Mental Health and Lifestyle Journal

Year 2027
Volume 5
Issue 5

The Relationship of Lifestyle with Resilience, Mental Health, and Negative Thinking among Older Adults Residing in Nursing Care Centers in Lahijan County

Fatemeh. Khojasteh[1], Ramezan. SoLatianaghizi[1*]

1 Department of Health Psychology, Ra.C., Islamic Azad University, Rasht, Iran
*Correspondence: Rsolati@iau.ac.ir

Article type:
Original Research

Article history:
Received 16 July 2026
Revised 08 October 2026
Accepted 18 October 2026
Initial Publish 25 October 2026
Published online 01 September2027

ABSTRACT

The present study aimed to investigate the relationship of lifestyle with resilience, mental health, and negative thinking among older adults residing in nursing care centers in Lahijan County. This applied study employed a descriptive-correlational and cross-sectional design. The statistical population consisted of all older adults residing in nursing care centers in Lahijan County. According to the available population, 85 eligible older adults were initially considered, and census sampling was used. After application of the inclusion and exclusion criteria and assessment of questionnaire completeness, data from 80 participants were analyzed. Standardized questionnaires were used to assess lifestyle, resilience, mental health, and negative thinking. Participants were aged 60 years or older and were required to have sufficient cognitive and communicative ability to understand and complete the questionnaires. Data were analyzed using IBM SPSS Statistics version 26. Descriptive statistics were used to summarize study variables, while Pearson's correlation coefficient was applied to examine bivariate relationships. Regression analysis was additionally used to examine the predictive contributions of lifestyle and resilience to negative thinking. Pearson correlation analysis showed that lifestyle was significantly and positively associated with resilience ($r = .340$, $p = .002$) and mental health ($r = .365$, $p = .001$). Lifestyle was also significantly and negatively associated with negative thinking ($r = -.256$, $p = .022$). In the regression analysis predicting negative thinking, resilience was a significant negative predictor ($B = -0.492$, $\beta = -.381$, $t = -3.502$, $p = .001$), whereas lifestyle did not make a statistically significant independent contribution ($B = -6.181$, $\beta = -.127$, $t = -1.164$, $p = .248$). The findings indicate that a more favorable lifestyle is associated with greater resilience, better mental health, and lower negative thinking among institutionalized older adults. Resilience appears to have a particularly important role in explaining negative thinking and may constitute an important target for psychological and geriatric interventions in nursing care settings.

Keywords: Lifestyle; Resilience; Mental Health; Negative Thinking; Older Adults; Nursing Care Centers

How to cite this article:
Khojasteh, F., & SoLatianaghizi, R. (2027). The Relationship of Lifestyle with Resilience, Mental Health, and Negative Thinking among Older Adults Residing in Nursing Care Centers in Lahijan County. *Mental Health and Lifestyle Journal, 5*(5), 1-17. https://doi.org/10.61838/mhlj.330

Introduction

Population aging has become one of the most consequential demographic and public-health developments of contemporary societies, requiring increasing attention not only to longevity but also to the quality of the additional years of life. Older adulthood is accompanied by substantial changes in physical capacity, social roles, family relationships, economic circumstances, autonomy, and exposure to chronic illness, all of which may influence psychological adjustment and everyday functioning. These challenges can become more pronounced among older adults residing in nursing care centers, where separation from the familiar home

© 2027 the authors. This is an open access article under the terms of the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) License.

environment, reduced independence, limitations in social participation, changes in interpersonal networks, and adaptation to institutional routines may interact with age-related vulnerabilities. Accordingly, healthy aging cannot be understood merely as the absence of disease; rather, it encompasses psychological well-being, meaningful social engagement, adaptive functioning, and the maintenance of behaviors that protect physical and mental capacities. Evidence from repeated cross-sectional research on older populations indicates that subjective quality of life in later life is shaped by a complex interaction of health, social, and functional conditions rather than chronological age alone (1). Likewise, research on older adults with dementia has shown that comorbid health conditions may be associated with social isolation, loneliness, reduced quality of life, and poorer well-being, demonstrating the close interconnection between health burden and psychosocial functioning in late life (2). These findings underscore the need to investigate modifiable psychosocial and behavioral factors that may contribute to successful adaptation among older adults, especially those living in residential care settings where environmental and personal resources may differ considerably from those of community-dwelling older people.

Lifestyle is one of the most important modifiable dimensions of healthy aging because it encompasses the relatively stable patterns through which individuals organize daily behaviors, health practices, physical activity, social participation, nutrition, leisure, self-care, sleep, and other routine aspects of life. In older age, these behaviors may assume particular importance because they can either compensate for or intensify age-related losses in physical, cognitive, and psychological functioning. Recent research among older adults in Gorgan County has demonstrated that lifestyle varies meaningfully across individuals and is associated with demographic and personal characteristics, supporting the view that lifestyle is a multidimensional construct with important implications for the health of older populations (3). Comparisons between adults over 80 years of age with and without Alzheimer's disease have also highlighted differences in lifestyle and spiritual vitality, suggesting that lifestyle patterns remain clinically and psychologically relevant even in very old age and in the presence of cognitive impairment (4). At the broader population level, lifestyle-related factors have been associated with subjective well-being among older adults, indicating that everyday behavioral patterns may contribute to how individuals evaluate their lives and experience aging (5). Moreover, life-space activity, which reflects the extent to which older individuals move through and participate in environments beyond their immediate living space, has been linked to subsequent dementia risk, further illustrating that the behavioral ecology of daily life may have implications for long-term cognitive and functional health (6). Consequently, lifestyle should not be treated as a peripheral behavioral variable but rather as a potential organizing factor connected with multiple domains of adaptation in later life.

One of the psychological constructs that may be closely related to lifestyle is resilience. Resilience refers broadly to the capacity to maintain, recover, or reorganize adaptive functioning when confronted with adversity, stress, loss, illness, or major life transitions. For older adults, resilience may be particularly important because later life often involves cumulative challenges, including bereavement, declining physical health, reduced mobility, retirement, financial dependency, and changes in living arrangements. Residence in a nursing care center may itself require major psychological adaptation, especially when institutionalization follows illness, loss of a spouse, family disruption, or reduced capacity for independent living. Studies have shown that resilience is related to several psychological and interpersonal resources in

older adults. For example, sense of coherence, perceived social support, and adaptive cognitive emotion-regulation strategies have been associated with resilience, suggesting that older adults' capacity to adapt is partly embedded in how they cognitively organize stressful experiences and perceive available interpersonal resources (7). Resilience has also been identified as a mediating psychological mechanism in the relationships between attachment-related variables, successful aging, and death anxiety, supporting its broader importance in adaptation to existential and developmental challenges in later life (8). From a wider social perspective, resilience also contributes to individuals' and communities' capacity to cope with crises and maintain effective functioning under adverse circumstances (9). These findings suggest that resilience may be influenced not only by stable personality characteristics but also by daily behaviors, social environments, coping patterns, and opportunities for meaningful engagement, making its possible association with lifestyle highly relevant in institutionalized older populations.

Physical and social components of lifestyle may be particularly relevant to resilience. A systematic review of physical activity and psychological resilience among older adults found evidence supporting an association between greater physical activity and stronger resilience, although the magnitude and mechanisms of this relationship may vary across populations and methodological designs (10). Physical activity can provide opportunities for mastery, autonomy, maintenance of functional capacity, social contact, and emotional regulation, all of which may contribute to adaptive coping. Similarly, lifestyle is intertwined with self-efficacy, social support, and social integration. A structural model of social isolation among older adults demonstrated relationships among lifestyle, self-efficacy, and perceived social support, highlighting the importance of behavioral and social dimensions of everyday life for older adults' psychosocial functioning (11). Such findings are especially important in nursing care environments, where the availability of social interaction, recreational activity, independent decision-making, and participation in routine tasks may differ from community settings. It is therefore plausible that older adults who maintain healthier and more active lifestyle patterns experience greater opportunities to preserve self-efficacy, engage with others, sustain a sense of competence, and mobilize psychological resources under stress. Conversely, restricted activity, passivity, social withdrawal, and limited engagement may weaken resilience by reducing opportunities for successful adaptation. This relationship is important to examine empirically because a significant association between lifestyle and resilience would provide support for the development of institution-based programs targeting modifiable daily behaviors rather than relying exclusively on individual psychological interventions.

Mental health represents another central component of well-being in older adulthood. Psychological health in later life can be affected by loneliness, chronic medical conditions, pain, loss of autonomy, cognitive decline, bereavement, reduced social participation, and environmental stressors. Evidence indicates that resilience and mental health are closely interconnected among older adults. Research conducted among older adults in Ahar County during the COVID-19 pandemic demonstrated a significant relationship between resilience and mental health, indicating that adaptive psychological resources may be protective during periods of widespread stress and uncertainty (12). Similarly, higher resilience and self-efficacy have been examined in relation to lower symptoms of anxiety and depression among older adults exposed to COVID-19 confinement, supporting the role of adaptive psychological capacities in preserving mental health under restrictive circumstances (13). A systematic review and meta-analytic structural equation model further

demonstrated that social support and resilience play important mediating roles in the relationship between loneliness and depression among older adults, showing that psychological well-being emerges from interconnected individual and social mechanisms (14). Psychological capital more broadly, together with personality characteristics, has also been associated with psychological well-being, emphasizing the relevance of positive psychological resources for mental health (15). These findings provide a strong conceptual basis for examining lifestyle and mental health together, because lifestyle behaviors may shape exposure to protective experiences such as physical activity, social participation, structured routines, meaningful leisure, and self-care, while unfavorable lifestyle patterns may coexist with isolation, inactivity, sleep disturbance, and reduced psychological stimulation.

The relevance of mental health becomes even greater when cognitive decline and neuropsychiatric symptoms are considered. Neuropsychiatric symptoms in Alzheimer's disease have identifiable neural correlates and may include emotional, behavioral, and cognitive disturbances that substantially affect quality of life and care needs (16). Agitation and aggression are particularly important behavioral manifestations in dementia, and systematic evidence has demonstrated the continuing challenge of accurately detecting these symptoms in people living with dementia (17). Newer approaches have attempted to predict agitation in community-dwelling people with dementia through multimodal sensors and machine-learning methods, reflecting growing interest in the early identification of behavioral deterioration and the environmental or physiological patterns that precede it (18). Although the present study does not focus specifically on dementia or behavioral disturbance, these findings illustrate a broader principle: mental and behavioral health in older age is dynamically connected with daily activity, environmental context, cognitive functioning, and patterns of engagement. For institutionalized older adults, this interaction may be especially salient because daily routines are more structured and environmental opportunities may be externally determined. Consequently, examining lifestyle alongside mental health may help clarify whether more favorable patterns of everyday living are associated with better psychological functioning within residential care environments.

Negative thinking constitutes a further dimension of psychological functioning that deserves specific attention. Negative thinking may encompass persistent pessimistic interpretations, expectations of unfavorable outcomes, recurrent negative evaluations of the self or circumstances, and cognitive tendencies that reinforce distress. In older adulthood, such patterns may emerge or intensify in response to cumulative losses, reduced autonomy, physical decline, social isolation, perceived dependency, and concerns about the future. Mild behavioral impairment and related behavioral changes in community-dwelling older adults have been associated with poorer quality of life, highlighting the clinical relevance of changes in mood, motivation, cognition, and behavior before or alongside more severe neurocognitive impairment (19). Although negative thinking is conceptually distinct from neuropsychiatric syndromes, both point to the importance of cognitive-emotional patterns in determining older adults' subjective adaptation and quality of life. Emotion-regulation processes and tolerance of distress may also be relevant to the development or persistence of negative cognitive patterns. Research in other age groups has shown that emotion regulation and distress tolerance can function as important mediating psychological mechanisms linking adverse experiences with problematic behavioral outcomes (20). While such evidence cannot be directly generalized from adolescents to institutionalized older adults, it supports the broader transdiagnostic proposition that

how individuals regulate emotional distress influences patterns of cognition and behavior across the lifespan. Within older populations, adaptive cognitive emotion-regulation strategies have already been linked to resilience (7), making it reasonable to consider negative thinking as part of a broader system in which lifestyle, emotional adaptation, resilience, and mental health may be interrelated.

Lifestyle may be inversely associated with negative thinking because healthier daily patterns can provide repeated sources of positive reinforcement, social contact, competence, routine, and meaningful activity. In contrast, inactivity, social withdrawal, unstructured time, poor sleep, and restricted engagement may increase opportunities for repetitive negative cognition and pessimistic interpretation of one's circumstances. Social isolation is particularly relevant in this regard, as it may reduce access to emotional support and alternative interpretations of stressful events, while perceived social support can function as a protective resource (11). Similarly, the relationship between loneliness, depression, social support, and resilience suggests that negative psychological states cannot be adequately explained by a single factor but instead emerge through interacting psychosocial mechanisms (14). Research on quality of life in aging populations further indicates that maintaining favorable health and psychosocial conditions is important for subjective well-being (1), while evidence regarding comorbid conditions and social isolation among people with dementia reinforces the adverse consequences of reduced social connection and cumulative health burden (2). These findings collectively suggest that lifestyle may represent a behavioral context through which psychological resources are either strengthened or weakened. Investigating its association with negative thinking can therefore contribute to a more comprehensive understanding of mental adaptation among nursing-home residents rather than limiting assessment to diagnostic symptoms of anxiety or depression.

Despite the growing literature on healthy aging, several gaps remain. Much existing research has focused on community-dwelling older adults, individuals with specific disorders such as dementia, or single outcomes such as depression, quality of life, resilience, or social isolation. Research has also increasingly emphasized sophisticated approaches to detecting cognitive and behavioral changes (17, 18), yet relatively simple and potentially modifiable behavioral dimensions such as lifestyle remain highly relevant for routine geriatric care. Studies on lifestyle among Iranian older adults have demonstrated its association with individual and psychosocial factors (3, 4), while international studies have shown associations of lifestyle and life-space activity with well-being and cognitive outcomes (5, 6). At the same time, resilience has been consistently linked with successful aging, mental health, social support, and adaptive psychological functioning (8, 12, 13). However, fewer studies have simultaneously considered lifestyle in relation to resilience, mental health, and negative thinking among older adults living in nursing care centers, particularly within specific Iranian local contexts. Residential care settings deserve focused study because lifestyle behaviors are shaped not only by personal preference but also by institutional schedules, accessibility of physical and recreational activities, social opportunities, health limitations, staff support, and environmental characteristics. Understanding these relationships can help geriatric-care administrators and mental-health professionals identify behavioral and psychological dimensions that may be considered when designing programs to promote active aging, social participation, adaptive coping, and emotional well-being among residents.

The local examination of these variables is also important because aging experiences are embedded within cultural, familial, social, and institutional contexts. Older Iranian adults may experience institutional residence in ways that differ from populations studied in other health-care systems, and the meaning of independence, family contact, social participation, and daily routine may be influenced by cultural expectations concerning family care and old age. The coexistence of lifestyle, resilience, mental health, and negative thinking therefore provides a multidimensional framework for understanding adaptation among residents of nursing care centers. Lifestyle represents the behavioral organization of everyday life; resilience reflects the capacity to cope with adversity and maintain adaptive functioning; mental health represents broader psychological well-being and distress; and negative thinking captures a cognitive orientation that may intensify maladjustment. Examining these constructs simultaneously can clarify whether a favorable lifestyle is associated not only with positive psychological characteristics but also with lower levels of maladaptive cognition. Such evidence may have practical relevance for nursing care centers because lifestyle-related interventions can potentially be incorporated into routine care through opportunities for physical activity, social interaction, structured leisure, self-care, autonomy, and meaningful participation. The importance of strengthening adaptive capacities in the face of individual and social crises has been emphasized in resilience research (9), while evidence concerning psychological well-being and positive psychological resources further supports the value of identifying modifiable correlates of mental health (15). Accordingly, an integrated examination of lifestyle and psychological functioning may provide useful evidence for both gerontological research and practice.

Therefore, the aim of the present study was to investigate the relationship of lifestyle with resilience, mental health, and negative thinking among older adults residing in nursing care centers in Lahijan County.

Methods and Materials

Study Design and Participants

The present study was applied in terms of its purpose and employed a descriptive-correlational research design. The study was conducted using a cross-sectional approach, meaning that all required data were collected from the target population during a specified period without manipulating the study variables or implementing any experimental intervention. This design was considered appropriate because the primary objective was to examine the relationships between lifestyle and resilience, mental health, and negative thinking among older adults residing in nursing care centers in Lahijan County. In terms of data collection procedures, the study combined library-based and field-based methods. Library resources were used to develop the theoretical and conceptual framework of the study, while field data were obtained directly from eligible older adults through standardized questionnaires. The statistical population consisted of all older adults residing in nursing care centers located in Lahijan County at the time of the study. According to information obtained from the relevant nursing care centers, 85 older adults met the general conditions for participation during the study period. The residents represented a relatively heterogeneous population in terms of demographic and background characteristics, including age, sex, marital status, educational level, duration of residence in the care center, and physical health status. Such diversity provided an appropriate context for examining individual differences and the associations among the main study variables. Because the total accessible population consisted of only 85 eligible older adults, a census sampling method was

employed rather than selecting a smaller sample; therefore, all eligible members of the target population were invited to participate in the study. The inclusion criteria consisted of residence in one of the nursing care centers in Lahijan County at the time of data collection, being 60 years of age or older, having sufficient ability to understand the questionnaire items and provide meaningful responses, providing informed consent to participate in the research, and having no severe cognitive or psychiatric disorder that could substantially interfere with comprehension of the questions or valid completion of the study instruments. The exclusion criteria included voluntary withdrawal from the study at any stage, incomplete completion of the questionnaires to an extent that prevented the resulting data from being used in statistical analyses, development or presence of a physical illness or condition that prevented continued participation, unwillingness or inability to cooperate in responding to the questionnaires, and provision of clearly unrealistic or invalid responses or response patterns that could not be considered scientifically interpretable. After determining eligibility and obtaining informed consent, the standardized study questionnaires were provided to all 85 eligible older adults. The questionnaires were subsequently reviewed for completeness and suitability for statistical analysis, and the usable data were coded and entered into the statistical software for analysis.

Data Collection Tools

Data were collected using standardized questionnaires designed to measure the four principal constructs of the study, namely lifestyle, resilience, mental health, and negative thinking, together with demographic and background information required to describe the characteristics of the participants. The lifestyle questionnaire was used to assess the participants' overall pattern of lifestyle-related behaviors and characteristics and provided the principal predictor variable for the study. Given the focus of the research on older adults residing in nursing care centers, the lifestyle measure was administered in a manner intended to obtain an overall assessment of the participants' lifestyle status under their current living conditions. The resilience questionnaire was used to assess the participants' capacity to adapt to, cope with, and recover from stressful or challenging life circumstances and constituted one of the main outcome variables examined in relation to lifestyle. Mental health was evaluated using a standardized mental health questionnaire intended to provide an overall assessment of the participants' psychological health status. Negative thinking was similarly assessed using a standardized questionnaire measuring the extent to which participants demonstrated negative patterns of thought and cognitive orientation. All four questionnaires were administered to the eligible participants under comparable data collection conditions to promote consistency in measurement. Participants were provided with the necessary explanations regarding how to complete the instruments, and particular attention was paid to ensuring that older participants were able to understand the questions appropriately. Participation remained voluntary, and respondents were expected to answer the questionnaire items according to their actual experiences and current conditions. Demographic information, including relevant characteristics such as age, sex, marital status, educational level, duration of residence in the nursing care center, and physical health status, was also collected to describe the study population. After completion, the questionnaires were examined for missing or unusable information, and responses that met the predetermined criteria for valid completion were coded for statistical analysis. Because the exact names, developers, number of items, scoring procedures, subscales,

and psychometric properties of the standardized lifestyle, resilience, mental health, and negative-thinking questionnaires were not specified in the study information provided, these characteristics should be reported according to the specific versions of the instruments actually administered in the study rather than being inferred or substituted with other measures.

Data Analysis

Following data collection, the completed questionnaires were reviewed, coded, and entered into IBM SPSS Statistics version 26 for statistical analysis. Data analysis was performed at both descriptive and inferential levels. Descriptive statistics were used to summarize the demographic characteristics of the participants and to describe the distribution of the principal study variables, including lifestyle, resilience, mental health, and negative thinking. Appropriate descriptive indices, including frequency and percentage for categorical variables and measures such as the mean and standard deviation for quantitative variables, were used to provide an overall description of the study population and the observed scores. At the inferential level, Pearson's product-moment correlation coefficient was employed to examine the relationships between lifestyle and each of the three principal variables of resilience, mental health, and negative thinking. Accordingly, separate correlation coefficients were calculated to determine the direction and magnitude of the association between lifestyle and resilience, between lifestyle and mental health, and between lifestyle and negative thinking. Before conducting the inferential analyses, the data were screened for completeness and suitability for analysis, and questionnaires that did not meet the predetermined criteria for valid completion were excluded where necessary. The statistical findings were interpreted according to the magnitude and direction of the obtained correlation coefficients and their corresponding significance levels. This analytical strategy was consistent with the descriptive-correlational and cross-sectional nature of the study, as the purpose was to determine whether statistically significant associations existed among the variables rather than to establish causal relationships or assess the effects of an experimental intervention.

Findings and Results

The final sample consisted of 80 older adults residing in nursing care centers in Lahijan County. Of the participants, 32 (40.0%) were men and 48 (60.0%) were women, indicating a higher proportion of women in the study sample. Participants ranged in age from 60 to 94 years. The highest frequency was observed among 83-year-old participants, with 6 individuals (7.5%), followed by those aged 81, 86, and 94 years, with 5 participants (6.3%) in each age group. In contrast, the ages of 63, 64, 69, 70, 77, 85, and 87 years were each represented by one participant (1.3%), indicating that the sample covered a relatively broad range of older adulthood. Regarding educational attainment, 35 participants (43.8%) had less than a high school diploma, 20 (25.0%) had a high school diploma, 8 (10.0%) held an associate degree, 12 (15.0%) held a bachelor's degree, and 5 (6.3%) had a master's degree or higher. Thus, 68.8% of the participants had either less than a high school education or a high school diploma, whereas 31.3% had an associate degree or higher. Overall, the demographic profile indicates that the sample predominantly consisted of women and individuals with lower levels of formal education, while representing a wide age range from 60 to 94 years.

Table 1. Descriptive Statistics for the Study Variables

Variable	N	Minimum	Maximum	M	SD	Skewness	Kurtosis

Mental health	80	36.00	74.00	53.40	7.38	0.097	0.328
Resilience	80	31.00	68.00	50.22	9.35	-0.210	-0.790
Negative thinking	80	58.00	111.00	89.15	12.08	-0.120	-0.830
Lifestyle	80	1.98	3.02	2.49	0.24	0.080	-0.630

As shown in Table 1, complete data were available for all 80 participants on the four principal study variables. The mean mental health score was 53.40 (SD = 7.38), with scores ranging from 36.00 to 74.00. The mean resilience score was 50.22 (SD = 9.35), with a range of 31.00 to 68.00, while the mean negative-thinking score was 89.15 (SD = 12.08), ranging from 58.00 to 111.00. Lifestyle scores ranged from 1.98 to 3.02, with a mean of 2.49 (SD = 0.24). Negative thinking showed the greatest raw-score variability, whereas lifestyle showed the smallest; however, direct comparison of standard deviations should be interpreted cautiously because the variables were measured on different scales. The skewness values ranged from -0.210 to 0.097 and the kurtosis values ranged from -0.830 to 0.328, indicating no substantial departure from symmetry or marked distributional irregularity. This pattern was also consistent with the reported normality tests, for which the significance values exceeded .05 for all study variables, supporting the use of parametric statistical procedures.

Table 2. Pearson Correlations Between Lifestyle and the Study Variables

Variables	r	p	Interpretation
Lifestyle and resilience	0.340	.002	Significant positive relationship
Lifestyle and mental health	0.365	.001	Significant positive relationship
Lifestyle and negative thinking	-0.256	.022	Significant negative relationship

The Pearson correlation results presented in Table 2 indicated that lifestyle was significantly associated with all three study variables. Lifestyle demonstrated a positive and statistically significant relationship with resilience, r = .340, p = .002, indicating that participants with more favorable lifestyle scores tended to report higher levels of resilience. A significant positive association was also found between lifestyle and mental health, r = .365, p = .001. Thus, more favorable lifestyle scores were associated with better mental health among the older adults participating in the study. In contrast, lifestyle was negatively and significantly related to negative thinking, r = -.256, p = .022, indicating that higher lifestyle scores were associated with lower levels of negative thinking. Among the three correlations, the relationship between lifestyle and mental health was numerically the strongest, followed by the association between lifestyle and resilience, whereas the association with negative thinking was weaker and inverse in direction. Collectively, these findings support all three correlational hypotheses and suggest that a more favorable lifestyle is associated with greater resilience and mental health and with lower negative thinking among older adults residing in nursing care centers in Lahijan County. Because the study employed a cross-sectional correlational design, however, these associations should not be interpreted as evidence of causal effects.

Table 3. Regression Coefficients for Predicting Negative Thinking from Lifestyle and Resilience

Predictor	B	SE	β	t	p
Constant	129.307	12.787	—	10.112	< .001
Lifestyle	-6.181	5.312	-0.127	-1.164	.248
Resilience	-0.492	0.141	-0.381	-3.502	.001

The regression coefficients presented in Table 3 show that, when lifestyle and resilience were entered simultaneously as predictors of negative thinking, resilience emerged as a statistically significant negative predictor, whereas lifestyle did not make a statistically significant unique contribution to the prediction of negative thinking. Specifically, resilience had an unstandardized regression coefficient of B = -0.492 (SE = 0.141), with a standardized coefficient of β = -.381, t = -3.502, p = .001. This result indicates that, after controlling for lifestyle, each one-unit increase in resilience was associated with an estimated 0.492-unit decrease in negative-thinking scores. The standardized coefficient further indicates a moderate inverse predictive relationship between resilience and negative thinking. Lifestyle also had a negative regression coefficient, B = -6.181 (SE = 5.312), β = -.127, but its contribution was not statistically significant, t = -1.164, p = .248. Therefore, although the bivariate correlation analysis demonstrated a significant negative association between lifestyle and negative thinking, lifestyle did not independently predict negative thinking after resilience was simultaneously included in the regression model. This distinction suggests that part of the bivariate association between lifestyle and negative thinking may overlap with individual differences in resilience.

Discussion and Conclusion

The present study investigated the relationship of lifestyle with resilience, mental health, and negative thinking among older adults residing in nursing care centers in Lahijan County. The findings showed that lifestyle was significantly and positively associated with resilience and mental health, while it was significantly and negatively associated with negative thinking. More specifically, the correlation between lifestyle and resilience was positive and statistically significant, indicating that older adults with more favorable lifestyle scores tended to report higher levels of resilience. Lifestyle was also positively associated with mental health, suggesting that better lifestyle patterns were accompanied by more favorable psychological health. In contrast, the relationship between lifestyle and negative thinking was inverse, meaning that older adults with more favorable lifestyle profiles tended to report lower levels of negative cognition. The regression analysis further indicated that, when lifestyle and resilience were entered simultaneously as predictors of negative thinking, resilience remained a significant negative predictor, whereas lifestyle no longer made a statistically significant unique contribution. This pattern suggests that the bivariate relationship between lifestyle and negative thinking may be partly explained through psychological resources associated with resilience. Overall, the findings support the view that lifestyle in later life is not limited to behavioral routines, but is closely connected with adaptive psychological capacities and cognitive-emotional functioning in institutionalized older adults.

The positive relationship observed between lifestyle and resilience is consistent with the broader literature emphasizing the role of behavioral, interpersonal, and adaptive resources in successful aging. Resilience in

older adulthood is increasingly understood as a dynamic capacity shaped not only by personality, but also by daily activities, environmental opportunities, social support, perceived control, and cognitive-emotional regulation. Previous research has shown that resilience is associated with perceived social support, sense of coherence, and adaptive cognitive emotion-regulation strategies among older adults, suggesting that those who maintain more adaptive patterns of engagement may also be better equipped to cope with stress and adversity (7). This interpretation is also supported by evidence that physical activity is positively related to psychological resilience in older populations (10). Physical activity and other health-promoting behaviors may strengthen resilience through several mechanisms, including enhanced self-efficacy, improved functional ability, greater social participation, better mood regulation, and increased confidence in one's capacity to manage everyday challenges. In the context of nursing care centers, these mechanisms may be especially important because institutionalized older adults are frequently exposed to losses in autonomy, reduced mobility, restricted social roles, and changes in family contact. Under such conditions, an active and health-promoting lifestyle may help preserve a sense of agency and continuity, which in turn can strengthen the capacity to adapt to difficult circumstances.

The findings are also compatible with Iranian research showing that lifestyle is an important component of older adults' psychosocial functioning. Lifestyle among older adults has been shown to vary according to demographic and contextual factors and to constitute a meaningful indicator of health-related functioning (3). Similarly, differences in lifestyle have been reported among very old adults with and without Alzheimer's disease, suggesting that lifestyle remains relevant even at advanced ages and in the presence of cognitive vulnerability (4). The current finding that a more favorable lifestyle is associated with greater resilience may therefore reflect the cumulative effect of behaviors that promote physical functioning, social connectedness, cognitive engagement, and emotional balance. This interpretation also aligns with research indicating that social resilience is important in the management of social crises and adversity (9). Although social resilience and individual psychological resilience are not identical constructs, both emphasize the capacity to maintain functioning and recover from disruption. For older adults living in institutional settings, access to meaningful daily routines, interpersonal contact, participation in activities, and opportunities for autonomy may constitute important behavioral pathways through which resilience is sustained.

The significant positive association between lifestyle and mental health is likewise consistent with previous evidence linking healthier patterns of activity and social engagement with better psychological outcomes in older adults. Lifestyle includes multiple behaviors that can influence mental health, such as physical activity, sleep habits, social participation, leisure engagement, nutritional practices, self-care, and involvement in meaningful daily routines. These behaviors may directly affect mood, perceived autonomy, cognitive stimulation, and social connectedness. The findings of the present study correspond with research showing that lifestyle factors are associated with subjective well-being among older adults (5). Subjective well-being and mental health are conceptually distinct, but both reflect important aspects of psychological adjustment and may share common behavioral determinants. Likewise, research on life-space activity has shown that greater engagement with one's physical and social environment is associated with more favorable aging outcomes, including lower risk of incident dementia (6). This suggests that the extent to which older adults remain behaviorally and socially active may have consequences beyond physical functioning and may contribute to psychological and cognitive health.

The observed relationship between lifestyle and mental health may also be understood through the role of resilience as a protective factor. Previous research has demonstrated a significant relationship between resilience and mental health among older adults (12), while higher resilience and self-efficacy have also been associated with lower symptoms of anxiety and depression during periods of social restriction and stress (13). A systematic review and meta-analytic structural equation model further showed that resilience and social support mediate the relationship between loneliness and depression among older adults (14). These studies collectively indicate that older adults with stronger psychological resources may be better able to maintain mental health in the face of stress, isolation, and age-related adversity. From this perspective, lifestyle may contribute indirectly to mental health by providing repeated opportunities for competence, social contact, physical activation, and emotional regulation, all of which can reinforce resilience. Thus, the positive association identified in the present study may reflect a broader system in which behavioral and psychological resources interact to protect mental health.

The present finding is also consistent with research emphasizing that psychological well-being in old age is influenced by multiple individual and contextual factors. Psychological capital, including constructs such as hope, optimism, resilience, and self-efficacy, has been associated with psychological well-being (15). In addition, repeated cross-sectional evidence indicates that quality of life among older adults is influenced by health, social, and functional conditions (1). These findings are relevant to residents of nursing care centers because institutional living may either support or undermine these conditions depending on the availability of meaningful activities, interpersonal interaction, autonomy, and health-promoting routines. A structured but passive lifestyle, for example, may reduce opportunities for self-determination and mastery, whereas a more active lifestyle may create opportunities for engagement and competence. The present findings therefore support the assumption that lifestyle should be regarded as a potentially important psychosocial correlate of mental health in older adults residing in institutional settings.

The inverse relationship between lifestyle and negative thinking represents another important finding. Older adults with more favorable lifestyle scores reported lower levels of negative thinking, suggesting that health-promoting and socially engaging patterns of daily life may be associated with a less pessimistic or maladaptive cognitive orientation. This result is conceptually plausible because negative thinking often develops and persists in contexts characterized by inactivity, isolation, reduced reinforcement, perceived helplessness, and limited opportunities for meaningful engagement. In contrast, an active lifestyle may expose older adults to more frequent positive experiences, interpersonal interactions, and opportunities for successful task completion, all of which may counteract repetitive negative cognition. The observed inverse relationship is broadly consistent with evidence showing that social isolation among older adults is associated with lifestyle and perceived social support (11). Reduced social interaction may limit access to emotional reassurance and alternative perspectives, increasing the likelihood that negative thoughts become repetitive or entrenched. Conversely, greater social participation and perceived support may weaken negative cognitive cycles.

The relationship between lifestyle and negative thinking may also be interpreted in light of findings on loneliness, depression, and resilience. The systematic evidence showing that social support and resilience mediate the relationship between loneliness and depression suggests that cognitive-emotional distress in older adults is shaped by a network of interpersonal and adaptive resources rather than by a single isolated

factor (14). Older adults who maintain a more favorable lifestyle may have greater opportunities for interpersonal contact, self-care, physical activity, and meaningful engagement, which may reduce loneliness and strengthen resilience. These processes may in turn decrease the tendency toward negative thinking. Moreover, mild behavioral impairment has been associated with poorer quality of life among community-dwelling older adults (19), highlighting the importance of changes in mood, motivation, and cognition in determining subjective adaptation in later life. Although negative thinking is not equivalent to mild behavioral impairment, both reflect the broader significance of behavioral and cognitive-emotional patterns in the quality of aging.

The regression findings provide an additional layer of interpretation. Although lifestyle was significantly and negatively correlated with negative thinking at the bivariate level, it did not significantly predict negative thinking after resilience was included in the regression model. In contrast, resilience remained a significant negative predictor. This suggests that resilience may account for some of the variance shared by lifestyle and negative thinking. In practical terms, older adults with favorable lifestyles may tend to develop or maintain greater resilience, and it may be this psychological capacity that is more proximally related to lower negative thinking. This interpretation is supported by studies showing that resilience is strongly connected with adaptive cognitive and emotional processes in older adults (7, 8). Resilience may help older adults reinterpret stressful events, tolerate uncertainty, regulate negative emotions, and maintain a sense of competence despite losses and limitations. These processes are directly relevant to negative thinking, because individuals with stronger resilience may be less likely to engage in persistent pessimistic or defeat-oriented cognition.

The regression pattern may also indicate that lifestyle operates through indirect pathways rather than exerting a strong independent effect on negative thinking once psychological resources are considered. Lifestyle may influence negative cognition by strengthening resilience, preserving social contact, reducing isolation, and increasing opportunities for activity and mastery. Previous work has shown that lifestyle, self-efficacy, and perceived social support are structurally related to social isolation in older adults (11), while resilience is related to successful aging and lower death anxiety (8). Taken together, these findings support a model in which lifestyle contributes to a broader adaptive system rather than functioning as an isolated determinant. This interpretation is important because it cautions against simplistic causal assumptions. Improving lifestyle alone may not automatically reduce negative thinking unless interventions also strengthen resilience, perceived competence, social connection, and emotional regulation.

The findings can also be situated within the wider literature on cognitive and behavioral vulnerability in older age. Neuropsychiatric symptoms in Alzheimer's disease have identifiable neural bases and can substantially affect functioning and quality of life (16). Agitation and aggression in dementia similarly represent important behavioral manifestations that require accurate recognition and management (17). Recent work has even explored multimodal sensor-based prediction of agitation among community-dwelling people with dementia (18). Although the participants in the present study were not selected on the basis of dementia or neuropsychiatric diagnosis, these studies illustrate the increasing recognition that behavior, cognition, environment, and daily activity are closely interconnected in older adulthood. The current results extend this perspective by showing that, even at a nonclinical correlational level, lifestyle is related to resilience, mental health, and negative thinking. This reinforces the importance of considering everyday behavioral patterns when evaluating psychological functioning among older adults.

The findings also accord with evidence that adverse cognitive-emotional outcomes are influenced by broader self-regulatory mechanisms. Although conducted in a younger population, research demonstrating the mediating roles of emotion regulation and distress tolerance in the relationship between adverse experiences and problematic behaviors supports the general principle that self-regulatory capacities shape how individuals respond to stress (20). In older adults, resilience may function as one such regulatory resource. A favorable lifestyle may provide the environmental and behavioral conditions under which resilience can be exercised and strengthened, whereas an impoverished lifestyle may reduce access to such resources. Therefore, the present results should be understood within a multidimensional framework in which lifestyle, resilience, mental health, and negative thinking interact rather than operate independently.

Taken together, the findings suggest that lifestyle is meaningfully associated with psychological adaptation among older adults in nursing care centers. Better lifestyle scores were related to greater resilience and better mental health and to lower negative thinking. At the same time, the regression analysis showed that resilience was a more robust independent predictor of negative thinking than lifestyle. This pattern highlights resilience as a potentially central psychological mechanism linking everyday lifestyle with cognitive-emotional outcomes. It also suggests that interventions in residential care settings may be most effective when they combine improvements in daily lifestyle with programs aimed at strengthening coping, autonomy, social participation, and psychological flexibility rather than focusing exclusively on behavioral routines.

The present study has several limitations that should be considered when interpreting the findings. First, the cross-sectional correlational design prevents causal conclusions, and therefore it cannot be determined whether a more favorable lifestyle leads to greater resilience and better mental health or whether psychologically healthier and more resilient older adults are more likely to maintain a favorable lifestyle. Second, the study was conducted among older adults residing in nursing care centers in Lahijan County, which limits the generalizability of the findings to community-dwelling older adults, residents of other regions, or older adults living in different institutional environments. Third, the final sample size was relatively limited, and although census sampling was used within the accessible population, the statistical power for detecting smaller effects and testing more complex models may have been constrained. Fourth, the variables were assessed through self-report questionnaires, which may be influenced by social desirability, recall limitations, response tendencies, fatigue, or differences in comprehension among older participants. Fifth, potentially relevant variables such as duration of institutionalization, chronic disease burden, medication use, cognitive status, family contact, level of physical disability, social support, and participation in institutional activities were not included in the main analyses. Finally, the regression results available for the present study did not include full model-fit statistics such as R^2, adjusted R^2, or the overall F statistic, which limits interpretation of the total explanatory power of the predictive model.

Future studies should employ longitudinal designs to clarify the temporal direction of the relationships among lifestyle, resilience, mental health, and negative thinking. Larger multicenter studies involving nursing care centers from different cities and provinces would improve representativeness and permit examination of institutional and regional differences. Future research should also compare institutionalized and community-dwelling older adults to determine whether the strength and pattern of these associations differ according to living arrangement. Structural equation modeling or mediation analysis could be used to

test whether resilience mediates the relationship between lifestyle and negative thinking or mental health. It would also be useful to include variables such as perceived social support, loneliness, self-efficacy, cognitive emotion regulation, physical activity, sleep quality, chronic illness, duration of residence, family contact, and functional independence. Mixed-method studies could provide additional insight into how older adults themselves perceive the influence of institutional routines and lifestyle opportunities on their psychological well-being. Finally, intervention studies should evaluate whether structured improvements in physical activity, social participation, leisure engagement, and self-care can produce measurable improvements in resilience, mental health, and negative thinking over time.

Nursing care centers should consider lifestyle promotion as an integral component of psychological and geriatric care rather than as a supplementary recreational activity. Daily programs should provide older residents with regular opportunities for safe physical activity, social interaction, meaningful leisure, participation in decision-making, and age-appropriate self-care. Psychological interventions aimed at strengthening resilience should be incorporated into routine services, particularly for residents who show persistent negative thinking, low perceived control, or difficulty adapting to institutional life. Staff can support resilience by encouraging autonomy where possible, recognizing residents' competencies, facilitating contact with family and peers, and involving residents in purposeful activities that provide a sense of achievement. Screening for negative thinking and mental-health difficulties should be conducted periodically so that vulnerable residents can be identified early. Multidisciplinary collaboration among psychologists, nurses, physicians, occupational therapists, social workers, and care staff may help create individualized lifestyle plans that address both behavioral and psychological needs and promote a more active, socially connected, and psychologically supportive residential environment.

Acknowledgments

The authors express their deep gratitude to all participants who contributed to this study.

Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

References

1. Felsinger R, Mayer S, Haidinger G, Simon J. Aging well? Exploring self-reported quality of life in the older Austrian population based on repeated cross-sectional data. Journal of Aging & Social Policy. 2025;37(4):654-70. doi: 10.1080/08959420.2024.2423102.
2. Sabatini S, Martyr A, Hunt A, Gamble LD, Matthews FE, Thom JM, et al. Comorbid health conditions and their impact on social isolation, loneliness, quality of life, and well-being in people with dementia: Longitudinal findings from the IDEAL programme. BMC Geriatrics. 2024;24:23. doi: 10.1186/s12877-023-04601-x.
3. Soleimaninasab M, Juybari L, Nikbakht R, Zhianfar L, Eilali Ea-S. Lifestyle among Older Adults in Gorgan County and Its Associated Factors. Journal of Mazandaran University of Medical Sciences. 2025;35(248):104-11.
4. Afrooz GA, Azizi M. Comparing Lifestyle and Spiritual Vitality among Adults over 80 with and without Alzheimer's Disease. Journal of Psychological Science. 2025;24(146):11-25.
5. Qin A, Wu Y, Xin T, Xu L, Fu J. Lifestyle factors and subjective well-being among older adults in China: A national community-based cohort study. Geriatric Nursing. 2024;57:232-42. doi: 10.1016/j.gerinurse.2024.04.018.
6. Doi T, Makino K, Tomida K, Tsutsumimoto K, Sakimoto F, Matsuda S, et al. Life-space activities and incident dementia among older adults: Insights from a cohort study. Journal of the American Medical Directors Association. 2025;26(2):105416. doi: 10.1016/j.jamda.2024.105416.
7. Norouzi Homayoun MR, Sadeghi M, Sadri Damirchi E, Hataminejad M. The Relationship of Sense of Coherence and Perceived Social Support with Resilience: The Mediating Role of Adaptive Cognitive Emotion Regulation Strategies among Older Adults. Aging Psychology. 2024;10(4):405-27.
8. Rezaei F, Momeni K, Moradi A. The Relationship of Attachment Styles with Successful Aging and Death Anxiety: The Mediating Role of Resilience. Aging Psychology. 2024;10(2):221-42.
9. Abedi A, Chu CH, Khan SS. Benchmarking early agitation prediction in community-dwelling people with dementia using multimodal sensors and machine learning. [Preprint]. In press 2025.
10. Toth EE, Ihász F, Ruíz-Barquín R, Szabo A. Physical activity and psychological resilience in older adults: A systematic review of the literature. Journal of Aging and Physical Activity. 2024;32(2):276-86. doi: 10.1123/japa.2022-0427.
11. Sayyar Irani F, Beshardoost S, Mirhashemi M. Presenting a Structural Model of Social Isolation Based on Lifestyle and Self-Efficacy: The Mediating Role of Perceived Social Support among Older Adults. Clinical Psychology and Personality. 2025;23(2):87-98.
12. Shahbazi A, Sabour M, Zandieh Z, Hosseinzadeh S, Miri L. Examining the Relationship of Resilience with Mental Health among Older Adults in Ahar County during the COVID-19 Pandemic in 2021. Salmand. 2024(74):208-21.
13. Pérez-Jiménez D, Maldonado-Martínez JA, Jiménez-Torres A. Resilience, self-efficacy, and symptoms of anxiety and depression in older adults during COVID-19 confinement. Puerto Rico Health Sciences Journal. 2024;43(1):32-8.
14. Wen Z, Wang H, Liang Q, Liu L, Zhang W, Zhang X. Mediating effect of social support and resilience between loneliness and depression in older adults: A systematic review and meta-analytic structural equation modeling. Journal of Affective Disorders. 2024;365:246-57. doi: 10.1016/j.jad.2024.08.062.
15. Nemati F, Qader al-Shateri PH. The Relationship of Five-Factor Personality Traits and Psychological Capital with Psychological Well-Being. Modern Psychological Research. 2025;20(80):203-16.
16. Zhang NK, Zhang SK, Zhang LI, Tao HW, Zhang GW. The neural basis of neuropsychiatric symptoms in Alzheimer's disease. Frontiers in Aging Neuroscience. 2024;16:1487875. doi: 10.3389/fnagi.2024.1487875.
17. Wong B, Wu P, Ismail Z, Watt J, Goodarzi Z. Detecting agitation and aggression in persons living with dementia: A systematic review of diagnostic accuracy. BMC Geriatrics. 2024;24:559. doi: 10.1186/s12877-024-05143-6.
18. Abedi R, Shahmohammadi M. The Role of Social Resilience in Managing Social Crises. Internal Security Studies and Research. 2025;3(1):130-64.
19. Warring I, Guan D, Ballard C, Creese B, Corbett A, Pickering E, et al. Mild behavioral impairment and quality of life in community dwelling older adults. International Journal of Geriatric Psychiatry. 2024;39(10):e6153. doi: 10.1002/gps.6153.

20. Valiei Z, Zemestani M, Sobhani B. Structural Relationships of Childhood Trauma with Internet Addiction and High-Risk Behaviors among Adolescents: The Mediating Role of Emotion Regulation and Distress Tolerance. Applied Psychology. 2025;19(4):159-83.