, as well as on the basis of genetic structure: alphaviruses, betaviruses, gammacoronaviruses, and deltaviruses. Before the pandemic, 6 types of human virus agents (infecting humans) have been identified: two strains of NL63-HCoV and 229E-HCoV, which belong to the genus Fa, type of equipment, four and SARS, HCoV-HKU1, HCoV-OC43, that is, other Mers. They belong to betacoronavirus. Until 2003, when the Sars pandemic took place in the world, no pandemic or epidemic of the family and genus of viruses had been reported. The Sars pandemic, in 2012 the MERS pandemic was formed, and in 2021, the more severe Covid-19 pandemic has emerged. In terms of transmission

between organisms, the SARS and MERS viruses are transmitted from bats to a type of mink, then to camels, and finally to humans. But in the case of Sars-Cov 2, an animal intermediate between a bat and an anteater has even been proposed (Zinul Abdin, Mansouri, Joibari, Khademi, 2019).

This virus spreads quickly, and due to its high spreading power, the risk of transmission is higher than other types of viruses. Currently, there is no dangerous drug treatment to treat or dissolve it, and various clinical trial studies are researching and investigating the proposed cases (Zarin, Rahmani, Kashipour, 2019).

The severity of the disease in people's bodies and whether the disease leads to death or not, as well as the vaccine, is related to the genetic characteristics of people. For example, those who injected the vaccine and experienced acute symptoms, which means that the vaccine was not compatible with their genome. In the science of genetics, there is a problem called personalized genetic medicine, which causes the type of reaction of different people to be different (Farhoud 1400). That is, in some cases, the symptoms are more severe, in some cases, they are weaker, and in some cases, it causes - more mental disturbances.

Pandemic viruses cause complications and stress in people due to the historical record of mankind and the frightening experience of humans from deaths caused by virus epidemics. In other words, pandemic disease in itself is more, but the epidemic of covid-19 viruses were among other viruses because this virus was unknown and there was no other vaccine or treatment for it.

In 2021, the pharmaceutical companies of the world started to produce Covid-19 vaccines. In Iran, various vaccines were imported, and in addition, Iran also produced vaccines. Each of the different types of vaccines in different people may cause these complications in people with personality traits prone to anxiety problems.

The month of December 2019 was the time for the spread of corona virus disease, this disease started in China and from the city of Wuhan, the center of Hubei province, and it spread very quickly and completely involved people and health organizations. After that, this new corona virus disease (abbreviated as covid-19) spread all over the world (Pakzad and Olya, 2019). This virus is covid-19 and the international committee.

The classification of viruses named Sars-Co-2. This virus belongs to the beta-coronavirus family, which is common in nature, and like other viruses, it has many potential natural hosts that act as intermediate hosts or final hosts (Ganji, Mosayebi, Khaki, and Qazavi, 2019). The most common clinical symptoms of covid-19 infection are: fever (7.3%), diarrhea (1.38%), fatigue (7.67%), cough (9.87%), and vomiting (5%) are rare symptoms. In this respect, it is similar to other coronaviruses of animal origin. Acute respiratory distress syndrome, or ARDS for short, occurs about 9 days after the infection begins. In addition to the lungs, this virus damages other tissues such as the heart, kidney, liver, eyes,

and nervous system. Confusion, forgetfulness, weakening and fading of the power of smell and taste, and nerve pains up to convulsions and strokes, are among the neurological symptoms of this virus, which are related to blood oxygen deficiency and brain inflammation (Ganji, Mosayebi, Khaki, and Qazavi, 2019).

Due to the contagious and dangerous nature of this virus, pharmaceutical companies in the world thought of making a vaccine for this virus, and different companies started making vaccines. In 2021, according to IRNA news agency, Russia produced the first Covid vaccine, but Pfizer was the first vaccine that was introduced to the world as a vaccine approved by the World Health Organization.

After that, other companies such as Moderna, Johnson & Johnson, Sputnik, AstraZeneca, Sinopharm, etc. also introduced their Covid-19 vaccine to the world. In Iran, pharmaceutical companies started making vaccines such as Barkat, Nora, Fakhra, etc. Currently, Sinopharm, AstraZeneca and Barkat vaccines are available in Iran.

Among the Iranian vaccines, currently the Koviran Barkat vaccine has reached the stage of mass production. The history of vaccine production in Iran is a hundred years old, and the Pasteur Institute of Iran started making vaccines nearly 104 years ago, it was the first Iranian vaccine for smallpox, and great professors worked hard during these years (Abdollahi, 2019).

The results of studies conducted with other vaccines show that many factors can affect the body's immune response in response to vaccination; One of these factors may be a person's mood. Anna Marsland, a psychologist at the University of Pittsburgh in Pennsylvania, stated: While this case has not been investigated with covid-19 vaccines, the results of previous researches that dealt with the relationship between mood and various vaccines can also provide insight into the factors affecting the covid-19 vaccine.

Research results show that while feeling good may be associated with a better or faster immune response, stress, on the other hand, impairs the immune response. The results of another study showed that stress levels 10 days after vaccination may be more important than 2 days before vaccination (which is encouraging). Considering that many people who received the covid 19 vaccine felt relief and less stress after the injection.

The results of this research are more important considering the mental damage and stress caused by the epidemic and social distancing because it is very difficult not to be stressed during a global epidemic. For people struggling with depression or anxiety. The results of studies have shown that depression occurred during the epidemic more than usual. Receiving the vaccine may be a signal to gather and participate in self-care, including seeking mental health care (Bakhtiari, 1400).

The increase in stress and anxiety regarding this disease has both beneficial and harmful aspects, in the beneficial aspect of this anxiety and stress, with the increase in compliance

with the principles of health and self-care, attention to the home and family environment has increased (Fayazi, 2019). On the negative side, when anxiety and stress increase, it weakens the body's immune system; In response to a stressful experience, the nervous system activates the immune system to increase white blood cell production and fight disease and infection. Although the body's response to stress can be beneficial in the short term, prolonged stress weakens the immune system. A possible hypothesis is that the prolonged increase in cortisol directs energy towards raising blood sugar and fuel, and therefore reduces the energy required to make proteins, including proteins of the immune system (Kalat, 2019).

Among the causes of this disorder, three things can be mentioned; Family, personal beliefs and past experiences. Family plays a big role in the formation of human thoughts, therefore, if a person grows up in a family where parents are extremely concerned about their health and that of other members, this person is likely to suffer from self-illness disorder in adulthood.

Individual beliefs: People with this disease usually have common characteristics, they think a lot about life's problems, they get upset for every little thing and are constantly anxious. On the other hand, this mental obsession causes them to look for health-related topics on the Internet more than normal, and perhaps it can be admitted that the bombardment of information during the Corona pandemic is one of the factors of the prevalence of hypochondria.

Past events also affect this disorder, for example, a history of severe illness for the person himself or his family can cause this disorder. Of course, sometimes a disorder is seen in the family and eventually they realize that it was not very dangerous, but still the psychological tension remains in the person. In addition, the history of problems such as child abuse can be very effective in increasing the incidence of this disease (Pouyanfard, Teymuri, Ahmadi, Mohammadpour, 2019).

Vaccine injection may sometimes have side effects similar to the symptoms of the disease and the covid-19 vaccine is not an exception to this rule, but the presence of these symptoms does not mean the disease and does not necessarily occur in all vaccinated people. The occurrence of these symptoms in people with narcissistic disorder may cause more anxiety and stress, but no research has been done in this field yet, and one of the goals of this research is to investigate this issue. One of the factors that can play a role in people's different emotional reactions is their personality traits (Qorbani, Jandaghian, Jokar, Zanjani, 2019).

Personality is a set of relatively stable patterns of thoughts, feelings, emotions, behaviors and reactions that are formed in us since childhood and its effects cast a shadow on all aspects of life. The traits or personality traits of each person are unique to him and show the special style of each person in relation to his inner world and the way he interacts with the surrounding environment (Zemestani, 2019).

Although there are still differences of opinion about the basic structure of personality traits, most of the experts in the field of personality currently accept the five-factor model of personality. This model is considered one of the most comprehensive and widely used personality models. According to this model, personality consists of five main dimensions, which are:

Neuroticism: It means the tendency to experience a wide range of negative emotions such as anxiety, depression, worry, tension, nervousness, anger.

Extroversion: It means the desire to socialize and social interactions, warmth, cheerfulness, being active and enthusiastic.

Openness: It means the tendency to imagination, creativity, artistic sensitivity, diversity, flexibility.

Agreeableness: It means the desire to adapt, cooperate, to be obedient, compassionate, pleasant, kind.

Conscientiousness: It means the desire for order, control, progressiveness, hard work, persistence and persistence in doing things, following laws and moral principles (Zemestani, 2019).

In 2019, the world suddenly faced an unknown virus pandemic from the corona virus family called Covid-19. This disease started in the city of Wuhan, China, and in a short period of time, it involved the whole world. After the spread of the corona virus, the lives of all the people of the world underwent many changes, which can be referred to cultural, social, economic, psychological changes, etc.

Until 2021, there was no approved vaccine or medicine for the Covid-19 disease, and for this reason, the number of corona victims had reached thousands and the number of infected people had reached hundreds of thousands. Based on this, while describing this disease as dangerous, the World Health Organization asked all the countries of the world to apply quarantine restrictions to deal with this disease. This meant the closure of schools, universities, organizations and businesses, followed by people staying at home all over the world.

Corona virus caused stress and anxiety in people due to its unknown nature and the high rate of contagion and mortality caused by it. Researches have shown the negative effects of the spread of this disease on mental health, including an increase in symptoms of depression and anxiety, stress disorders, insomnia, anger and fear. In this regard, Salari et al showed in a meta-analysis study that during the outbreak of this disease in the normal population, the prevalence of stress was based on 5 studies (sample size = 9074), 29.6%, the prevalence of anxiety was based on 17 studies (volume sample = 63439), 31.9% and the prevalence of depression in 14 studies (sample size = 44531), is 33.7%. The spread of this disease, due to the need to maintain social distance in order to help prevent the spread of the disease, has caused the feeling of loneliness and reduced relationships and social support. These conditions can cause or aggravate the

symptoms of stress, anxiety and depression in people.

Due to the bombardment of information about the corona disease, its signs and symptoms, many people have suffered from this disorder and are constantly searching for these symptoms or feeling these symptoms in themselves. Of course, the personality characteristics of people are also effective in the occurrence of this anxiety and disorder.

In 2021, Russia was the first country to introduce its vaccine to the world, but it failed to receive approval from the World Health Organization. The first vaccine that entered the world market as an approved vaccine was the Pfizer vaccine, and other vaccines also entered the market after that. In Iran, Sinopharm, AstraZeneca, and Koviran Barkat vaccines have received approval from the Ministry of Health for injections. For this reason, in the current research, we are looking for an answer to the question, how will the prediction of corona anxiety be based on the personality characteristics of vaccinated people?

RESEARCH METHOD

The current research is small and it is carried out in a descriptive-correlational way, and it is practical in terms of the purpose of this research, because the issue of the corona pandemic and vaccination and its consequences has become a global issue today, and our country is not exempt from this international problem. Therefore, conducting research in this field has made us more aware of this issue and covering the dimensions of this issue as fully as possible will improve our performance in dealing with the spread of Covid-19.

The statistical population is all the people who went to the Vaccination Center of the Holy Prophet (PBUH) Complex of West Tehran Azad University in the fall of 1400 and injected the second dose of Corona vaccine, which is reported to be more than 500 people to determine the minimum required sample size of the software. G*power was used. The sample size at the 95% confidence level with the test power of 0.8 and according to the effect size at the level of 0.02 based on Cohen's classification, considering that the number of predictor variables was 6 variables, 400 people were calculated from among all the people who referred to the complex vaccination center. The Prophet (pbuh) Islamic Azad University, West Tehran Branch, 400 people who meet the criteria for entering the study. The names registered in the system were selected randomly through a lottery and the questionnaires were provided to them.

In this research, psychological tests have been used as a tool to collect information, which includes the Neo Personality Questionnaire and the Corona Anxiety Questionnaire.

Personal Characteristics Questionnaire

In the questionnaire of personal characteristics, the general characteristics of people such as age, education and such things are taken which are fully stated below, so that we can get a better understanding of the characteristics of statistical

samples, so that we can do a more detailed analysis of To have the obtained data and to know to what extent the results can be generalized to the society.

Required information includes:

1. Age
2. Education
3. Job
4. Marital status
5. Background disease history
6. Type of vaccine (Sino Pharm, AstraZeneca, etc.)

Neo Personality Questionnaire

The original version of the Neo test was published in 1978 in McCree and Costa's book and has since been revised three times. Since then, various versions of this test have been prepared. In addition to measuring the five main personality factors, the NEO PI-R test examines six traits in each factor. This test has 240 questions. Its shortened version called NEO-FFI has only 60 questions and scores only five main personality factors. In personality trait theories, it is believed that if we know a person's personality traits, we can predict his behavior in different situations. In the five-factor model of personality, thousands of human personality traits are collected in five main factors and each factor has six subcategories:

The five main factors of personality are:

Neuroticism (N), extraversion (E), eagerness for new experiences (O), agreeableness (A), conscientiousness (C). Currently, the NEO 5-factor test has global application and has been translated into Czech, Arabic, Dutch, French, German, Japanese, and Norwegian, Polish and Swedish languages for research purposes. The NEO-FFI personality questionnaire was administered by McCree and Costa on 208 American students three months apart, and its reliability coefficients were obtained between 0.83 and 0.75.

The long-term validity of the Neo test has also been evaluated. A 6-year longitudinal study of the Neuroticism, Extroversion, and Experientiality scales showed reliability coefficients of 0.68 to 0.83 in self-reports as well as in couples' reports. The reliability coefficient of the two factors of adaptability and conscientiousness was 0.79 and 0.63, respectively, after two years (Fathi Ashtiani, 2019).

In the standardization of the NEO test, which was conducted by Grossi Farshi (2013) on a sample of 2,000 students from the universities of Tabriz, Shiraz and medical sciences universities of these two cities, the correlation coefficient of the 5 main dimensions was reported between 0.56 and 0.87. Cronbach's alpha coefficients in each of the main factors of neuroticism, extroversion, openness, adaptability and conscientiousness are 0.86 respectively. 0.73, 0.56, 0.68 and 0.87 were obtained. In order to check the content validity of this test, the correlation between two personal report forms (S) and observer evaluation form (R) was used, the maximum correlation was 0.66 in the extroversion factor and the minimum was 0.45 in the compatibility factor (Fathi

Ashtiani, 2019).). The questions are answered by the individual on a 5-point Likert scale. 12 questions are assigned for each factor. Each of the questions has 5 options "I completely agree", "I agree", "I have no opinion", "I disagree" and "I completely disagree". Which scores zero to four are assigned to it. Each factor has 12 items and scores range from zero to 48. Five separate scores are obtained by summing the scores of each question related to each item.

Corona anxiety questionnaire

This tool to measure the anxiety caused by the spread of the corona virus in Iran was prepared and validated by Alipour, Gadami, Alipour, Abdulazadeh. The final version of this tool has 18 items and 2 components (factors). Items 1 to 9 measure psychological symptoms and items 10 to 18 measure physical symptoms. This tool is scored on a 4-point Likert scale (never = 0, sometimes = 1, most of the time = 2, and always = 3); Therefore, the highest and lowest scores obtained by respondents in this questionnaire are between 0 and 54.

High scores in this questionnaire indicate a higher level of anxiety in people. The reliability of this tool was obtained using Cronbach's alpha method for the first factor ($\alpha=0.879$), the second factor ($\alpha=0.861$) and for the whole questionnaire ($\alpha=0.919$) (Alipour, Gadami, Alipour, Abdullahzadeh, 2018). To check the validity of these questionnaires, they are given to experts in psychology and medical sciences to check them using face and content validity. In order to check the reliability, it is first performed on 30 people based on Cronbach's alpha. If the alpha is above 0.7, the questionnaire is performed on the rest of the population.

FINDINGS

Descriptive statistics of the demographic variables of the research

In order to better understand the society studied in the research, before analyzing the statistical data, it is necessary to describe these data. Also, the statistical description of the data is a step towards identifying the pattern that governs them and a basis for explaining the relationships of the variables that are used in the research. Therefore, in this study, 400 people from all the people who referred to the vaccination center of the Prophet (PBUH) Complex, Islamic Azad University, Tehran West Branch, with an average age of 28.41 ± 2.57 years and in the age range of 20 to 63 years were examined.

The demographic characteristics of people referring to the vaccination center of the Prophet's (PBUH) Complex, Islamic Azad University, West Tehran Branch, are reported in Table 1. The results show that in terms of gender, 280 people (70%) of the studied subjects are female, in terms of occupation, 169 people (42.3%) are unemployed, in terms of education level, 243 people (60.8%) are post-graduate and graduate and in terms of the type of vaccine, 296 people (74%) were

Sinopharm.

Table 1. Demographic variables of people referring to the vaccination center of the Great Prophet (PBUH) Complex, Islamic Azad University, Tehran West Branch (n=400)

| Demographic variable | level | Number | percentage |
|----------------------|-------------------------|--------|------------|
| Gender | Female | 280 | 70 |
| | Male | 120 | 30 |
| Job | Free | 169 | 3/42 |
| | Employee | 37 | 3/9 |
| | Housekeeper | 79 | 8/19 |
| | Student | 115 | 8/28 |
| Education level | Diploma and sub-diploma | 120 | 30 |
| | Bachelor's degree | 243 | 8/60 |
| | Masters and Ph.D. | 9 | 2/37 |
| Vaccine type | Sinopharm | 296 | 74 |
| | Astrazinka | 86 | 5/21 |
| | Barkat | 18 | 5/4 |

Descriptive indices of research variables in subjects

Table 2 shows the descriptive information (mean, standard deviation, skewness, and kurtosis) related to the variables of personality traits, self-morbidity, and corona anxiety.

Table 2. Descriptive indices (mean and standard deviation) of research variables in people referring to the vaccination center of the Great Prophet (PBUH) Complex, Islamic Azad University, Tehran West Branch

| Variable | The mean | standard deviation | maximum-minimum | skewness | elongation |
|------------------------|-----------|--------------------|-----------------|----------|------------|
| Neuroticism | 32/70 | 4/35 | 43-19 | -0/189 | 0/301 |
| Extraversion | 35.82 | 4.95 | 47-22 | -0.011 | 0.258 |
| Flexibility | 39/90 | 3/97 | 50-28 | -0/025 | 0/378 |
| Pleasantness | 40/04 | 4/58 | 55-26 | -0/046 | 1/020 |
| Responsibility | 37/42 | 3/49 | 50-28 | 0/204 | 0/874 |
| Corona anxiety | 80 | 20/74 | 117-35 | -0/446 | -1/041 |
| Physical symptoms | 42/13 | 12/04 | 77-17 | -0/381 | -0/847 |
| Psychological symptoms | 37/95-727 | 9/26 | 60-16 | -0/358 | -0/727 |

Table 3 shows the information related to the Pearson correlation between personality traits and Corona anxiety. According to the results of the correlation matrix, there is a positive and significant relationship between the personality traits of neuroticism and extroversion with Corona anxiety and a negative relationship between the personality traits of flexibility, agreeableness and responsibility with Corona anxiety and There is significant ($P < 0.01$).

Table 3. Correlation matrix between exogenous and endogenous variables of the proposed model

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|--------------------------|----------------------|--------------|--------------|--------------|--------------|--------------|-----------------|---|
| Psycho sis | 1 | | | | | | | |
| Extrov ersion | 47** 0/6 | 1 | | | | | | |
| Flexibi lity | - 0/3 25* * | 36** -0/8 | 1 | | | | | |
| Pleasan tness | 36** -0/0 | 40** -0/2 | 51** 0/2 | 1 | | | | |
| Respon sibility | 40** -0/1 | 50** -0/6 | 49** 0/1 | 36** 0/6 | 1 | | | |
| Corona anxiety | 51** 0/4 | 47** 0/8 | 35** -0/5 | 55** -0/7 | 36** -0/7 | 1 | | |
| Physic al sympto ms | 49** 0/6 | 35** 0/9 | 48** -0/1 | 58** -0/2 | 43** -0/1 | 72** 0/5 | 1 | |
| Psycho logical sympto ms | 56** 0/0 | 84** 0/9 | 81** 0/2 | 49** -0/6 | 40** -0/6 | 41** -0/2 | 4** /93 0 | 1 |

** $P < 0.01$, * $P < 0.05$

Table 4. The reliability value of each of the personality traits, self-sickness and corona anxiety was calculated using Cronbach's alpha test. The value of Cronbach's alpha of all research questionnaires is above 0.70 (Tawakal et al., 2011), so the questionnaires have a high level of reliability and internal consistency to measure their indicators.

Table 4. Reliability of questionnaires

| questionnaire | Reliability (Cronbach's alpha) |
|----------------|--------------------------------|
| Neuroticism | 0/736 |
| Extraversion | 0/804 |
| Flexibility | 0/784 |
| Pleasantness | 0/700 |
| Responsibility | 0/806 |
| Self-care | 0/783 |
| Corona anxiety | 0/816 |

Statistical inference

In this section, structural equation modelling, based on the covariance method of AMOS version 24 software, was used to answer the proposed hypotheses, and the model parameters were estimated by the maximum likelihood (ML) method.

Structural equation modeling was used to test the proposed model of the relationship between personality traits and the anxiety of people referring to the vaccination center of the Prophet's (PBUH) Complex, Islamic Azad University, Tehran West Branch. The structural model includes a set of structural equations that describe causal relationships between variables. The proposed model of this research has a total of 7 variables, six of which are exogenous (independent) variables and one variable is an endogenous (dependent) variable. The fit of the proposed model with the data based on goodness of fit indices including chi-square as an absolute goodness of fit index is reported. The higher the value of chi square is greater than zero, the lower the fitness of the model. A significant chi-square indicates a significant difference between the assumed and observed covariances. Despite this, because the chi-square formula includes the sample size, its value is inflated in the case of large samples and usually becomes statistically significant. For this reason, many researchers examine chi-square relative to its degree of freedom (relative chi-square (CMIN/DF)) (Calquitt, 2001). In the relative chi-square index, values close to 2 and less are considered as a conventional criterion for the suitability of the model. To check the fit indices of the model, several other indices are used, including parsimony soft fit index (PNFI), comparative fit index (CFI), parsimony comparative fit index (PCFI), incremental fit index (IFI), goodness of fit index (GFI) and root mean square error of approximation (RMSEA) are used and reported in Table 5.

To check the hypotheses of the research, before using the structural equations method, the presuppositions of this method were checked.

Defaults

1. Missing data:

In the structural equation model, if raw input data is used for analysis, these data must be complete and without missing values. To work with incomplete data, there are several pre-empirical solutions. List-Wise Deletion, in which all scores related to missing data are deleted, and Pair-Wise Deletion, in which two-variable correlations are calculated only for cases with complete and available data. To be Another pre-empirical method for missing data is to replace these data through the Expectation-Maximum Algorithm (Klein, 2016). In the current research, the method of maximizing the correct prediction has been used.

2. Multivariate outlier data:

To check the absence of multivariate outlier data, Mahalanobis d2 index was examined and significance levels.

If it is less than 0.05, it means that the desired outlier data are far away. Based on this index, outliers were not identified and excluded from the analysis.

3. Single variable normality:

In checking the normality of single variable, the state of distribution of observation variables in the model, i.e. the main variables of the research, was examined using skewness and elongation indices. According to Klein (2016), the absolute magnitude of the skewness value is smaller than 3 and the absolute value of the elongation value is smaller than 10, indicating the absence of data problems in terms of univariate normality.

Table 2 shows the skewness and elongation indices of the research variables in the structural model. As can be seen, the absolute value of skewness is not greater than 3 for any of the variables. Also, the absolute value of elongation is not greater than 10 for any of the variables. Therefore, based on the opinion of Klein (2016), it can be said that there is no problem in performing this analysis in terms of the normality of a single variable.

4. Multivariate normality

Mardia's standardized elongation coefficient and critical ratio were used to check the normality of several variables. According to Blanch (2012), values smaller than 5 for the critical ratio are considered as non-violation of multivariate normality. If the critical ratio obtained from Mardia's coefficient is less than 5, it means that the assumption of multivariate normality has been met. In this research, the Mardia coefficient is 4.356 and the critical ratio is 2.104, which is less than 5. Therefore, the assumption of multivariate normality is maintained.

Findings related to the test of the proposed research model

Main hypothesis: Corona anxiety is predicted based on personality traits in vaccinated people in vaccination centers. Before examining the structural coefficients, the suitability of the proposed model was examined. The fit of the proposed model of all fit indices in the confirmatory factor analysis of the measurement model: PCFI=0.809, PNFI=0.763, CMIN/DF=1.512, RMSEA=0.036, IFI=0.982, 982/ CFI=0 and GFI=0.921 indicate a good fit of the measurement model with the data.

The fit indices of these patterns are shown in Table 5.

Table 5. The suitability indices of the proposed and modified model of the current research

| Fitnes ss indic ators | χ^2 | d f | p - value | CMIN /Df | RMSEA (CL _{90%}) | PNFI | CFI | IFI | GFI |
|--------------------------------|-----------|--------|-----------------|-------------|-------------------------------|-----------|-----------|-----------|-----------|
| Propo sed mode l | 56 7/1 | 5 | 18 0/2 | 51 1/2 | 0/05) - 0(0/01 0/36 | 76 0/3 | 98 0/2 | 98 0/2 | 92 0/1 |

*Acceptable level of indicators PNFI, PCFI, (>.5, CFI, GFI, IFI (>.9), RMSEA (<0.08), CMIN/DF (3 > good, 5 > acceptable) (Klein, 2016).

*Abbreviations; CMIN/DF: Chi-square/degree-of-freedom ratio; RMSEA: Root Mean Square Error of Approximation; PCFI: Parsimonious Comparative Fit Index; GFI: Goodness of Fit Index; PNFI: Parsimonious Normed Fit Index; IFI: Incremental Fit Index; CFI: Comparative Fit Index.

The R² index shows the amount of explained variance of endogenous latent variables. Chin (1998) describes the values of R², 0.67, 0.33 and 0.19 in structural equations as strong, medium and weak respectively. The coefficient of determination of the Corona anxiety variable is 0.490, which shows that all exogenous variables, i.e. personality traits, can predict 49% of the changes in Corona anxiety, which is a strong amount. It can also be seen that Table 6 also shows the standard coefficients of the routes.

Therefore, according to the estimated indicators, the results show that Corona anxiety is predicted based on personality characteristics.

RESEARCH FINDINGS

The direct relationship between the dimension of neurotic personality and corona anxiety can be explained in such a way that neurotic people have the characteristics of experiencing anxiety, tension, narcissism, hostility, impulsivity, shyness, irrational thinking, depression and self-esteem. They are low breath. These people have negative emotions such as anger, fear, sadness, anxiety, excitement, guilt, and confusion. Therefore, the existence of these negative feelings causes incompatibility and increases the anxiety of corona in a person. People with this personality dimension do not have emotional stability and peace. It is quite clear that a person who does not have emotional stability experiences anxiety and stress when faced with problems (Ramsted et al., 2021). On the other hand, people with neurotic personality traits tend to process and recall negative life memories more than others and are more likely to be exposed to anxiety. By biasing towards negative things, when faced with the news related to the spread of Corona in the world and the statistics related to the deaths caused by this disease, they experience more anxiety about their future and those around them (Qorbani et al., 1400).

Regarding the positive relationship between the personality trait of extroversion and corona anxiety, it can be mentioned that certain consequences and events are the result of people's

own behavior and actions, and their health is directly determined by their own behavior and actions. People use effective coping strategies to deal with anxiety-provoking events like Corona, they consider themselves as the possible cause of virus transmission; As a result, they use masks, do not kiss and avoid unnecessary presence in gatherings. However, all these characteristics are contradictory to the personality trait of extroversion, and if these issues are observed, they will endure a lot of anxiety (Pouyan Fard et al., 2019). People with extroverted personality attribute relate their health and illness to others or fate, do not have a sense of responsibility for their health or illness, do not follow health guidelines, often base their behavior on They determine the basis of wants, needs, perception and interpretation of others and use emotional and ineffective methods to deal with anxiety; So a weaker performance in dealing with fear.

They show ery and the anxiety of the disease increases in them.

Also, to explain these results, it can be said that when people with flexible personality dimension have imagination, rationality and curiosity and are willing to accept new ideas and unconventional values and are able to experience positive and negative emotions. They are always ready to accept moral and social opinions, they respond responsibly to their values (Tashuiqi et al., 1400). Therefore, these personality traits of flexibility and purposefulness in a person make a person not have special anxiety in times of dangers and diseases. A flexible person is ready to accept any changes in life and will not have any threatening stress and anxiety in this regard. Therefore, the level of corona anxiety is low in people who have a flexible personality dimension (Tabevardar et al., 1400).

In the same way, with the increase in agreeableness, self-restraint, rationality, hard work, the confidence of a person increases and helps him adapt; Therefore, a person can better adapt himself to the critical conditions of Corona and the duration of hospitalization is reduced. Therefore, it can be said that with the increase of agreeableness, the level of adaptation of a person increases and leads to a decrease in the anxiety of corona in a person. In Ashvanden et al.'s (2020) research, higher agreeableness was associated with precautionary measures in the time of Corona; People with this personality trait try to fully comply with health instructions and deal with tension and anxiety with these necessary security measures and precautions (Qorbani et al., 1400).

Based on the theoretical foundations and background of the researches related to the subject of the current research and in order to improve the level of mental health in human forces as the main assets of various industries and organizations, the current research aims to predict the anxiety of Corona based on the characteristics of A personality test was conducted in the vaccinated people at the vaccination center so that the current research is a step towards reducing the anxiety caused

by Corona and improving their psychological level. The results of the research findings confirmed all the hypotheses. Therefore, treatment and educational programs can take these variables into consideration in order to reduce the anxiety of Corona.

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