Iran Red Crescent Med J. 2017 December; 19(12):e55627. doi: 10.5812/ircmj.55627.

Published online 2017 July 22. **Research Article**

An Assessment of the Correlation between Happiness and Mizaj (Temperament) of University Students in Persian Medicine

Hossein Salmannezhad,[1] Morteza Mojahedi,[2,*] Abbas Ebadi,[3] Ali Montazeri,[4] Seyyed Ali Mozaffarpur,[2] Roshanak Saghebi,[2] Davood Gheisari,[5] and Sajad Goudarzi[5]

[1]Department of Traditional Medicine, School of Iranian Traditional Medicine, Babol University of Medical Sciences, Babol, Iran
[2]Traditional Medicine and History of Medical Sciences Research Center, Babol University of Medical Sciences, Babol, Iran
[3]Behavioral Sciences Research Center, Nursing Faculty, Baqiyatallah University of Medical Sciences, Tehran, Iran
[4]Mental Health Research Group, Health Metrics Research Center, Iranian Institute for Health Sciences Research, ACECR, Tehran, Iran
[5]Student Research Center, Nursing Faculty, Baqiyatallah University of Medical Sciences, Tehran, Iran

[*]*Corresponding author*: Morteza Mojahedi, Babol, Gangafrooz St, Babol University of Medical Sciences, Babol, Iran. Tel: +98-1132194728-30, Fax: +98-1132194728, E-mail: mortazamojahedy@mubabol.ac.ir

Received 2017 February 14; **Revised** 2017 March 15; **Accepted** 2017 April 10.

Abstract

Background: Mizaj (Temperament) is one of the fundamental concepts of Persian Medicine (PM) and identifying this concept is crucial for providing various healthcare recommendations and for the treatment of patients. In PM, various indices can indicate a person's Mizaj, one of them is the happiness of people. From this perspective, people with warm Mizaj are happier than people with cold Mizaj.
Objectives: The aim of this study was to assess the correlation between happiness and Mizaj.
Methods: In order to conduct this Cross Sectional (descriptive-correlational) study based on convenience sampling method, 610 participants completed the 29-item Oxford Happiness Questionnaire (OHQ) and the 10-item Mojahedi Mizaj questionnaire (MMQ). The study started since September, 2016 and ended in November, 2016 in Tehran, Iran. The collected data were compared by chi-squared test.
Results: The frequency of happy individuals in warm, temperate, and cold Mizaj groups was 85.2%, 79% and 58.2%, respectively. According to the results of chi-squared test, individuals with cold Mizaj were significantly less happy than people with warm and temperate Mizaj. However, there was no significant difference between warm and temperate Mizaj groups. Moreover, the level of happiness in people with wet Mizaj was not significantly different from people with dry Mizaj.
Conclusions: There is a significant correlation between happiness and an individual's Mizaj. Accordingly, one of the hypotheses regarding indices of Mizaj identification in PM is strengthened. This index can be used in researches associated with designing and validating Mizaj evaluative scales in PM to differentiate cold and warm Mizaj.

Keywords: Temperament, Happiness, Traditional Medicine

1. Background

Mizaj (temperament) is one of the fundamental concepts of Persian medicine (PM) that plays a key role in providing various preventive healthcare recommendations (1, 2). From this perspective, each individual has certain signs and symptoms according to the qualities of warmness-coldness and wetness-dryness, called "Mizaj" (3, 4). By studying these properties, that individual's Mizaj is identified according to the dominance of each of the four qualities (5, 6). PM scholars have defined nine Mizaj groups according to various combinations of the possibilities of the mentioned qualities and each individual is categorized into one of these nine groups based on his specific Mizaj properties (7). These nine Mizaj groups include four singular Mizajes (warm, cold, wet, and dry) and four compound Mizajes (warm and wet, warm and dry, cold and wet, cold and dry) and one temperate Mizaj (4). According to the theory of Mizaj, each organ has its particular Mizaj (organ Mizaj) and the resultant of the Mizaj of various organs constitutes the Mizaj of the whole body (general Mizaj). However, the Mizaj of some certain organs such as brain, heart, and liver has more weight (8-10). Mizaj identification indices are very diverse and are divided into ten groups (ten criteria) for the ease of use. These criteria include the state of the skin (touch), hair, soft tissue, skin color, body dimensions (physique), physical and physiological functions, quality of waste matter (stool, urine, sweat), sleep and wakefulness, impressibility speed and psychic function (11, 12). Since the correlation between these indices

and people's Mizaj and their weight has not been proved, we are confronted with lack of unity among PM experts in Mizaj diagnosis (1, 13). Assessment of the exact correlation between any of the indices introduced in PM references and people's Mizaj is a fundamental approach to standardize the methods of Mizaj identification (14). Among the mentioned indices, psychic function is one of the key indices in Mizaj identification. This index is particularly focused on brain Mizaj as one of the contributing organs in general Mizaj and this makes it one of the main indices of general Mizaj, in addition to its usability in brain Mizaj identification (8). One of the factors present in the index of "psychic function" is happiness and most PM references have mentioned it as an important Mizaj diagnosis index (7). According to the argumentations of the PM references, the level of happiness is expected to decrease based on the level of coldness and is expected to increase based on the level of warmness of Mizaj and is moderate in temperate Mizaj. However, in cases of abnormal warmness, the level of happiness will decrease (4). In psychology, the term happiness is widely used to express positive mental and emotional experiences (15). It is also mentioned as a kind of excitement and positive feelings (16). It seems that happiness cannot be considered as the opposite of depression, but lack of depression is a prerequisite for achieving happiness (17). Previous survey showed the correlation between happiness and some of the human characteristics. For instance Marinic's study confirmed that economic status, health condition, social relationships, and life achievements account for about 30% of the variance in happiness (18). Veenhoven emphasized that happiness as well as living (external) conditions depend on individual (internal) characteristics (19). Some surveys examined the relationship between religiosity and the level of happiness (20, 21). Recent studies have paid special attention to the relationship between happiness and its molecular fingerprints as an important aspect of personalized health (22). Although the initial edition of validated questionnaires for Mizaj identification has been introduced in recent years (1), people's happiness and its relationship with Mizaj based on Persian Medicine viewpoints were not reflected.

2. Objectives

The aim of this study is to assess the correlation between Mizaj-dependent qualities and happiness. If a meaningful relationship is found, happiness can be introduced as one of the practical indices for designing and validating the diagnostic scales of Mizaj and the clinical applications of Mizaj identification.

3. Methods

3.1. Study Population and Sampling

This study was a cross sectional (descriptive-correlational) study and the target population were the students of both sexes and different ethnicities with an age range of 20 to 30 years old, residing in various university dormitories in Tehran, the capital of Iran. The study started since September, 2016 and ended in November, 2016.

The sample size was Extracted from the below formula ($\alpha = 0.05$, expected power = 90%)

$$n = \frac{\frac{z^2 pq}{d^2}}{1 + \frac{1}{N}\left(\frac{z^2 pq}{d^2} - 1\right)} \quad (1)$$

The sampling was convenience sampling and was conducted by poster advertisement in university dormitories in Tehran. As well as visiting students in their room and explaining the goals and method of the study, the researchers asked them to participate in the project. Inclusion criteria included all students residing in various university dormitories in Tehran, aged from 20 to 30. Exclusion criteria included history of any chronic diseases, frequent use of medications, a new disease, pregnancy, and menstruation.

3.2. Measurements and Statistical Analysis

Mojahedi's Mizaj questionnaire (MMQ) and Oxford happiness questionnaire (OHQ) were completed by the volunteers. MMQ included 10 questions, designed and validated by Mojahedi et al. in 2014. Total scores of the first 8 questions measured warmness-coldness (> 18 = warm, 15 - 18 is temperate in warmness-coldness and < 15 = cold) and total scores of the last 2 questions measured wetness-dryness (> 4 = dry, 4 is temperate in wetness-dryness and < 4 = wet). Validity and reliability of this questionnaire was assessed by Mojahedi et al. The sensitivity and specificity of the questionnaire based on selected cutoff points were 65% and 93% for warm group, 52% and 97% cold group, 53% and 67% dry group and finally, 53% and 76% wet group (1).

OHQ was designed by Michael Argyle and Peter Hills in 1989 and has been validated in Iran. Cronbach's α of this questionnaire was 0.93 and the consistency between each item and the total score was in the range of 0.40 - 0.73. For reliability assessment, test-retest method was conducted and r = 0.79 (23). This questionnaire included 29 items, designed in a 6-point Likert scale (1 to 6), the total score was specified according to the distribution of scores for each item from 1 to 6 and calculating the mean score determined the level of happiness for each participant as follows: not happy (1 - 1.99), somewhat unhappy (2 - 2.99), not particularly happy or unhappy (3 - 3.99), somewhat happy

or moderately happy (4), rather happy; pretty happy (4 - 4.99), very happy (5 - 5.99), too happy (6). In this study, happiness scores lower than 3.5 were considered "not happy" and scores equal to or higher than 3.5 were considered "happy" and their correlation with the Mizaj identified in terms of warmness-coldness and wetness-dryness was assessed independently and in terms of 9 Mizaj conditions. The collected data were analyzed by SPSS V.22 and the chi-squared (x^2) test was run. The P value <0.05 was considered as significant difference in this study.

3.3. Ethical Considerations

Ethical approval was received from Babol University of Medical Sciences (ID: MUBABOL.REC.1394.99, Date: Aug 2, 2015). The aims and the method of the study were explained to the participants. The anonymity and confidentiality of the study were assured and the participants then signed informed written consent. In addition, all volunteers were assured that their test result would be confidentially kept by the researcher and the results of the study would be reported generally. However, if someone was willing to know their test result, they were free to know.

4. Results

Out of the 675 invited individuals, 625 students met the inclusion criteria and accepted to participate in the study. Among them, 15 students were excluded according to the exclusion criteria (8 students had chronic disease, 7 women were in menstruation period). Ultimately, 610 students, including 413 (67.7%) women and 197 (32.3%) men, completed both questionnaires after being qualified and completing an informed written consent. All participants were university students and their age was 20 to 30 with Mean ± SD (21.99 ± 2.57). The number and percentage of individuals in both sexes and various Mizaj groups are presented in Table 1.

The frequency of individuals with warm or cold Mizaj in the two groups of "happy" and "not happy" is presented in Table 2. According to the chi-squared test (P = 0.000, x^2 = 23.35), the difference in the level of happiness in the cold group on one side and warm group and temperate group on the other side were significant. Accordingly, individuals with cold Mizaj were less happy compared with individuals with warm and temperate Mizaj. There was no significant difference between individuals with warm and temperate Mizaj in terms of happiness.

The frequency of individuals with wet or dry Mizaj in the two groups of "happy" and "not happy" is shown in Table 2. According to chi-squared test (P = 0.115, x^2 = 0.433), there was no significant difference between persons with wet or dry Mizaj in terms of the level of happiness. Frequency of "happy" and "not happy" individuals in various Mizaj groups is presented in Figure 1.

In the next step, happiness of participants was calcu-

Table 1. Percentage of the Prevalence of Different Mizajes in Men and Women[a]

Mizaj	Sex		
	Female	Male	Total
Warm	127 (30.8)	42 (21.3)	169 (27.7)
Temperate in warmness coldness	244 (59.1)	118 (59.9)	362 (59.3)
Cold	42 (10.1)	37 (18.8)	79 (13)
Total	413 (100)	197 (100)	610 (100)
Dry	120 (29.1)	45 (22.8)	165 (27)
Temperate in dryness wetness	162 (39.2)	86 (43.6)	248 (40.7)
Wet	131 (31.7)	66 (33.6)	197 (32.3)
Total	413(100)	197(100)	610 (100)
Warm and wet	36 (8.7)	17 (8.6)	53 (8.7)
Warm and temperate	44 (10.7)	16 (8.1)	60 (9.7)
Warm and dry	47(11.4)	9 (4.6)	56 (9.2)
Temperate and wet	84 (20.3)	39 (19.8)	123 (20.2)
Temperate and temperate	97 (23.5)	51 (25.9)	148 (24.3)
Temperate and dry	63 (15.2)	28 (14.2)	91 (14.9)
Cold and wet	11 (2.7)	10 (5.1)	21 (3.4)
Cold and temperate	21 (5.1)	19 (9.7)	40 (6.6)
Cold and dry	10 (2.4)	8 (4)	18 (3)
Total (n)	413 (100)	197 (100)	610 (100)

[a] Values are expressed as No. (%).

Table 2. Frequency of Happy Individuals in 2 Fields of Warmness-Coldness and Dryness-Wetness of Mizaj[a]

Two Field of Mizaj	Mizaj	Happiness	
		Happy	Not happy
Warmness-coldness[b]	Warm	144 (85.2)	25 (14.8)
	Temperate	286 (79)	76 (21)
	Cold	46 (58.2)	33 (41.8)
	Total	476 (78)	134 (22)
Wetness-dryness[c]	Dry	120 (72.7)	45 (27.3)
	Temperate	195 (78.6)	53 (21.4)
	Wet	161 (81.7)	36 (18.3)
	Total	476 (80)	134 (20)

[a] Values are expressed as No. (%).
[b] x^2 = 25.35, P < 0.001.
[c] x^2 = 4.33, P = 0.115.

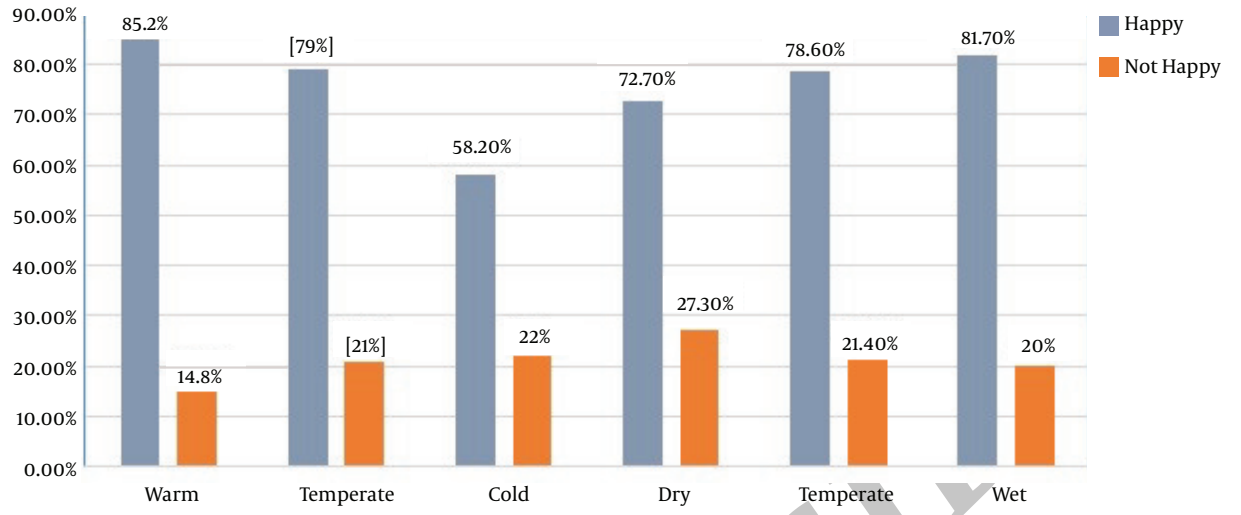

Figure 1. Frequency of Happiness in Various Mizaj Groups

lated according to all nine Mizaj groups.

According to the chi-squared test ($P = 0.000, x^2 = 33.55$), regarding the frequency of participants in each of the nine Mizaj groups among happy and not happy individuals, there was a significant difference between the groups in terms of happiness (Table 3). According to the results reported in this table, the highest percentage of happiness was observed in warm-temperate and warm-wet groups and the lowest percentage was observed in various groups of cold Mizaj.

Table 3. Frequency of Happy Individuals in Nine Mizaj Groups[a,b]

Mizaj	Happiness	
	Happy	Not Happy
Warm-wet	47 (88.7)	6 (11.3)
Warm- temperate	56 (93.3)	4 (6.7)
Warm-dry	41 (73.2)	15 (26.8)
Temperate-wet	102 (82.9)	21 (17.1)
Temperate-temperate	114 (77)	34 (23)
Temperate-dry	70 (76.9)	21 (23.1)
Cold-wet	12 (57)	9 (43)
Cold-temperate	25 (62.5)	15 (37.5)
Cold-dry	9 (50)	9 (50)
Total (n)	476 (80)	134 (20)

[a] Values are expressed as No. (%).
[b] $x^2 = 33.5, P < 0.001$.

5. Discussion

Although the term "Mizaj" in PM is mostly translated as "Temperament" in English, Temperament is commonly used in psychology to introduce nature, mood and personality traits and it seems that psychological references have borrowed this term and similar terms such as sanguine, phlegmatic, choleric, and melancholic Mizaj from primary references of ancient Greece, which is convergent with PM (24). However, the meaning of "Temperament" in psychology and social sciences is part of the broad meaning of Mizaj in PM. During the last decades, various schools of psychology have categorized people based on their individual and social traits under the title of "Temperament" and standardized their diagnostic criteria (25). These traits have different meanings in various psychological schools without considering physical characteristics and physiological functions (26-28). Therefore, there seem to be considerable differences between Mizaj in PM and Temperament in psychology.

Our findings are consistent with the theoretical principles of PM regarding the correlation between happiness and Mizaj; cold Mizaj indicates less happiness while warm Mizaj indicates more happiness. However, it was expected that the level of happiness in individuals with temperate (in warmness and coldness) Mizaj be somewhere in the middle of cold and warm Mizaj. But the results of this study did not reveal a significant difference between the level of happiness in individuals with temperate Mizaj and those with warm Mizaj. This result may be because of not differentiating various levels of warmness of Mizaj in this study. According to PM references, if warmness of Mizaj

increases more than usual, an individual may suffer from anxiety and restlessness and his happiness may decrease, a phenomenon that is not expected in individuals with temperate Mizaj (4). Since all participants with warm Mizaj are divided into one group in this study and no particular categorization has been made for differentiating them regarding the degree of warmness, it is suggested that future researches assess the level of happiness according to various degrees of Mizaj warmness and coldness.

Several studies have been dedicated to assessing the correlation between happiness and personal characteristics. For instance Mark and Holder assessed the correlation between temperament and happiness in 311 children aged 9 to 12 years old and showed that being physically and socially active, less shy, and excited are mentioned as indices that increase happiness among participants (29), which is in accordance with PM perspectives. In the viewpoint of PM, high physical and social mobility and energy indicate warmness of Mizaj (7). Thomas et al. in 2016 studied the correlation between personality and happiness and demonstrated that optimism, self-confidence, and self-esteem increase happiness (30). Since these personality traits also indicate warmness of Mizaj based on theoretical principles of PM, more researches are suggested to assess the exact relationship among these personality traits and Mizaj. According to our results, the difference in the degree of happiness was only meaningful in regard with warmness-coldness; whereas dryness-wetness made little or no difference and this seems consistent with PM references in which no such correlation is explicitly mentioned. Table 3 reports the level of happiness in the nine compound Mizajes. What should be noted in Table 3 is the relative decline in happiness among individuals with warm and dry Mizaj, which based on the authors' opinion, is caused by the increase in the severity of warmness due to dryness of Mizaj. Increase in the severity of warmness, decreases happiness and the same can be said about cold Mizaj; in individuals with cold and dry Mizaj, we observe lowest degree of happiness, which may be again due to dryness that increases coldness of Mizaj and decreases happiness.

This survey has some strong points, the main strong point was using standard scale to assess Mizaj in PM and demonstrating correlation between one of the Mizaj identification indices and diagnosed Mizaj. On the other hand there were some limitations or weaknesses that could be considered for future studies. The main limitation of the study was that there was inaccessibility to a powerful scale to assess dryness-wetness of the participant's Mizaj. As mentioned above in the method section, the sensitivity and specificity of MMQ for dryness-wetness of Mizaj was low and our findings that revealed no relationship between dryness-wetness and happiness are not notable. Another limitation was lack of information on the socioeconomic situation of participants as effective factors on their happiness. Further studies need to resolve these limitations.

As the conclusion, the results of this study revealed that there is positive correlation between happiness and warmness and negative correlation between happiness and coldness of Mizaj. If the correlation between happiness and Mizaj is finally proved, this criterion can be used as one of the key indices of Mizaj identification in PM. On the other hand, according to several studies, there is positive correlation between happiness and various peculiarities of Mizaj identification in PM such as activity, self-esteem, self-confidence, etc. The correlation between the mentioned characteristics and Mizaj in PM is suggested to be assessed in future studies. It is also suggested that in the studies conducted to design and validate Mizaj identification questionnaires, researchers pay particular attention to the items that correspond to happiness.

Acknowledgments

This study was part of a Ph.D postgraduate thesis by Hossein Salmannezhad and conducted by support of traditional Medicine and history of Medical Sciences research center, Babol University of Medical Sciences, Babol, Iran. The authors would like to acknowledge the students and staffs of Tehran University of Medical Sciences for their voluntary participation.

Footnote

Financial Disclosure: The authors declare they have no conflict of interest.

References

1. Mojahedi M, Naseri M, Majdzadeh R, Keshavarz M, Ebadini M, Nazem E, et al. Reliability and Validity Assessment of Mizaj Questionnaire: A Novel Self-report Scale in Iranian Traditional Medicine. *Iran Red Crescent Med J*. 2014;**16**(3). e15924. doi: 10.5812/ircmj.15924. [PubMed: 24829785].
2. Miraj S, Alesaeidi S, Kiani S. A systematic review of the relationship between dystemprament (sue Mizaj) and treatments and management of diseases (Ilaj and Eslah-e-Mizaj). *Electron Physician*. 2016;**8**(12):3378–84. doi: 10.19082/3378. [PubMed: 28163851].
3. Arshiya SLF, Gulamuddin S, Syeda LN. Evaluation of Mizaj (temperament) in menopausal transition symptoms. *Res Dev*. 2015;**3**(2). doi: 10.4172/jrd.1000126.
4. Ibn Sina (Avicenna) HbA . *Al-Qanun fi al-Tibb(Canon of Medicine) [In Arabic]*. Beirut, Lebonan: Alaalami; 2005.

5. Behmanesh E, Mojahedi M, Saghebi R, Ayati MH, Taghanaki HRB, Allameh H. Comparison between the "theory of Arkan"(four elements) in traditional persian medicine and the "theory of five elements" in traditional chinese medicine [In Persian]. *J Res Hist Med*. 2015;**4**(2 May).
6. Emtiazy M, Keshavarz M, Khodadoost M, Kamalinejad M, Gooshahgir SA, Shahrad Bajestani H, et al. Relation between Body Humors and Hypercholesterolemia: An Iranian Traditional Medicine Perspective Based on the Teaching of Avicenna. *Iran Red Crescent Med J*. 2012;**14**(3):133–8. [PubMed: 22737569].
7. Mojahedi M, Naseri M, Majdzadeh SR, Keshavarz M, Ebadiani M, Nazem E. A review on identification Mizaj (temperament) indices in Iranian traditional medicine (itm) [In Persian]. *Hist Med J (Quart)*. 2016;**4**(12):37–76.
8. Salmannejad H, Mojahedi M, Mozaffarpur S, Saghebi R. The review of indices of Mizaj-e-Damagh (temperament of brain) identification in Persian medicine [In Persian]. *J Babol Univ Med Sci*. 2016;**18**(11):71–9.
9. Feyzabadi Z, Jafari F, Feizabadi PS, Ashayeri H, Esfahani MM, Badiee Aval S. Insomnia in Iranian traditional medicine. *Iran Red Crescent Med J*. 2014;**16**(3). e15981. doi: 10.5812/ircmj.15981. [PubMed: 24829786].
10. Yarjou S, Sadeghpour O, Nazem E, Emami AH. Liver function and anemia pathogenesis in Iranian traditional medicine. *Iran Red Crescent Med J*. 2015;**17**(1). e17099. doi: 10.5812/ircmj.17099. [PubMed: 25763255].
11. Vahedi A, Zamani M, Mojahedi M, Mozaffarpur S, Saghebi R, Mououdi M. Role of anthropometric dimensions of human body in identifying temperament in traditional Persian medicine [In Persian]. *J Babol Univ Med Sci*. 2016;**18**(7):24–33.
12. Farahi O, Mozaffarpur S, Saghebi R, Mojahedi M. The significance of tongue in traditional Persian medicine [In Persian]. *J Babol Univ Med Sci*. 2016;**18**(8):73–9.
13. Ebrahimnejad H. Theory and practice in nineteenth-century Persian medicine: intellectual and institutional reforms. *Hist Sci*. 2000;**38**(120 Pt 2):171–8. doi: 10.1177/007327530003800202. [PubMed: 14674421].
14. Mojahedi M, Mozaffarpur SA, Isfahani MM, Naseri M, Kamalinejad M, Khodadoust M . Research priorities in traditional Persian medicine [In Persian]. *J Res Hist Med*. 2016;**5**(2 May).
15. Schiffrin HH, Nelson SK. Stressed and happy? Investigating the relationship between happiness and perceived stress. *J Happiness Stud*. 2008;**11**(1):33–9. doi: 10.1007/s10902-008-9104-7.
16. Black DW, Shaw M, Allen J. Five-year follow-up of people diagnosed with compulsive shopping disorder. *Compr Psychiatry*. 2016;**68**:97–102. doi: 10.1016/j.comppsych.2016.03.004. [PubMed: 27234189].
17. Piqueras JA, Kuhne W, Vera-Villarroel P, van Straten A, Cuijpers P. Happiness and health behaviours in Chilean college students: a cross-sectional survey. *BMC Public Health*. 2011;**11**:443. doi: 10.1186/1471-2458-11-443. [PubMed: 21649907].
18. Marinić M, Brkljačić T. Love over gold—the correlation of happiness level with some life satisfaction factors between persons with and without physical disability. *J Dev Phys Disabil*. 2008;**20**(6):527–40. doi: 10.1007/s10882-008-9115-7.
19. Veenhoven R. *Conditions of happiness*. Dordrecht: Springer Netherlands; 1984. Happiness and individual characteristics. doi: 10.1007/978-94-009-6432-7.
20. Achour M, Mohd Nor MR, Amel B, Bin Seman HM, MohdYusoff MY. Religious Commitment and its Relation to Happiness among Muslim Students: The Educational Level as Moderator. *J Relig Health*. 2017. doi: 10.1007/s10943-017-0361-9. [PubMed: 28160189].
21. Francis LJ, Ziebertz HG, Lewis CA. The relationship between religion and happiness among german students. *Pastoral Psychol*. 2003;**51**(4):273–81. doi: 10.1023/a:1022529231234.
22. Probst-Hensch N. Happiness and its molecular fingerprints. *Int Rev Econ*. 2017;**64**(2):197–211. doi: 10.1007/s12232-017-0269-4.
23. Alipur N. A preliminary study on reliability and validity of Oxford happiness questionnaire in the Universities of Tehran [In Persian]. *Andeesheh va Raftar*. 1999;**5**:55–65.
24. Farmer RF, Goldberg LR. A psychometric evaluation of the revised Temperament and Character Inventory (TCI-R) and the TCI-140. *Psychol Assess*. 2008;**20**(3):281–91. doi: 10.1037/a0012934. [PubMed: 18778164].
25. Van der Zee KI, Van Oudenhoven JP. The multicultural personality questionnaire: Reliability and validity of self- and other ratings of multicultural effectiveness. *J Res Pers*. 2001;**35**(3):278–88. doi: 10.1006/jrpe.2001.2320.
26. Parks-Leduc L, Feldman G, Bardi A. Personality traits and personal values: a meta-analysis. *Pers Soc Psychol Rev*. 2015;**19**(1):3–29. doi: 10.1177/1088868314538548. [PubMed: 24963077].
27. Soltaninejad A, Fathi-Ashtiani A, Ahmadi K, Mirsharafoddini HS, Nikmorad A, Pilevarzadeh M. Personality factors underlying suicidal behavior among military youth. *Iran Red Crescent Med J*. 2014;**16**(4). e12686. doi: 10.5812/ircmj.12686. [PubMed: 24910793].
28. Amini M, Pourshahbaz A, Mohammadkhani P, Khodaie Ardakani MR, Lotfi M. The DSM-5 Levels of Personality Functioning and Severity of Iranian Patients With Antisocial and Borderline Personality Disorders. *Iran Red Crescent Med J*. 2015;**17**(8). e19885. doi: 10.5812/ircmj.17(5)2015.19885. [PubMed: 26430521].
29. Holder MD, Coleman B, Singh K. Temperament and happiness in children in India. *J Happiness Stud*. 2011;**13**(2):261–74. doi: 10.1007/s10902-011-9262-x.
30. Ford TE, Lappi SK, Holden CJ. Personality, Humor Styles and Happiness: Happy People Have Positive Humor Styles. *Eur J Psychol*. 2016;**12**(3):320–37. doi: 10.5964/ejop.v12i3.1160. [PubMed: 27547251].