



The State of Hope and Its Related Demographic Variables in the Elderly of Birjand City

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Abstract

Background: The global population is undergoing rapid aging, highlighting the importance of assessing the hope levels of the elderly to develop educational and welfare programs aimed at enhancing their quality of life. This study aimed to assess the state of hope and its associated factors among elderly individuals in Birjand city.

Methods: This descriptive-correlational study included 441 elderly aged 60 and above from Birjand City, selected using a systematic stratified sampling method in 2018. Data were collected through interviews conducted by trained interviewers using the standard questionnaire "Schneider's Hope of the Elderly (SHS)." Data were analyzed using SPSS 19 software, and statistical tests, including independent T-Test, ANOVA, and Tukey's post hoc test, were applied at a significance level of $\alpha = 0.05$.

Results: The average age of the participants was 70.1 ± 7.3 years. The mean scores for hope, agentive thinking, and strategic thinking were 27 ± 3.3 , 12.9 ± 2.1 , and 14.1 ± 2.1 , respectively. Men had significantly higher scores in agentive thinking ($P < 0.001$) and the overall hope score ($P < 0.003$) compared to women. Illiterate individuals had lower agentive thinking scores than other groups ($P < 0.001$). Additionally, married individuals had significantly higher scores in agentive thinking, strategic thinking, and overall hope scores compared to other elderly individuals. Conversely, elderly individuals without children had lower scores in these areas compared to other groups ($P < 0.05$).

Conclusions: Based on the study's findings, it is essential to develop and implement educational and welfare interventions aimed at increasing hope among the elderly, particularly targeting women, single individuals, those who are lonely, and those with lower levels of education.

Keywords: Aging, Hope, Thinking

1. Background

The global population is undergoing rapid aging, with a significant portion of this demographic shift occurring in developing countries (1). Iran, in particular, is experiencing this aging trend in parallel with the rest of the world. Data derived from the general population and housing censuses reveal a notable increase in the elderly population within Iran over recent decades (2, 3). According to United Nations statistics, Iran ranks among the fastest-growing countries globally in terms of aging, and by 2050, it is projected to be among the nations with the highest proportion of elderly citizens (4, 5). The growing population of elderly individuals presents a significant challenge for healthcare systems

in providing the necessary health services to meet their needs (6). The elderly undergo a complex array of physical, psychological, and social changes, necessitating adaptive strategies to cope with these transformations. Hope plays a pivotal role in facilitating adaptation to new circumstances (7).

According to Schneider's definition, hope encompasses the ability to self-motivate, feel empowered and competent in pursuing goals, maintain self-focus, and exhibit flexibility in finding various solutions (8). Unfortunately, despair can render elderly individuals passive, making it difficult for them to assess their different situations and make decisions, ultimately leaving them vulnerable and overwhelmed by stressors (9).

Research findings indicate that hopeful individuals are more adept at selecting meaningful life objectives. They tend to exhibit high levels of hope, emphasizing future orientation and a focus on success rather than dwelling on failure. Furthermore, hope serves as a potential source of social support, aids in coping with challenging experiences, and enhances adaptability. Collectively, these aspects contribute significantly to improving the overall quality of life. A close relationship exists between quality of life, hope, self-confidence, life satisfaction, and the prevention of chronic diseases (10, 11).

Given that the maintenance of mental health, hope, and happiness indicators among the elderly has a positive and lasting impact on both the elderly individuals themselves and on their families and society as a whole, it becomes imperative to assess the hope index among the elderly. This assessment can serve as a foundation for designing and implementing educational and welfare programs aimed at ultimately enhancing the quality of life for elderly individuals.

2. Objectives

The present study was conducted with the aim of determining the state of hope and factors related to it in the elderly of Birjand city.

3. Methods

3.1. Study Design

This research is a descriptive-correlational study. Sampling was carried out using a systematic stratified sampling method. Following the approval of the research plan by the research deputy, Birjand City was divided into 5 zones, and the number of buildings in each zone was determined. Subsequently, the sample size for each category was selected based on the ratio of the number of buildings in each zone to the total number of buildings in the city.

In the final stage, within each category, 12 women and 12 men were chosen through systematic random sampling.

3.2. Participants

For this study, elderly individuals aged over 60 years, residing in Birjand city, who possessed the ability to respond to the questions, were willing to participate, and were satisfied with their participation, were included. Individuals with insufficient vision, hearing, or consciousness levels were excluded from the study.

3.3. Sample Size

The sample size was determined using the formula for estimating a mean (the below formula), taking into consideration the results of Elahi et al.'s study (12) with a standard deviation (SD) of 6.1, a desired level of precision (d) of 0.7, and a Z-score of 1.96. This calculation yielded a sample size of 292 individuals. Additionally, accounting for the correction coefficient of cluster sampling, which is equal to 1.51, the final sample size was adjusted to 441 individuals.

$$n = \frac{Z^2 \times SD^2}{d^2}$$

3.4. Scale

Schneider's Hope Questionnaire (SHS) was employed to assess the level of hope in this study. The hope scale developed by Schneider et al. comprises 12 four-choice statements and encompasses two subscales: "agentive thinking," which pertains to the motivational aspect that drives a person toward intended ways to achieve a goal, and "strategic thinking," which involves the perceived ability of an individual to identify and create pathways toward their objectives. The scoring of the hope scale was determined by summing the points assigned to the statements, with a higher score indicating a greater level of hope among the elderly.

Within this questionnaire, there are four statements designed to measure agentive thinking, another four statements dedicated to assessing strategic thinking, and an additional four deviant statements for which no scores are assigned. The scoring system is based on a 4-option Likert scale, ranging from 1 to 4 points, resulting in a potential score range of 8 to 32 points.

The reliability of the questionnaire, as assessed by Cronbach's alpha coefficient, is reported as 0.86 for the overall scale, 0.82 for the agentive thinking subscale, and 0.84 for the strategic thinking subscale (8). Moreover, the reliability of this questionnaire has been evaluated in an Iranian sample, yielding an internal consistency coefficient of 0.89 (13). In a study by Oraki et al. and Saffarinia and Dortaj, Cronbach's alpha coefficients for this questionnaire were reported as 0.91 and 0.82, respectively (14, 15). Furthermore, the validity of this questionnaire has been supported by a reported value of 0.79 in Farnam's study (16).

3.5. Data Collection

The information was gathered from eligible elderly using the SHS during interviews conducted by trained interviewers.

3.6. Data Analysis

Following data collection, the information was entered into SPSS 19 software, and normality assumptions were verified using the Kolmogorov-Smirnov test. Descriptive statistics, independent *t*-test, ANOVA, and Tukey's post hoc test were employed at a significance level of $\alpha = 0.05$.

3.7. Ethical Consideration

Ethical considerations were diligently observed throughout the study. All participants provided written informed consent before the study commenced, with the assurance that they could withdraw from the study at any point if they so desired. Furthermore, the participants actively participated in the research process, and the confidentiality of their information was strictly maintained. This study adhered to all ethical principles, as indicated by the code of ethics IR.BUMS.REC.1397.400.

4. Results

This study involved 441 elderly individuals with a mean age of 70.1 ± 7.3 years, ranging from 60 to 97 years. The frequency distribution of demographic information for the elderly participants is presented in Table 1. The mean total scores for hope, agentive thinking, and strategic thinking were 27 ± 3.3 , 12.9 ± 2.1 , and 14.1 ± 2.1 , respectively (Table 2). The mean score for agentive thinking and the overall hope score were significantly higher in men compared to women. Additionally, the study's results indicated that the mean scores for agentive thinking, strategic thinking, and the overall hope score were significantly higher in married individuals than in elderly individuals who had lost or separated from their spouses (Table 2).

The average score of strategic thinking showed a statistically significant difference according to age ($P = 0.028$). Tukey's statistical test revealed a significant difference in the score of strategic thinking between two age groups: 60 - 69 years old and 80 years old and above ($P = 0.05$). However, differences in other age groups did not result in a significant difference. Additionally, the mean total hope score and its components showed a statistically significant difference based on the number of children ($P < 0.05$).

The average scores of agentive thinking, strategic thinking, and total hope score were lower in individuals without children compared to those with children. Tukey's test indicated significant differences in all areas between individuals without children and those with children ($P < 0.01$) (Table 3).

Table 1. Demographic Information of the Studied Elderly (n = 441)^a

Variables	Values
Age, y	
60 - 69	245 (55)
60 - 69	144 (33)
≥ 80	52 (12)
Gender	
Female	226 (51.2)
Male	215 (48.8)
Education status	
Uneducated	263 (59.7)
Elementary	95 (21.5)
Middle school	20 (4.5)
High school	31 (7)
University	32 (7.3)
Marital status	
Single	4 (0.9)
Married	354 (80.3)
Others	83 (18.8)
Employment status	
Retired	150 (34)
Homemaker	207 (46.9)
Other jobs	84 (19.1)
Number of children	
Without children	13 (3)
1 - 2	35 (8)
3 - 4	119 (27)
≥ 5	274 (62)

^a Values are expressed as No. (%).

Furthermore, the average scores of agentive thinking and the total hope score showed a statistically significant difference based on the level of education ($P < 0.05$). Tukey's test revealed that the mean score of agentive thinking was lower in illiterate individuals compared to those with elementary education ($P = 0.008$) and between illiterate and university-educated individuals ($P = 0.018$) (Table 4).

Lastly, a comparison of the mean scores of agentive thinking and the total hope score based on occupation showed a statistically significant difference ($P < 0.05$). Tukey's post hoc test demonstrated significant differences in the thinking score between retired individuals and homemakers ($P < 0.001$), retired individuals and freelancers ($P = 0.021$), and homemakers and freelancers

Table 2. Comparison of the Mean Total Score of Hope and Its Dimensions According to Gender and Marital Status in the Studied Elderly^a

Variables	Agentive Thinking Score (12.9 ± 2.1)	Strategic Thinking Score (14.1 ± 2.1)	Total Score of Hope (27 ± 3.3)
Sex			
Female (n = 226)	12.4 ± 2.1	14.2 ± 2	26.6 ± 3.2
Male (n = 215)	13.5 ± 1.9	14 ± 2.2	27.5 ± 3.4
Statistical test results	$t = 6.1; P < 0.001^b$	$t = 1.2; P < 0.23$	$t = 2.96; P < 0.003^b$
Marital status			
Married (n = 354)	13.2 ± 1.9	14.2 ± 2	27.4 ± 3
Others (n = 87)	12 ± 2.4	13.7 ± 2.5	25.7 ± 4.2
Statistical test results ^c	$t = 4.67; P < 0.001^b$	$t = 1.97; P < 0.05^b$	$t = 4.2; P < 0.001^b$

^a Values are expressed as mean ± SD.^b Significant at $P < 0.05$.^c t-test.**Table 3.** Comparison of the Mean Thinking Score and Its Dimensions According to the Number of Children and Age in the Studied Elderly^a

Variables	Agentive Thinking Score	Strategic Thinking Score	Total Score of Hope
Number of children			
Without children	11.9 ± 2.7	12.1 ± 3.4	24 ± 5.4
1-2	12.3 ± 1.9	14.2 ± 2.2	26.5 ± 3.4
3-4	13.3 ± 2.1	14.1 ± 2.2	27.4 ± 3.2
≥ 5	12.9 ± 2.1	14.2 ± 1.9	27.1 ± 3.2
Statistical test results ^b	$F = 3.41; P < 0.017^c$	$F = 3.38; P < 0.005^c$	$F = 4.64; P < 0.003^c$
Age			
60-69	12.8 ± 2.2	14.3 ± 2	27.1 ± 3.4
60-69	13.1 ± 1.9	13.9 ± 2.2	27 ± 3.2
≥ 80	12.9 ± 1.9	13.6 ± 2	26.5 ± 3.3
Statistical test results ^b	$F = 0.84; P < 0.43$	$F = 3.61; P < 0.028^c$	$F = 0.99; P < 0.37$

^a Values are expressed as mean ± SD.^b t-test.^c Significant at $P < 0.05$.**Table 4.** Comparison of the Mean Score of Thinking and Its Dimensions According to the Level of Education in the Studied Elderly^a

Thinking Education Level	Agentive Thinking Score	Strategic Thinking Score	Total Score of Hope
Uneducated	12.6 ± 2.1	14 ± 2.1	26.6 ± 3.4
Elementary	13.4 ± 2	14 ± 2.2	27.4 ± 3.1
Middle School	13.4 ± 2	14.7 ± 2.1	28.1 ± 2.7
High school	13.3 ± 2.1	14.3 ± 1.9	27.6 ± 3.3
University	14 ± 1.6	14.5 ± 1.8	28.5 ± 2.7
Statistical test results ^b	$F = 5.99; P < 0.001^c$	$F = 0.89; P < 0.47$	$F = 3.76; P < 0.005^c$

^a Values are expressed as mean ± SD.^b ANOVA.^c Significant at $P < 0.05$.

($P = 0.015$). Additionally, the total hope score showed a significant difference between retired elderly individuals and homemakers ($P = 0.001$).

5. Discussion

The aim of this study was to determine the state of hope and its related demographic factors in the elderly

population of Birjand city. The study's findings revealed that the mean score of agentive thinking and the overall hope score were significantly higher in men compared to women. This observation aligns with Chang's research, which demonstrated a significant gender difference in thinking and problem-solving styles. Agentive thinking was found to have a strong direct and indirect relationship with psychological adjustment, mediated through its impact on problem-solving (17).

To elucidate this phenomenon, it can be argued that according to Schneider's theory, agentive thinking plays a crucial role in all purposeful thoughts but becomes particularly significant when individuals encounter problems (8). In such situations, agentive thinking empowers individuals with the motivation to explore alternative pathways. Men, with their distinct cognitive differences in problem-solving processes, tend to perceive obstacles as challenges and redirect their motivation toward new solutions (18).

Additionally, research conducted by Castelló-Climent and Doménech indicated that, except for developed countries, gender disparities in human capital are more pronounced in various regions worldwide. This inequality in human capital has had repercussions on the life expectancy of women and men in developing countries. As the gender gap in human capital diminishes, life expectancy experiences a substantial increase (19).

This study aimed to assess the level of hope and its association with demographic factors in the elderly population of Birjand City. The research findings demonstrated that men had significantly higher mean scores in agentive thinking and overall hope when compared to women. This outcome is consistent with the findings of Chang's study, which highlighted a notable gender disparity in thinking and problem-solving approaches. Agentive thinking was identified as a key factor with a strong direct and indirect correlation to psychological adjustment, mediated through its influence on problem-solving abilities (17).

Among the other findings of this research, it was observed that there was a statistically significant difference in the mean score of agentive thinking and the total hope score based on educational attainment. In this regard, Ebadi and Salehi demonstrated in their study that the average years of education have a significant impact on life expectancy (20). These results also align with the findings of Abdollahi and Alizadeh Aghdam (21, 22).

The results of the present study indicated that married individuals had significantly higher mean scores in agentive thinking, strategic thinking, and the overall hope score compared to elderly individuals who were

either widowed or separated from their spouses. This observation resonates with the conclusions drawn by Green and Rodgers who found that married individuals tend to experience greater happiness and hopefulness when various factors are controlled (23). Bailey and Snyder's research also revealed a correlation between hope level and life satisfaction, suggesting that divorced or widowed individuals tend to have lower hope levels due to dissatisfaction with life (24).

Furthermore, the findings of the current study demonstrated a statistically significant difference in the mean score of agentive thinking and the total hope score based on occupation. Dehqani et al. observed in their study that employed individuals exhibit higher levels of hope and happiness compared to the unemployed (25). This phenomenon can be explained using Argyle's theory, which posits that most individuals experience greater happiness and hope when they are employed. Unemployment and the fear of joblessness, coupled with inadequate income, are significant sources of despair. The quality of life for an unemployed person or someone with low-paying employment significantly deteriorates due to insufficient income to meet basic life necessities. This can lead to a sense of isolation and diminished self-esteem, as the person may feel neglected and unimportant (26).

As a potential explanation for the results of the research, where individuals without children had lower mean scores in agentive and strategic thinking, as well as the overall hope score compared to other groups, it can be suggested that due to the physiological changes that occur in the elderly, coupled with their weakened health, they often require assistance from others. Consequently, having children, receiving social support, and experiencing affection from spouses, children, and significant individuals in their lives activate the peace and security systems in their brains. This, in turn, reduces the activity of defense mechanisms and tension while boosting hope (27).

In this study, a statistically significant difference in the mean score of agentive thinking based on age was observed. Specifically, the score for strategic thinking in the age group of 60 - 69 years was significantly higher than that of individuals aged 80 years and above. These findings align with the results of Gutierrez and Hershey's study, which indicated that younger adults tend to predict a brighter future for themselves compared to older individuals, consistent with the outcomes of this research (28). Marques and Gallagher's research also supported these findings by highlighting that hope levels tend to be highest in early middle age compared to late middle age (29). Additionally, Sepahvand and Karami's study reported a decline in hope levels in the second half

of middle age, particularly in the years leading up to retirement and old age (30).

Researchers suggest that the optimism and hope exhibited by younger seniors may be attributed to the fact that they continue to encounter various potential successes and setbacks during their working years. In contrast, elderly individuals who have retired from work and activity have not yet received extensive feedback regarding these experiences or the quality of life after retirement and physical limitations. Consequently, they have managed to maintain their optimism to some extent (28). In essence, during adulthood, individuals progressively assume positions of power and authority, and in midlife, they often experience peaks of achievement, mastery, and control over themselves and their environment (29). However, at the later stages of physical inactivity and full retirement, these situations may diminish, or the fear of losing them might reduce hope during this phase of old age. Indeed, people in old age often report lower levels of hope. Some theorists have proposed that in the final stage of life, individuals may encounter a “roleless role” (29). It is possible that the awareness of circumstances, such as the potential onset of rolelessness or the actual experience of unfavorable physical, financial, and social conditions, may also dampen their hope.

Another plausible explanation relates to the cognitive status of individuals. Just as increased cognitive development during childhood and beyond enhances one’s capacity to draw upon hope (8), reduced cognitive development in old age may also impact hope, encompassing agentive and strategic thinking. This explanation may clarify why there was not a significant difference in agentive thinking among the elderly in different age groups in the current study, but variations were observed in strategic thinking. This discrepancy could be attributed to diminished cognitive flexibility in old age and the potential failure of previously employed strategic thinking. Ultimately, such situations can contribute to reduced hope and a lack of clarity regarding the path forward in late old age. Furthermore, it can be posited that to further elucidate these dynamics, the presence of elderly individuals in society and their social interactions play a crucial role. These interactions provide the foundation for forming new social circles, and consequently, the elderly, with their newfound companionships, may experience a heightened sense of hope (31).

5.1. Limitations

Like any other research, the present study had its limitations. One notable limitation was that some of

the participants were not literate or faced challenges in reading the questionnaires. Consequently, the researcher had to read the questionnaire to them. This approach may have had a potential impact on the participants’ responses.

5.2. Conclusions

The aging process is inevitable, and elderly individuals have limited control over it. However, a lack of hope among the elderly can lead to various issues, including depression, irritability, a reduced threshold for tolerance, and even suicide. Given that hope is a learnable and modifiable trait, it is essential to assess the level of hope among different age groups, genders, occupations, education levels, and marital statuses among the elderly. This information is valuable for designing and implementing interventions aimed at enhancing hope in this demographic.

Based on the study’s findings, it was observed that the total hope score and agentive thinking score were significantly higher in men compared to women. Additionally, illiterate individuals had lower average scores in agentive thinking compared to other groups. Furthermore, married elderly individuals exhibited significantly higher mean scores in agentive thinking, strategic thinking, and total hope scores compared to their counterparts. Conversely, elderly individuals without children had lower scores in these aspects. Therefore, it is imperative to develop and execute educational and welfare interventions aimed at increasing hope among the elderly, particularly focusing on women, single individuals, those who are lonely, and those with lower levels of literacy.

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Footnotes

Authors’ Contribution: NM: Definition, conceptualization, methodology, writing of the original draft, review, and editing. MKh: Conceptualization, supervision, translation, and editing; MM: Definition, conceptualization, methodology, writing of the original draft, review, and editing.

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