Original Article

Predictors of Attitudes toward Aging in Middle-Aged Individuals: A Cross-Sectional Study

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Abstract

Objective: Attitudes toward aging (ATA) are among the most important determinants of well-being in old age. However, little research has examined factors contributing to their formation in middle-aged individuals. This study aimed to investigate predictors of attitudes toward aging among Iranian middle-aged individuals in 2022.

Method: This study recruited 330 people with a mean age of 56.5 ± 5.6 using multistage cluster sampling. Data were collected using a three-part questionnaire, including demographic factors, an attitude toward aging questionnaire (AAQ), and a multidimensional scale of perceived social support (MSPSS). The obtained data were analyzed using SPSS (v.22) statistical software to conduct t-tests, ANOVA, Pearson correlation, and linear regression.

Results: According to bivariate analysis, perceived social support (PSS), age, level of education, and perceived income adequacy (PIA) had a significant relation with the total ATA score (P < 0.05). According to regression analysis, family support (β = 0.288, P < 0.001), friend support (β = 0.188, P < 0.001), significant others support (β = 0.130, P = 0.04), age (β = 0.118, P = 0.002), and PIA (β = 0.290, P < 0.001) were the predictor factors of ATA and explained 41% of the variance. PSS and PIA were the predictors of all dimensions of ATA.

Conclusion: The results highlight the role of potentially modifiable factors, such as PSS, PIA, and level of education, in shaping ATA. This requires interventions and policies that effectively promote social and financial support in middle-aged individuals.

Key words: *Attitudes toward Aging; Iran; Income Adequacy; Middle-Aged; Social Support*

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Iran, as a developing country, has seen an increase in the number of older adults and a decline in fertility in recent years (1). According to the Iranian Census, the percentage of older adults population increased from 3.5% in 1956 to 9.3% in 2016; thus, it is predicted that they will constitute 21.7% of the population of Iran in 2050 (2). Considering the recent increase in life expectancy in Iran and the expected increase in the percentage of older adults, it is essential to pay more attention to the factors related to quality of life and well-being in the aging population.

A characteristic of the aging process is the degradation of one or more perceptible attributes of an organism, which usually occurs at a later stage of life (3). In general, chronological age is regarded as a parameter that denotes the point at which an individual becomes elderly. In this perspective, the onset of old age is 60 in underdeveloped nations and 65 in industrialized ones. However, for clinical and community intervention reasons, aging should be regarded as beginning around the age of 45. Most people experience a progressive physiological and functional deterioration after this period of life due to biological, physical, psychological, and social changes. Furthermore, aging increases the likelihood of some chronic non-communicable diseases, like cancer, arthritis, and Alzheimer's disease (4). These modifications in oneself or others can impact an individual's perspectives regarding the aging process.

Attitude toward aging (ATA) refers to a broad, subjective perspective on aging over a lifetime (5). According to several studies, attitude toward aging is related to several significant indices, including quality of life (6), life satisfaction, and cognitive performance (7). People with a positive ATA live 7.5 years longer than people who have a negative attitude (8). Also, positive attitudes can significantly affect serenity, quality of life, and health consequences during old age in the long run (9). On the contrary, a negative attitude toward aging decreases self-confidence, performance, and life expectancy in old age and can lead to despair (10). Thus, it is a critical conception in gerontology, but unfortunately, few studies have investigated the factors related to it (11). However, ATA is gradually formed through a process of realization from one's social environment and internalized attitudes in the course of life (12). Therefore, these attitudes are not merely formed during old age; instead, they can be formed during an individual's life experiences (5), especially during middle age (13). Middle age is the best period to analyze the resources and supplement the aging process to prepare for old age and achieve a better and more positive experience from this period (9). Compared to older adults, the attitudes of middle-aged individuals toward aging are correlated with more modifiable factors (14). Since middle-aged individuals' ATA can forecast attitudes toward one's aging (15), it is crucial to consider these attitudes and the related factors. As a result, this

can help plan and adopt measures to improve positive attitudes and reduce negative ones before aging. On the other hand, they have an important role in shaping the well-being and health of middle-aged people (8). This issue becomes more critical in middle-aged individuals because identifying the modifiable factors can help to make better plans to improve people's ATA.

Some studies have indicated that greater satisfaction with social support significantly predicts more positive ATA in older adults (16, 17). Social support is a source of psychosocial support that people can receive through establishing relationships with their social network, such as family, friends, acquaintances, and neighborhoods (18). It enhances security and approval, providing resilience in challenging circumstances and distressing situations (19). Many studies have underlined the correlation between PSS and higher levels of psychological well-being (20-22), quality of life (23-26), and reduced anxiety (27). Therefore, it could be an essential factor in attitudes toward aging. Although few studies have examined the influential factors in ATA in the middle-aged individuals, some studies have identified demographic and socioeconomic characteristics as critical factors affecting individuals' ATA (14, 28, 29). Previous studies have indicated that older people have more positive ATA than younger ones (15, 30), and women have more positive ATA than men (15). In addition, a study on senior individuals found that perceived income adequacy can alleviate their concerns regarding healthcare and living expenses (31), creating a more positive perception of successful aging (32) and may influence an individual's ATA.

Although ATA in midlife might assume a preliminary role in psychosocial adaptation in older adults, most research was conducted by focusing on older adults (14). Also, the results of recent studies in Iran have shown that the community's view of older people has become more negative than in the past (33); therefore, it's crucial to conduct more studies to know the factors affecting it. On the other hand, most studies investigating ATA have been conducted mainly in Western countries, so this issue has rarely been researched in middle-aged Asian populations. Therefore, analyzing the factors related to the attitude toward aging in the Asian population is needed (28). As far as we know, no study has explored the relationship between socioeconomic and social factors and attitudes of the middle-aged population in Iran toward aging. Moreover, most research on ATA in Iran has focused on healthcare workers and their role in providing care for older adults (34, 35) but has not examined the perspectives of the community. Thus, this research aimed to find the answers to the following questions. The results can be used for interventions to enhance ATA, as well as the quality of life and well-being among middle-aged and older individuals:

1. What is the status of attitudes towards aging among middle-aged Iranians?

2. What are the predictors of attitudes towards aging among the variables investigated in this study?

Materials and Methods

Setting, Participants, and Study Design

This cross-sectional study was conducted in 2022 in Bojnurd (Eastern Iran). Considering the mean and standard deviation of the psychological dimension of ATA (28.15 ± 4.65) in a similar study (9), a confidence level of 95%, and a measurement error of 0.5, the sample size was estimated based on the following formula to be 330 persons.

$$n = \frac{z_{1-\frac{\alpha}{2}}^2 s^2}{d^2}$$

Thus, 330 middle-aged people (40-59 years old) were selected from all seven blocks of Bojnurd city using multistage cluster sampling. Although the term "middle age" pertains to the demographic between the ages of 45 and 59 years old, based on the new standard of the World Health Organization (WHO) (36), this age range was selected according to similar previous studies (37, 38).

Interviewers (four people with a bachelor of social sciences) entered all blocks and completed the questionnaires from the convenience participants in face-to-face interviews. The sample size in each block was determined by the quota sampling method according to the statistics of the health center of Bojnurd City. The inclusion criteria included residing in Bojnurd, consenting to take part in the research, being able to respond to questions of the questionnaires, and not undergoing treatment for any particular conditions, including psychological disorders like depression and anxiety. These criteria ensured that participants had a satisfactory understanding of the questionnaires to give precise answers, which prevented any potential adverse effects of disease on their ATA. Exclusion criteria included unsatisfactory research participation and inadequate questionnaire completion.

Measures

The data collection tool consisted of three parts:

1- Sociodemographic Factors

This questionnaire's initial section asked questions about demographics and objective socioeconomic status (39), including age (in terms of years), gender, marital status, and level of education. The second section of the questionnaire was related to the subjective socioeconomic status of participants, including perceived income adequacy (PIA). PIA was examined using a five-point response scale to determine whether participants had sufficient funds to satisfy their requirements, ranging from fully to not at all. Subsequently, a binary variable was developed to divide participants into two groups: income insecure (defined as income that does not meet their needs at all, slightly, or moderately) and income secure (defined as income that meets their needs fully or mostly) (40).

2- Multidimensional Scale of Perceived Social Support (MSPSS)

The scale has 12 items that measure PSS from three domains (family, friends, and significant others) (41). Individuals answered it using a seven-point Likert scale (ranging from very strongly disagree to very strongly agree). The score of each subscale ranges from 4 to 28, and the total score of MSPSS ranges from 12 to 84. Higher scores indicate that the individual has a higher level of PSS. Adequate psychometric properties have been found with the MSPSS among Iranian people (42). Bagherian-Sararoudi *et al*. (2013) showed that Cronbach's α coefficient was 0.92 for the whole scale and 0.87-0.92 for its subscales (42). The internal consistency reliability in this study was 0.88 for the whole instrument, 0.89 for family, 0.86 for friends, and 0.87 for significant other social support, respectively.

3- Attitudes toward Aging (ATA)

Individuals' views about aging were assessed using the Attitudes to Aging Questionnaire (AAQ) (43). This measure has 24 items and three subscales: psychosocial loss, psychological growth, and physical change. Individuals answered it using a five-point Likert scale (ranging from strongly disagree to strongly agree). The total score range is from 24 to 120, and each subscale ranges from 8 to 40. Adequate psychometric properties have been found with the AAQ in Iran (29). The Cronbach's α coefficient was 0.75 for the whole instrument and 0.85-0.93 for its dimensions (29). The internal consistency reliability in this study was 0.76 for the whole instrument and 0.74-0.80 for its dimensions.

Data Analysis

The collected data were analyzed using SPSS software (version 22). The reliability of the measure was examined using the internal consistency Cronbach alpha method. Data distribution was obtained according to the Kolmogorov-Smirnov normality test. The relationship between the AAQ and other variables was assessed using the t-test, ANOVA, Pearson correlation, and linear regression. A t-test was used to compare ATA between the two groups. A one-way ANOVA was used to compare ATA among multiple groups. We conducted multiple linear regression analyses to explain variations in our target variable (ATA). In this process, we entered the variables that had shown significant differences in ATA into the multiple linear regression model. In all models, each independent variable's variance inflation factor (VIF) score was below 2 (1.085-1.899). A P-value of < 0.05 was considered statistically significant.

Ethical Consideration

Ethical approval for this study was obtained from the Ethics Committee of the North Khorasan University of Medical Sciences (IR.NKUMS.REC.1400.188). This study was performed in accordance with the Declaration of Helsinki.

Results

In this study, we included 330 participants (201 female). Also, 296 (89.7%) subjects were married. The age range of participants was 40-59 years, with a mean age of 46.5 ± 5.6 years. As shown in Table 1, 241 (70.3%) subjects had a diploma or higher education. Also, 125 (37.9%) participants considered their income to be sufficient.

Table 1. Demographic Information of Middle-Aged Individuals Participating in the Study (n = 330)

Sociodemographic Factors	Categories	N (%)
Age	40-49	239(72.4)
	50-59	91(27.6)
Gender	Male	129(39.9)
	Female	201(60.1)
level of Education	Middle school ≥	89(27)
	Diploma to Bachelor's degree	182(55.2)
	Master degree and higher	59(17.8)
Marital status	married	296(89.7)
	Other	34(10.3)
Perceived income adequacy	secure	125(37.9)
	insecure	205(62.1)

The total score of ATA (84.4 ± 11.7) indicated a positive perspective toward aging compared to the scale's neutral midpoint of 72 (t (329) = 19.33, P < 0.001). Similarly, participants showed a positive attitude toward psychological growth (M = 29.4, SD = 4.9) compared to the scale's neutral midpoint of 24 (t(329) = 20.1, P < 0.001), a positive attitude toward physical changes (M = 29.7, SD = 5.2) compared to the scale's neutral midpoint of 24 (t(329) = 19.76, P < 0.001), and a positive attitude toward psychosocial loss (M = 25.2, SD = 5.6) compared to the scale's neutral midpoint of 24 (t(329) = 4.15, P < 0.001). Hence, on average, participants had lower scores in the psychosocial loss domain among the domains of ATA.

The results of ANOVA and the t-test showed significant differences in the total score of ATA and its dimensions in different categories of age, gender, perceived income adequacy, and level of education (Table 2).

Table 2. Comparison Attitudes to Aging Scores Based on Sociodemographic Factors of Middle-Aged Individuals Participating in the Study (n = 330)

Sociodemographic Factors	Categories	Physical Changes		Psychological Growth		Psychosocial loss		Total Score of Attitudes Toward Aging	
		Mean ± SD	P	Mean ± SD	P	Mean ± SD	P	Mean ± SD	P
Age	40-49	30.2 ± 5.3	0.001	29.2 ± 5	0.142	27.5 ± 5.7	0.012	85.3 ± 12.1	0.033
	50-59	28.2 ± 4.8		30.1 ± 4.5		24 ± 5.3		82.4 ± 10.5	
Gender	Male	29.6 ± 4.9	0.450	30.1 ± 4.9	0.046	23.3 ± 5.8	< 0.001	83.2 ± 12.4	0.120
	Female	29.7 ± 5.4		29.1 ± 4.9		26.5 ± 5.1		85.3 ± 11.2	
level of Education	Middle school ≥	27.8 ± 6.1	< 0.001	30.25 ± 5	0.200	24.38 ± 6.4	0.065	82.5 ± 11.8	0.034
	Diploma to Bachelor's degree	30.2 ± 6.2		29.1 ± 4.5		25.31 ± 4.9		84.4 ± 10.5	
	Master degree and higher	31.5 ± 4.7		29.5 ± 5.8		26.5 ± 6.1		87.6 ± 14.4	
Marital Status	married	29.8 ± 5.1	0.320	29.3 ± 4.3	0.341	25.4 ± 5.7	0.178	84.64 ± 11.7	0.490
	Other	28.6 ± 6.2		30.2 ± 4.2		24.2 ± 4.6		83.17 ± 11.7	
Perceived income adequacy	secure	31.9 ± 4.5	< 0.001	31.5 ± 5.1	< 0.001	27.5 ± 4.8	< 0.001	91 ± 11.3	< 0.001
	insecure	28.6 ± 5.1		28.2 ± 4.5		23.9 ± 5.6		80.5 ± 10.1	

The Pearson correlation coefficient (Table 3) indicated that total ATA and all its dimensions showed a strong positive correlation with overall and all dimensions of PSS (family, friends, and significant others' social support), and this association was strong for total and family social support. However, the correlation between physical changes with significant others' social support and psychological growth with friends' social support demonstrated a weak association ($r < 0.3$).

Table 3. The Correlations between Perceived Social Support and Attitudes to Aging Scores in Middle-Aged Individuals Participating in the Study (n = 330)

Variables		1	2	3	4	5	6	7	8
Social Support	Family (1)	1							
	Friends (2)	0.357**	1						
	Others (3)	0.669**	0.357**	1					
	Total (4)	0.803**	0.763**	0.810**	1				
Attitudes Toward Aging	Physical changes (5)	0.387**	0.338**	0.293**	0.424**	1			
	Psychological growth (6)	0.408**	0.253**	0.316**	0.399**	0.402**	1		
	psychosocial loss (7)	0.353**	0.323**	0.341**	0.425**	0.390**	0.167**	1	
	Total (8)	0.510**	0.473**	0.435**	0.563**	0.806**	0.684**	0.727**	1

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

Table 4. Results of Linear Regression Analysis for Examining the Related Factors of Total Attitudes toward Aging and Its Dimensions

DV	IV	B	Std. Error	Beta	t	P	Adjusted R Square
Total Attitudes Toward Aging	Family PSS	0.767	0.161	0.288	4.776	< 0.001	0.419
	Friends PSS	0.329	0.098	0.188	3.378	< 0.001	
	Others PSS	0.290	0.140	0.130	2.066	0.040	
	Perceived Income Adequacy	5.024	0.772	0.290	6.504	< 0.001	
	age	-0.294	0.092	-0.118	-3.195	0.002	
	Level of Education	0.756	0.801	0.043	0.944	0.346	
Physical changes	Family PSS	0.316	0.080	0.256	3.963	< 0.001	0.277
	Friends PSS	0.141	0.048	0.156	2.377	0.003	
	Others PSS	0.051	0.070	0.047	0.721	0.465	
	Perceived Income Adequacy	2.173	0.536	0.201	4.053	< 0.001	
	age	-0.124	0.046	-0.132	-2.717	0.007	
	Level of Education	1.174	0.400	0.148	2.934	0.004	
Psychological growth	Family PSS	0.328	0.077	0.280	4.122	< 0.001	0.234
	Friends PSS	0.065	0.046	0.76	1.212	0.155	
	Others PSS	0.064	0.070	0.062	0.946	0.345	
	Perceived Income Adequacy	2.458	0.518	0.240	4.125	< 0.001	
	Gender	-1.323	0.494	-0.130	-2.656	0.008	
psychosocial loss	Family PSS	0.171	0.085	0.129	2.112	0.046	0.290
	Friends PSS	0.165	0.050	0.169	3.309	0.001	
	Others PSS	0.196	0.074	0.169	2.321	0.008	
	Perceived Income Adequacy	2.149	0.566	0.185	3.795	< 0.001	
	Gender	2.788	0.541	0.241	5.151	< 0.001	
	Ages	-0.144	0.047	-0.143	-3.125	0.002	

As shown in Table 4, multiple linear regression analysis results indicated that social support (especially family support) and perceived income adequacy were decisive factors for total ATA, physical changes, and psychological growth dimensions. The R2 in this regression model was 0.41 for total ATA, indicating that the investigated variables explained approximately 41% of the variance. Furthermore, the finding indicated that gender was an essential factor for the psychosocial loss dimension of ATA ($\beta = 0.241$, $P < 0.001$).

Discussion

This study investigated the status of ATA in middle-aged individuals in Iran and recognized its predictors among the variables under investigation. The total score of ATA and its dimensions indicated a positive perspective on aging among middle-aged participants. The results showed that age, education level, perceived income adequacy, and PSS had significant relationships with ATA. Moreover, based on the linear multivariate regression model, all dimensions of PSS (family, friends, and significant others' social support), perceived income adequacy, and age had a significant association with the attitudes of middle-aged Iranian people about aging. According to the Pearson correlation coefficient and regression analysis results, family support was the most important factor for the total ATA among the dimensions of PSS.

Generally, participants had a relatively positive ATA. The highest score of attitudes toward the aging dimension was related to physical changes. Manookian *et al*. (2020) indicated that middle-aged individuals in Tehran, Iran, had relatively more positive attitudes toward physical changes compared with other aspects of ATA. Health status, absence of chronic diseases, and middle-aged individuals' high capacity for performance are possibly the causes for the more positive physical aspect of the ATA (9). Bryant *et al*. (2012) also showed that in older people, more positive viewpoints on physical changes were associated with better physical health (44).

The lowest scoring subscale for ATA was the psychosocial loss subscale; this result is in line with the other research on Iranian middle-aged individuals (9, 45). Rouhi *et al*. (2023) found that psychosocial loss has the lowest mean score in older people living in Northern Iran (45). Despite the difference in the age groups of participants, the results show that Iranian people do not have a good attitude toward the psychosocial domain of aging. Thus, regarding the important role of psychosocial loss and quality of life in older adults in many countries (46), interventions aimed at improving this area must be prioritized. Interventions that support the social participation of older individuals and provide opportunities for social interaction can be beneficial in fostering a more positive psychosocial attitude toward aging.

This study confirmed the association of age with ATA in middle-aged people. In this regard, age had a negative and significant relationship with the score of total ATA, psychosocial losses, and physical changes, indicating that these scores decreased with age. Similar findings in a study with a sample size of 1,180 participants (588 rural vs. 592 urban) in Nigeria reported that affirmative attitudes toward aging decrease in the psychosocial loss domain as people age (47). In Malaysia, a cross-sectional study by Abd Manaf *et al*. (2016) showed that increasing age had a significant negative correlation with the psychosocial loss score but not physical changes (48). Also, the study of Bryant *et al*. (2012) in Australia revealed that older individuals hold significantly more negative attitudes toward psychosocial loss. However, this connection is not meaningful with physical change and psychosocial growth (44). The negative ATA that middle-aged individuals exhibited in the current study may have resulted from their internalized societal age stereotypes, as they had not yet experienced the aging phase. This relationship was consistent with numerous studies and reflected the social beliefs and negative stereotypes regarding old age (5, 16, 28). People are unlikely to feel the need to mount defenses against negative age stereotypes when they encounter them before these stereotypes are directed at themselves, leading to maximum susceptibility (12). This highlights the critical role of educational and promotional interventions in intellectual and psychological preparation for middle-aged groups.

There was no significant association between gender and total attitudes to aging. Several studies reached similar findings (49, 50). In contrast, some studies revealed that, compared to women, men had more positive ATA (47, 48, 51). Furthermore, in the present study, gender had a significant relationship with psychosocial loss and psychological growth and was a significant predictor factor for these two dimensions. Moreover, men had significantly more positive attitudes in terms of psychological growth than women, while women had more positive attitudes regarding psychosocial loss. This result is consistent with those of Lucas-Carrasco *et al*. (52) but contrasts with other studies (53, 54) in which both genders exhibited positive ATA. Meanwhile, gender differences in the survey by McConatha *et al*. (2003) indicated that women in both countries, the United States and Germany, were more concerned with age-related changes in their physical appearance than men (55). The different findings in the present study can be due to differences in social stereotypes and beliefs about aging and differences in sociodemographic characters in participants in other studies. The 'Risks of Ageism Model' (RAM) proposal posits that unfavorable views towards aging may be attributed to social stereotype processes (56). Concerning psychological distress, women often view their friends as trusted confidants and make a tremendous effort (e.g., through support exchanges) to maintain close relationships with

network members throughout time and stay connected with friends and extended family members, in comparison to men (57, 58). This is probably why women scored better on the psychosocial loss dimension than men. However, this result may differ in larger cities due to different demographic characteristics and larger problems.

The bivariate analysis showed a significant relationship between the education level and the total score of ATA and physical changes dimension, suggesting higher attitude scores in participants with higher levels of education. This finding is supported by studies by Lamont *et al*. (2017), Kisvetrová *et al*. (2022), and Reje *et al*. (2017), although participants of all three of these studies were older adults (5, 16, 54). According to regression results, education level also predicted physical changes. Hence, those with higher education had more personal resources, such as knowledge about aging, that helped them adjust to age-related issues.

In the current study, perceived income adequacy had a significant relationship with the total score of ATA and its dimensions. According to the Iranian middle-aged, perceived financial adequacy before aging can help well-being in aging (59). This perspective can influence shaping ATA. Another study also indicated that income adequacy was associated with a positive ATA among Taiwanese middle-aged and older adults (28). Before reaching old age, one of the main concerns of individuals is financial challenges of aging, including the inability to work, insufficient income, and the costs of sickness (60). This implies that middle-aged individuals who believed their income was inadequate hold more negative attitudes toward this phase due to their awareness of the possibility of facing more economic problems in old age for causes such as retirement, medical conditions, and healthcare needs at an older age. Also, perceived income adequacy is a significant factor for self-rated health and quality of life in middle- and older adults (40). The strength of this association may be more pronounced in metropolitan areas since individuals in large cities may face more challenging economic circumstances and often contrast with those in smaller towns in terms of cultural and religious diversity. Therefore, individuals with low incomes are nearly twice as likely to report experiencing financial hardship as those with high incomes (61), indicating that economic concerns should be addressed to improve ATA.

There was a positive and significant correlation between the total score of ATA and its three dimensions with PPS and its dimensions. In this regard, social support was one of the main predictors of general attitudes toward old age and its dimensions. This finding is in line with the study by Lamont *et al*. (2017) in which greater satisfaction with social support was a significant predictor of more positive ATA in 501 older English respondents (16). However, family social support showed a stronger association with total ATA and its dimensions than friends' and significant others' social support. Previous research indicates that there is a notable inverse correlation between family support and psychological tensions in Iran (62-64). Liu *et al*. (2020) also indicated that social support had a significant relationship with ATA, and this relationship was stronger for family support. They also revealed that family support played a protective role against negative ATA by reducing depression among older adults stratified by rural and urban dwellings in China (17). It can be said that social support, especially family support, leads to better health outcomes and psychological well-being. As a result, a healthy person's perspective on the future years of life in old age will be more positive (65). Therefore, to improve the positive attitudes of middle-aged people about aging, it is necessary to pay more attention to people with less family support capacity, such as people who live alone or do not have good family relationships. It is worth mentioning that more attention is needed in bigger cities where families are usually nuclear and social support between people is low.

Generally, social support is an adaptation factor for the perceived stressor conditions, which can cause a positive psychological influence on individuals if they perceive successful support (66). In conclusion, policymakers and planners should consider people's economic concerns, social needs, and instrumental and informational support in problems to improve their ATA. On the other hand, there is a need for training on the importance of social support, especially family support, in forming ATA among middle-aged individuals.

However, it can be said that this is the first study that has examined the relationship between socio-economic and social factors and the attitude of the middle-aged population living in Iranian society towards old age. It is hoped that the results of this research will help policymakers and planners of our country, as well as in other developing countries similar to Iran which will experience population aging in the near future, in improving attitudes towards older adults and old age. This will contribute to building a healthy, productive, fair, and sustainable future for older adults.

Limitation

This research had several limitations. First, the study's cross-sectional nature made detecting any possible cause-and-effect relationships impossible. Accordingly, we recommend longitudinal studies in this area to investigate such relationships. Second, we did not examine other factors affecting ATA (such as personality traits, physical and mental health, and physical activity); hence, we recommend analyzing the mentioned factors in future research to achieve more accurate results. Another limitation is that the study was conducted in a city with a relatively small sample size. This approach limits the generalizability of the results to other cities, especially metropolises, which have more life problems and less social support during middle and

old age. Finally, this study included only middle-aged urban communities; we excluded those suffering from disease and people living in rural areas. This limitaion may also limit generalizability. It is suggested that similar studies be carried out in big cities and rural regions of Iran with a larger sample size, and that the results be compared.

Conclusion

This study showed that middle-aged participants had almost positive attitudes toward aging. There was a significant relationship between some sociodemographic factors and total attitudes toward aging. In general, people with lower levels of education, older age, lower social support, and lower perceived income adequacy had more negative attitudes toward aging. Accordingly, further attention is required for these groups to embrace aging with more positive attitudes. Furthermore, social support and perceived income adequacy were the main factors that exhibited a significant relationship with the total attitudes and all its dimensions, suggesting that economic and social factors were paramount in forming attitudes toward aging in middle-aged Iranian individuals. Therefore, governments and policymakers must provide more comprehensive and accurate fields of education about the possibility of receiving various types of social support in old age, as well as further financial support for older adults, such as insurance coverage and retirement pensions. This will help reduce the concerns of older adults and middle-aged individuals, enabling them to undergo a transition from middle age to old age more serenely.

Acknowledgment

Conflict of Interest

None.

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