Comparing Successful Aging, Resilience, and Holistic Wellness as Predictors of the Good Life

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Abstract

Objectives:

The purpose of the study was to compare the relative contributions of Rowe and Kahn's definition of successful aging (SA), resilience, and the holistic wellness paradigm for predicting happiness, life satisfaction, and self-rated physical health in late life.

Method:

A cross-sectional research design was used to survey 200 residents across 12 senior housing sites. Criteria with strong psychometric properties representing the three constructs were operationalized using hierarchical regression within the context of relevant control variables to compare the relative strengths of the three paradigms for predicting measures of quality of life.

Results:

8.5% of the sample met modified criteria for successful aging and were used as a comparison group with those who did not meet the criteria. Overall, holistic wellness and resilience predicted happiness, life satisfaction, and physical health better than successful aging alone. When predicting happiness and life satisfaction, race and holistic wellness were significant predictors. Age and holistic wellness were the best predictors of self-rated physical health.

Conclusion:

The criteria underlying successful aging poorly predicted happiness, life satisfaction, and self-rated physical health compared to the resilience and holistic wellness models. The results suggest that definitions of aging well are complex and require greater nuance. The findings have important implications for clinicians seeking translatable theoretical models that are amenable to practice with older adults, especially for those living in independent senior housing communities.

Key words: wellness, resilience, successful aging, well-being, positive psychology

Background and Objectives

There is ongoing debate over what it means to experience the good life in old age. Historically, biomedical conceptualizations of older adulthood have prevailed. For example, Rowe and Kahn's theory of successful aging (SA) remains one of the most ubiquitous models of aging well described in the literature. According to this theory, older adults comprise three categories: (a) those who experience disease and disability; (b) those who lack disease or severe disability, but experience other age-related changes in physical and cognitive functioning that place them at high risk for entry into the first, pathological group; and (c) older adults who maintain high levels of functioning and low risk for physical and cognitive impairment throughout their lives (Rowe & Kahn, 1997). The latter group meet Rowe & Kahn's original criteria for successful aging, which they defined as having " low probability of disease and disease-related disability, high cognitive and physical functional capacity, and active engagement with life" (Rowe & Kahn, 1997, p. 433).

Recently, gerontologists (e.g., Martinson & Berridge, 2015) have criticized SA for its exclusivity. For example, McLaughlin, Connell, Heeringa, Li, and Roberts (2010) found that only 11.9% of older persons met Rowe and Kahn's criteria for successful aging. Strawbridge, Wallhagen, and Cohen (2002) found this number to be slightly higher (i.e. 18.8%), but only when Rowe and Kahn's criteria were adjusted to allow for minimal disease and disability, as opposed to none. In contrast, these authors found that over 50% of older adults rated themselves as having successfully aged when a self-rating was used. Others (e.g., Harris, 2008; Reichstadt, Depp, Palinkas, Folsom, & Jeste, 2007) have criticized SA for overemphasizing physical and functional capacities, and some have charged that SA contributes to negative age stereotypes and societal ageism (Calasanti, 2016).

However, in light of the ubiquity of SA, it is unclear which criteria would be used to replace Rowe and Kahn's definition of aging well. Those who acknowledge the heterogeneity inherent among older persons, their flexibility, and adaptive coping have recommended resilience as an alternative framework for aging successfully (Harris, 2008; Jeste et al., 2013). Others have suggested that holistic wellness, a characteristic more commonly studied in young adults, may be a useful paradigm to measure healthy aging (e.g. Strout et al., 2016).

Resilience

Some scholars view resilience, which focuses on individual responses to adversity, as more inclusive, attainable, and attuned to diversity than Rowe and Kahn's theory of successful aging (Harris, 2008; Hicks & Conner, 2014). Resilience has been studied among diverse older adults, including African Americans living with chronic illnesses (Becker & Newsom, 2005), the LGBT community (Fredriksen-Goldsen, Kim, Shiu, Goldsen, & Emlet, 2015), and older people living with HIV/AIDS (Emlet, Tozay, & Raveis, 2011) and dementia (Harris, 2008). Several studies have connected resilience with positive effects like quality of life (Hicks & Conner, 2014), improvements in coping (Emlet et al., 2011), and reduced disability following chronic illness (Manning, Carr, & Kail, 2016). Resilience may also be connected to hedonic well-being, a construct associated with the positive psychology movement that is a relatively new lens for the study of aging (Minney & Ranzijn, 2016).

Holistic Wellness

Holistic wellness is a multidimensional construct that is broader than resilience or SA. It has been defined as "a holistic and multidimensional state of being that guides one to achieve one's full potential" (Strout et al., 2016). Although holistic wellness domains (e.g. physical, social, emotional, spiritual, contextual, occupational) vary between models, they are

characterized by the integration of these domains, in contrast to models that compartmentalize the biological, psychological, and social aspects of personhood.

Recent studies that have applied this perspective to aging support the validity of using a broader construct to understand mental and physical health in late life (Strout & Howard, 2015). A major advantage of wellness is that it is amenable to practice (e.g., Authors, 2016a; Strout et al., 2016). For example, Strout et al. (2016) conducted a systematic review of behavioral interventions related to protecting cognitive health in later life, and they asserted that the wellness approach lends itself to shared decision making between patients and health care providers, which enhances patient engagement and adherence to treatment.

Although research on holistic wellness in older adulthood is limited, the framework coincides with previous findings by Reichstadt et al. (2007). Using several focus groups in which older adults were asked to define successful aging, these authors concluded that older adults prioritized a breadth of wellness domains, including qualities such as maintaining a positive attitude, being realistic, and having the ability to adapt to change. These qualities were equally as important to the participants as physiological aspects of well-being, such as longevity, absence of disease and disability, functional health, and independence.

In this investigation, we seek to compare the relative influences of these three major paradigms – successful aging, resilience, and wellness – with a goal of sparking additional debate among both researchers, clinicians, and older adults themselves, about which framework best measures the good life. We are unaware of any empirical research that has compared Rowe and Kahn's criteria for successful aging with alternative criteria, specifically resilience and holistic wellness. To facilitate this comparison, we selected three criterion variables that have been associated with good mental and physical health in later life -- happiness, life satisfaction,

and self-rated physical health (Blazer, 2008; Minney & Ranzijn, 2016). To examine the usefulness of SA, resilience, and holistic wellness in predicting these criterion variables, we asked the following research question: How well does meeting the criteria for SA predict happiness, life satisfaction, and self-rated physical health; and how do these criteria compare with resilience and holistic wellness?

Hypotheses

We hypothesize that, after controlling for demographic variables and SA category, resilience and holistic wellness will, respectively, improve hierarchical models that predict variance in happiness, life satisfaction, and physical health. Likewise, we predict that in each of three full regression models, holistic wellness and resilience will be significant predictors of happiness, life satisfaction, and physical health, whereas SA will not be a significant predictor.

Research Design and Methods

To examine our research question, we collected data from a convenience sample of adults 55 and older who were living in independent living (IL) senior housing communities in a large, metropolitan city in the United States. Although 55 is younger than traditional age cut-offs for measuring older adulthood, we retained this age as a minimum due to the preponderance of individuals ages 55 and above who reside in age-based senior housing communities like those included in our sample.

Individuals who move to an IL community may do so because their prior housing location lacks the environment most suitable for healthy aging (Rantz et al., 2011). These individuals are more likely to worry about physical health concerns, feel sometimes or very often lonely, and receive encouragement from their children about moving to an age-restricted community (Mullen, Antonucci, Webster, & Smith, 2011). IL communities differ from assisted

living (AL) communities in that they do not typically provide assistance with activities of daily living (ADLs), including bathing, dressing, toileting, feeding oneself, or assistance with taking medication (Mullen et al., 2011). Therefore, although IL communities may provide adults with increased access to services and socialization, residents of IL communities do not require substantial healthcare services, and they are not considered to have cognitive decline that would be expected to impair their self-care.

We used a power analysis to determine that 185 participants was the minimum sample needed for our analyses. To develop our sample, we randomly selected 12 communities from a predetermined list of eligible sampling sites, and we created a census consisting of all residents who met age criteria and were able to read English. In total, 581 individuals were asked to participate in the current study. These individuals received a survey packet that included 91 items related to overall wellness, 6 questions related to resilience, 36 questions related to age perception, and 18 researcher-generated questions. Of the 581 surveys that were disseminated, a total of 210 (36.14%) completed the survey. Ten packets were deemed unusable due to missing more than 25% of total data, or because participants did not meet the deadline to turn in their surveys. This resulted in a total of 200 surveys for subsequent analyses.

Measures

Researcher-developed questionnaire. The questionnaire was used to collect demographic information, including age (0 = 70 or younger; 1 = over 70), sex (0 = female; 1 = male), race (0 = White; 1 = non-White), education (0 = high school graduate or less; 1 = some college or more), and Medicaid status (0 = no Medicaid; 1 = Medicaid), our criterion variables (happiness, life satisfaction, and self-rated physical health), and questions related to Rowe and Kahn's criteria for successful aging.

Criterion variables. Happiness, life satisfaction, and self-rated physical health were selected as criterion variables due to their broad relevance to quality of life among older adults. These constructs have been used in previous research related to successful aging (e.g. Strawbridge et al., 2002), and they relate closely to the notion of thriving that is found within a positive psychology of aging (e.g. Minney & Ranzijn, 2016). Specifically, happiness ("Taken all together, how happy would you say that you are?"; 0 = Not too happy; 1 = Pretty happy; 2 = Very happy) and life satisfaction ("All things considered, how satisfied are you with your life as a whole these days?"; 0 = Very dissatisfied; 1 = Dissatisfied; 2 = Somewhat satisfied; 3 = Satisfied; 4 = Very satisfied) were intended to measure general quality of life, whereas self-rated physical health ("How would you rate your current physical health?"; 0 = Poor; 1 = Fair; 2 = Good; 3 = Excellent) was used as a global indicator of health that has sound statistical validity (see Blazer, 2008).

Successful aging status. To assess whether the sample of older adults met Rowe and Kahn's criteria for successful aging, respondents were categorized based on their responses to several questions included in the researcher-generated questionnaire. Consistent with previous research, including McLaughlin et al. (2010) and Meisner, Dogra, Logan, Baker, and Weir (2010), the following criteria were used to rate if participants could be defined as having aged successfully: (a) Individuals must have *no major disease* (i.e. respiratory; inflammatory; cardiovascular; metabolic and related), nor cancer, incontinence, chronic back problems, depression or an anxiety disorder; (b) *no activity of daily living (ADL) restrictions* (walking across a room; getting dressed; bathing/showering; preparing and eating meals; getting in or out of bed; using the restroom; shopping for groceries/necessities; getting around outside; completing housework; paying the bills); and (c) *not more than one difficulty with five measures*

of physical functioning (i.e. walking several blocks; climbing several flights of stairs; lifting/carrying items weighing more than 10 lbs; stopping, kneeling, or crouching; pulling/pushing large objects). They also must be (d) *actively engaged in their community* (i.e. participating in work (paid or volunteer), caring for grandchildren one hour per week/four hours per month; or regular attendance at religious or civic meetings), and (e) *having regular social engagement* (i.e. either being married, seeing friends often, or having a strong sense of belonging to their community). It should be noted that all of these survey items captured self-report data.

Five Factor Wellness Inventory (5F-WEL). The Five Factor Wellness Inventory (5F-WEL; Myers & Sweeney, 2005) is one of very few holistic wellness assessments that has been empirically validated. Following past development of wellness models, the 5F-WEL is based on a definition of wellness that encompasses positive mental, physical, social, and spiritual health, as well as a concern for optimal functioning and not merely the absence of disease. The 5F-WEL is intended to be comprehensive in its ability to measure an individual's holistic wellness. Therefore, it includes 91 items that are scored on a 4-point Likert-type scale ranging from 1 (strongly disagree) to 4 (strongly agree). Sample items include: (a) "I am satisfied with how I cope with stress," and (b) "I engage in a leisure activity in which I lose myself and feel like time stands still." The instrument yields a total wellness score, as well as five second order factors (i.e. Creative Self, Coping Self, Social Self, Essential Self, and Physical Self), and seventeen third-order scales. Based on previous research using the 5F-WEL, it was estimated that the entire data collection process would take approximately 20-25 minutes. In the current study, Total 5F-WEL scores were used, and they had a mean of 75.97 (SD = 8.02) and strong reliability (Cronbach's α = .951).

Brief Resilience Scale (BRS). The Brief Resilience Scale was developed using a theoretical framework that defines resilience as the ability to bounce back from adversity (BRS; Smith, et al., 2008). The BRS includes six items that are scored on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). A sample item is, "I tend to bounce back quickly after hard times." Total BRS scores had a mean of 21.01 (*SD* = 4.38), and adequate reliability (Cronbach's $\alpha = .758$).

Data Analysis

Prior to performing the statistical analyses, we used imputation strategies to address missing data and maximize the number of retained cases. To determine imputed missing values, five imputations were conducted using the predictive mean matching method, and then aggregated. We checked assumptions related to hierarchical multiple regression and there were no violations related to normality, linearity, homoscedasticity, independence, or multicollinearity.

In regard to the prevalence of successful aging, only three participants (1.5%) met the full criteria discussed in McLaughlin et al. (2010) and Meisner et al. (2010) in this sample. This percentage is substantially lower than what previous researchers have found (e.g. McLaughlin et al., 2010; Strawbridge et al., 2002). Therefore, we modified the coding criteria to generate a sub-sample of individuals who could be deemed as *moderately* successful agers. These criteria allowed for one diagnosed disease, a maximum of one ADL disability, and the ability to perform at least three of the five physical activities listed in the survey (Table 1). After this adjustment, an additional fourteen individuals (7.0%) met the modified criteria for successful aging, resulting in a total of seventeen individuals (8.5%) who were coded as having successfully aged.

To analyze the relative effectiveness of successful aging status, holistic wellness, and resilience, three hierarchical regression models were developed, each with four blocks. Block One included several demographic variables (age, sex, Medicaid status, race, and education). Block Two included whether or not a participant qualified for successful aging status based on the modified criteria described above. Block Three included resilience. Block Four included holistic wellness. For each of the models, we tested the significance of each block to identify which groups of variables were most relevant to predicting happiness, life satisfaction, and physical health. We then analyzed the full model in each of the three cases to identify individual variables that predicted the criterion variables. The hierarchical design was intended to contrast successful aging, resilience, and holistic wellness after controlling for key demographic variables. In all three models, we used $p < .01$ to measure the significance of adding new blocks to the model. Due to the number of variables included in the models, we also used $p < .01$ to measure the significance of each variable's beta weight.

Results

We calculated descriptive statistics, as well as a correlation matrix (Table 2). The average age of participants was 73.72 (SD = 9.05), with a range of 56 to 97. The sample was predominantly female (84.0%) and White (72.0%). A total of 47.5% of participants were on Medicaid and 51.0% indicated that a high school diploma was their highest form of education.

We tested our hypothesis by conducting a hierarchical regression analysis with three outcome measures: happiness, life satisfaction, and self-rated physical health. In regard to predicting happiness, Block One included control variables and was significant ($p = .001$) (Table 3). This block explained a total of 7.8% of the variance, with age and race serving as demographic predictors of happiness ($p < .01$). In Block Two, the addition of successful aging

did not improve the model ($p = .194$). However, adding resilience in Block Three resulted in a statistically significant improvement ($p < .001$). Finally, adding overall wellness to the model in Block Four yielded substantial improvement to predicting happiness ($p < .001$). In the full model, the combination of variables accounted for a total of 29.6% of the variance in happiness, and wellness ($p < .001$) and race ($p = .002$) were significant predictors of happiness, with wellness uniquely predicting 14.06% of the variance in happiness and race predicting 3.64%. Inclusion in the SA group was not significant in the full model ($p = .634$), and resilience was no longer significant once wellness was included ($p = .087$).

A similar analysis was performed using life satisfaction as the criterion variable (Table 4). Block One, which again included age, sex, Medicaid status, race, and education was significant ($p < .001$) and explained 11.5% of the variance in life satisfaction. Among the control variables, race was a significant predictor of life satisfaction ($p < .001$). In Block Two, the addition of successful aging improved the model ($p = .005$), and age ($p = .003$), race ($p < .001$), and successful aging ($p = .005$) were significant predictors. Adding resilience in Block Three also resulted in a statistically significant improvement to the model ($p < .001$), and resilience replaced both age and successful aging group as a predictor of life satisfaction ($p < .001$). Finally, adding wellness to the model in Block Four resulted in the most substantial improvement. The addition of wellness was significant ($p < .001$), and the full model accounted for 35.8% of the variance in life satisfaction. Wellness ($p < .001$) and race ($p < .001$) were significant predictors of life satisfaction, with wellness uniquely accounting for 14.67% of the variance in happiness and race accounting for 7.62%. Once again, inclusion in the successful aging group was not significant ($p = .027$).

A final analysis was performed using self-rated physical health as the criterion variable

(Table 5). Block One, which once again included control variables, was significant (p = .001) and explained 7.6% of the total variance in physical health. Age was a significant predictor of physical health (p = .002). In Block Two, the addition of successful aging status was statistically significant (p = .003). Adding resilience in Block Three resulted in a statistically significant improvement to the model (p = .001). Resilience was a significant predictor (p = .001), and notably, once resilience was added to the model, successful aging was no longer significant at the threshold used (p = .024). Adding wellness to the model in Block Four resulted in the most substantial improvement. The addition was significant (p = .001), and the full model accounted for 24.4% of the variance in physical health. In the full model, wellness was a significant predictor (p = .001), accounting for 5.02% of the variance, and age accounted for 2.82%. Once again, inclusion in the SA group was not significant (p = .021).

Discussion and Implications

Overall, our hierarchical regression analyses appeared to support the viability of holistic wellness, and to a lesser degree, resilience, as alternative constructs for measuring attitudes about the good life. For example, inclusion in the SA group did not improve the model predicting happiness, whereas adding resilience, and then holistic wellness, each significantly contributed to the model. When all variables were accounted for, only participant race and holistic wellness were significant predictors of happiness. In the model predicting life satisfaction, adding resilience and holistic wellness improved the model by explaining significantly higher levels of the variance. Once resilience was added to the model, SA was no longer significant. When all variables were added, holistic wellness was significant (along with race), whereas neither resilience nor successful aging were significant standalone predictors. Finally, in the full model predicting physical health, holistic wellness was more influential than successful aging, and it

was the only one of our criterion variables (along with age) to achieve significance. In sum, consistent with our hypothesis, the resilience and holistic wellness criteria explained more of the variance in the regression models than the SA criteria. Inclusion in the SA group was not a significant predictor of any of the outcomes. On the contrary, holistic wellness was the only variable that significantly predicted all three outcomes.

Our research is the first to our knowledge to concurrently test and compare successful aging, resilience, and holistic wellness. Our findings corroborate previous studies that have raised questions about the validity of Rowe and Kahn's successful aging criteria for understanding aging well (Martinson & Berridge, 2015; McLaughlin et al., 2010). Following Strawbridge et al. (2002), our findings indicate that dominant measures of successful aging may not align with older adults' opinions about their own well-being. Similarly, our findings are consistent with a recent meta-analysis that examined the correlates of successful aging among older adults and found that being "psychologically well adapted in later life" was integral to healthy aging (Kim & Park, 2017, p. 657).

Implications for Research and Practice. Our findings support the use of alternative constructs, specifically resilience and holistic wellness, when studying positive aging (Fredriksen-Goldsen et al., 2015; Manning et al., 2016). For instance, our results support other studies in which either resilience or wellness was used as alternative frameworks for healthy aging, such as Harris' (2008) work with individuals recently diagnosed with dementia (Harris, 2008), Emlet et al.'s (2011) conclusions about older persons with HIV/AIDS, Strout and Howard's (2015) finding that holistic wellness domains predicted cognitive health, and Manning et al.'s (2016) finding that resilience buffers against disability progression.

Moreover, holistic wellness may have particular relevance for gerontology practitioners (Strout et al., 2016). The construct could be useful when clinicians seek a holistic assessment of an older person's well-being. Consider how holistic wellness programming could be used at a hypothetical independent senior housing community. A curriculum could be offered in which holistic wellness is presented to residents. The curriculum would emphasize that wellness is a continuum rather than an objective metric, and numerous dimensions of aging well (e.g. physical wellness, social wellness, emotional wellness, spiritual wellness, and contextual wellness) would be highlighted. In this way, a holistic wellness construct could be promoted as a series of smaller goals (e.g. becoming physical well, becoming socially well, etc.) that are subjectively defined by each resident, inclusive across a diverse mix of older adults, and attainable for all, including those with chronic disease or disability. Practitioners could then target specific areas and tailor interventions, based on the assessment of these domains (Authors, 2016a), or create interventions to increase resilience and holistic wellness (Authors, 2016b). As a multidimensional construct, holistic wellness is consistent with the principle of heterogeneity, and it may be particularly useful when working with older adults who are diverse according to race, ethnicity, ability level, and socioeconomic status.

Limitations. Several limitations should be considered. First, we recognize that variables like resilience and wellness share a degree of conceptual overlap with our criterion variables. Nonetheless, assessment of correlations between the wellness and outcome variables suggests that the wellness framework is a distinct index that is indeed measuring different attributes from the happiness, life satisfaction, and self-rated health variables. Similarly, although holistic wellness and resilience share a degree of conceptual overlap, there is sufficient discriminant

validity to consider both as alternatives to SA (e.g., in this study holistic wellness and resilience had a correlation of .438, and there were no issues related to multicollinearity).

Next, the generalizability of our findings to all older persons is limited until similar investigations using nationally random samples are conducted to compare these constructs. Our sample included a specific subset of mid-life and older adults that lacked the diversity and heterogeneity that underlies current cohorts of older persons, especially with respect to gender and race. Similarly, although several strategies were used to reduce sampling bias, our response rate limits the strength of our conclusions.

The sample also had a particularly small percentage of successful agers. There are at least two explanations for this: It is likely that individuals who move into an independent senior housing community are more aware of possible functional limitations associated with age (Rantz et al., 2011). Second, nearly one half (47.5%) of participants were enrolled in Medicaid, and dual-eligible adults are known to have more chronic conditions, functional limitations, and cognitive limitations (Kaiser Family Foundation, 2012). This also limits the generalizability of our study; although, it also adds to the literature on concerns about the social validity of the SA criteria (cf. Martinson & Berridge, 2015).

Conclusion. Despite these limitations, we conclude that the emerging holistic wellness paradigm, which infrequently has been used in research on aging, has conceptual and practical relevance to gerontology theorists and practitioners. We also underscore, based on these findings, the need for more studies that ferret out the relative contributions of these constructs - holistic wellness, resilience, and successful aging. Conceptual models that outline the pros and cons of both disease-based and wellness-based models should be included in public discussion about what is most important in older adulthood.

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Appendix

Table 1 Successful Aging Criteria & Coding Results

	Marital Status/ Sees Friends	Active Engagement/ Sense of Belonging	Chronic Disease	ADL limitations	Physical Functioning	*Coding Results: Successful Aging (SA) Category Assigned*	Total N
Criteria Used to Determine Status	Married or regular social activity	Actively engaged in work/community	No disease	No ADL limitations	Can perform all five activities	*Met full criteria for SA*	3 (1.5%)
Criteria Used to Determine Status	Married or regular social activity	Actively engaged in work/community	Maximum of one disease	Maximum of one ADL limitation	Can perform minimum of three activities	*Met adjusted criteria for SA*	14 (7.0%)
Criteria Used to Determine Status	Participant failed to meet adjusted criteria on one or more categories					*Did not meet adjusted criteria for SA*	183 (91.5%)

N = 200

Table 2 Correlation Matrix

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Age	--	-.130	-.251**	.063	-.104	-.046	.204**	.152*	.213**	.196**	.253**
2. Sex		--	.018	.088	-.019	.014	-.001	-.040	-.021	-.081	-.101
3. Medicaid			--	.019	.114	-.114	-.167*	.042	-.103	-.098	-.212**
4. Education				--	-.029	-.078	.146*	.167*	-.039	.009	.017
5. Race					--	-.064	.117	.054	.205**	.263**	.001
6. Successful Aging						--	.181*	.054	.068	.159*	.199*
7. Resilience							--	.438**	.368**	.355**	.332**
8. Total wellness								--	.489**	.491**	.343**
9. Happiness									--	.657**	.372**
10. Life satisfaction										--	.423**
11. Self-rated physical health											--

1. Age; 2. Sex; 3. Medicaid; 4. Education; 5. Race; 6. Successful Aging; 7. Resilience; 8. Total wellness; 9. Happiness; 10. Life satisfaction; 11. Self-rated physical health

**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).

Table 3 Summary of Hierarchical Regression Analysis for Variables Predicting Happiness

Note: $^{**}p < .01$	Model 1			Model 2			Model 3			Model 4		
Variable	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Age	.015	.005	.218**	.016	.005	.224**	.012	.005	.170	.009	.005	.131
Sex	.074	.119	.044	.073	.119	.043	.060	.114	.035	.076	.104	.045
Medicaid?	-.058	.090	-.047	-.044	.090	-.035	-.003	.087	-.002	-.076	.081	-.061
Education	-.058	.087	-.046	-.049	.087	-.039	-.101	.085	-.081	-.152	.078	-.122
Race	.347	.099	.247**	.355	.099	.252**	.282	.097	.201**	.277	.088	.197**
Successful Aging?				.201	.154	.092	.072	.151	.033	.066	.138	.030
Resilience							.042	.010	.292**	.018	.010	.122
Holistic Wellness										.033	.005	.420**
R		.320			.332			.430			.570	
Adjusted R^2		.078			.082			.153			.296	
F for change in R^2		4.217**			1.701			16.593**			37.979**	

Table 4 Summary of Hierarchical Regression Analysis for Variables Predicting Life Satisfaction

Note: $^{**}p < .01$	Model 1			Model 2			Model 3			Model 4		
Variable	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Age	.021	.008	.197	.023	.008	.212**	.018	.007	.165	.014	.007	.129
Sex	-.114	.179	-.044	-.118	.176	-.046	-.133	.169	-.052	-.101	.153	-.039
Medicaid?	-.123	.135	-.064	-.076	.134	-.040	-.020	.130	-.010	-.139	.118	-.073
Education	.018	.132	.009	.045	.130	.023	-.035	.126	-.018	-.124	.115	-.065
Race	.691	.149	.321**	.716	.146	.333**	.615	.143	.286**	.612	.129	.284**
Successful Aging?				.644	.228	.193**	.461	.224	.138	.450	.202	.135
Resilience							.060	.015	.272**	.023	.015	.104
Holistic Wellness										.052	.008	.428**
R		.371			.417			.489			.621	
Adjusted R^2		.138			.174			.239			.385	
F for change in R^2		5.890**			7.989**			15.458**			43.172**	

Table 5 Summary of Hierarchical Regression Analysis for Variables Predicting Self-Rated Physical Health

Note: $^{**}p \leq .01$	Model 1			Model 2			Model 3			Model 4		
Variable	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Age	.019	.006	.233**	.020	.006	.249**	.016	.006	.204**	.014	.006	.180**
Sex	-.139	.137	-.072	-.143	.134	-.074	-.155	.131	-.080	-.145	.127	-.075
Medicaid?	-.202	.104	-.141	-.164	.102	-.114	-.125	.100	-.087	-.174	.098	-.122
Education	.039	.101	.027	.061	.099	.043	.012	.097	.008	-.024	.095	-.017
Race	.111	.115	.068	.131	.113	.080	.059	.111	.036	.059	.108	.036
Successful Aging?				.518	.174	.207**	.395	.173	.157	.390	.168	.156
Resilience							.040	.012	.244**	.023	.012	.142
Holistic Wellness										.023	.007	.252**
R		.317			.377			.440			.494	
Adjusted R^2		.076			.114			.163			.210	
F for change in R^2		4.105**			8.844**			11.680**			12.045**	