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Original Article

Gender-Based Differences in Happiness and Its Determinants Among Iranian Middle-aged Males and Females: A Cross-sectional Study

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Abstract

Background: In contemporary research, happiness has emerged as a focal construct within the field of positive psychological well-being. Empirical studies indicate a reciprocal relationship between happiness and health, with happiness being a significant contributor to both physical and mental health outcomes. Therefore, the present study investigated happiness and its socioeconomic predictors among middle-aged Iranian males and females.

Methods: Using multi-stage sampling, this cross-sectional study was conducted on 383 males and females referred to health care centers in Neyshabur, Iran, in 2023. Data were collected using a demographic characteristics questionnaire and the Oxford Happiness Questionnaire. Multiple linear regression analysis was performed using SPSS version 22, with a significance level set at $P<0.05$.

Results: The mean age (SD) of middle-aged males and females was 40.12 (7.79) and 40.01 (7.13), respectively. The results showed no statistically significant difference in happiness by gender ($P>0.05$). Physical activity was an independent predictor of happiness among both groups. Nutritional pattern, education level, and the presence of chronic diseases were independent predictors of happiness among females, while age, wealth index, and marital status were independent predictors of happiness among males ($P<0.05$).

Conclusion: The study highlights the importance of promoting physical activity among middle-aged males and females. Additionally, it suggests encouraging smoking cessation among female smokers and adopting healthy nutritional patterns to increase happiness. In addition, middle-aged people with chronic diseases and those with a low wealth index need special attention to maintain optimal happiness.

Keywords: Happiness, Middle-aged, Nutrition, Wealth, Male, Female

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Introduction

Happiness has recently been addressed in the field of positive psychological well-being. It reflects an individual's mental image of well-being and includes emotions, life satisfaction, and cognitive needs such as appearance satisfaction, independence, respect, self-esteem, and emotional well-being (1). Happiness is considered a key determinant of subjective well-being, referring to how individuals judge the overall desirability of their lives, and it is associated with positive personal, social, psychological, physical, and behavioral outcomes (2).

Studies suggest a strong relationship between happiness and health. Happiness is one of the factors related to physical and mental health. Happier individuals tend to live longer and experience lower mortality associated with unhappiness. Positive emotions, resilience, and social

connectedness enhance happiness, while depression reduces it (3). Happiness is also associated with healthier behaviors, reduced stress, less pain, and increased life expectancy (4).

Demographic factors such as age, gender, and socioeconomic status have been shown to influence happiness. Younger individuals often report higher happiness levels, while older adults may experience declines due to health issues or social isolation (5). Marital status is another factor affecting happiness, so married individuals report higher happiness levels than their unmarried counterparts (6).

Happiness is also affected by culture. In individualistic societies, factors such as freedom to make life choices have a greater impact on happiness, while in collective societies, social support plays a more crucial role. This distinction is vital for designing policies, products, or services aligned with specific cultural values (7). For instance, studies in China revealed that material demands affect happiness more in Western regions, while mental demands are stronger determinants in Eastern and Central regions (8).

Gender differences in happiness are evident. A study conducted in East Asian countries found that marital status strongly predicted happiness among men, while social support played a more crucial role for women. Employment positively affected men's happiness but negatively impacted women's happiness in certain contexts (9). Similarly, results of a study in Japan indicated that household income affected happiness and life satisfaction equally for both men and women; however, women experienced a stronger negative correlation with life satisfaction when they lacked savings (10). In Iran, a study conducted on university students showed the female participants had significantly lower average happiness scores compared to their male counterparts (11).

Happiness is viewed as an invitation to live vitality and enjoyment, ultimately leading to better and more desirable outcomes, higher levels of mental and physical health, and enhanced social and physical functioning. Given that previous studies have reported mixed results regarding the happiness status of women and men, the present study investigated happiness and its socioeconomic predictors among Iranian males and females.

Materials and Methods

This present cross-sectional study was conducted in 2023. The study population included middle-aged females and males (30-59 years) (12) registered with healthcare centers in Neyshabur County, Razavi Khorasan province, Iran. Eligibility criteria encompassed individuals aged between 30 and 59 residing in Neyshabur County and possessing active health records in the healthcare centers. Individuals who reported receiving psychiatric treatment, those restricted from engaging in physical activity due to musculoskeletal conditions, and those unwilling to participate were systematically excluded.

The multi-stage sampling method was used. In the first stage, Neyshabur was divided into four regions (north, south, east, and west), and each region was considered a cluster. Each region (cluster) contained two health centers, which were considered sub-clusters. In the second stage, one health center (sub-cluster) was randomly selected from each cluster, resulting in the selection of four health centers. The sample size for each cluster was determined proportionally to the population residing in that specific region. Participants were then randomly selected from the health records of the selected healthcare centers.

The primary information was obtained from a previous study to determine the sample size (13). The sample size was calculated using the formula with parameters $\alpha = 0.05$, $\beta = 80\%$, $\mu 1 = 30$, $\mu 2 = 27$, $\delta 1^2 = 03.15$, and $\delta 2^2 = 1.13$. Considering approximately 10% attrition, the sample size was estimated at 383 participants.

$$n = \frac{\left(z_{1-\frac{\alpha}{2}} + z_{1-\beta} \right)^2 \times \left(\delta_1^2 + \delta_2^2 \right)}{\left(\mu_2 - \mu_1 \right)^2}$$

Individuals aged 30–59 years were invited to the selected healthcare centers to complete the questionnaires. During the process, four trained public health students were present to assist participants with any questions. All participants voluntarily provided informed consent before participation and questionnaire completion. Additionally, they were free to withdraw at any stage of data collection or remain in the study.

Instruments

Four questionnaires were used for data collection.

Demographic and Underlying Profile

This questionnaire included information on age, gender, and body mass index (BMI). Participants' height and weight were extracted from their health records, and BMI was calculated as weight (kg)/height^2 (m^2) (12). Additional items included education level of the individuals and their spouses (elementary, middle school, diploma, university), occupation (for males: unemployed, employee (government /retired), self-employed (labor/ freelance)); for females: housewife, unemployed, employee (government/retired), self-employed (labor/freelance)), marital status (married/single), underlying disease (e.g., cardiovascular disease, diabetes, kidney, thyroid, liver, and the like), and regular physical activity ((defined as exercising, such as walking or other physical activities regularly at least three times per week for 30 minutes).

Wealth Index

The wealth index was constructed based on selected assets, including home ownership, per capita living area, rooms per capita, washing machine, motorcycle, car (based on price) for personal use, dishwasher, freezer, personal computer, vacuum cleaner, television, cell

phone, laptop, and internet access. Principal component analysis was used to generate the index. Participants were then classified into five quintiles: poorest, poor, middle, rich, and richest (14).

Mini Nutritional Assessment

This questionnaire includes six questions with a total score of 14 points and is used to assess the nutritional status of middle-aged people in the Integrated Health System (SIB), which delivers primary health care services to clients in Iran. It covers daily consumption of dairy products, fruits, vegetables, fast food, salt, and oil, as well as smoking (cigarettes and hookah) (12). Based on the score, individuals were divided into three groups: unfavorable (0-6), moderate to favorable (7-11), and favorable (12).

Oxford Happiness Questionnaire

This scale was designed by Lu and Argyle in 1979 to measure happiness (15). In this study, the Persian version of the happiness questionnaire was validated by Alipoor and Noorbala (Cronbach's alpha = 0.93) (16). It consists of 29 items rated on a 6-point Likert scale ranging from 1 "strongly disagree" to 6 "strongly agree". Example items are "Life is good" and "I am well satisfied with everything in my life." Total scores range from 29 to 174, with higher scores indicating greater happiness.

Data Analysis

Data were analyzed using SPSS version 22 (SPSS Inc., Chicago, IL, USA) and expressed as mean (SD) for quantitative variables and frequency (percent) for qualitative variables. After examining hypotheses, independent sample t-tests were conducted to compare happiness scores between middle-aged males and females. Additionally, multiple linear regression analysis was used to determine predictors of happiness. A significance level of $P < 0.05$ was considered.

Results

Of the total participants, 178 (46.5%) were male, and 205 (53.5%) were female. The mean ages (SD) of males and females were 40.12 (7.79) and 40.01 (7.13) years, respectively, with most participants aged 30-40 years. Regular physical activity (at least 3 times a week for 30 minutes) was reported by 119 (58%) of females and 121 (68%) of males. Favorable nutritional patterns were observed in 167 (81.5%) of females and 132 (74.2%) of males. The demographic and underlying characteristics of the participants are presented in Table 1.

The mean happiness score for females was 122.32 ± 25.17, and for males 125.11 ± 23.6. The results indicated no statistically significant difference in happiness between genders ($P > 0.05$) (Table 2).

The results of multiple regression analyses indicated that education level, regular physical activity, chronic diseases, and nutritional patterns were independent predictors of happiness among females in the middle-aged index

Table 1. Socio-Demographic Characteristics of Middle-aged Males and Females (N = 383)

Variables	Female Frequency (%)	Male Frequency (%)
Age		
30-40	123(60%)	98(55.1%)
41-50	63(30.7%)	62(34.8%)
51-60	19(9.3%)	18(10.1%)
BMI		
<18.5	0	0
18.5-24.9	76(38%)	82(46.6%)
25-29.9	87(43.5%)	79(44.9%)
≥30	37(18.5%)	15(8.5%)
Marital status		
Single	48(23.4%)	32(18%)
Married	157(76.7%)	146(82%)
Educational status		
Elementary/Middle school	62(30.2%)	29(16.3%)
Diploma	52(25.4%)	62(34.8%)
University	91(44.4%)	87(48.9%)
Spouse's educational status		
Elementary/Middle school	58(34.3%)	34(23.3%)
Diploma	49(29%)	55(37.7%)
University	62(36.7%)	57(39%)
Occupation		
Unemployed/Housewife	122(59.5%)	12(6.7%)
Employee (government/ retired)	61(29.8%)	84(47.2%)
Self-employed (labor/ freelance)	22(10.7%)	82(46.1%)
Smoking		
Yes	19(9.3%)	40(22.5%)
No	186(90.7%)	138(77.5%)
Having chronic diseases		
Yes	47(22.9%)	25(14%)
No	158(77.1%)	153(86%)
Regular physical activity		
Yes	119(58%)	121(68%)
No	86(42%)	57(32%)
Wealth index		
Poorest	42(20.7%)	34(19.1%)
Poor	37(18.2%)	40(22.5%)
Mediate	44(21.7%)	32(18%)
Rich	38(18.7%)	38(21.3%)
Richest	42(20.7%)	34(19.1%)
Nutrition pattern		
Unfavorable	0	0
Moderate to favorable	38(18.5%)	46(25.8%)
Favorable	167(81.5%)	132(74.2%)

Note. BMI: Body mass index.

Table 2. Mean Happiness Among Middle-aged Males and Females (N = 383)

Variables	Female	Male	*P* value
Mean (SD)	122.3 (25.1)	125.1 (26.1)	T = -1.19 *P* = 0.266

Note. SD: Standard deviation; *P*-value was obtained from an independent t-test.

($P < 0.05$). Specifically, higher levels of physical activity and better nutrition were associated with increased happiness, while chronic disease reduced levels of happiness. Moreover, women with a diploma-level education were less happy compared to those with an elementary/ middle school education (Table 3).

Among middle-aged males, independent predictors of happiness were age, marital status, regular physical activity, and wealth index ($P < 0.05$). In men, higher economic status and greater physical activity were positively associated with happiness, whereas being single was associated with lower levels of happiness compared to being married (Table 3).

Discussion

The present study investigated happiness and its socioeconomic predictors among middle-aged Iranian males and females. The findings showed no significant difference in mean happiness scores between middle-aged females and males.

Previous studies have reported inconsistent results regarding the level of happiness in men and women. Consistent with our result, Barati et al reported no significant difference in overall happiness levels between males and females (17). However, a study conducted in Japan found that women generally reported higher levels of happiness compared to men (18).

The sources of happiness and the factors affecting it can differ across genders in middle-aged people. For males, happiness has been positively correlated with living with a spouse, having an occupation, getting enough sleep, success, social recognition, and maintaining a regular life routine. Conversely, smoking and having multiple chronic diseases are negatively linked to happiness (18). For females, family relationships and well-being played a central role in happiness during middle age, and this factor becomes increasingly significant with age (19). Among both middle-aged males and females, lower stress levels, good physical health, and positive subjective health awareness significantly enhanced happiness (20).

The results of the present study showed a significant relationship between the nutritional pattern and happiness among middle-aged women, with healthier nutritional patterns linked to greater happiness. The correlation between happiness and nutrition is well-documented, with evidence indicating that dietary behaviors, including regularly consuming breakfast and having complete meals daily, significantly influence happiness (21). The beneficial effects of nutrition on cognitive health are more pronounced in individuals with lower happiness levels, suggesting that emotional states can modulate the impact of diet on cognitive function (22).

Nutrition is influenced by various factors, including nutritional and health literacy, individual preferences, cultural norms, socioeconomic status, and food availability. Therefore, promoting healthy food choices that are motivated by health, subjective well-being, and happiness can help encourage healthier eating patterns in societies.

According to the study's results, the wealth index was an independent predictor of happiness among middle-aged men, with those in the medium wealth index reporting lower happiness compared to those in the richest wealth index. However, this relationship was not significant in middle-aged women. Consistent with our result, previous studies highlight that economic circumstances play a pivotal role in determining happiness during middle age, as financial stability often enhances higher life satisfaction (23). Conversely, high levels of income inequality can decrease happiness, as individuals may feel discouraged about their prospects for upward mobility, leading to jealousy and dissatisfaction (24). While wealth is generally associated with greater happiness, its effects are not uniform across genders or age groups. Middle-aged women may experience happiness through a combination of financial stability, social relationships, health, and personal fulfillment, while men may place greater emphasis on financial success as a key component of their happiness (25).

Changes in the wealth index can lead to significant changes in satisfaction and overall well-being by providing financial security and opportunities for consumption that can affect happiness. Although wealth contributes to happiness, it is not the sole determinant of happiness, which is a complex and multifaceted construct. Individuals often derive happiness from a mix of financial and non-financial factors. This suggests that policies aimed at enhancing happiness should consider gender-specific differences and the broader socioeconomic context.

Based on the results, age and marital status were independent predictors of happiness in males, with happiness decreasing with increasing age, and married males reporting higher happiness than their unmarried counterparts. In addition, females without chronic diseases were happier than those with chronic diseases.

The relationship between age and happiness is complex and multifaceted, with various studies reporting different patterns. A commonly observed hypothesis is the U-shaped curve, indicating that happiness decreases from young adulthood, reaches its lowest point in midlife, and then increases in older age, although the peak in old age is often lower than in youth (26). This pattern is typically observed when controlling for factors such as health and family situation, which can mediate the relationship between age and happiness (27). Income plays a significant role in moderating the age-happiness relationship. Individuals in the lowest income decile experience a sharp decline in happiness until around age 50-55, with only a

Table 3. Predictors of Happiness among Middle-aged Males and Females, Based on Multiple Linear Regression Analyses (N=383)

Variables	Female				Male			
	β	95% Confidence Interval		*P* value	β	95% Confidence Interval		*P* value
		Lower	Upper			Lower	Upper	
Age								
30-40	1.1	-13	15	0.879	-11.5	-24.7	1.5	0.080
41-50	-0.37	-21	14	0.700	-13.3	-25.2	-1.4	0.040
51-60	ref				ref			
BMI								
18.5-24.9	-1	-11.2	9.3	0.840	5.5	-9.16	19.27	0.480
25-29.9	5.9	-3.2	15.1	0.230	1.89	-11.8	15.6	0.780
≥30	ref							
Marital status								
Single	-11	-26.2	3.8	0.140	-11.22	-20.22	-2.28	0.015
Married	ref							
Educational status								
Elementary/ Middle school	ref							
Diploma	-8.9	-16.1	-1.22	0.024	-5.98	-17.5	5.3	0.280
University	-8.3	-17.7	0.995	0.080	-10	-24.3	4.3	0.160
Spouse's educational status								
Elementary/Middle school	ref							
Diploma	2.08	-5.5	3.6	0.560	7.93	-3.27	19.13	0.160
University	2.2	-6.1	10.2	0.520	5.62	-6.49	17.7	0.360
Occupation								
Unemployed/Housewife	ref							
Employee (government/retired)	5.12	-1.9	12.24	.115	9.9	-9.3	29.1	0.300
Self-employed (labor/freelance)	1.23	-5.5	8.5	0.720	-1.88	-20.1	16.3	0.830
Smoking								
Yes	-3.9	-12	4.31	0.350	2.02	-9.1	13.18	0.710
No								
Having chronic diseases								
Yes	-9.75	-16.3	-3.12	0.004	-4.5	-14.4	5.4	0.370
No								
Regular physical activity								
Yes	13.2	7.8	18.5	0.001	13.5	5.3	21.6	0.001
No								
Wealth index								
Poorest	-3.74	-12.3	4.8	0.390	-6.91	-19.2	5.4	0.280
Poor	-0.18	-9	8.6	0.960	-12.07	-24.3	0.159	0.053
Middle	-1.93	-10.4	6.5	0.655	-12.9	-25.1	0.678	0.039
Rich	5.08	-2.96	13.3	0.210	0.8	-10.4	12.2	0.880
Richest	ref							
Nutrition pattern								
Moderate to favorable	ref							
Favorable	6.96	0.56	13.3	0.003	2.39	6.1	10.9	0.580

Note. BMI: Body mass index; *P* value was obtained from multiple linear regression analyses.

slight recovery in old age. In contrast, the classic U-curve is more evident among middle-income individuals, while those at the top income levels experience relatively stable happiness across ages (28).

Happiness declines in middle age due to lower aspirations and emotional control, while changing preferences, such as increased emphasis on religion and family, contribute to higher well-being in older age (29). Conversely, negative circumstances associated with aging, including health decline, can reduce overall happiness, particularly in the final years of life (30). While this study highlights a potential decrease in happiness with age, it is essential to recognize that this pattern is not universally applicable. Factors such as health decline and socio-economic status can significantly alter the aging experience, leading to varying levels of happiness among older adults.

Consistent with our results, other research indicates that married individuals generally report higher levels of happiness compared to those who are single, divorced, or widowed (31). The subjective well-being derived from a happy marriage contributes to overall health benefits, highlighting the importance of relationship quality (32). However, while marriage is often linked to increased happiness, the quality of the marital relationship is critical. Unhappy marriages can negate these potential benefits, suggesting that relational dynamics are as important as marital status itself.

In this study, females without chronic diseases were happier than those with chronic diseases. Studies indicate a strong positive correlation between self-reported health and happiness, suggesting that individuals who perceive themselves as healthy are more likely to experience greater happiness (33). Experiencing a debilitating medical condition or chronic discomfort can significantly hinder one's ability to experience joy. Persistent somatic ailments, affective disorders, anxiety disorders, and other psychological conditions can markedly diminish happiness (34). Healthcare providers can apply these findings to design public health initiatives that improve both the happiness of individuals living with chronic diseases and their health outcomes.

According to the results, education level was an independent predictor of happiness among middle-aged females, with happiness decreasing as education level increased. This finding contrasts with many previous studies, which have reported that higher education levels are associated with greater subjective well-being, as education enhances economic status, health, and social cognition (35). However, the effect of education on happiness can vary significantly depending on individual circumstances and societal context, suggesting that not all educated individuals experience increased happiness (36). Higher education may raise expectations that, if unmet, may result in lower happiness levels. Educated individuals often experience greater distress during economic downturns as they have invested heavily in their education and hold higher expectations for employment (37). Similarly, those with very high levels of education may experience anxiety, leading to decreased happiness (38).

The present study also found a significant positive relationship between regular physical activity and happiness among both genders, indicating that individuals who engaged in regular physical activity reported higher happiness levels. This relationship has been well-documented across various studies, indicating a positive correlation between physical activity and happiness. Regular physical activity enhances personal happiness and overall well-being by improving mental health, reducing stress, and fostering a sense of accomplishment. Notably, this relationship is consistent across different demographics and cultural settings, suggesting that physical activity is a universal contributor to happiness (39).

These results highlight the importance of promoting an active lifestyle as a strategy to enhance public health and well-being. Increasing physical activity among middle-aged adults requires a multifaceted approach that addresses individual, social, and environmental factors.

Health experts recommend increasing physical activity in middle-aged adults by tailoring messages to individual preferences and characteristics. Involving participants in the design and evaluation of interventions fosters a sense of ownership, while building social networks and community support systems can enhance engagement and participation in physical activity. In addition, it is important to recognize that barriers such as low self-efficacy and environmental constraints can hinder participation. Addressing these barriers through supportive policies and improvements in community infrastructure is therefore essential for fostering a more active lifestyle among middle-aged adults.

Limitations

The current study has several limitations. As a cross-sectional study, it does not allow for causal relationships, and the reliance on self-reported data may introduce the potential for recall and social desirability biases. This study was carried out among middle-aged individuals attending healthcare centers, which may reduce the generalizability of findings to other populations and groups of middle-aged adults. Additionally, the focus on a specific cultural and geographic context may limit the generalizability of the results to broader settings. Future research should employ longitudinal approaches and include a broader range of cultural and socioeconomic variables to better understand the complexities of happiness among middle-aged males and females.

Conclusion

The findings of this study indicate that increasing physical activity can significantly improve happiness among middle-aged males and females. It also suggests that quitting smoking among female smokers and choosing healthy nutrition patterns may increase happiness. In addition, special attention should also be given to middle-

aged people with chronic diseases and those with a low wealth index to maintain optimal happiness levels.

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Authors' Contribution

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Competing Interests

The authors declare no conflict of interests with any individuals or organizations.

Ethical Approval

Ethical approval for the study protocol was obtained from the Ethics Committee of Neyshabur University of Medical Sciences (Ethics code: IR.NUMS.REC.1402.008).

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References

1. Ramtin S, Nikpeyma N. Investigating the happiness promotion strategies in Iranian older adults: a review article. J Gerontol. 2020;4(3):40-55. doi: 10.29252/joge.4.3.40.
2. Diener E, Chan MY. Happy people live longer: subjective well-being contributes to health and longevity. Appl Psychol Health Well Being. 2011;3(1):1-43. doi: 10.1111/j.1758-0854.2010.01045.x.
3. Kar N. Happiness and health: an intricate relationship. In: Chetri S, Dutta T, Mandal MK, Patnaik P, eds. Understanding Happiness: An Explorative View. Singapore: Springer; 2023. p. 205-31. doi: 10.1007/978-981-99-3493-5_9.
4. Patel A. Happiness and health. In: Short E, ed. A Prescription for Healthy Living. Academic Press; 2021. p. 129-39. doi: 10.1016/b978-0-12-821573-9.00011-4.
5. Matas-Terrón A, Sánchez Barroso C, Matas-Terrón JM. Demographic determinants of happiness in Andalusia: insights from the 2022 social survey data. Front Public Health. 2024;12:1338494. doi: 10.3389/fpubh.2024.1338494.
6. Yakut SG, Bacaksız NE, Camkıran C. Socio-demographic determinants of happiness in Turkey. Bus Manag Stud Inter J. 2021;9(2):561-78. doi: 10.15295/bmij.v9i2.1801.
7. Eternod V. The cultural perspective: are some societies happier than others? In: Dutta T, Mandal MK, eds. Consumer Happiness: Multiple Perspectives. Singapore: Springer; 2021. p. 23-41. doi: 10.1007/978-981-33-6374-8_1.
8. Nusantara A, Nawatmi S. Do economic factors dominate happiness: a comparison of western and eastern cultures. Untag Business and Accounting Review. 2023;2(2):55-63.
9. Hori M, Kamo Y. Gender differences in happiness: the effects of marriage, social roles, and social support in East Asia. Appl Res Qual Life. 2018;13(4):839-57. doi: 10.1007/s11482-017-9559-y.
10. Tiefenbach T, Kohlbacher F. Happiness and Life Satisfaction in Japan by Gender and Age. German Institute for Japanese Studies; 2013. p. 1-28.
11. Parandin P. Comparison of happiness and belief in a just world in females and males. Fam Health. 2018;8(2):57-68.
12. Ministry of Health and Medical Education. Integrated Package of Services for Middle-Aged Health. Iran: Ministry of Health and Medical Education; 2017.
13. Moeini B, Rezapur-Shahkolai F, Tapak L, Geravandi A, Parsamajd S. Relationship between happiness and mental health with social capital among health workers. J Educ Community Health. 2020;7(2):119-25. doi: 10.29252/jech.7.2.119.
14. Hammerich A, Fouad H, Rashidian A, Hajjeh R, Al Mandhari A. Enhancing the quality and accuracy of national cancer registries in the Eastern Mediterranean region. East Mediterr Health J. 2023;29(8):603-4. doi: 10.26719/2023.29.8.603.
15. Hills P, Argyle M. The Oxford Happiness Questionnaire: a compact scale for the measurement of psychological well-being. Pers Individ Dif. 2002;33(7):1073-82. doi: 10.1016/S0191-8869(01)00213-6.
16. Alipoor A, Noorbala AA. A preliminary evaluation of the validity and reliability of the Oxford Happiness Questionnaire in students in the universities of Tehran. Iran J Psychiatry Clin Psychol. 1999;5(1):55-66.
17. Barati M, Jormand H, Eyvazi S, Khamesi F, Mozafapour F, Taherpour M. The association between happiness and spiritual well-being in students in Iran. J Educ Community Health. 2023;10(4):225-32. doi: 10.34172/jech.2451.
18. Moriyama Y, Tamiya N, Kawachi N, Miyairi M. What makes super-aged nations happier? Exploring critical factors of happiness among middle-aged men and women in Japan. World Med Health Policy. 2018;10(1):83-98. doi: 10.1002/wmh3.256.
19. Lopandin KV. Gender specificities in perceptions of happiness across age groups. Russ J Educ Psychol. 2023;14(3):171-86.
20. Kang S. Predictors of happiness in middle-aged adults: a secondary data analysis of the 8th Korea National Health and Nutrition Examination Survey (KNHANES VIII-1) 2019. Int J Health Sci. 2022;6(S4):90-107. doi: 10.53730/ijhs.v6nS4.5389.
21. Saifah Y. School experiences and happiness levels of school-age children: a quantitative and qualitative analysis. J Educ Community Health. 2022;9(3):148-54. doi: 10.34172/jech.2022.22.
22. Liu J, Pan M, Sun M, Shi H, Feng R. Nutritional status and physical exercise are associated with cognitive function in Chinese community-dwelling older adults: the role of happiness. Nutrients. 2024;16(2):203. doi: 10.3390/nu16020203.
23. Kristoffersen I. The Age Happiness Puzzle: The Role of Economic Circumstances and Financial Satisfaction. UWA Business School; 2015.
24. Yu Z, Wang F. Income inequality and happiness: an inverted U-shaped curve. Front Psychol. 2017;8:2052. doi: 10.3389/fpsyg.2017.02052.
25. Sa'adah N, Faridah S, Hairina Y. Makna Kebahagiaan Pada Karyawan Wanita Usia Madya Di Kumala Laundry Kota Banjarmasin. Jurnal Al-Husna. 2021;2(1):14-26. doi: 10.18592/jah.v2i1.4427.
26. Beja EL. The U-shaped relationship between happiness and age: evidence using world values survey data. Qual Quant.

2018;52(4):1817-29. doi: 10.1007/s11135-017-0570-z.
27. Hellevik O. The U-shaped age–happiness relationship: real or methodological artifact? Qual Quant. 2017;51(1):177-97. doi: 10.1007/s11135-015-0300-3.
28. Toshkov D. The relationship between age and happiness varies by income. J Happiness Stud. 2022;23(3):1169-88. doi: 10.1007/s10902-021-00445-7.
29. Lelkes O. Happiness over the life cycle: exploring age-specific preferences. In: Mainstreaming Ageing. Routledge; 2017. p. 359-91.
30. Blanchflower DG, Graham C. Happiness and Ageing in the United States. National Bureau of Economic Research; 2020.
31. Margolis R, Myrskylä M. Happiness and Marital Status: Globally and Across Contexts. Atlanta, GA: Annual Meeting of the American Sociological Association; 2010.
32. Lawrence EM, Rogers RG, Zajacova A, Wadsworth T. Marital happiness, marital status, health, and longevity. J Happiness Stud. 2019;20(5):1539-61. doi: 10.1007/s10902-018-0009-9.
33. Mohammadi S, Tavousi M, Haeri-Mehrizi AA, Naghizadeh Moghari F, Montazeri A. The relationship between happiness and self-rated health: a population-based study of 19499 Iranian adults. PLoS One. 2022;17(3):e0265914. doi: 10.1371/journal.pone.0265914.
34. Scott KM, Lim C, Al-Hamzawi A, Alonso J, Bruffaerts R, Caldas-de-Almeida JM, et al. Association of mental disorders with subsequent chronic physical conditions: world mental health surveys from 17 countries. JAMA Psychiatry. 2016;73(2):150-8. doi: 10.1001/jamapsychiatry.2015.2688.
35. Qin T, Wei P, Zhu C. Chinese women's years of education and subjective well-being: an empirical analysis based on ordered Logit model and coupling coordination model. Front Psychol. 2024;15:1341995. doi: 10.3389/fpsyg.2024.1341995.
36. Striessnig E. Too Educated to be Happy? An Investigation into the Relationship Between Education and Subjective Well-Being. Laxenburg, Austria: International Institute for Applied Systems Analysis (IIASA); 2015.
37. Kanashvili T. Relationship Between Education and Happiness. Happiness and Contemporary Society; 2022.
38. Li N, Qu T, Kim SW. The effect of education level on residents' happiness in China. Han Jung Sahoe Gwahag Yeon'gu. 2022;64:215-30. doi: 10.36527/kcsss.20.3.10.
39. Li C, Ning G, Xia Y. Does exercise participation promote happiness?: Mediations and heterogeneities. Front Public Health. 2023;11:1033157. doi: 10.3389/fpubh.2023.1033157.