



## Investigating the Effect of Personality Traits on the Mental Health of Prisoners with the Mediation of Religiosity

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### Abstract

**Background:** Studies show that prisoners have a higher prevalence of mental disorders than the general population. Paying attention to factors affecting the mental health of prisoners, including religiosity and personality traits, is very important to reduce recidivism. This study aimed to investigate the relationship between mental health, personality traits, and religiosity in prisoners of Shiraz central prison.

**Methods:** The study was correlational research conducted on all new prisoners in Shiraz. With Inclusion criteria have a willingness to participate in the survey, to have spent at least 48 hours in prison, and to have good mental health. Exclusion criteria included having a mental disability, psychological problems, or being on medication. Demographic information, mental health, personality, and religiosity were assessed through face-to-face interviews, and relationships between variables were analyzed using structural equation modeling with SPSS 26 and AMOS 24.

**Results:** Neuroticism through religiosity was associated with reduced depression, Somatic symptoms, social dysfunction, and anxiety. However, extraversion, openness to experience, agreeableness, and conscientiousness through religiosity are associated with increased depression, somatic symptoms, social dysfunction, and anxiety.

**Conclusions:** personality traits indirectly impact mental health through religiosity, which plays a significant mediating role in these associations. Further research can examine how personality traits and religious beliefs work together to influence mental well-being.

**Keywords:** Mental health, Personality traits, Religiosity.

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## Introduction

Engaging in criminal activities and violating laws has been a part of human existence since ancient times, and the rise in crime is inversely related to security. Hence, exploring the reasons and influences behind criminal behavior has long been a topic of interest for researchers, with numerous factors being considered in its origin<sup>1</sup>. Meanwhile, mental health has always been considered as one of the effective factors in the tendency of people to commit crimes<sup>2,3</sup>. Mental health includes a person's emotional, psychological, and social well-being, which affects their thoughts, emotions, and actions as they go through life<sup>4</sup>. The World Health Organization defines mental health as

the ability to form healthy relationships with others, adapt to and influence social environments, and effectively manage instinctual conflicts and personal desires in a rational manner<sup>5</sup>. Previous research indicates that prisoners have a higher prevalence of mental disorders compared to the general population<sup>6,7</sup>. A recent meta-analysis study found that approximately 50% of the world's prisoners suffer from severe mental illnesses like non-affective psychosis or major depression<sup>8</sup>. According to research conducted in Iran, male and female prisoners from Iran exhibit a high prevalence of major depression, anxiety disorders, mood disorders, Somatic complaints, aggression, phobias, antisocial personality disorders, and borderline disorders<sup>9,10</sup>.

It has been shown that there is a substantial correlation between mental health disorders and involvement in criminal behavior so untreated mental health issues are a contributing factor to criminal activities<sup>11</sup>. Therefore, it is necessary to address the issue of the mental health of prisoners and related factors to reduce recidivism and improve the overall well-being of this population.

Personality traits are among the factors associated with mental health<sup>12,13</sup>. Personality traits encompass an individual's unique set of characteristics that influence their behaviors, attitudes, and mental patterns over time<sup>14</sup>. The Big Five Trait Model, known as OCEAN (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism), is commonly utilized to classify personality traits, emphasizing the consistency of attributes that define an individual's personality<sup>15</sup>. Certain personality traits such as extraversion, agreeableness, and openness have been associated with better mental health outcomes, while traits like neuroticism and hostility have been associated with poorer mental health outcomes in this population<sup>12,13</sup>.

The religiosity of individuals is another factor that can impact the mental health of prisoners<sup>16,17</sup>. Religiosity refers to an individual's beliefs, values, practices, and commitment to a particular religion or system of faith<sup>18</sup>. Religious beliefs and practices have the potential to provide comfort, hope, forgiveness, and opportunities for spiritual growth, all of which can have a positive impact on mental health<sup>19</sup>. It has been found that there is a significant positive correlation between religiosity and mental health among inmates, with higher levels of religiosity associated with better mental health outcomes<sup>16</sup>.



Despite many studies that have investigated the relationship between mental health in prisoners with personality traits and religiosity, few studies have investigated the simultaneous relationship of these two factors with mental health in this population. To the best of our knowledge, there has been no research conducted on this topic among prisoners in Iran. Given the complexity of the relationship between personality traits, religious orientation, and mental health, which can vary depending on cultural and contextual factors, this study aimed to explore the impact of personality traits on mental health, mediated by religiosity, among prisoners in Fars province.

## Materials and Methods

The study was correlational research conducted on all new prisoners in Shiraz in 2024. Inclusion criteria required participants to have a willingness to take part in the study, to have spent at least 48 hours in prison, and to have good mental health. Exclusion criteria included having a mental disability, psychological problems, or being on medication. Demographic information questionnaire, mental health questionnaire, NEO personality questionnaire, and religiosity questionnaire were completed by the researcher after informing the prisoners about the objectives of the study and obtaining their consent in the form of face-to-face interviews. The duration of each interview was 25-30 minutes. This 28-question questionnaire was designed by Goldberg and Hiller<sup>20</sup> in 1979 and has 4 subscales, each scale having 7 questions. These scales are: 1- Physical symptoms 2- Symptoms of anxiety and sleep disorder 3- Social functioning 4- Symptoms of mental depression. The questions of this questionnaire assess the individual's mental state over the past month, focusing on symptoms such as unusual thoughts and emotions, as well as observable behavioral patterns. The general health questionnaire consisted of questions with 4 options and used the Likert scoring method. According to this method, the options were scored as (4, 3, 2, 1), resulting in a total score ranging from 0 to 112 for each person. A lower score on the questionnaire indicates better mental health. Also, the five-factor NEO personality

questionnaire<sup>21</sup> was used to examine the personality traits of prisoners. These five factors are: nervousness (N), extroversion (E), openness to experience (O), agreeableness (A), conscientiousness (C). This questionnaire is a 60-question questionnaire that measures 5 main factors of personality and 6 characteristics in each factor, or other words, 30 characteristics, and based on this, it provides a comprehensive evaluation of personality. The religiosity of prisoners in this study was measured using the "Glock and Stark"<sup>22</sup> scale. This questionnaire consists of 26 questions and has four dimensions: belief (7 items), experiential or emotional (6 items), consequence (6 items), and ritual (7 items). The belief dimension is the beliefs that the followers of that religion are expected to believe in. rituals or religious practices include specific religious practices such as worship, prayer, participation in special religious rituals, fasting, etc., which the followers of each religion are expected to perform. The experiential dimension, also known as religious emotions, encompasses the range of emotions, perceptions, and feelings associated with developing a connection with a divine entity, such as God, ultimate reality, or a transcendent authority. the consequence dimension or religious effects refers to the effects of religious beliefs, actions, experiences, and knowledge on the daily life of the followers. The scoring method of this scale is based on the Likert method, where each question offers five response options: "strongly agree, agree, neutral, disagree, and strongly disagree." Each response is assigned a value between 0 and 4. The total score is determined by the numerical sum of the value of each item, which fluctuates between 0-104. Higher scores indicate a higher level of religiosity. Qualitative variables were described using frequency and percentage and quantitative data using mean and standard deviation in this study. Pearson's correlation was used to check the relationship between the investigated variables. The relationships between research variables were examined using structural equation modeling. Analyses were conducted using SPSS 26 and AMOS 24 software.

## Results

The studied population included 422 prisoners of Shiraz city. Table 1 provides demographic information of prisoners being researched. The majority of prisoners were male (94.3%) and

most of them were under 50 years old (97.9%). 68% of the prisoners were self-employed, with the majority having a diploma or lower level of education.

Table 1. Demographic information of prisoners being researched (N=422)

Variable	Subgroup	Frequency	Percent
Age	14-19	13	3.2
	20-30	146	34.5
	31-40	167	39.6
	41-50	71	17.0
	<50	25	5.7
Sex	Male	393	97.9
	Female	29	2.1

<b>Education</b>	Illiterate	36	8.7
	Elementary	78	18.3
	Middle	143	33.9
	High school	21	4.9
	Diploma	101	24.0
	Higher than diploma	43	10.3
<b>Occupational group</b>	Self-employment	290	68.9
	Governmental	11	2.7
	Non-Governmental	17	3.8
	Jobless	27	6.5
	Student	5	1.2
	Manual worker	34	7.9
	Other	30	6.9
	Housewife	8	1.9

Table 2 shows the Pearson correlation between the studied variables. According to this table, a significant correlation was found between the religiosity variable and five personality traits (nervousness (N), extroversion (E), openness to

experience (O), agreeableness (A), conscientiousness (C)), as well as four mental health subscales (Somatic symptoms, symptoms of anxiety and sleep disorders, social dysfunction, and symptoms of mental depression).

**Table 2 Correlations among variables of the study**

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>Personality traits</b>	1. Neuroticism	23.64	5.81	1													
	2. Extraversion	24.79	5.53	0.062**	1												
	3. Openness	23.62	5.33	0.126**	.210**	1											
	4. Agreeableness	24.64	5.53	-0.008	.288**	.258**	1										
	5. Conscientiousness	26.84	7.07	-	.393**	.131**	.409*	1									
<b>Dimensions of religiosity</b>	6. Belief	16.44	5.34	0.064**													
	7. Consequences	15.57	5.79	-.078**	.104**	.023	.087*	.134**	1								
	8. Knowledge	12.51	5.07	-.109**	.121**	.074**	.150*	.218**	.499**	1							
	9. Practice	13	7.65	-.009	.039*	-.003	.038*	.074**	.394**	.351*	1						
	10. Total religiosity	57.53	17.10	-.167**	.117**	.060**	.112*	.179**	.280**	.398*	.194**	1					
<b>GHQ</b>	11. Somatic symptoms	9.93	6.65	-.139**	.138**	.058**	.140*	.218**	.723**	.777*	.625**	.727**	1				
	12. Anxiety	9.97	5.90											1			
	13. Social functioning	9.64	5.67											.712**	1		
	14. Depression	8.54	7.59											.605**	.664**	1	
	15. Total	36.51	22.04											.581**	.699**	.743**	1

\*\* Correlation is significant at the 0.01 level (2-tailed). \* Correlation is significant at the 0.05 level (2-tailed).

Table 3 shows the effect of religiosity in moderating the relationship between personality traits and mental health in prisoners. This table illustrates that Neuroticism had no direct effect on mental health and its dimensions. However, religiosity was associated with reduced depression, somatic symptoms, social dysfunction, and anxiety. Extraversion was directly linked to reduced somatic symptoms, anxiety, and depression, but indirectly through religiosity, it was associated

with increased somatic symptoms, social dysfunction, depression, and anxiety. Openness to experience had no direct effect on mental health and its dimensions. But indirectly through religiosity, it was related to increased somatic symptoms, social dysfunction, depression, and anxiety. Agreeableness was directly linked to a reduction in depression, physical symptoms, social dysfunction, and anxiety, while religiosity was associated with an increase in these same



factors. Conscientiousness is directly associated with a decrease in depression, social dysfunction, and anxiety, but

through religiosity, it was associated with an increase in depression, somatic symptoms, social dysfunction, and anxiety.

**Table 3 Effects of religiosity in moderating relationship between personality traits and mental health**

Independent variable	Dependent variable	Indirect effect	Direct effect	Status of religiosity
<b>Neuroticism</b>	Somatic symptoms	-0.02*	0.03	Full mediation
	Anxiety	-0.01*	0.02	Full mediation
	Social functioning	-0.02*	0.03	Full mediation
	Depression	-0.02*	0.05	Full mediation
	Total	-0.033*	0.065	Full mediation
<b>Extraversion</b>	Somatic symptoms	0.02*	-0.06*	Partial mediation
	Anxiety	0.01*	-0.10*	Partial mediation
	Social functioning	0.02*	-0.02	Full mediation
	Depression	0.02*	-0.10*	Partial mediation
	Total	0.03*	-0.15	Full mediation
<b>Openness</b>	Somatic symptoms	0.06*	-0.005	Full mediation
	Anxiety	0.04*	0.02	Full mediation
	Social functioning	0.06*	0.001	Full mediation
	Depression	0.07*	0.007	Full mediation
	Total	0.01*	0.008	Full mediation
<b>Agreeableness</b>	Somatic symptoms	0.02*	-0.07*	Partial mediation
	Anxiety	0.01*	-0.05*	Partial mediation
	Social functioning	0.02*	-0.04*	Partial mediation
	Depression	0.20*	-0.15*	Partial mediation
	Total	0.30*	0.25*	Partial mediation
<b>Conscientiousness</b>	Somatic symptoms	0.02*	-0.01	Full mediation
	Anxiety	0.02*	-0.04*	Partial mediation
	Social functioning	0.02*	-0.04*	Partial mediation
	Depression	0.14*	-0.13*	Partial mediation
	Total	0.04*	-0.09	Full mediation

## Discussion

Our research, for the first time, investigated the association between personality traits and mental health dimensions in prisoners, with a focus on the mediating effect of religiosity. Our research indicates that Neuroticism, a personality trait characterized by emotional instability, does not have a direct impact on mental health or its dimensions. In other words, variations in Neuroticism alone do not significantly influence mental health. This finding aligns with existing literature that suggests Neuroticism is not a direct predictor of mental health outcomes (23). However, neuroticism indirectly reduces mental health problems through its association with religiosity. Engaging in religious or spiritual practices, such as prayer, meditation, or attending religious services, seems to help individuals with higher levels of neuroticism to alleviate mental health problems. Religiosity serves as a protective factor, diminishing the adverse effects of neurotic tendencies. Our study also found that extraversion was associated with better mental health outcomes, a finding consistent with previous research<sup>24</sup>, but through religiosity, it was associated with worse mental health outcomes. One possible explanation for these findings is that extraversion is associated with greater social engagement and support, which can buffer against mental health problems. Religiosity, on the other hand, may be associated with more negative mental health outcomes if it is associated with feelings of guilt, shame, or anxiety. Another possibility is that the relationship between extraversion and religiosity is moderated by other factors, such as the specific

religious beliefs and practices of the individual. Further research is needed to explore the complex relationship between extraversion, religiosity, and mental health. Such research could help to identify the specific mechanisms through which these factors influence mental health outcomes.

Another finding of the current study was that openness to experience does not have a direct effect on mental health. Research on the relationship between Openness and health outcomes has yielded inconsistent results. Some studies report positive effects, while others find no significant impact<sup>25</sup>. Openness, however, is indirectly associated with negative mental health outcomes through religiosity. Individuals who are open to new experiences may be more likely to question their religious beliefs, which could lead to feelings of anxiety or depression. Conversely, being open to new experiences may also expose individuals to different ideas and beliefs, resulting in changes to their religiosity and mental health. Future research could explore this relationship further by examining the specific mechanisms through which religiosity influences the relationship between openness to experience and mental health.

The results of the present study, following previous studies<sup>26,27</sup>, showed that Agreeableness was directly associated with better mental health outcomes, while it was associated with poorer mental health through religiosity. One possible explanation for this finding is that agreeableness is associated with a greater tendency to conform to social norms and expectations. In religious communities, these norms and expectations may include beliefs and practices that are not

conductive to good mental health. For example, agreeableness is associated with a greater tendency to experience negative emotions, such as guilt and shame. These emotions may be exacerbated by religious beliefs and practices that emphasize sin and punishment. It is important to note that this study is cross-sectional, which means that it cannot establish causality. Further research is needed to determine the causal relationship between agreeableness, religiosity, and mental health.

Consistent with previous studies<sup>28,29</sup>, this study found a direct relationship between conscientiousness and better mental health outcomes, but the results showed that conscientiousness was associated with poorer mental health through religiosity. One possible explanation for the observed association between conscientiousness and poorer mental health through religiosity is that conscientious people may be more likely to internalize religious beliefs and values. This could lead to feelings of guilt and shame if they feel they are not living up to those beliefs and values. Additionally, conscientious people may be more likely to engage in religious practices that are stressful or demanding, which could also contribute to poorer mental health. Of course, it is important to note that this is just one study, and more research is needed to confirm these findings. However, the results do suggest that the relationship between conscientiousness and mental health is not straightforward and that other factors, such as religiosity, may play a role. The findings indicated that while certain personality traits may not directly associated with mental health and its dimensions, they all impact mental health and its dimensions through religiosity. Additionally, religiosity plays a significant mediating role in exploring these associations. This indicates that religiosity may serve as a protective barrier or a pathway through which personality traits affect mental health. Additional studies could explore the precise ways in which various personality traits and religious convictions combine to affect mental well-being.

### Ethical Considerations

This study was approved by the Code of Ethics IR.IAU.A.REC.1403.143 of Arsanjan Azad University, and written and verbal consent was obtained from the prisoners.

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### Conflict of Interest

The authors declare that they have no competing interests.

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