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Associations of self-perceived successful aging in young-old versus old-old adults

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Abstract

Background—The aim of this research was to compare associations of self-perceived successful aging (SPSA) among Young-Old (Y-O; age 50–74 years) versus Old-Old (O-O; 75–99 years) community-dwelling adults. To our knowledge, this is the first study to compare respondents' self-perceptions of successful aging among O-O relative to Y-O adults.

Methods—Participants included 365 Y-O and 641 O-O adults. The two age groups were compared in terms of the association of SPSA with other preselected measures including sociodemographic information, physical and mental functioning, objective and subjective cognitive functioning, emotional health, and positive psychological constructs.

Results—The O-O group reported higher levels of SPSA than the Y-O group. In multiple regression modeling examining predictors of SPSA in each group, there was a tendency toward lower associations in the O-O group overall. Most notably, the associations between physical and mental functioning with SPSA were significantly lower in the O-O versus Y-O group. There were no associations with SPSA that were significantly higher in the O-O versus Y-O group.

Conclusion—The lower predictive power of physical and mental functioning on SPSA among O-O relative to Y-O adults is particularly noteworthy. It is apparent that SPSA is a multidimensional construct that cannot be defined by physical functioning alone. Continuing to clarify the underlying factors impacting SPSA between groups may inform tailored interventions to promote successful aging in Y-O and O-O adults.

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Conflict of interest

None

Author contributions

Averria Sirkin Martin: report conception and design, interpretation of data, preparation of manuscript, final approval. Barton W. Palmer: report conception and design, interpretation of data, preparation of manuscript, final approval. David Rock: analysis and interpretation of data, final approval. Camille V. Gelston: analysis and interpretation of data, final approval. Dilip V. Jeste: study and report conception and design, interpretation of data, preparation of manuscript, final approval.

Keywords

successful aging; young-old; old-old; well-being

Introduction

The industrialized nations are experiencing a rapid shift in the number of older adults, particularly among the “oldest-old.” For instance, within the U.S. alone there are approximately 40 million individuals over the age of 65 (Administration on Aging (AOA), 2011) and nearly half of these individuals are over the age of 75 (Howden and Meyer, 2011). While aging has traditionally been viewed as a period of decline in physical, cognitive, and psychosocial health, recent literature has shown that many elderly individuals consider themselves to be aging successfully (Montross *et al.*, 2006; Jeste *et al.*, 2013) and report increased subjective well-being (SWB) with age (Gana *et al.*, 2013) even in spite of age related declines. Self-rated successful aging may be a powerful indicator of well-being (Strawbridge *et al.*, 2002; Li *et al.*, 2006; Jeste *et al.*, 2013). Thus, clarification of factors underlying the perceptions of those who see themselves as aging successfully could inform intervention strategies to improve well-being among the remainder of the aging population (cf. Ní Mhaoláin *et al.*, 2012).

Although not framed explicitly in reference to “successful aging,” Ferraro (1980) found that individuals aged 75 years and above, in spite of more health-related problems, rated their health more positively than those aged 65–74 years. This is important as subjective self-reports of health or well-being predicts subsequent mortality even after accounting for variance in objective health indices (DeSalvo *et al.*, 2006; Diener and Chan, 2011). This calls us to consider the factors that are associated with the subjective experience of aging in old-old (O-O) compared to young-old (Y-O) adults. We found three empirical studies that compared successful aging between different age categories of older adults (Garfein and Herzog, 1995; Chou and Chi, 2002; Cherry *et al.*, 2013b). These studies found significant differences between categories of younger- and older-old age groups on a variety of factors that are commonly included in objective successful aging. In particular, the oldest groups tended to have worse status in terms of physical health (Cherry *et al.*, 2013b), everyday functioning, cognitive functioning, and productive involvement (Garfein and Herzog, 1995; Chou and Chi, 2002). It is important to note that while all of the above studies used multidimensional models of successful aging, they used objective or researcher defined criteria for successful aging (i.e. physical health, mental health, cognitive health) and none of them examined successful aging from the perspective of the individual “ager” (i.e. self-perceived successful aging (SPSA)). In addition, there are a number of studies that focus on successful aging in either Y-O or O-O adults, but do not compare these groups in terms of SPSA.

In a prior report, we found that aging was associated with a progressive increase in medical comorbidity, yet self-rated successful aging progressively increased with age and appeared closely related to greater levels of resilience and lower levels of depression (Jeste *et al.*, 2013). In contrast to the present report, our previous report was focused on older adults

collectively (50–99 years old) and, thus, examined age as a continuous variable. Based on the understanding that older adults are not a homogeneous group, the present report aims to augment our prior work by examining the differences between Y-O and O-O in terms of SPSA. To our knowledge, there are no other published reports that explored differences in SPSA in more than one age cohort of older adults.

In the present report, we compared SPSA (a composite of self-rated successful aging, self-ratings of aging well and satisfaction with life) among Y-O versus O-O adults in a community-based cohort. We also examined and compared the two age groups in terms of the association of SPSA with other preselected measures commonly associated to successful aging—physical and mental functioning, objective and subjective cognitive functioning, emotional health, and positive psychological constructs. We hypothesized that, relative to Y-O adults, among O-O adults SPSA would be higher, and less powerfully associated with physical functioning. Assuming O-O adults must compensate for increased physical problems in order to maintain or increase SPSA, we also hypothesized that the strength of association between SPSA and positive psychological traits (i.e. resilience, optimism) would be greater among the O-O compared to the Y-O. These hypotheses would also be consistent with the “construal model of happiness” (Lyubomirsky and Dickerhoof, 2010) which posits that the effects of adverse objective circumstances are modulated by the way an individual construes those circumstances; therefore, positive psychological traits such as optimism and resilience become important predictors of SWB among people experiencing adverse circumstances (such as the increased physical comorbidity that is typically associated with increased age). Consequently, the way one construes adverse circumstances, and the degree to which constructs like resilience favor a positive construal, would, therefore, lead one to expect such positive construal promoting factors might be more operative, on average, among O-O compared to Y-O adults.

Methods

Participants

Participants were 1,006 English speaking adults, aged 50–99 years, recruited as part of a structured multi-cohort study of successful aging among community-dwelling adults conducted through the University of California, San Diego (UCSD) Stein Institute for Research on Aging (see Jeste *et al.*, 2013). All participants were capable of providing informed consent and physically and mentally able to participate in survey measurements. Participants were excluded if they had a diagnosis of dementia, resided in a nursing home, required daily skilled nursing care, had a terminal diagnosis or were currently receiving hospice care. This was a community representative sample of older adults and, consequently participants noted a number of health conditions.

The sample used in the Successful AGing Evaluation (SAGE) study was recruited using list assisted random digit dialing of older adults living in San Diego County, CA. Those willing to participate were subsequently mailed the SAGE survey (see below). In the entire sample we had a return rate of 77.4% (Y-O = 74.0% and O-O = 80%). Based on *a priori* estimates, the recruitment for the SAGE sample was stratified and weighted (to account for anticipated differential attrition) by age group; enrollment targets were 200 for ages 50–59, 200 for ages

60–69, 250 for ages 70–79, 325 for ages 80–89, and 325 for ages 90 and above, with approximately equal number of men and women (for additional recruitment information see Jeste *et al.*, 2013). This report uses cross-sectional data from the baseline year of this study.

Given the absence of any consensus definition, or empirical basis for determining the best O-O cut-point, we selected the mid-point of our sample age range (Y-O = 50–74; O-O = 75–99). There is some precedent for this cut-off in defining the age ranges of Y-O and O-O adults (e.g. Neugarten, 1974).

Measures were collected through in-home, self-report surveys, as part of the SAGE study. The baseline mail-in survey included 47 pages of questions related to general medical conditions, health behaviors, social, physical and mental activities, and general outlook on life. A detailed description of the full SAGE survey is available in Jeste *et al.* (2013). Except where otherwise indicated, all measures were collected as part of the mail-in survey. The only exception (Telephone Interview for Cognitive Status – Revised (TICS-M)) was collected as part of initial telephone screening. Key measures for the present report are described below.

SELF-PERCEIVED SUCCESSFUL AGING

SPSA was measured as a composite of the following components scores:

Self-rated successful aging—Using a previously established method (Montross *et al.*, 2006) participants were asked to rate to what extent they thought they had aged successfully, on a 10-point Likert-type scale, ranging from 1 (least successful) to 10 (most successful). Subjects were instructed to use their own conceptualization of successful aging rather than any *a priori* investigator-defined construct.

Ageing well—Participants were asked to rate to what extent they thought they were aging well, on a 4-point Likert scale, ranging from 1 (definitely true) to 4 (definitely false).

Satisfaction with life: was measured with the Satisfaction with Life Scale (SWLS; Diener *et al.*, 1985) a 5-item, 7-point Likert scale, ranging from 1 (not at all true) to 7 (absolutely true).

SPSA composite score was computed as the standardized mean of z-scores of self-rated successful aging, ageing well, and satisfaction with life. Higher SPSA composite scores correspond to a higher quality of successful aging.

HEALTH RELATED QUALITY OF LIFE AND FUNCTIONING

Health-related quality of life and functioning was measured with the mental and physical health composite scores from the medical outcomes study 36-item short form (Sf-36; Ware and Sherbourne, 1992).

Cognitive functioning—Objective cognitive impairment was measured with the total score from a modified version of the Telephone Interview for Cognitive Status (TIC-M; de Jager *et al.*, 2003) which was the only measure collected via telephone interview at the time

of enrollment in the SAGE study. Subjective cognitive concerns were measured with the Cognitive Failures Questionnaire (CFQ; Broadbent *et al.*, 1982).

Positive psychological constructs—We used several published rating scales for assessing positive psychological characteristics. These included the 10-item version of the Connor-Davidson Resilience Scale (CD-RISC; Connor and Davidson, 2003; Campbell-Sills and Stein, 2007), and Life Orientation Test for optimism (LOT-R; Scheier *et al.*, 1994).

Emotional health—Perceived Stress Scale (PSS; Cohen *et al.*, 1983); and Patient Health Questionnaire – 9-Item Version (PHQ-9; Kroenke and Spitzer, 2002).

In addition, sociodemographic information – age, education, gender, ethnicity, and marital status was collected via self-report. We also recorded employment status (gainfully employed, not employed) and household income as ordinal variables.

Statistical analyses

Data were evaluated prior to analyses to detect any univariate or multivariate limitations (Tabachnick and Fidell, 2007) including assumptions of independence, normality as well as linearity. The data were also evaluated for missing data patterns and missing data were evaluated for missing at random and missing systematically (Cohen *et al.*, 2013). Two hundred ninety eight individuals (30%) were missing data on at least one of the variables included in the regression model. To screen for appropriateness for regression analyses, we examined correlations among potential predictors to test for multicollinearity using the variance inflation factor (VIF); variables demonstrated low multicollinearity (VIF = 1.60–2.83). We used Akaike information criterion (AIC) to select the best array of parameters used in the full linear model (with interactions; AIC = 2088.37).

Sociodemographic differences between age-groups (Y-O/O-O) were examined with independent *t*-tests for continuous interval data variables, Mann-Whitney U for ordinal variables, and χ^2 for categorical variables. Based on the structure of our data (i.e. unequal sizes, non-homogeneous variance) we used the Welch-Satterthwaite equation to calculate the effective degrees of freedom for *t*-tests and χ^2 analyses. Bivariate correlations for select sociodemographic characteristics with SPSA were examined with Pearson's *r* or Spearman's r_s as appropriate.

We employed multiple regression of SPSA on pre-selected measures potentially related to SPSA as independent variables. The multiple regression model explored the effects of these pre-selected covariates by age group on SPSA. We created interaction terms between age-group (Y-O/O-O) and continuous predictor variables (e.g. physical functioning, depression) to determine if these variables more strongly predicted SPSA in the two age cohorts. We ran one regression model, which included all subjects with an interaction term that crossed a dichotomous age variable with all of the included parameters. Coefficient estimates for the non-interaction terms and their respective *t*- statistics, and *p*-values from this model represent the Y-O group. The coefficients for the O-O group could be found by adding the coefficients for the differences to the coefficients for the Y-O group. The interaction terms' coefficients estimates, *t*- statistics, and *p*-values represent the differences between Y-O and

O-O groups. Missing data were imputed before running multiple regressions, employing the method of chained equations (Van Buuren, 2007). Age group (Y-O/O-O) was coded as minus ½ and plus ½. Continuous age was also included as an interaction with grouped age (as were all other covariates) in order to determine the association of continuously aging, by age group, and SPSA. Continuous age and grouped age measure different aspects of growing older and we included both to capture the effect of each. Marital status was coded as an indicator variable – one indicating presently married or in a married like relationship and zero indicating not married. Gender was also coded as an indicator variable with one indicating male and zero indicating female. All other independent variables were continuous, and were standardized to have a mean of 0 and variance of 1. To reduce the risk of type I errors, two-sided alpha level for significant effects was set at 0.01.

Results

As shown in Table 1, there were significant differences between Y-O and O-O age groups on marital status and education. The Y-O group was more likely to be married or divorced, and participants in the O-O group were more likely to report being widowed. In addition, Y-O adults were significantly more likely to be gainfully employed than were O-O adults (43.6% vs. 5.6%, respectively; $X^2 = 204.4, p < 0.001$), as well as having higher household income ($z = 7.59, p < 0.001$), and higher education ($z = 3.95, p < 0.001$). Household income and education were each modestly correlated with SPSA ($r_s = .171$ and $.103$, respectively, both p values < 0.005). However, there was no significant correlation between gainful employment status and SPSA ($r = 0.005, p = 0.886$).

Also relative to the O-O group, the Y-O group had lower SPSA, lower self-rated successful aging, lower satisfaction with life, higher physical functioning, lower mental functioning, less objective cognitive impairment, and fewer subjective cognitive concerns. There were no significant differences between groups on gender, ethnicity, aging well, resilience, optimism, depression or perceived stress.

Strength of associations of SPSA with explanatory variables from the multiple regression are displayed in Table 2, as well as the degree to which these associations differed in the Y-O versus O-O group. The difference in intercepts (-1.89 vs. -1.72) reflects the expected differences in SPSA with higher levels in the O-O group versus Y-O group. In the Y-O group, higher levels of SPSA were significantly associated with age, female gender, married marital status, higher physical functioning and mental functioning, lower levels of subjective cognitive concerns, and higher resilience and optimism. Within the O-O group higher SPSA was significantly associated only with higher physical functioning. Comparing the magnitude of associations between Y-O and O-O, physical functioning and mental functioning had significantly stronger associations with SPSA in the Y-O versus O-O group. With the exception of depression and perceived stress, the overall pattern of results when comparing the interaction of age group with various associations of SPSA was for smaller regression coefficients in the O-O group, indicating that the majority of the explanatory variables were more weakly associated with SPSA in the O-O group than in the Y-O group.

Discussion

To our knowledge, this is the first study to compare respondents' self-perceptions of successful aging among O-O relative to Y-O adults. Consistent with our hypothesis, physical functioning was less associated with SPSA in the O-O relative to Y-O adults. However, contrary to our hypothesis, the association of positive psychological traits with SPSA was not greater in the O-O versus Y-O group. Within these analyses we found several significant associations to SPSA in Y-O individuals suggesting the importance of physical and mental health, subjective cognitive status, and positive psychological traits on SPSA within this group. Yet, only physical functioning appeared to be associated with SPSA in O-O individuals and that association was weaker than it was among the Y-O individuals. Mental functioning was also found to be less associated with SPSA among the O-O relative to Y-O. Together with earlier findings that self-rated successful aging increased with age (Jeste *et al.*, 2013), this raises an interesting paradox of aging; SPSA continues to increase with age while physical comorbidity also typically increases with age. It remains unclear what factors explain the age-related increase in SPSA as it does not appear to be the influence of positive psychological traits. It may be that SPSA as a construct changes with age, or additional, presently unidentified variables are responsible for the association of increased SPSA with aging.

While physical functioning was not the only determinant of SPSA, it appeared to have a significant effect on SPSA in both Y-O and O-O adults. We found a significant difference of physical functioning effect between the Y-O and O-O adults, suggesting a decreasing influence of physical functioning on overall SPSA among the O-O. Physical health still remains the most commonly used measure of successful aging in studies focused on Y-O and O-O adults (Garfein and Herzog, 1995; Cherry *et al.*, 2013b). In a qualitative study, Cherry *et al.* (2013a) found that those adults between ages 60–89 highlighted physical, mental and relational aspects of successful aging, whereas those age 90 or above were focused on peace of mind and the absence of anger. In addition, people between the ages 60–74 suggested the need for health promotion such as diet and exercise. In another qualitative study of adults age 85 years and older, participants reported that successful aging was about adaptation; they valued their social functioning and well-being above cognitive and physical functioning (von Faber *et al.*, 2001). The findings of the present report suggest that, compared to Y-O, O-O adults place less emphasis on physical health status as important to their SPSA. This is consistent with previous studies that suggest that O-O adults, have more positive views of their own health despite increased illnesses and disability (Ferraro, 1980).

There were several limitations in this investigation that should be acknowledged. With the exception of one measure of objective cognitive functioning, the data were based on self-report. Thus, our results speak to the associations among self-perceptions of various constructs. It is possible that a different pattern of association would be obtained with objective measures of physical health in relation to SPSA. An additional limitation of the present study is that the comparisons are cross-sectional. Consequently, we cannot rule out cohort effects (variations based on birth years) or survivor bias (survivor of the fittest into older age); these can only be addressed via long-term longitudinal follow up of Y-O adults

as they transition to O-O status. One interpretive limitation of the present study is the possibility that group differences in household income and education may partially affect the associations with SPSA. On the other hand, while statistically significant in the context of the large sample size the magnitude of correlation between these variables and SPSA was in the small range, so any such effects are likely modest.

The above limitations noted, the results point to an interesting paradox of aging that – despite increased physical disability, O-O adults have higher SPSA than their Y-O counterparts. One such possible explanation to the paradox of aging can be explained by the Socioemotional Selectivity Theory (SST), which argues that as people age and their time horizons decrease there is a natural shift in motivation that emphasizes emotion and meaning (Charles and Carstensen, 2010). According to SST, as individuals age there is increased focus on meaningful social ties and a decrease in expanding horizons (i.e. making new social contacts, acquiring knowledge). Goals become focused on the quality of social relationships, emotional meaning, and enhanced appreciation of life (Carstensen and Löckenhoff, 2006). Consequently, older adults prioritize general well-being as people realize they are gradually approaching the end of life (Samanez-Larkin *et al.*, 2009). In addition, SST suggests that because of the shift towards emotional goals older adults have a predisposition for the “positivity effect” in which they selectively attend to positive information over negative information and are increasingly likely to remember positive memories, in contrast to negative ones (Samanez-Larkin *et al.*, 2009).

A similar paradox of aging has been noted in the SWB literature, in that in the face of physical and cognitive declines, SWB remains constant or increases with age (Gana *et al.*, 2013). One potential explanation for this paradox is the role of goal discrepancy or the discrepancy between one’s current status and their expectation in a specific domain (Cheng, 2004). Ryff (1991) found that when young-, middle-, and old-adults were asked about their expectations for their future functioning on six dimensions of psychological well-being, the oldest group anticipated declines across domains. Consequently, older adults appeared to have a more realistic and closer fit between their actual and their ideal self-perceptions. The dual-process model of self-regulation (Brandtstädter and Renner, 1990), similar to the theory of goal discrepancy, is an adaptive coping process commonly noted in the aging literature that may also partially explain the paradox of aging. Based on this model, there are two complementary approaches (assimilative and accommodative) activated when coping with anticipated or perceived discrepancies between actual and desired outcomes. An assimilative approach occurs when one modifies a situation to be in line with personal goals, while the accommodative approach refers to the modification of personal preferences based on the constraints of the situation. Because aging is frequently indicative of functional declines and losses, accommodative and assimilative processes are both positively related to subjective and affective well-being in older-adults (Heyl *et al.*, 2007).

Lastly, a corresponding model is the Life-Span Theory of Control (Heckhausen and Schulz, 1995). Similar to assimilative coping, the concept of primary control involves attempts to change the external environment based on the needs and wants of the individual. While secondary control parallels the accommodative approach and assists in coping with failure and fostering primary control by redirecting motivational resources toward alternate goals.

Secondary control strategies are frequently used in older adults as a way of coping with decline, thus adjusting aspirations and goals appropriately, minimizing goal discrepancy.

With a rapidly growing population of older adults, it is increasingly important to understand what factors contribute to higher levels of SPSA in O-O versus Y-O adults. In addition to being, what to our knowledge is the first published study of SPSA comparing O-O and Y-O adults, it should also be noted that our sample of 641 O-O participants included 352 people age 80–89 years, and 183 age 90–99. These are substantially larger than the sample sizes of people 80 years or older than in any previously published study comparing successful aging in O-O vs. Y-O adults (cf. Garfein and Herzog, 1995; Chou and Chi, 2002; Cherry *et al.*, 2013b). Covariates of aging such as physical functioning and mental functioning appear to become less associated with SPSA in the O-O population. It is apparent that SPSA is a multidimensional construct that cannot be defined by physical functioning alone. Clarifying the nature of such underlying factors may inform tailored interventions to promote successful aging targeted at the diverse experiences of Y-O and O-O adults.

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Table 1

Sociodemographics of the young-old and old-old SAGE participants

VARIABLES	POSSIBLE RANGE OF SCORES	YOUNG-OLD (Y-O) AGE 50-74 (N = 365)	OLD-OLD (O-O) AGE 75-99 (N = 641)	T OR χ^2	DF	p
Sociodemographic characteristics						
Age (in years)	50-99	63.3 (6.6)	85.3 (5.7)			
Gender (% female)		49.0%	48.3%	0.07	1	0.799
Ethnicity				6.98	5	0.222
Caucasian		77.7%	82.9%			
Hispanic		13.2%	10.0%			
Other		9.1%	7.1%			
Marital status				134.30	5	<0.001
Never married		6.0%	1.6%			
Divorced/separated		19.2%	10.2%			
Widowed		10.1%	44.0%			
Married or living in a marriage like relationship		64.7%	43.6%			
Education				26.96	10	0.003
High school		16.7%	28.1%			
Some college		32.3%	31.6%			
Post-baccalaureate		50.9%	40.3%			
Self-perceived successful aging						
Composite score		-0.1 (0.8)	0.0 (0.7)	-3.03	648.0	0.003
Self-rated successful aging	0-10	8.0 (1.7)	8.3 (1.3)	-3.52	620.6	<0.001
Aging well	0-4	1.7 (0.7)	1.6 (0.6)	0.98	630.1	0.328
Satisfaction with life total score	5-35	25.3 (6.3)	26.7 (5.3)	-3.40	635.7	0.001
Health related quality of life and everyday functioning						
SF-36 physical composite score	0-100	47.8 (10.2)	40.8 (10.6)	9.92	754.7	<0.001
SF-36 mental composite score	0-100	54.1 (8.6)	55.8 (7.7)	-3.27	946	0.001
Objective and subjective cognitive functioning						
Telephone interview of cognitive status score	0-50	35.6 (4.7)	31.1 (5.1)	13.87	1005	<0.001
Cognitive failures questionnaire total	0-100	27.6 (12.1)	30.5 (11.3)	-3.50	859	<0.001
Positive psychological constructs						
Connor-davidson resilience scale score	0-40	31.4 (6.4)	30.9 (6.3)	1.18	961	0.240
Optimism (life orientation test total)	6-30	23.3 (3.8)	22.7 (3.3)	2.05	658.3	0.041
Emotional health score						
PHQ-9 depression severity score	0-27	2.7 (4.0)	2.5 (3.0)	1.09	572.4	0.276

VARIABLES	POSSIBLE RANGE OF SCORES	YOUNG-OLD (Y-O) AGE 50-74 (N = 365)	OLD-OLD (O-O) AGE 75-99 (N = 641)	T OR X^2	DF	p
Perceived stress scale score	0-40	12.2 (5.8)	12.3 (5.2)	-0.46	666.9	0.648

Note: Values represent means (and SDs) or proportions as appropriate.

PHQ 9 = Patient Health Questionnaire - 9-item Version.

SF-36 = 36-item Short-Form Health Survey.

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Table 2

Associations of self-perceived successful aging in young-old and old-old adults

VARIABLES	YOUNG-OLD (Y-O) AGE 50–74 (N = 365) STANDARDIZED COEFFICIENT ESTIMATE (T-VALUE , P-VALUE)	OLD-OLD (O-O) AGE 75–99 (N = 641) STANDARDIZED COEFFICIENT ESTIMATE (T-VALUE , P-VALUE)	SIGNIFICANT DIFFERENCES BETWEEN O-O AND Y-O STANDARDIZED COEFFICIENT ESTIMATE (T-VALUE , P-VALUE)
Intercept	–1.89 (–4.76, <0.001)**	–1.72 (–2.39, 0.017)	0.17 (0.28, 0.781)
Age	0.02 (4.39, <0.001)**	0.02 (2.15, 0.032)	0.00 (–0.58, 0.564)
Gender	–0.22 (–2.79, <0.001)**	–0.02 (–0.16, 0.872)	0.20 (1.95, 0.052)
Marital status	0.23 (2.97, <0.001)**	0.10 (0.75, 0.455)	–0.14 (–1.34, 0.179)
SF-36 physical composite score	0.48 (10.26, <0.001)**	0.25 (3.38, <0.001)**	–0.23 (–4.06, <0.001)**
SF-36 mental composite score	0.30 (5.27, <0.001)**	0.07 (0.78, 0.436)	–0.23 (–3.29, <0.001)**
Telephone interview of cognitive status score	–0.06 (–1.41, 0.159)	–0.03 (–0.38, 0.700)	0.03 (0.66, 0.512)
Cognitive failures questionnaire total	0.14 (3.17, <0.001)**	0.02 (0.23, 0.818)	–0.13 (–2.24, 0.026)
Connor-Davidson resilience scale score	0.18 (3.70, <0.001)**	0.15 (1.98, 0.049)	–0.03 (–0.49, 0.627)
Optimism (life orientation test) total	0.24 (5.47, <0.001)**	0.09 (1.33, 0.182)	–0.14 (–2.59, 0.010)
PHQ-9 depression severity score	–0.08 (–1.54, 0.124)	–0.15 (–1.78, 0.076)	–0.07 (–1.07, 0.286)
Perceived stress scale score	–0.12 (–2.03, 0.043)	–0.18 (–1.99, 0.047)	–0.07 (–0.93, 0.352)
R^2			0.54
F value			60.4 (19, 987)

Note: * $p < 0.01$.

PHQ 9 = Patient Health Questionnaire – 9-item Version.

SF-36 = 36-item Short-Form Health Survey.

**
 $p < 0.001$.