The relationship between health anxiety and psychological well-being of the elderly with the mediation of self-compassion

Maryam Nayebzadeh[1], Seyyed Ehsan Emadi[2]

1- Master's degree, Faculty of Psychology, General Psychology, Islamic Azad University, Tehran, Iran
2- Master's degree, Faculty of Psychology, General Psychology, Islamic Azad University, Tehran, Iran (Corresponding author).

ARTICLE INFO	ABSTRACT
	Introduction: Given that people's attitude towards aging can lead to a sense of well-being, improved quality of life, and long-term health outcomes in old age; identifying modifiable factors before the onset of old age and in middle age can help to begin a positive old age. Self-compassion is one of the variables that promote well-being and life satisfaction in the elderly. Methodology: This study was a cross-sectional descriptive-correlation study that aimed to determine the relationship between self-compassion and health anxiety with psychological well-being in the elderly in Tehran in 1400-1399. The research population included all men and women aged 60 to 90 years living in Tehran who were referred to health centres in the west of Tehran. A total of 113 participants were selected using a stratified sampling method with allocation proportional to the number of referrals to the relevant centres. The research setting included health centres in the west of Tehran. The data collection tool was a 2-part questionnaire including a) the standard self-compassion questionnaire of Reis et al. (2011) short form and b) the health anxiety questionnaire of Salkoskis and Warwick (2002). The data were analyzed using structural equation modelling and Amos software. Findings: The findings of this study indicated that the direct path coefficient between health anxiety and psychological well-being is negative (P=0.001). The direct path coefficient between self-compassion and psychological well-being (P=0.049) is positive and health anxiety and self-compassion (P=0.001) is negative. The indirect path coefficient between health anxiety and psychological well-being (P=0.043) is also positive. Conclusion: Health anxiety reduces psychological well-being in the elderly by reducing self-compassion.

Introduction

Ageing is a global phenomenon that requires serious attention to the important changes that occur in individuals (Sanderson and Scherbo, 2015). According to statistics provided by the World Health Organization, the total number of elderly people in the world will reach two billion by 2050 (Sadri Demirchi et al., 2019). In Iran, based on the 2016 census, the elderly population aged 60 and above was calculated to be 9.3%. This increase in the elderly population has been more visible since 1410, when about 25 to 30 percent of the total population of the country will be in the age group over 60, and this highlights the need to pay attention to various issues of the elderly (Abolfathi Mumtaz et al., 2010). One of the important issues in the field of aging is the psychological well-being of the elderly (Nazami Dostes Dehi et al., 2018), because aging is a biological process that is accompanied by a decrease in physical and mental functions, and the elderly usually have low psychological well-being (Han and Shibo Sawa, 2015). Psychological well-being, as a positive characteristic, is one of the components that indicate health, which means an individual's effort to realize their potential talents and abilities (Hanley et al., 2017). Well-being has two cognitive and emotional parts. The cognitive dimension is the cognitive assessment of individuals' level of life satisfaction, and the emotional dimension is the level of having maximum positive affect and minimum negative affect (Piller and Tsaneva, 2018). Psychological well-being includes feeling good about oneself and one's life, a feeling that includes the experience of independence, environmental mastery, personal growth, positive relationships with others, purpose in life, and self-acceptance (Reif and Singer, 2006). Psychological well-being has a positive psychological function and is known as emotional reactions to the perception of effective personal characteristics and achievements, appropriate interaction with the world, social cohesion and positive progress (Ergotello, 2014). Creating and increasing well-being leads individuals to success in life, healthier supportive social relationships and higher physical and mental health (Cruz, 2017). People with low psychological well-being evaluate their life events as undesirable and experience more negative emotions such as sadness, anxiety, anger and depression, in contrast, people with high psychological well-being typically have positive self-evaluations of life events and experience more positive emotions such as happiness (Hintz-Lehmann & Diener, 2019). In this regard, studies have shown that the psychological well-being of the elderly is related to basic variables in ageing such as loneliness (Sadeghi and Bauzin, 2019), psychological resilience (Sohrabi et al., 2016), and life satisfaction (Rahimipour and Karami, 2014).

One of the factors related to psychological well-being is self-compassion (Rajabi and Maghami, 2015). Self-compassion means having a positive attitude towards oneself when everything is going badly. Self-compassion is considered an effective trait and protective factor in developing emotional resilience (Webb et al., 2015). According to Neff (2009), self-compassion includes kindness to oneself versus judgment and criticism of oneself, human connections versus isolation, and mindfulness versus over-identification with others. In fact, self-compassion is the acceptance that suffering, failure, and inadequacy are part of life conditions and that all humans, including oneself, deserve kindness and compassion (Kriger et al., 2013). Research results indicate a positive relationship between self-compassion and psychological well-being of the elderly (Varei et al., 2019; Azarbo and Sajjadi, 2018). For example, Hooman's (2016) study on 121 elderly people showed that self-compassion has a positive relationship with age and psychological well-being. In Imtaz's (2016) study on 209 elderly people, it was concluded that self-compassion, isolation, mindfulness, and human sharing were significant predictors of mental health.

Given the important role of physical health in people's lives, it is not surprising that most older adults experience some level of health anxiety at some point (Loper et al., 2001). For older adults with serious physical illnesses, such anxiety is adaptive, leading them to pay attention to their physical symptoms so that they can seek treatment if they notice any signs of illness (Abramotis et al., 2007). In fact, as a self-care strategy, at-risk patients are taught to monitor their physical signs and symptoms to identify

potential triggers (Whitton et al., 2010). In other cases, intense physical health anxiety occurs in the absence of any objective signs of danger. For example, when older adults misinterpret their physical symptoms and conclude that they are ill: My headache means I have a brain tumor (Abramotis et al., 2007). Health anxiety is a disorder characterized by excessive anxiety and fear of having a serious illness; therefore, the main issue in this disorder is anxiety, which manifests itself differently from other anxiety disorders (Barlow et al., 2012; Lopersola et al., 2018). Health anxiety is a continuum concept that was first proposed by Salkoviskis and Warwick (Salkoviskis and Warwick, 2001). At one end of the continuum are mild concerns about health and illness, and at the other end is pathological worry disorder, which is characterized by extreme and sometimes delusional fears about health and physical symptoms. They stated that some elderly people living at home are more worried about their health than elderly people living in nursing homes; but not all of them have the diagnostic features of pathological worry. As a result, they used the concept of a continuum of health anxiety, which includes both mild health anxiety and pathological worry (Davoodi et al., 2013). In the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V), health anxiety disorder and somatic symptom disorder have replaced autopathology (T-Pool et al., 2016). Salkoviskis believes that health anxiety is caused by catastrophic misinterpretations of physical signs and symptoms (Cooper et al., 2017). Research has shown that autopathology shares many features with anxiety and mood disorders (Creed et al., 2004). In fact, mood and anxiety disorders are considered comorbid disorders with autopathology, which indicates that if a person has autopathology disorder, the most likely comorbid disorder will be one of the anxiety or mood disorders (Reif et al., 1998; Simon et al., 2001; Wick et al., 2014); the DSM-V research group also stated that it is better to consider people with autopathology disorder as people with anxiety disorders. A belief that has broad empirical support. In autopathism, individuals are preoccupied with their physical symptoms and misinterpret these symptoms as signs of a physical illness. Physical sensations can become the focus of these individuals' anxiety (Barlow et al., 2012)

Severe health anxiety is typically chronic and develops in early adulthood; however, it can usually begin at any age. In terms of the prevalence of specific health anxiety disorders, self-morbidity affects between 1% and 5% of individuals over their lifetime, with a similar one-year prevalence (Loper et al., 2001). Point prevalence rates in primary care settings vary widely depending on the methods used for assessment, but are reported to range from 1% to 9% (Noyce et al., 1993; Intriyan et al., 2006). Overall, these prevalence rates suggest that severe health anxiety is as common as, or even more common than, many other mental disorders. Health anxiety not only causes significant distress for the elderly and their loved ones but is also very costly due to increased use of medical care (Barsky et al., 2001; Bovsky et al., 2016). Health anxiety goes beyond ordinary health concerns and can seriously affect job performance, academic performance, and interpersonal relationships (McManus et al., 2012).

Given that most studies related to the variables of this study have been conducted in the West and only a few studies have been conducted using Asian samples, including Iran, while these variables take on different forms in the context of culture, society, and even economic conditions in Iran, this study seemed necessary and was needed to investigate the relationship between self-compassion and health anxiety with psychological well-being in a sample of elderly people in the country to help generalize the results of previous studies. On the other hand, considering the researchers' search in this study, it seems that no study has been conducted that simultaneously examines self-compassion, health anxiety, and psychological well-being; therefore, the purpose of this study is to investigate the relationship between self-compassion and health anxiety with psychological well-being in the elderly.

Methods: This study was a cross-sectional descriptive-correlational study that aimed to determine the relationship between self-compassion and health anxiety with psychological well-being in the elderly in Tehran in 2018-2019. The research setting included health centers in western Tehran. The research population included all men and women aged 60 to 90 years living in Tehran who were referred to health centers in western Tehran. In this study, 113 people were selected through stratified sampling

with allocation proportional to the number of referrals to the relevant centers. The inclusion criteria for the study included age 60 to 90 years, having a minimum literacy level in reading and writing, and the absence of cognitive, mental, and chronic diseases. After obtaining permission from the Joint Organizational Committee on Research Ethics of the Faculty of Psychology, Islamic Azad University, Electronics Branch, Tehran University of Medical Sciences, and necessary letters of introduction from relevant officials to be present in the research setting, the researcher explained the objectives to eligible individuals and obtained written consent from them. The data of this study were collected by self-report method and questionnaire. Data were analyzed using structural equation modeling and Amos software.

To comply with ethical considerations in this study; informed consent was obtained from the research units; research units were assured that personal information would remain confidential; the subjects' privacy was maintained and their freedom to withdraw from the study was emphasized; trustworthiness and honesty were observed in all stages of data collection, review, analysis, and publication of results.

Data collection tool

1. Standard Self-Compassion Questionnaire by Rice et al. (2011) Short Form

The Self-Compassion Questionnaire was designed and developed by Rice et al. (2011) to measure three components of self-kindness versus self-judgment, human sharing versus isolation, and mindfulness versus overidentification. This questionnaire has 12 questions and 6 components and measures self-compassion based on a five-point Likert scale with questions such as (When I fail to do something important to me, my feelings of inadequacy drain me.)

Validity deals with the issue of how well a measurement tool measures what we think it does (Sarmed et al., 2011). In their project by Shahbazi et al. (2015), the content face validity and criterion validity of this questionnaire were assessed as appropriate. The reliability of an instrument is its degree of consistency in measuring what it measures, that is, the extent to which the measurement instrument produces the same results under the same conditions (Sarmed et al., 2011). The Cronbach's alpha coefficient calculated in the study by Shahbazi et al. (2015) for this questionnaire was estimated to be above 0.7.

Questionnaire reliability

Cronbach's alpha coefficient	Questionnaire
0/91	Self-compassion

2.Salkoskis and Warwick Health Anxiety Questionnaire(2002）

The health anxiety questionnaire was designed and validated by Salkoskis and Warwick (2002). This questionnaire consists of 18 closed-ended items based on a five-point Likert scale. This questionnaire was validated by Abdi.(2015）

The test-retest reliability of this questionnaire was reported to be 0.90 and its Cronbach's alpha coefficient was reported to be 0.70 to 0.82 (Salkoskis and Warwick, 2002). In Abdi's (2015) study, the Cronbach's alpha coefficient was also 0.88 for the health anxiety questionnaire, indicating its satisfactory reliability. Salkoskis and Warwick (2002) found the validity of the health anxiety questionnaire to be 0.72. This questionnaire was first translated into Persian in Iran by Nargesi (2011) and the Ahvaz Self-Panic Questionnaire (Ahdi and Pasha, 2002) was used to assess its validity. The correlation coefficient between this questionnaire and the Ahvaz Self-Panic Test was -0.75. Therefore, the Health Anxiety Questionnaire has appropriate validity. The reason for the negative correlation between the two instruments is the type of scoring. A higher score in the Health Anxiety Questionnaire indicates more health anxiety and a lower score in the Ahvaz Self-Panic Test

indicates lower health anxiety (Nargesi et al., 2012).

‒3Psychological Well-Being Questionnaire

This scale was developed by Carol Reif in 1989. This test includes 84 questions and 6 factors. Participants answer the questions on a 6-point scale (completely disagree to completely agree). Forty-seven questions are scored directly and thirty-seven questions are scored in reverse. To examine the validity of the instrument and measure its relationship with measures that measured personality traits, which were also considered indicators of psychological well-being, Reif used measures such as Bradbourne's Emotional Balance Scale (1969), Newgarten's Life Satisfaction Scale (1965), and Rosenberg's Self-Respect Scale.(1965)

This test consists of 6 subscales: the life satisfaction subscale, which consists of 19 questions, the spirituality subscale, which consists of 13 questions, the happiness and optimism subscale, which consists of 19 questions from the questionnaire, the personal growth and development subscale, which consists of 8 questions. The positive relationship with others subscale, which consists of 8 questions, and finally the self-adherence subscale, which consists of 10 questions.

The validity of the psychological well-being scale was examined in two ways, one was content validity and the other was construct validity. Content-related evidence: The developed psychological well-being scale and its dimensions and components have been made available to relevant professors, experts, and researchers and have been recognized as valid and valid according to the theoretical framework. Evidence related to construct validity: The construct validity of the test has been examined in two ways: calculating the correlation coefficient of the entire test with the subtests and factor analysis.

A) Calculating the correlation coefficient of the entire scale and subscales: The psychological well-being test has a high self-correlation with six subtests, and only the personal growth and development subtests have a correlation, which indicates the relatively favorable validity of this scale.

B) Factor analysis: According to the results of the factor analysis obtained using the inclined rotation PC method (Obelmin), the psychological well-being scale is saturated with six main factors, which are based on the theoretical framework under the headings of life satisfaction, happiness and optimism, spirituality, personal growth and development, positive relationships with others, and self-observance (Zanjani Tabasi, 2004.(

The results of the correlation of the Riff test with each of the above scales were acceptable. Therefore, the above tool was considered to be structurally valid (Reif, 1989). The Cronbach's alpha obtained in the study of Reif (1989) was reported to be 0.93 for self-acceptance (0.91), positive relationships with others (0.91), autonomy (0.86), mastery of the environment (0.90), and personal growth (0.87). In Iran, during a study conducted with a student sample, internal consistency was measured using Cronbach's alpha. The results obtained for mastery of the environment were 0.77, personal growth 0.78, positive relationships with others 0.77, purposefulness in life 0.70, self-acceptance 0.71, autonomy 0.78, and a total score of 0.82. The validity of this scale was also estimated to be appropriate (Bayani, Mohammad Kouchaki, and Bayani, 2008).

Findings

Table 1 shows the mean, standard deviation, and correlation coefficients between research variables including self-compassion components (emotional reactivity, ego status, emotional detachment, and integration), health anxiety, and psychological well-being.

Table 1: Mean, standard deviation, and correlation coefficients between research variables

8	7	6	5	4	3	2	1	Standard deviation	Average	Variable
							‒	4/86	22/94	1. Health anxiety
						‒	‒0/16	1/90	6/12	2. Self-compassion -

kindness to oneself

								SD	Mean	Variable
					–	0/40**	–0/23*	1/84	5/66	3. Self-compassion - self-judgment
				–	0/43**	0/52**	–0/11	1/80	4/97	4. Self-compassion - shared experiences
			–	0/51**	0/38**	0/12	–0/04	2/00	5/61	5. Self-compassion - isolation
		–	0/34**	0/28**	0/32**	0/45**	–0/35**	1/95	5/01	6. Self-compassion - mindfulness
	–	0/37**	0/52**	0/44**	0/41**	0/56**	–0/19*	2/11	5/12	7. Self-compassion - identification
–	0/31**	0/19*	0/25**	0/18	0/35**	0/29**	–0/33**	53/04	193/23	8. Psychological well-being

$*P<0/05$, $**P<0/01$

Table 1 shows that health anxiety is negatively correlated with psychological well-being at a significance level of 0.01. Among the components of self-compassion, kindness to oneself, self-judgment, isolation, and identification were positively correlated with psychological well-being at a significance level of 0.01, and its mindfulness component was positively correlated with psychological well-being at a significance level of 0.05.

According to the results of Table 2, in this study, the assumption of normality of data distribution was examined by evaluating the values of elasticity and skewness of individual variables, and the assumption of collinearity was examined by evaluating the variance inflation factor (VIF) and the tolerance coefficient of the predictor variables.

Table 2: Checking the assumptions of normality and collinearity

Collinearity assumption		Assumption of normality		Variable
Variance inflation	Tolerance coefficient	Stretching	Skewness	
1/12	0/90	–0/42	0/48	Health Anxiety
1/81	0/55	–0/62	–0/36	Self-Compassion - Self-Kindness
1/78	0/56	–0/19	0/45	Self-Compassion - Self-Judgment
3/01	0/33	–0/22	–0/27	Self-Compassion - Shared Experiences
1/90	0/53	–0/64	–0/05	Self-Compassion - Isolation
3/62	0/28	–0/09	–0/51	Self-Compassion - Mindfulness
2/73	0/37	0/12	0/72	Self-Compassion - Empathy
–	–	0/48	0/64	Psychological Well-Being

The results of Table 2 show that the values of the elasticity and skewness of all variables are within the range of ±2. This indicates that the data distribution is normal. Table 2 further shows that the values of the tolerance coefficient of all predictor variables are greater than 0.1 and their variance inflation factor values are less than 10. This finding indicates that the assumption of collinearity among the data is valid. In this study, the assumption of normality of multivariate distribution was examined by analyzing the information related to the "Mehlenbois distance". Considering that the values of skewness and elasticity of the Mehlenbois distance scores were obtained as 1.05 and 1.36, respectively, it can be said that the assumption of normality of multivariate distribution was also valid among the data.

To evaluate the establishment/non-establishment of the assumption of independence of error variances among predictor variables, the Durbin-Watson index was evaluated. Given that the index in the present study was found to be 1.48, it can be said that the assumption is valid in the data of the present study. It is worth noting that Fayld (2013) believes that a Durbin-Watson index greater than 2 indicates that

the assumption of independence of error variances among predictor variables is not valid.

Table 3. Measurement and structural model fit indices

The Cutoff Point (Klein, 2016)	Structural pattern	Measurement pattern	Fitness indicators
–	70/63	58/18	Chi-square
–	37	30	Degrees of freedom
Less than 3	1/91	1/94	Normalized chi-square
0/90 >	0/943	0/946	The goodness of fit index
0/850 >	0/898	0/901	Adjusted fit index
0/90 >	0/975	0/976	Adaptive fit index
0/08 <	0/067	0/068	Root mean square error of approximation

Table 3 shows that after modification, the measurement and structural models of the research have an acceptable fit with the collected data.

Table 4. Total, direct, and indirect path coefficients between research variables

sig	β	S.E	b	Predictor variable - Criterion variable	
0/001	–0/250	0/050	–0/168	Health anxiety - Psychological well-being	
0/039	0/136	0/075	0/150	Self-compassion - Psychological well-being	Direct
0/001	–0/241	0/045	–0/162	Health anxiety - Self-compassion	
0/043	0/032	0/013	0/034	Health anxiety - Psychological well-being	Indirect

Table 4 shows that the direct path coefficient between health anxiety and psychological well-being is negative (P=0.001). The direct path coefficient between self-compassion and psychological well-being is positive (P=0.049) and health anxiety and self-compassion are negative (P=0.001). The indirect path coefficient between health anxiety and psychological well-being is also positive (P=0.043).

Conclusion

This finding is consistent with the results of studies by Homan (2016), Imtiaz (2016), Phillips and Ferguson (2012), Allen and Leary (2013), and Allen et al. (2012). In all of these studies, high levels of self-compassion predict higher levels of well-being. In explaining this finding, it can be said that older people face numerous life challenges in late life, and it is possible that adopting self-compassionate feedback will lead to favourable resolution of these challenges. For example, recognizing the increased limitations caused by old age may negatively affect positive feelings about oneself (self-sufficiency) and one's independence (autonomy). However, self-compassion provides appropriate understanding and comfort in the face of perceived shortcomings and helps an individual to accept physical or social changes without considering oneself incapable or feeling abandoned. Self-compassionate individuals consider aging and its accompanying changes to be part of the common human experience, and this recognition helps them to successfully achieve a sense of connectedness with others (positive relationships with others) and to strive to find meaning in age-related changes (purpose in life) and to pursue growth-related activities (personal growth). It is also natural that the elderly face the risk of failure in emotional, physical, and cognitive domains, but self-compassionate feedback makes it possible to experience failure without feeling shame or self-judgment, and ultimately, self-compassion may act as a buffer against the psychological impact of health problems (Homan, 2016). Self-compassion also helps with developmental tasks in late life as an effective tool in practice. Self-compassionate feedback enables individuals to cope well with the challenges and unpleasant changes of old age, which may include the loss of loved ones and a decline in health and performance, instead of responding to these unpleasant life changes with anger, self-criticism, and worry by being kind to themselves and considering their circumstances as part of the common human experience and maintaining an objective perspective on negative emotions (Neff, 2003), thus increasing the individual's well-being. Of course, it should be noted that self-judgment is a negative dimension

in Neff's (2003) self-compassion theory and has a negative relationship with self-compassion and reduces psychological well-being, but in the findings of this study, as mentioned, this relationship changes according to the extent to which Islamic attitudes and perspectives are emphasized.

Also, in explaining the results, it can be said that anxiety is inevitable in human life. Health anxiety has been described as an intense negative feeling of fear, and such fear has cognitive, neurological, and behavioral symptoms. High-intensity health anxiety symptoms may negatively lead to high risk and mortality (Jiang et al., 2004). The main problem of those who suffer from health anxiety is that they fill their minds with worrying fantasies, and as a result, their health anxiety increases. Anxiety minimizes or sometimes completely destroys the actual ability of the person (Norouznia et al., 2019) and consequently affects psychological well-being. Lack of scientific information also exacerbates this health anxiety; at this time, people seek more information to relieve their health anxiety. Health anxiety can cause people to be unable to distinguish between true and false information, so they may be exposed to false news (Alipour et al., 2010), and this in turn increases the level of anxiety caused by a new infectious disease. However, according to the findings of the present study, the higher the level of personal growth and positive relationships with others in an individual, the lower the level of health anxiety caused by a geriatric disease. Personal development means having a feeling of continuous growth and high capacity and a feeling of increasing efficiency and knowledge (Mohammadpour et al., 2016). What is important is that health anxiety causes destructive effects on the physical and mental state of the individual, and this in turn causes a vicious circle between anxiety and the person's psychological well-being, so that enduring health anxiety endangers his psychological well-being, and threatening and weakening the components of psychological well-being also causes health anxiety in different situations (Esmaili et al., 2010).

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