Health Behaviors and Self-Perception of Successful Aging Among Older Adults

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Abstract
Background: Successful aging (SA) has become a central concept in understanding the quality of aging, emphasizing the importance of maintaining health, independence, and well-being in later years with a primary focus on maximizing the number of years lived in good health and with functional ability. **Aim of the study:** Assess health behaviors and self-perception of successful aging among older adults. **Subjects and Methods: Research design:** Descriptive design. **Setting:** The study was conducted at Farghan village, Diarb Negm city, Sharkia governorate, Egypt, which was randomly selected by using the multistage cluster sampling technique. **Subjects**: The study subjects were 200 rural older adults, a purposive sample was used. **Tools of data collection:** An interview questionnaire composed of two parts: demographic characteristics of the studied older adults, health profile of the studied older adults, fantastic lifestyle checklist, and self-assessed successful aging scale. **Results:** The study revealed that 74.0% of the studied older adults had fair health behaviors and 50.0% had moderate level of successful aging. **Conclusion:** A statistically significant positive correlation was found between older adults' health behaviors and successful aging scores. **Recommendations:** Development of educational programs to raise the older adult's participation in social, cultural, and political life that can increase the connection and sustainability of the local community.

Keywords: *Health Behaviors, Older Adults, Self-Perception, Successful Aging.*

Introduction

Population aging has become one of the biggest global issues. By 2030, 1 in 6 people in the world will be aged 60 years or over. At this time the share of the population aged 60 years and over will increase from 1 billion in 2023 to 1.4 billion in 2030 **(World Health Organization [WHO], 2024)**. According to central agency for public mobilization and statistics [CAPMAS], the number of older people in Egypt reached 9.3 million and representing 8.8% of the total population. This percentage is expected to rise to 17.9% in 2052 **(CAPMAS, 2024)**.

Successful ageing (SA) has become one of the most important topics in the world due to rising life expectancy and the growing percentage of older adults' population. This concept has changed the traditional focus from the negative aspects of aging related to chronic diseases, deterioration, and losses in various aspects of functioning to the positive aspects and the potential to maintain or even improve quality of life in later years. Thus, SA may offer a way to alleviate the primary strains that the aging population places on healthcare systems and financial stability **(Junaković and Ambrosi-Randić, 2022)**.

The United Nations and World Health Organization designated the years from 2021 to 2030 as the decade of healthy aging in 2020. Its goal is to advance methods that improve older adults' well-being. It emphasizes developing and maintaining functional abilities, which are influenced by an individual's innate capacity, their environment, and the ways in which these factors interact. The decade of healthy aging complements the Sustainable Development Goals timeline and expands upon the Madrid International Plan on Ageing **(United Nation, 2023)**.

Successful aging is the process of establishing a balance between developed and lost skills, making the most of one's potential, and overcoming constraints to the greatest extent feasible. Additionally, a person who accepts old age as a normal process like earlier developmental stages, can use his physical abilities appropriately, continues to actively participate in social activities, and adjusts to changes is said to be aging well **(Çelebi and Yüksel, 2022)**.

What it means to age effectively and how people assess their own aging process using their own experiences and justifications rather than outside metrics are referred as the self-perception of successful aging. It has several dimensions such as mental, emotional, social, and physical aspects. The way that older adults perceive successful aging can offer valuable insights into the issues that matter to them and could help to improve older adult service delivery procedures and regulations **(Jung and Jopp, 2024)**.

Health behaviors are a collection of deliberate activities and lifestyle decisions made by people with the goals of preventing disease, promoting overall quality of life, and preserving or enhancing their physical, mental, and social well-being. Human actions that either directly or indirectly affect our health are known as health habits and they are important factors in determining how well we age. Numerous elements including individual traits, social support, health literacy, and environmental circumstances all have an impact on these behaviors **(Zakrzewski et al., 2024)**.

Adopting a positive view on life and using techniques to improve well-being and self-awareness are key components of healthy habits, which can help people age successfully. In addition to preventing diseases and lowering morbidity rates, these practices also enhance general well-being and lower medical expenses. Healthy diet, regular exercise, stress reduction, quitting smoking, and preventative measures against the emergence of health problems are examples of health behaviors **(Kim et al., 2024)**.

Gerontological nurses support older adults in achieving successful aging by stressing the value of preserving physical health and functional capacities. Through fostering mental health, supporting constructive coping mechanisms, and assisting with behavioral adjustments, they help people adjust to age-related changes. Gerontological nurses assist older adults in accepting aging as a dynamic process by emphasizing development and well-being as opposed to merely waiting for decline to happen **(Subiyanto and Susilo, 2024)**.

Significance of the Study:

In the absence of successful aging, living longer can cause age-related deteriorations such as a higher risk of morbidity and disability, a greater need for health care services, high health costs, and a lower quality of life **(Zhu et al., 2023)**. Successful aging should be evaluated from the viewpoints of both older adults' assessment of the aging process and health behaviors that can affect their health condition. Also, people's psychological traits, changes in their social environment, and changes in their family relationships that must take into consideration to improve successful aging **(Jang, 2020)**.

Furthermore, the association between health behaviors and successful aging among older adults has only been evaluated in a few studies worldwide. In particular, none of these studies have been conducted in Egypt. Hence, the current study will be conducted to assess health behaviors and self-perception of successful aging among older adults.

Aim of the study:

The current study aims to assess health behaviors and self-perception of successful aging among older adults.

Research questions:

- What are the health behaviors among older adults?
- What is the older adults' self-perception of successful aging?

Subjects and methods:

Research design:

To conduct this study, descriptive research design was utilized.

Study setting:

The current study was carried out in Farghan village, which was selected using a multistage cluster sampling technique.

Study subjects:

A purposive sample of 200 older adults selected from the above-mentioned village based on the following inclusion criteria:

- Aged 60 years or older.
- Independent in performing their daily and instrumental activities.
- Free from communication problems (speech and hearing problems).
- Agree to participate in the study

Exclusion criteria:

- Older adults who have mental or psychological diseases.

Tool for data collection:

Tool I: A structured interview questionnaire:

An interview questionnaire with two parts was used to collect data.

Part I: Demographic characteristics of the studied older adults: This part was used to assess the demographic characteristic of the studied elderly and includes; Age, sex, marital status, level of education, residence, …… etc.

Part II: Health profile of the studied older adults: It was include the present medical history, and self-perceived health of the studied older adults. In addition to smoking habit and measurement of weight and height.

Tool II: Fantastic Lifestyle Checklist:

This checklist was developed **by Wilson and Ciliska (1984).** It was used to assess lifestyle factors (physical, psychological, and social aspects) among older adults. It consisted of eight domains with total (25) items which include, family and friends (2 items), activity related factors (3 items), nutrition (4 items), tobacco toxins (7 items), sleep and stress (3 items), type of personality (2items), insight (3 items), and periodic checkups (1 item).

Scoring system:

Items were scored using a three-point likert scale, with scores as follows; "2" for almost always, "1" for some of the time, and "0" for almost never. This checklist divided into eight domains. For each domain, the scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the domain. These scores were converted into percentage scores. The total grade was (50) grades and the older adults were considered to have a good lifestyle if the percent score was 75% or more (≥ 38 grade), fair if the percent score was from 50% to less than 75% (25-37grade), and poor if the percent score was less than 50% (< 25 grade).

Tool III: Self-Assessed Successful Aging Scale:

This scale was developed by **Phelan (2004).** It was used to evaluate how respondents self-assess successful aging. The statements cover most of the dimensions that belong to the construct of successful aging. It consisted of (20) items that related to assessment of aging among older adults.

Scoring system:

Items were scored using a three-point Likert scale, with scores as follows; "2" for totally applies, "1" for partially applies, and "0" for does not apply. The scores of the items were summed up and the total divided by the number of the items, giving a mean score. These scores were converted into percent scores. The total grade was (40) grades and the older adults were considered to have a high level of successful aging if the percent score was 75% or more (≥ 30 grade), moderate level if the percent score was from 50% to less than 75% (20-29 grade), and low level of the percent score was less than 50% (< 20 grade).

Content validity and reliability:

Three experts of community health nursing and public health reviewed and modified the study tool to test its content validity. In order to assess each item individually and determine whether or not it is relevant and appropriate to test the desired outcomes, the content validity of the study tools was measured. The reliability of tools was tested by measuring their internal consistency. It demonstrated a good level of reliability with Cronbach's Alpha as connectedness scale was 0.970, fantastic lifestyle checklist was 0.770, self-Assessed successful aging was 0.844.

Field work:

After receiving approval to proceed with the study, the researcher began planning a data collection schedule by breaking up the villages into streets. The mayor helped by assigning a facilitator to each town to help with the researcher's work. The village's senior citizens were called upon by the researcher. After introducing herself to the older individuals, the researcher would visit the study location to interview the elderly who met the requirements. After explaining the study's goal to each elderly person separately, the elderly were invited to take part. Each patient answered the research instrument surveys in private.

To gather the required information, individual interviews with older men and women were conducted in their homes. The elderly were expected to complete the questionnaires in 20 to 30 minutes. From 2:00 PM to 8:00 PM on Saturday, Monday, and Friday, the researcher spent three days in the village. The fieldwork was conducted over a six-month period, starting in early August 2024 and ending in late January 2025.

Pilot study:

The pilot study included 20 older adults about 10% of the total sample population who were chosen from the designated village in order to guarantee the tool's comprehensiveness and clarity; they were not included in the overall number of subjects.

Administration and ethical consideration:

First, using the code M.D.ZU.NUR\214\10\6\2024, the study proposal was approved by the Post Graduate Committee and Research Ethics Committee (REC) of the Zagazig University Faculty of Nursing. The study's goals and the senior patients' ability to withdraw or not participate at any time without explanation were then verbally explained to them. Additionally, following a thorough explanation of the study's purpose, each elderly patient voluntarily gave their informed consent to participate. The older patients were made aware that they

could choose not to participate in this trial. Additionally, they received assurances that any data collected from them would be kept private and utilized exclusively for research.

Statistical analysis:

The statistical analysis of data was done by using the computer software of Microsoft Excel Program and Statistical Package for Social Science (SPSS) version 25. Data were presented using descriptive statistics in the form of frequencies and percentage for categorical data, the arithmetic mean (X) and standard deviation (SD) for quantitative data. Qualitative variables were compared using chi square test, P-value to test association between two variables. Correlation coefficient test (r) was used to test the correlation between studied variables. Linear regression model was used to analysis of the relation between connectedness, health behaviors and self-perception of successful aging among older adults. Reliability of the study tools was done using Cronbach's Alpha. Degrees of significance of results were considered as follows; P-value ≥ 0.05 Not significant (NS), P-value < 0.05 Significant (S), and P-value < 0.01 Highly Significant (HS).

Results:

According to **Table 1**, the mean age of the older adults under study were 67.62 ± 6.93 years, with 68.0% of them falling between the 60 and 69 age range. In addition, 76.0% of them were married and 53.5% of them were male. In terms of educational attainment, 24.0% of them had secondary education and 20.0% of them had basic education**.** Concerning employment, 80.5% of them did not work. Also, 96.5% of the studied older adults lived with their families. Regarding monthly income, 50.0% of the older adults had sufficient income for their daily needs and 54.5% of them had pension as a source of income**.**

Figure (1) shows that 74.0% of the studied older adults had fair health behaviors.

Figure (2) shows that 50% of studied older adults had moderate level of successful aging. Also, 38.0% of them had low level**.**

Table (2) demonstrates that, there was highly statistically significant positive correlation between total older adults' health behaviors score and total successful aging score at p < 0.01.

Table (3) shows the presence of a highly significant model, as indicated by the F-test result of 70.54 with a p-value of 0.000. This model explains 64.5% of the variation in total older adults' health behaviors score, with an R-squared value of 0.645. Also, it reveals that the statistically significant independent negative predictors of older adults' health behaviors score were advanced age and obesity. While, the statistically significant independent positive predictors were sufficient income and total successful aging score.

Table (4) demonstrates the presence of a highly significant model, as indicated by the F-test result of 77.24 with a p-value of 0.000. This model explains 61.3% of the variation in total older adults' successful aging score, with an R-squared value of 0.613. Also, it reveals that sufficient income, not having chronic diseases, and total health behaviors score were statistically significant independent positive predictors of older adults' successful aging score.

Table (1): Frequency distribution of the studied older adults according to their demographic characteristics **(n=200).**

Demographic characteristics	No.	%
Age		
60-69	**136**	**68.0**
70-79	46	23.0
≥80	18	9.0
Mean ± SD **67.62 ± 6.93**		
Gender		
Male	**107**	**53.5**
Female	93	46.5
Residence		
Rural	**200**	**100.0**
Marital status		
Single	4	2.0
Married	**152**	**76.0**
Divorced	1	0.5
Widow	43	21.5
Educational level		
Don't read and write	44	22.0
Read and write	32	16.0
Basic education	40	20.0
Secondary education	**48**	**24.0**
University education	36	18.0
Occupation		
Don't work	**161**	**80.5**
Work	39	19.5
Living with whom		
Family	**193**	**96.5**
Alone	**7**	3.5
Monthly income		
Insufficient	88	44.0
Sufficient	**100**	**50.0**
Sufficient and saving	12	6.0
Source of income		
Pension	**109**	**54.5**
Sons helps	14	7.0
Official social assistance	53	26.5
Renting property	10	5.0
Free works	14	7.0

SD: Standard deviation

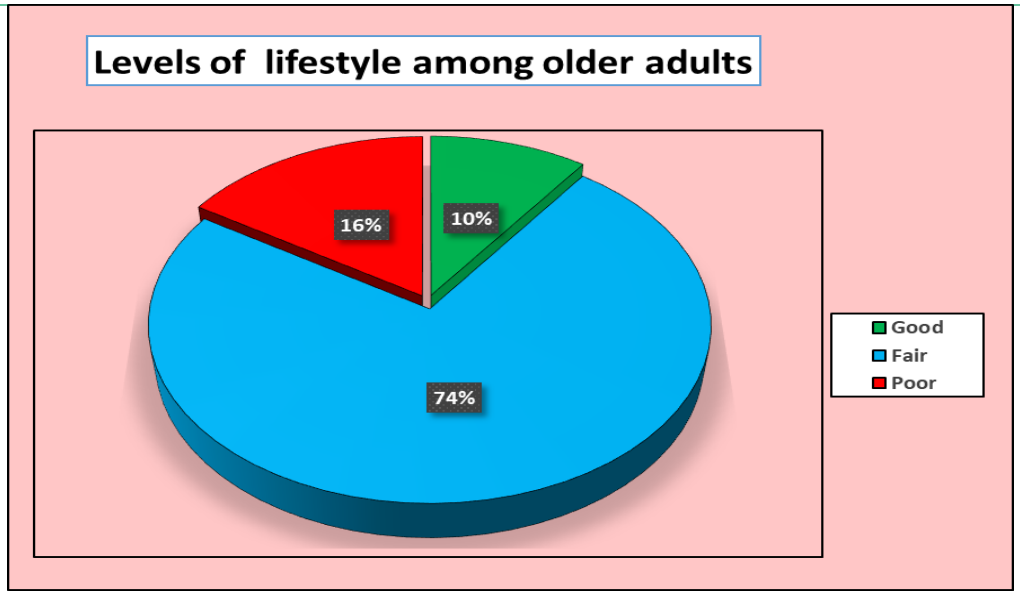

Figure (1): Percentage distribution of the studied older adults according to their total health behaviors **(n=200).**

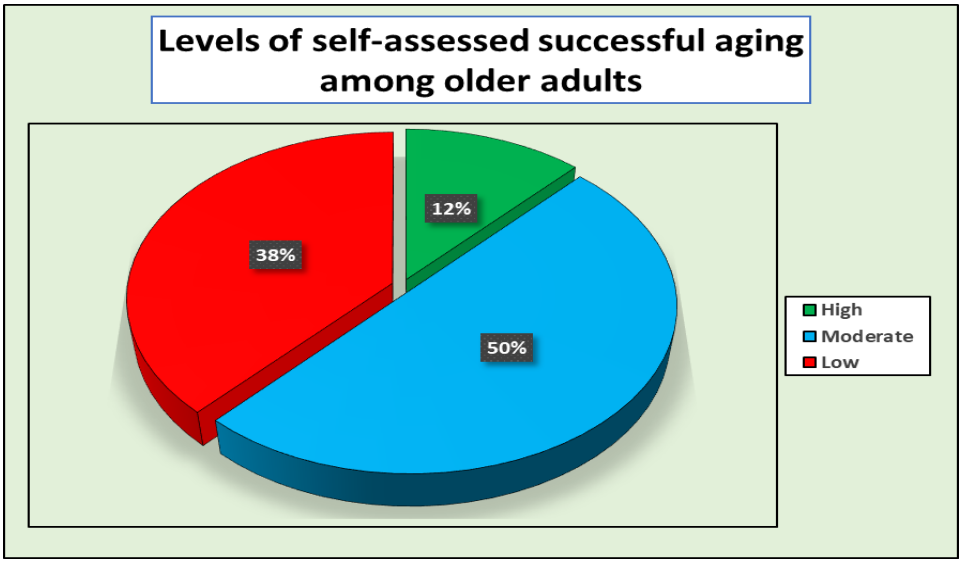

Figure (2): Percentage distribution of the studied older adults according to their total self-perception of successful aging**(n=200).**

Table (2): Correlation between total health behaviors score and total successful aging score among the studied older adults **(n=200).**

Variables		Total health behaviors score
Total health behaviors score	**R** **P**	
Total self-perception of successful aging score	**R** **P**	0.678 0.000**

r= Pearson correlation coefficient test. ** Highly statistically significant at p ‹ 0.01.

Table (3): Multiple linear regression model examining associations of characteristics of the studied older adults and total health behaviors score **(n=200)**.

Items	Unstandardized Coefficients		Standardized Coefficients	T	P. value	95% Confidence interval	
	B	Std. Error	Beta			Lower	Upper
(Constant)	1.298	.182		7.143	0.000**	.940	1.656
Age (≥ 80)	-.180-	.041	-.230-	-4.341-	0.000**	-.261-	-.098-
Monthly income (sufficient)	.127	.059	.150	2.142	0.033*	.010	.244
Body mass index (Obesity)	-.074-	.029	-.111-	-2.524-	0.012*	-.132-	-.016-
Total successful aging score	.341	.044	.443	7.733	0.000**	.254	.428

Model Summary

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate
1	0.803	0.645	0.636	0.30626

ANOVA

Model	Df.	F	P. value
Regression	5	70.54	0.000**

Dependent Variable: Total lifestyle score**.**

Variables entered and excluded: Marital status, gender, Education level, Place of residence, occupation, history from chronic diseases, smoking, and current health status**.**

B=Unstandardized Coefficients. **Beta**=Standardized Coefficients. **t:** Independent t-test. R^2 = Coefficient of multiple. * $p < 0.05$. ** $p < 0.01$.

Table (4): Multiple linear regression model examining associations of characteristics of the studied older adults and total successful aging score **(n=200)**.

Items	Unstandardized Coefficients		Standardized Coefficients	T	P. value	95% Confidence interval	
	B	Std. Error	Beta			Lower	Upper
(Constant)	.119	.138		.863	0.389	-.153-	.390
Monthly income (Sufficient)	.452	.073	.410	6.151	0.000**	.307	.597
Having chronic diseases (No)	.347	.070	.242	4.925	0.000**	.208	.485
Total health behaviors score	.628	.079	.484	7.932	0.000**	.472	.784

Model Summary

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate
1	0.783	0.613	0.605	0.41424

ANOVA

Model	Df.	F	P. value
Regression	4	77.24	0.000**

Dependent Variable: Total successful aging score**.**

Variables entered and excluded: Age, Marital status, gender, Education level, Place of residence, occupation, history from chronic diseases, smoking, Body mass index and current health status**.**

B=Unstandardized Coefficients. **Beta**=Standardized Coefficients. **t:** Independent t-test. R^2 = Coefficient of multiple. ** $p < 0.01$.

Discussion:

Pertaining health behaviors, the current study revealed that nearly three quarters of the studied older adults had fair scores of health behaviors compared to less than one fifth of them had poor scores. This might be due to chronic diseases, limited mobility, poor education, and insufficient income in rural areas that can hinder older adults' ability to maintain healthy behaviors and prevent unhealthy habits. These findings supported by **Chen and Yuan, (2022)** in China, affirmed that 76.7% of the studied participants had moderate health behaviors. Likewise, **Halloway et al., (2024)** who carried out an American study indicated that 62% of older adults had moderate level of health behaviors. This result somewhat agreed with a study made by **Qiao et al., (2025)** in China directed that 56% of the studied older adults had moderate level health behaviors.

Pertaining self-perception of successful aging, the current study clarified that half of the studied older adults had moderate level of successful aging self-perception compared to more than one third of them had low level. Similarly, this result agreed with a study performed by **Rodriguez and Mendoza-Ruvalcaba, (2020)** in Mexico, stated that 54.1% of older adults had moderate level of successful aging. Also, a study carried out by **Gu et al., (2023)** in China, reported that the 43.4% of the studied older adults had a moderate level of successful aging self-perception. Likewise, this result is in accordance with a study carried out by **Johari, Mentzel, and Barak, (2025)** in New Zealand, found that 70% of the studied older adults had moderate level of successful aging.

Pertaining to correlation between total scores of health behaviors and self-perception of successful aging, the current study highlighted that there was a highly statistically significant positive correlation between total health behaviors score and total self-perception of successful aging score. This could be interpreted as the higher health behaviors score, the higher self-perception of successful aging score. In the same respect, these findings are in harmony with a study carried out by **Wu and Sheng, (2*019*)** in China, indicated that there was a significant positive correlation between older adults' health behaviors and successful aging and they clarified that with higher levels of health behaviors, they are more likely to experience successful aging. Consistently, this result in agreement with **Zheng et al., (2022)** in China, who carried out a study mentioned that, as older adults' health behaviors increase, the probability of experiencing successful aging tends to increase.Also, this result was supported by **Zhu et al., (2023)** in China, whose study declared that presence of fair health behaviors contributed to a moderate likelihood of experiencing successful aging. This result matched with a study conducted by **Kalyoncuo and Kartin, (2025)** in Turkey, found that successful aging was positively affected by health behaviors among the studied older adults.

The current study results presented that more than two thirds of the studied older adults aged from 60 to 69 years old with a mean age 67.62± 6.93. This might be related to that this age group was the targeted population for this study and might reflect a demographic trend or an increasing population within this age range. This result was done by **Sharma, (2020)** who implemented a study in India, concluded that the mean age of studied older adults was 67.86±7.52 years. Likewise, a study managed by **Spuling et al., (2020)** in Germany, represented that the mean age of studied older adults was 62.33±11.47 years. In contrast, a study accomplished by **Kashtanova et al., (2022)** in Russia, registered that the mean (standard deviation) of the studied older adults age was 93 (2.5) years old. This could be due to health promotion, good health habits, and the healthy lifestyle in this study sample.

Moreover, the present study demonstrated that more than half of the studied older adults were males. Men are more likely to experience successful aging due to higher multimorbidity prevalence in women due to menopause and declining estrogen levels **(Zhou et al., 2024)**. Inconsistent with, a study made by **Luo et al., (2020)** in China, mentioned that more than half of the studied older adults were males. In addition, the current study confirmed that all of the studied older adults were rural residents and more than three-quarters of them were married. This outcome is in a harmony with a study carried out by **Keeratisiroj et al., (2023)** in Thailand, exposed that all the studied older adults were rural residents. Also, a study performed by **Callaghan et al., (2023)** in USA, stated that all studied older adults were rural residents. Furthermore, a study approved by

Avazzadeh et al., (2025) in Iran, pointed out that 77.5% of studied older adults were married. Likewise, this finding somewhat close to a study performed by **Mohamadzadeh et al., (2021)** in Iran, reported that 69.23% of the studied older adults were married.

Additionally, the existing study confirmed that more than half of the studied older adults had low level of education and most of them live with their families. This could be due to their old ages; as in the past time, most people didn't concern on the educational level of their children especially in agricultural environments like the study setting. Furthermore, most elderly individuals live with their families might be related to social dynamic forces and support networks available to this population. Similarly, **Gan et al., (2025)** performed a study in USA, showed that 64.1% of the studied older adults were with low educational level. Additionally, **Gerayllo et al., (2025)** who done a study in Iran, discovered that 44.7% of the studied older adults had low educational level and 79.1% of them live with their families. These findings are partially congruent with **Calasanti and King, (2021)** in Virginia, whose study stated that 80% of the studied older adults live with their families.

Also, the current study represented that the majority of the studied older adults were not working, half of them had sufficient income, and pension was the current source of income among more than half of them. This might be because most older adult individuals live with their families who help them with the costs of life and daily needs. Consequently, their monthly income becomes sufficient. This findings is compatible with a study executed by **Viljanen et al., (2024)** in Finland, reported that 58.1% of the studied elderly had sufficient income and pension was their source of income. Also**, Duman et al., (2025)** who done a study in Turkey, mentioned that 95% of the studied older adults were not working and pension was their source of income.

Pertaining best fitting multiple linear regression model for total health behaviors scores, the current study demonstrated that the statistically significant independent negative predictors of older adults' health behaviors were advanced age and obesity. While, sufficient income and total successful aging score were the statistically positive predictors of health behaviors score. This might be due to as individuals age, physiological changes and cognitive decline often reduce their capacity or willingness to engage in regular health-promoting behaviors. Obesity compounds these effects by contributing to mobility limitations, and comorbidities such as diabetes and cardiovascular disease which act as barriers to maintaining health behaviors. In contrast, sufficient income serves as a facilitator offering access to medical care and preventive services that support positive health practices.

Additionally, a highly successful aging signifies resilience and proactive coping strategies that are closely aligned with healthier lifestyle choices. Correspondingly, a study conducted by **Marconcin et al., (2021)** in Portugal, stated that health behaviors were negatively affected by advanced age and obesity. In the same context, a study conducted **Yang et al., (2020)** in China, mentioned that sufficient income, and successful aging were significant positive predictors of health behaviors.

As regard best fitting multiple linear regression model for total successful aging score, the current study portrayed that sufficient income, not having chronic diseases, and total health behaviors score were significant independent positive predictors of older adults' successful aging score. This might be due to adequate income enabling access to healthcare and healthy living conditions. Being free of chronic illness reduces physical and emotional burden allowing for active aging. Health behaviors maintain physical and cognitive function. Collectively, these factors promote autonomy, engagement, and quality of life that are considered key indicators of successful aging. Likewise, a study conducted by **Rodrigues et al., (2023)** in Germany, mentioned that sufficient income, not having chronic diseases, and health behaviors were positively associated with increased successful aging.

Conclusion:

On the light of results of the current study and answers of the research questions, it was concluded that the studied older adults had high fair scores of health behaviors and moderate scores of self-perception of successful aging. As well, there was a statistically significant positive correlation between older adults' health

behaviors and successful aging scores. On the other hand, there was a statistically significant positive correlation between older adults' total scores of health behaviors, successful aging, high educational level, sufficient income, not having chronic diseases, and not taking regular medications. Also, there was a statistically significant negative correlation between older adults' total scores health behaviors, successful aging, advanced age (≥ 80 years), and worse than before health status.

Recommendations:

In the light of the findings of the current study, the following recommendations are suggested:

- Development of educational programs to raise the older adult's participation in social, cultural, and political life that can increase the connection and sustainability of the local community.
- Investigating the factors (promotion/ obstacle) influencing successful aging, based on the perspective of the elderly to understand more broadly and deeply how they take positive measures to adapt to aging and achieve successful aging.

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AUTHOUR'S CONTRIBUTIONS

E.S.A; made the study's concept and design. R.A.A and H.S.A; conducted interpretation and analysis of data. E.S.A. and R.A.A; drafted the Article, revising it critically. H.S.A; wrote the paper and edition. The final manuscript participated, revised and approved by all authors.

DECLARATION OF CONFLICTING INTERESTS

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