



Original Article

Comparing Personality Traits and Resilience Among Treatment-Seeking and Treatment-avoidant Elderly with Health Anxiety Disorder

Masood Ghorbanalipour^{1*} , Somayeh Hajihatamlou¹, Bahare Hosseinlou¹, Ameneh Zardi Nahr²

^{1.} Department of Psychology, Faculty of Humanities, Azad University of Urmia, Khoy Branch, Khoy, Iran

^{2.} Department of Psychology, Faculty of Psychology and Educational Sciences, Shahid Madani University of Azerbaijan, Iran

* **Corresponding Author:** Department of Psychology, Faculty of Humanities, Azad University of Urmia, Khoy Branch, Khoy, Iran. Tel: +98 9141633787, Email address: Masoudqorbanalipour@gmail.com

ABSTRACT

Article history

Received 23 Nov 2024

Accepted 10 Dec 2024

Citation:

Ghorbanalipour M, Hajihatamlou S, Hosseinlou B, Zardi Nahr A. Comparing personality traits and resilience among treatment-seeking and treatment-avoidant elderly with health anxiety disorder. *Elderly Health Journal*. 2024; 10(2): 104-110.

Introduction: Treatment-seeking behaviors in elderly patients can facilitate timely diagnosis and effective intervention for health issues, whereas treatment-avoidant behaviors may contribute to the progression of diseases and an increased burden of chronic conditions. Understanding the psychological factors influencing these behaviors is crucial for improving health outcomes in this population. This study aimed to compare personality traits and resilience among elderly patients with health anxiety who exhibit treatment-seeking versus treatment-avoidant behaviors.

Methods: This fundamental research employed a causal-comparative design. The statistical population consisted of elderly patients with health anxiety who referred to Healthcare Centers in West Azerbaijan Province, Iran, in 2023. A sample of 60 patients was selected through convenience sampling. Data were collected using the NEO Five-Factor Inventory, the Connor-Davidson Resilience Scale, and the Salkowski Health Anxiety Inventory. Hypotheses were tested using MANOVA.

Results: Significant differences were observed between treatment-seeking and treatment-avoidant patients in terms of personality traits and resilience ($F(2, 57) = 11.28, p < 0.05$). The findings highlighted that individuals with certain personality traits and higher levels of resilience were more inclined to seek treatment.

Conclusion: The study underscores the importance of considering personality traits and resilience as key factors when developing strategies for encouraging appropriate healthcare-seeking behaviors among elderly patients with health anxiety. Understanding these factors can inform tailored interventions to reduce treatment avoidance and improve overall health management.

Keywords: Personality, Resilience, Health Anxiety, Help-Seeking Behavior, Aged

Introduction

Health anxiety disorder in the elderly is recognized as one of the significant challenges in the field of mental health, which can considerably impact their quality of life and daily functioning. This disorder is characterized by persistent and irrational concerns about illness lasting for at least six months, despite appropriate medical reassurance (1). Health anxiety, through continuous and irrational worries about health

status, leads to increased stress and decreased mental health (2). Recent studies indicate that health anxiety can result in repetitive help-seeking behaviors or, conversely, avoidance of medical centers (3), both of which can have negative consequences for the physical and mental health of the elderly. This can strain healthcare resources and increase the financial and psychological burden on health systems (4, 5).

A fundamental characteristic of individuals with health anxiety is repetitive checking and reassurance-seeking behaviors. These behaviors, driven by fear of illness and suspicion of being ill, include avoiding hospitals, specialists, clinics, sick individuals, blood, or mental patients; frequent consultations and medical tests; checking their body, memory, or vision; compulsively seeking reassurance; and continuously searching for reassuring information on websites (6, 7). These actions are aimed at ensuring that the risk of having or developing a serious illness does not affect them or others and that they are not responsible for such risks. Many individuals with health anxiety require continuous reassurance from doctors, family, or friends, which can be highly distressing for both the individuals and those around them (8).

Conscientiousness, agreeableness, and openness to experience play a crucial role in how individuals cope with stress and anxiety (9). For instance, individuals with high levels of neuroticism may be more sensitive to physical symptoms and experience greater health-related worries (10). These individuals may tend to engage in frequent help-seeking behaviors or avoid treatment due to fear of negative outcomes, both of which can negatively affect their physical and mental health.

Additionally, studying personality traits in elderly individuals with health anxiety can help identify behavioral patterns related to help-seeking or avoidance (11). Radford's study (12) showed that specific personality traits could predict help-seeking behaviors in the elderly. Understanding these patterns can assist health and medical professionals in developing more effective interventions for managing anxiety and reducing unnecessary treatment-related behaviors. The big five personality traits neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness are supported by theory and empirical research (13, 14). Extraversion is characterized by talkativeness, sociability, and cheerfulness versus shyness, passivity, and lethargy. Openness to experience includes aesthetic appreciation, curiosity, creativity, and unconventionality. Agreeableness is defined by traits such as humor, tolerance, and pleasantness versus irritability, annoyance, and meddling. Conscientiousness encompasses organization, hard work, accuracy, and integrity. Neuroticism is characterized by anxiety and emotional reactivity versus confidence and courage. Research indicates that neuroticism is a vulnerability factor, while the other big five traits are considered protective factors (17).

On the other hand, resilience, defined as the ability to cope with challenges and return to a balanced state after facing stress, can mitigate the negative effects of health anxiety (15). Research of Regy and Kiran (16) has shown that higher levels of resilience are associated with reduced anxiety symptoms in the elderly. These findings suggest that resilience can help the elderly manage their anxiety more effectively and reduce its negative impact. However, further research is needed to explore the relationship between resilience

and help-seeking and avoidance behaviors in the elderly.

Despite the importance of these variables, no research has simultaneously examined them in relation to health anxiety. Few studies have investigated these factors separately or in combination with other variables. For example, Bailey and Wells (18) found that individuals with health anxiety had more dysfunctional beliefs and higher neuroticism than those without anxiety. Spink et al., (19) showed that neuroticism is weakly related to modern health worries, openness moderates the relationship between modern health worries and neuroticism, and the neuroticism and modern health worries association exists only in individuals with low openness.

Given the increasing elderly population and the importance of improving their quality of life (20), understanding the psychological factors influencing health-related behaviors is essential. This study aims to compare personality traits and resilience in elderly individuals with health anxiety and examine the impact of these factors on help-seeking and avoidance behaviors.

Methods

Study design

The present study is of causal-comparative design and fundamental in its aim. This design allows for the comparison of different groups to determine the potential causes or factors associated with health anxiety disorder. The study consisted of two groups: treatment-seeking and treatment-avoidant patients. The variables of resilience and personality traits, were compared between these two groups.

Participants

The statistical population of the research comprised all patients with health anxiety disorder who referred to Health Centers in Khoy City, West Azerbaijan Province, Iran, in 2023. Using convenience sampling, 60 patients (30 treatment-seeking and 30 treatment-avoidant) were selected from Motahari and Samadzadeh Health Centers of Khoy as the sample group. Participants were selected from among those who were diagnosed with health anxiety disorder by psychologists at the center and scored above 25 on the Health Anxiety Inventory (HAI-18) (27). Inclusion criteria for the study include participants who are 50 years or older, provide informed consent, and do not have a psychiatric disorder requiring medication. Exclusion criteria include participants who fail to complete the questionnaires fully.

Procedure

For data collection, the researcher first obtained permission and an introductory letter from the University and then visited the Health Centers in Khoy city. Sixty patients were selected based on clinical interviews. These interviews were conducted by psychologists at the centers, and the results, while considering confidentiality and privacy concerns,

were provided to the researcher. Furthermore, according to Davoudi et al.'s study (28), obtaining a minimum score of 25 on the HAI was considered an additional criterion for diagnosing health anxiety. Sampling continued until the sample group was complete.

Instruments

NEO Five-Factor Inventory (NEO-FFI): The Short Form of NEO-FFI, developed by Costa and McCrae in 1989 (21), includes 60 items assessing five personality traits: Neuroticism (N), Extraversion (E), Agreeableness (A), Openness to Experience (O), and Conscientiousness (C). The psychometric properties of this questionnaire were examined in Iran (22). Regarding reliability, Worrel et al., (23) reported Cronbach's alpha coefficients of 0.86 for Neuroticism, 0.77 for Extraversion, 0.73 for Openness, 0.86 for Agreeableness, and 0.81 for Conscientiousness. In Iran, coefficients were 0.83 for Neuroticism, 0.75 for Extraversion, 0.80 for Openness, and 0.79 for both Agreeableness and Conscientiousness (24).

Connor-Davidson Resilience Scale (CD-RISC)

The CD-RISC scale was developed by Kathryn Connor and Jonathan Davidson in 2003, is a well-established tool consisting of 25 items designed to assess individual resilience. This scale includes five subscales: personal competence, tolerance of negative emotions, acceptance of change and secure relationships, personal control, and spiritual orientation. Scoring is based on a five-point Likert scale ranging from 0 (not true at all) to 4 (true nearly all the time), with higher total scores indicating greater resilience (25). The validity and reliability of this scale were approved in the Iranian population (11).

Health Anxiety Inventory (HAI-18)

In this study, health anxiety is measured using the HAI. The long form of this questionnaire was originally developed by Salkovskis et al., (27) based on the cognitive model of health anxiety. The short form, used in this research, was created by Salkovskis et al., in 2002 and consists of 18 self-assessment items. Each item in the questionnaire is presented in a multiple-choice format with four options, describing the individual's health and illness-related thoughts in a declarative sentence. Respondents choose the option that best describes their experience. Scoring for each item ranges from 0 to 3, with higher scores indicating greater health anxiety. Salkovskis et al., (27) reported a validity coefficient of 0.72 for the HAI. According to Davoudi et al., (28), Participants who achieved a score of at least 25 on the Salkovskis Health Anxiety Questionnaire, exceeding one standard deviation above the average, were identified as experiencing health anxiety.

Statistical analysis

Data analysis was conducted using SPSS version 25. Initially, the assumptions of normality were tested

using the Kolmogorov-Smirnov test and Levene's test. MANOVA was conducted to compare the resilience and personality traits between the treatment-seeking and treatment-avoidant groups. The significance level for all tests was set at 0.05.

Ethical considerations

In the current research, ethical items including confidentiality and informed consent were observed. Also, this research was reviewed by the Ethics Committee of Islamic Azad University, Urmia Branch and registered with the ethics identifier IR.IAU.URMIA.REC.1402.091.

Results

The mean age of the participants in the treatment-seeking and treatment-avoidant groups was 61.5 ± 4.8 and 62.8 ± 4.2 years, respectively. In the treatment-seeking group, 21 individuals were married, representing 70% of the group. In the treatment-avoidant group, 18 individuals were married, accounting for 60% of the group. The results indicated that there was no significant difference in age ($t_{58} = 0.48$, $p > 0.05$) or marital status ($\chi^2 = 1.25$, $p > 0.05$) between the treatment-seeking and treatment-avoidant groups.

In comparing the subscales based on table 1, which includes descriptive characteristics of the dependent variables in each group, the treatment-seeking group demonstrated higher means in personal competence (13.47 ± 2.3), tolerance of negative emotions (14.70 ± 3.4), acceptance of change (14.98 ± 3.7), personal control (15.45 ± 2.9), neuroticism (26.18 ± 6.3), conscientiousness (21.79 ± 6.5), and total resilience score (71.67 ± 8.2). In contrast, the treatment-avoidant group scored higher in spiritual orientation (16.33 ± 3.6), extraversion (17.02 ± 5.1), agreeableness (15.17 ± 5.9), openness to experience (14.48 ± 5.5), and total personality traits score (78.20 ± 16.3).

Based on table 2, the multivariate analysis indicated a significant difference between the two groups, as evidenced by Pillai's Trace ($V = 0.28$, $F(2, 57) = 11.28$, $p = 0.001$, $\eta^2 = 0.843$) and Wilks' Lambda ($\Lambda = 0.71$, $F(2, 57) = 11.28$, $p = 0.001$, $\eta^2 = 0.843$).

Univariate tests revealed significant differences for both variables. The treatment-seeking group scored higher on the total score of resilience ($F(1, 57) = 19.28$, $p = 0.001$, $\eta^2 = 0.425$) and the total score of personality traits ($F(1, 57) = 10.28$, $p = 0.001$, $\eta^2 = 0.425$). These findings suggest substantial differences in resilience and personality characteristics between the two groups.

The multivariate test revealed a significant difference between the two groups, as indicated by Pillai's Trace ($V = 0.58$, $F(5, 54) = 14.92$, $p = 0.001$, $\eta^2 = 0.681$) and Wilks' Lambda ($\Lambda = 0.42$, $F(5, 54) = 14.92$, $p = 0.001$, $\eta^2 = 0.681$). Univariate analyses showed significant differences in all five subscales: neuroticism ($F(1, 54) = 17.33$, $p = 0.001$, $\eta^2 = 0.512$), extraversion ($F(1, 54) = 10.47$, $p = 0.003$, $\eta^2 = 0.425$), agreeableness ($F(1, 54) = 11.32$, $p = 0.002$, $\eta^2 = 0.480$), openness to experience ($F(1, 54) = 18.25$, $p =$

0.001, $\eta^2 = 0.571$), and conscientiousness ($F(1, 54) = 19.54$, $p = 0.001$, $\eta^2 = 0.598$). (Table 2)

The results revealed significant differences between the treatment-seeking and treatment-avoidant groups in various resilience and personality traits. The treatment-seeking group scored significantly higher in personal competence, tolerance of negative emotions, acceptance of change, personal control, neuroticism, conscientiousness, and total resilience score. On the other hand, the treatment-avoidant group demonstrated significantly higher scores in spiritual orientation, extraversion, agreeableness, openness to experience, and total personality traits score. These findings highlight distinct profiles of resilience and personality traits in the two groups.

Discussion

The findings of this study reveal significant differences in resilience and personality traits between

treatment-seeking and treatment-avoidant groups, which have important implications for understanding psychological profiles and the factors influencing help-seeking behaviors.

The results of the current study showed that individuals with health anxiety in the treatment-seeking group have higher levels of neuroticism and openness. These findings are consistent with the results of Bailey and Wells (18), who found that individuals with health anxiety have higher levels of neuroticism. However, the results of the current study regarding openness are inconsistent with the findings of Spink et al., (19), as their study indicates that openness moderates the relationship between neuroticism and modern health worries, with this relationship only existing in individuals with low levels of openness. In contrast, in the current study, the treatment-seeking group exhibited higher openness.

Table 1. Descriptive of demographic and research variables

Variables		Treatment-seeking (n = 30)		Treatment-avoidant (n = 30)	
resilience		Mean	SD	Mean	SD
Personality traits	Personal competence	13.47	2.3	12.74	2.7
	Tolerance of negative emotions	14.70	3.4	12.91	2.8
	Acceptance of change	14.98	3.7	13.62	3.3
	Personal control	15.45	2.9	13.14	2.4
	Spiritual orientation	13.07	3.2	16.33	3.6
	Total score	71.67	8.2	68.74	7.1
	Neuroticism	26.18	6.3	15.34	8.0
	Extraversion	16.16	6.9	17.02	5.1
	Agreeableness	11.63	4.1	15.17	5.9
	Openness to experience	19.09	5.0	14.48	5.5
	Conscientiousness	21.79	6.5	16.19	5.9
	Total score	94.85	15.4	78.20	16.3
Mean age (Years)		61.5 \pm 4.8		62.8 \pm 4.2	
Marital status		21 Married (70%)		18 Married (60%)	

Table 2. Results of multivariate and between-subjects effects tests for resilience and personality traits

Variables	Effect	Value	F	Hyp. df	Er. df	Sig.	Partial Eta2
dependent variables	Pillai's trace	0.28	11.28	2	57	0.001	0.843
	Wilks' lambda	0.71	11.28	2	57	0.001	0.843
	Source	SS	df	MS	F	Sig.	Partial Eta2
	Total score of resilience	2318.03	1	2318.03	19.28	0.001	0.425
	Total score of personal. traits	488.03	1	488.03	10.28	0.001	0.425
Subscales of personality traits	Pillai's trace	0.58	14.92	5	54	0.001	0.681
	Wilks' lambda	0.42	14.92	5	54	0.001	0.681
	Source	SS	df	MS	F	Sig.	Partial Eta2
	Neuroticism	1127.03	1	1127.03	17.33	0.001	0.512
	Extraversion	543.03	1	543.03	10.47	0.003	0.425
	Agreeableness	794.03	1	794.03	11.32	0.002	0.480
	Openness to experience	1613.03	1	1613.03	18.25	0.001	0.571
	Conscientiousness	2134.03	1	2134.03	19.54	0.001	0.598

Higher scores in personal competence among the treatment-seeking group indicate that these individuals feel more capable and effective in dealing with life's challenges and difficulties. Personal competence reflects a belief in one's ability to solve problems and create positive changes in life. This belief enables individuals to face challenges head-on rather than avoiding them, actively striving for resolution and management. In the context of help-seeking behavior, this suggests that treatment-seeking individuals likely feel confident in utilizing professional and therapeutic resources to improve their situation (6, 7). This sense of competence may act as a motivational factor that drives them toward seeking treatment.

Similarly, higher scores in tolerance of negative emotions highlight the superior ability of this group to manage and confront difficult emotions such as anxiety, sadness, or anger. Tolerance of negative emotions refers to the capacity to accept unpleasant feelings without avoiding them while simultaneously seeking strategies to manage them effectively. This ability is crucial in help-seeking behaviors, as treatment-seeking individuals recognize the importance of acknowledging and managing negative emotions. Rather than escaping or suppressing these emotions, they actively pursue professional tools and methods to alleviate emotional distress, which enables them to better understand their condition and take appropriate action.

Higher scores in acceptance of change in the treatment-seeking group further reflect their flexibility in adapting to new situations and life changes. Individuals with a high level of acceptance of change not only embrace changes but also view them as opportunities for growth and learning. In the context of treatment, this trait plays a significant role, as the therapeutic process often involves changes in attitudes, behaviors, and daily routines. Individuals with high acceptance of change are more likely to approach therapy with a positive outlook, seeing it as an opportunity for self-improvement.

Personal control is another prominent characteristic in the treatment-seeking group, referring to the feeling of mastery over one's decisions and life events. Individuals with a strong sense of personal control believe they can influence their circumstances and actively change their life trajectory. This sense of control motivates them to seek solutions to problems and view therapy as one of the viable options. Personal control enhances their sense of responsibility toward their situation, driving them to actively work toward improvement.

Finally, higher scores in neuroticism among treatment-seeking individuals suggest greater sensitivity to negative emotions and distress. Individuals with high neuroticism are more aware of their unpleasant feelings and react strongly to them (1). While this sensitivity might initially appear as a vulnerability, in this group, it can serve a positive purpose. Awareness of distress and negative emotions can act as a strong motivator to seek help and find solutions. In essence, this heightened emotional sensitivity may function as a driving force behind help-

seeking behaviors, as these individuals clearly recognize the need for change and actively seek assistance.

Overall, these traits collectively highlight the psychological strengths and motivations of the treatment-seeking group in confronting problems and seeking professional help. These characteristics work synergistically to encourage individuals to engage with therapeutic resources.

Moreover, it is evident that acceptance of change is a critical trait that enables individuals to maintain a positive perspective when facing challenges and life changes. Individuals with high scores in this area demonstrate greater adaptability to new circumstances. Instead of resisting change, they accept it as an inevitable part of life and strive to utilize it as an opportunity for growth and learning. Acceptance of change facilitates an open-minded approach to new experiences, allowing individuals to benefit from opportunities brought about by life transitions. In therapy, this trait plays a pivotal role, as the process of therapy often necessitates shifts in attitudes, behaviors, and even daily habits. Those with high acceptance of change are more likely to embrace these transformations and utilize them effectively for personal growth.

Similarly, personal control emerges as another key characteristic in the treatment-seeking group, signifying their perceived mastery over their lives. Individuals with a strong sense of personal control believe their decisions and actions have direct and meaningful impacts on their outcomes. They feel empowered to manage difficult circumstances and achieve desirable results. This confidence motivates them to actively seek solutions, including professional help, to overcome challenges. Rather than passively accepting difficulties, they approach problems with a sense of responsibility and determination, seeing therapy as an active pathway to improvement.

The combination of acceptance of change and personal control fosters a flexible and positive outlook on life. Together, these traits enable treatment-seeking individuals to view challenges not as threats but as opportunities for growth and development. Such a mindset allows them to maintain hope even in adverse conditions, reinforcing their belief that with effort and the right resources, they can improve their circumstances.

Additionally, individuals with high acceptance of change and personal control often display a constructive attitude toward themselves and others. They are inclined to take responsibility for their actions and decisions and actively work toward improving their circumstances. When engaging in therapy, they are more likely to collaborate effectively with therapists, as they believe in the potential benefits of treatment and strive to maximize its impact. These qualities allow them to perceive therapy not merely as a temporary solution but as a pathway to personal development and empowerment.

Ultimately, these traits act synergistically to promote active utilization of therapeutic resources. Acceptance of change enables individuals to readily embrace

necessary transformations in their behaviors and attitudes, while personal control instills the confidence needed to implement these changes and leverage them effectively. This unique combination of traits enhances the likelihood of treatment success, empowering individuals to achieve positive outcomes through therapy.

These findings align with previous research emphasizing the role of resilience in fostering adaptive coping mechanisms and demonstrating how personality traits shape help-seeking behaviors (15). For instance, individuals with high conscientiousness and strong personal control often adopt proactive coping strategies, including seeking treatment. Conversely, higher agreeableness and openness may lead individuals to rely on social or spiritual coping methods rather than professional avenues.

Conclusion

This study highlights significant differences in resilience and personality traits between treatment-seeking and treatment-avoidant individuals. Treatment-seeking individuals exhibit greater emotional regulation, adaptability, and a sense of personal control, which help them confront challenges and seek professional help. In contrast, treatment-avoidant individuals rely more on interpersonal and spiritual coping strategies. These findings emphasize the need for personalized, culturally sensitive mental health interventions for each group. Treatment-seeking individuals can benefit from resilience-enhancing strategies and emotional regulation techniques, while treatment-avoidant individuals may require approaches that integrate their spiritual and social preferences into therapeutic frameworks. Ultimately, understanding the psychological profiles of these groups helps design targeted interventions, improving mental health outcomes. Further research is needed to explore external factors like stigma and accessibility that shape help-seeking behaviors.

Study limitations

The limitations of this study include several key aspects that may affect the generalizability and accuracy of the results. The first limitation is the use of convenience sampling, which means the findings are limited to a specific population of patients who attended two treatment centers in Khoy City. This may reduce the ability to generalize the results to larger, more diverse populations. Furthermore, due to the lack of random sampling, the study may be subject to selection bias, which could mean that the observed differences between the treatment-seeking and treatment-avoidant groups are more related to the specific characteristics of the sample rather than fundamental differences between the groups. Additionally, another limitation relates to incomplete questionnaire responses by some participants, which may lead to reduced representation of certain subgroups, including those with cognitive difficulties or those unable to fully complete the questionnaires. Moreover, this study only assessed the differences at

specific points in time, without investigating the long-term effects of personality traits and resilience on help-seeking or treatment adherence. As a result, the findings may only reflect short-term and temporary states and may not capture long-term trends.

Conflict of interests

The authors have no conflicts of interest to declare.

Acknowledgements

The authors wish to extend their sincere gratitude to all the officials and patients of the Motahari and Samadzadeh Health Centers in Khoy for their invaluable assistance in the completion of this study.

Funding

This research did not receive any external funding.

Authors' contributions

All authors have substantial contributions to the design of the work; The first author was responsible for final approval of the version to be published; The second author was responsible for the statistical analysis of the data; third and fourth authors was responsible for drafting the work. All authors have read and approved the final manuscript and are accountable for all aspects of the work

References

1. Deng Z, Deng Z, Fan G, Wang B, Fan W, Liu S. More is better? Understanding the effects of online interactions on patients' health anxiety. *Journal of the Association for Information Science and Technology*. 2023; 74(11): 1243-64.
2. Patel TA, Schubert FT, Hom MA, Cougle JR. Correlates of treatment seeking in individuals with social anxiety disorder: Findings from a nationally representative sample. *Journal of Anxiety Disorders*. 2022; 91: 102616.
3. Waumans RC, Muntingh AD, Draisma S, Huijbregts KM, van Balkom AJ, Batelaan NM. Barriers and facilitators for treatment-seeking in adults with a depressive or anxiety disorder in a Western-European health care setting: a qualitative study. *BMC Psychiatry*. 2022; 22(165): 1-15.
4. Lebel S, Mutsaers B, Tomei C, Leclair CS, Jones G, Petricone-Westwood D, et al. Health anxiety and illness-related fears across diverse chronic illnesses: A systematic review on conceptualization, measurement, prevalence, course, and correlates. *Plos One*. 2020; 15(7): 1-48.
5. Hannah K, Marie K, Olaf H, Stephan B, Andreas D, Wilson Michael L, et al. The global economic burden of health anxiety/hypochondriasis-a systematic review. *BMC Public Health*. 2023; 23(1): 1-11.
6. Halldorsson B, Salkovskis PM. Reassurance and its alternatives: Overview and cognitive behavioural conceptualisation. 2023.

7. Gala F. A study on cyberchondria and health anxiety among young adult females. *International Journal of Research Publication and Reviews*. 2023; 4(1): 1-4.
8. Norbye AD, Abelsen B, Førde OH, Ringberg U. Distribution of health anxiety in a general adult population and associations with demographic and social network characteristics. *Psychological Medicine*. 2022; 52(12): 2255-62.
9. Zhang Y, Song Y, Miao Y, Liu Y, Han D. The causal relationship of depression, anxiety, and neuroticism with main indicators of sarcopenia: a Mendelian randomization study. *International Journal of Geriatric Psychiatry*. 2023; 38(7): e5980.
10. Rozovsky R, Bertocci M, Iyengar S, Stiffler RS, Bebeko G, Skeba AS, et al. Identifying tripartite relationship among cortical thickness, neuroticism, and mood and anxiety disorders. *Scientific Reports*. 2024; 14(1): 1-12.
11. Kamali M, Mousavi SK, Akbari F, Khodabandeh M, Moharramkhani M. Relationship between personality traits and health anxiety among nurses. *Journal of Holistic Nursing and Midwifery*. 2024; 34(2): 159-66.
12. Radford AR. Substance use motives and personality traits among a first nation treatment-seeking population [PhD thesis]. Canada: Lakehead University; 2022.
13. Nikčević AV, Marino C, Kolubinski DC, Leach D, Spada MM. Modelling the contribution of the big five personality traits, health anxiety, and COVID-19 psychological distress to generalised anxiety and depressive symptoms during the COVID-19 pandemic. *Journal of Affective Disorders*. 2021; 279: 578-84.
14. Fan J. Relationships between five-factor personality model and anxiety: the effect of conscientiousness on anxiety. *Open Journal of Social Sciences*. 2020; 8(8): 462-9.
15. Mohammadi M, Basharpour S. The relationship between basic psychological needs and health promoting behaviors with health anxiety in older women: the mediating role of resilience. *Aging Psychology*. 2024; 9(4): 397-77.
16. Regy MM, Kiran PR, Gnanaselvam NA. Anxiety and resilience among the elderly during the Covid-19 related lockdown in Anekal, Karnataka. *Indian Journal of Gerontology*. 2021; 35(2): 143-50.
17. Darmawan D. the effect of the big five personality O. *Management & Accounting Research Journal*. 2017; 2(1): 36-42.
18. Bailey R, Wells A. Does metacognition make a unique contribution to health anxiety when controlling for neuroticism, illness cognition, and somatosensory amplification?. *Journal of Cognitive Psychotherapy*. 2013; 27(4): 327-37.
19. Spink Jr GL, Green TB, Jorgensen RS. Openness moderates the relationship between modern health worries and neuroticism. *Personality and Individual Differences*. 2014; 70: 35-8.
20. Shin E, Kim M, Kim S, Sok S. Effects of reminiscence therapy on quality of life and life satisfaction of the elderly in the community: A systematic review. *BMC Geriatrics*. 2023; 23(1): 1-9.
21. Chen J, Lin ZN, Tao YT, Zhao QN, Li Q, Yang H, et al. Influences of personality characteristics and coping modes on anxiety in primary glaucoma patients. *International Journal of Ophthalmology*. 2019; 12(7): 1163-9.
22. Anisi J. Validity and reliability of NEO Five-Factor Inventory (NEO-FFI) on university students. *International Journal of Behavioral Sciences*. 2012; 5(4): 351-5.
23. Worrell FC, Cross Jr WE. The reliability and validity of Big Five Inventory scores with African American college students. *Journal of Multicultural Counseling and Development*. 2004; 32(1): 18-32.
24. Babakhani N. The relationship between the big-five model of personality, self-regulated learning strategies and academic performance of Islamic Azad University students. *Procedia-Social and Behavioral Sciences*. 2014; 116: 3542-7.
25. Connor KM, Davidson JR. Development of a new resilience scale: The Connor-Davidson resilience scale (CD-RISC). *Depression and Anxiety*. 2003; 18(2): 76-82.
26. Keyhani M, Taghvaei D, Rajabi A, Amirpour B. Internal Consistency and Confirmatory Factor Analysis of the Connor-Davidson Resilience Scale (CD-RISC) among Nursing Female. *Iranian Journal of Medical Education*. 2014; 14(10): 851-9.
27. Salkovskis PM, Rimes KA, Warwick HM, Clark D. The health anxiety inventory: development and validation of scales for the measurement of health anxiety and hypochondriasis. *Psychological Medicine*. 2002; 32(5): 843-53.
28. Davoudi I, Nargassi F, Mehrbizadeh M. Gender differences in health anxiety and related dysfunctional beliefs: Controlling for age. *Quarterly Journal of Health Psychology*. 2012; 1(3): 1-11. [Persian]