

Original Research

Exploring the Paradox of Care: Differences in Older Adult and Proxy Ratings of Health and Subjective Well-Being

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Abstract

Background: The purpose of this study was to examine discrepancies in self-proxy agreement of biopsychosocial factors and the influence of objective well-being and psychosocial resources self and proxy appraisals of subjective well-being in older adults.

Methods: Seventy-two older adult-proxy dyads rated the biopsychosocial health of non-cognitively impaired older adults.

Results: Proxies underestimated functional ability, psychosocial factors, and overrated negative health outcomes compared to older adults. Older adult ratings of place attachment ($\beta = .39, p < .01$) and relationship quality ($\beta = .39, p < .01$) were significant predictors of their subjective well-being. Proxies focused on both objective well-being and psychosocial resources to rate the older adult's well-being, especially in quality of life ($R^2 = .87, adj. R^2 = .82$).



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Conclusions: These findings indicate that discrepancies may exist between older adult-proxy ratings of health due to focusing on different components of well-being.

Keywords

Quality of life; self-appraisals; proxy appraisals; health agreement

1. Introduction

Americans are living longer with reduced risk of disease or limited functioning until much later in life [1]. Over the coming decades, this is expected to contribute to exponential growth in the number of persons living with functionally debilitating age-associated diseases such as Alzheimer's disease and other dementias, congestive heart failure, loss of vision and hearing, and osteoarthritis in very old age [2]. Reaching advanced older age and living with one or more diseases may negatively impact older adult (OA) well-being [3], possibly requiring assistance from a caregiver to meet daily tasks of living [4]. Instead of relying solely upon OA self-appraisals, a greater number of healthcare professionals seek information about the OA's well-being from a proxy, an individual (e.g., spouse, adult-child, friend) who provides information regarding the care recipient [5]. This is despite reported evidence that proxy appraisals can significantly differ from OA appraisals of well-being [6, 7]. Nonetheless, investigators have made limited attempts to consider what the OA and proxy perceive as essential to quality-of-life. Therefore, the purpose of this investigation was to examine the influence of self-reported and proxy appraisals of OA objective health factors and psychosocial resources on OA well-being. This research has implications relative to how geriatric practitioners assess and consider positive aging in caregiving dyads.

1.1 Conceptualizing Well-Being

Well-being has generally been defined as the extent to which individual needs to produce positive feelings of satisfaction across various life domains (e.g., health functioning, social relationships, etc.) [8]. Well-being appraisal involves a high degree of inter-individual variability [3]. Individuals commonly filter perceptions and reactions through personal expectations, values, and history [9]. Nonetheless, Diener [10] posited two theoretical models of well-being to explain how persons appraise well-being. First, well-being is appraised top-down. In other words, it is hypothesized that persons are predisposed to view life events as positive or negative depending on life domains, thereby resulting in an optimistic opinion of some domains, or pessimistic evaluations of others [10]. Second, Diener [10] proposed that well-being is appraised from the bottom-up. This assumes that individuals simply summarize perceptions of well-being across life domains into a global or overall evaluation of their well-being [11]. Together, the top-down and bottom-up perspectives are composed of distinct physical, subjective, and psychological attributes that impact how persons positively appraise life [12].

1.2 Self vs Proxy Appraisal of Well-Being

Numerous studies have reported that self-appraisal is a better predictor of well-being than those obtained through a proxy [13, 14, 15]. Self-appraisals involve cognitive processes [16] that incorporate both past and ongoing health changes to create a global well-being appraisal [17]. However, because chronic conditions (e.g., dementia, cancer) can disrupt the lives of individuals trying to cope with the symptoms, proxies may be brought in to assess an individual's well-being in order to avoid methodological and analytical problems associated with missing data [18]. With one in ten older adults over the age of 65 diagnosed with Alzheimer's disease [19], self-appraisals are under further scrutiny for individuals diagnosed with dementia due to lack of personal insight associated with cognitive impairment [20]. Despite findings of reliable and consistent positive well-being ratings from individuals with mild to moderate dementia [6, 14], researchers still rely upon proxy ratings. It is assumed that the nominated proxy is intimately familiar with the OA [21]. However, several studies have cited discrepancies between self and proxy ratings of well-being. There is an evident lower discrepancy between self and proxy appraisals on physical functioning attributes of well-being, proxies tend to underestimate positive psychological aspects of aging (e.g., life satisfaction, happiness, etc.) [15, 20, 22]. Although self and proxy agreement on well-being has been previously examined in cognitively impaired older adults, there remains limited examination of self versus proxy agreement between non-cognitively impaired OAs and proxies. Well-being assessment by the OA and proxy requires all verbal and nonverbal communication cues [14], thus non-cognitively impaired older adults should be better able to communicate positive versus negative status of well-being to a proxy, increasing chances for higher agreement.

1.3 Psychosocial Resources

Given the challenge of assessing the well-being of old-old adults in various populations, Poon and colleagues [23] argue that psychosocial resources should alternatively be considered. Psychosocial resources are conceptualized as protective factors an individual can draw upon to indirectly or directly off-set the noxious impact of everyday stressors [24, 25]. Such resources may consist of inner strengths (e.g., spirituality, place attachment), as well as socio-environmental attachments (e.g., family, friends, neighbors) [26]. For instance, spirituality is an intra-personal dimension that produces meaning and transcendent experience beyond normative human consciousness [27] comes (e.g., morale, happiness, life satisfaction) [28]. Krause [29] noted that spirituality's deleterious effect on negative psychological outcomes, such as stress can be extended to the social network structure inherent within religious organizations. Membership within such congregations can influence emotional feelings of social belongingness and community membership. In turn, persons derive a sense of attachment to place or feeling of emotional comfort and security derived from belonging and connecting to the broader community. This perception of belonging to a community is especially important for aging individuals with limited mobility and health restrictions [30]. Oswald and colleagues argued that despite spending large portions of their time in their home, having a sense of belonging through friends and relatives in within the broader community contributes to a more positive aging experience.

The purpose of this study was to 1) determine the level of agreement between self and proxy appraisals of well-being, and 2) examine the association between perceived well-being and psychosocial resources relative to OA and proxy well-being assessment. Based on previous

literature, we hypothesized that proxies would underestimate OA health status, perceived well-being, and psychosocial resources. We also predicted that OA's would associate more psychosocial resources with subjective well-being, while proxies would associate more health attributes with their OA's subjective well-being.

2. Materials and Methods

2.1 Sample and Data Collection

A convenience sample of N = 72 older adult-proxy dyads were recruited for this study. Such empirical comparison has largely focused on proxy ratings of cognitively impaired older adults, particularly those requiring long-term monitoring and assistance [6, 20]. There is limited literature on dyadic comparisons of well-being appraisals between cognitively intact old adults and proxies. The OA were recruited first and upon completion of the study, were asked to nominate a proxy to complete a separate questionnaire. To be included in the study, the OA had to be 70 years of age and older and had to score 11 or higher on the Mini Mental State Exam Short- Form (MMSE-SF; [31]). Based on normative scoring ranges established for the MMSE-SF, those with a score below 11 were considered to be more likely to have cognitive health impairment [31]. The OA sample was recruited from two primary sources: First, community-dwelling older adults and individuals who resided in assisted living or nursing facilities in a south-central state were identified and recruited. Second, community dwelling older adults who resided in private homes were recruited from community locations such as senior activity centers, nutrition sites, and local churches. All participants were asked to read and sign a university approved informed consent. For those who may have had visual impairments which limited their ability to read, a trained-member of research team privately read the informed consent aloud one-to-one. Older adults completed a one-time questionnaire evaluating their current physical and psychosocial health. Upon completion of the questionnaire, the OA were compensated \$25 and were asked to nominate a proxy to complete a separate questionnaire. Initial recruitment efforts resulted in a sample of 165 older adults. All OAs nominated a proxy, but only 72 proxies responded (43.6% response rate). All proxies included in this study were nominated first by the OA. No restrictions were placed on the OA regarding the proxy nomination. This was used in order to allow the OA the opportunity to nominate any individual whom they perceived to intimately know their well-being. Proxy ratings are often used to minimize burden on health-compromised older adults [18]. There were no inclusion criteria for the proxies to participate in the study. Upon nomination, proxies were mailed a packet containing information regarding the study and the questionnaire. Proxies completed a one-time questionnaire evaluating their appraisal of the older adult's physical and psychosocial health and returned the packet within seven days of receiving it. Upon completion of the survey, proxies were compensated \$15. All participants provided consent to participate in the study and this study was approved by authors' university Institutional Review Board.

2.2 Measures

2.2.1 Health

Health was assessed using three variables: activities of daily living (ADL); psychological distress; and perceived health status.

Activities of daily living were assessed using the Activities of Daily Living questionnaire of the Older Americans' Resources and Services (OARS) Multidimensional Functional Assessment questionnaire [32]. The scale consisted of 13 items (e.g., can you use the telephone) rated on a three-point Likert scale ranging from "unable to do activity" (0) to "without help" (2), with higher scores indicating increased functional ability among the OA. The scale showed strong internal consistency for both the OA ($\alpha = .79$) and proxy sample ($\alpha = .91$).

Psychological distress was assessed using the Brief Symptom Inventory [33]. The scale consisted of 18-items (e.g., nervousness or shakiness inside) on a five-point scale ranging from "not at all" (0) to "extremely" (4), with higher scores indicating increased psychological distress among the OA. The scale showed moderate internal consistency for the OA ($\alpha = .67$) sample and strong internal consistency for the proxy sample ($\alpha = .94$).

Perceived health status was assessed using one question that asked the individual to rate their current health. The question, "How would you rate your overall health at the present time," was rated using a four-point Likert scale ranging from "poor" (1) to "excellent" (4), with higher scores indicating better perceived health among the OA.

2.2.2 Well-Being

Six variables were used to measure well-being appraisal: Affect; gratitude; life satisfaction; purpose; happiness; and QoL.

Affect was measured using the Positive and Negative Affect Schedule (PANAS) to obtain scores on positive and negative psychological affect [34]. This scale consists of 20 items (e.g., interested [positive], distressed [negative]) on a five-point scale, ranging from "not at all" (1) to "extremely" (5). Scores range on both scales from 10-50. Composite scores were calculated by summing the positive items and the negative items. Higher scores represent higher levels of positive and negative affect. The positive affect subscale showed strong internal consistency for both the OA ($\alpha = .76$) and proxy sample ($\alpha = .87$). The negative affect subscale also showed strong internal consistency for both the OA ($\alpha = .75$) and proxy sample ($\alpha = .85$).

Gratitude was evaluated using the Gratitude Questionnaire-Six item short form [35]. Items (e.g., I have so much in life to be thankful for) were on a seven-point scale, ranging from "strongly disagree" (1) to "strongly agree" (7), with higher scores indicating increased gratitude among the OA. The scale showed moderate internal consistency for the OA sample ($\alpha = .59$) and strong internal consistency for the proxy sample ($\alpha = .82$).

Life satisfaction was assessed using the Satisfaction with Life Scale (SWLS) [36] to obtain scores on life satisfaction. The scale consisted of five items (e.g., in most ways, my life is close to ideal) using a seven-point scale ranging from "strongly disagree" (1) to "strongly agree" (7), with higher scores indicating increased life satisfaction among the OA. The scale showed strong internal consistency for both the OA ($\alpha = .73$) and proxy sample ($\alpha = .88$).

Purpose in Life was evaluated using the Purpose in Life scale of the Ryff's Psychological Well-being scale (PWBI) [37]. This subscale consisted of seven items (e.g., I have a sense of direction and purpose in my life) rated on a six-point scale, ranging from "strongly disagree" (1) to "strongly agree" (7), with higher scores indicating increased purpose among the OA. The scale showed moderate internal consistency for the OA ($\alpha = .57$), but a score could not be calculated for the proxy sample due to a negative average covariance among items.

Happiness was assessed using the Subjective Happiness Scale [38]. The scale consisted of four items (e.g., in general I consider myself happy) on a seven-point scale, ranging from one to seven, with higher scores indicating greater happiness. The scale showed strong internal consistency for both the OA ($\alpha = .73$) and proxy sample ($\alpha = .82$).

Quality of life was measured using the CASP-19 [39]. The scale consisted of 19 items (e.g., I can do the things I want to do) that are scored on a four-point Likert scale ranging from "never" (1) to "often" (4), with higher scores indicating increased QoL among the OA. The scale showed weak internal consistency for the OA ($\alpha = .28$), but strong internal consistency for the proxy sample ($\alpha = .92$).

2.2.3 Psychosocial Resources

Five variables were used to measure the individual's psychosocial resources: daily spiritual experiences; place attachment; relationship quality; social support; and loneliness.

Daily spiritual experiences were assessed using the Daily Spiritual Experiences Scale [40]. The scale consisted of 16 items (e.g., I feel God's presence) rated on a six-point Likert scale ranging from "never or almost never" (1) to "many times a day" (6), with higher scores indicating increased daily spiritual experiences among the OA. The scale showed strong internal consistency for both the OA ($\alpha = .87$) and proxy sample ($\alpha = .94$).

Place attachment was assessed using the Place Attachment Inventory [41]. The scale consisted of 12 items (e.g., this place is very special to me) on a five-point scale ranging from "strongly disagree" (1) to "strongly agree" (5), with higher scores indicating increased place attachment among the OA. The scale showed strong internal consistency for both the OA ($\alpha = .89$) and proxy sample ($\alpha = .94$).

Relationship quality was assessed using a modified version of the Positive Affect Index [42]. The original scale consisted of 10-items (e.g., how well do you feel he/she understands you) on a six-point scale ranging from "not well" (1) to "extremely well" (6), with higher scores indicating increased relationship quality among the OA. Three questions were added to assess the OA's general affect towards their son or daughter. The scale showed strong internal consistency for both the OA ($\alpha = .82$) and proxy sample ($\alpha = .92$).

Social Support was assessed using the Social Provisions scale [43]. The measure was composed of 12 items (e.g., there are people I can depend on to help me if I really need it) on a four-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (4), with higher scores indicating increased social support among the OA. The scale showed moderate internal consistency for the OA sample ($\alpha = .67$) and strong internal consistency for the proxy sample ($\alpha = .70$).

Loneliness was assessed using the UCLA Loneliness scale [44], a 10-item (e.g., how often do you feel close to people) scale designed to obtain the participant's subjective feelings of loneliness and

social isolation. The scale is on a four-point Likert scale ranging from “never” (1) to “always” (4), with higher scores indicating increased loneliness among the OA. The scale showed moderate internal consistency for the OA sample ($\alpha = .65$) and strong internal consistency for the proxy sample ($\alpha = .72$).

2.3 Analytical Procedure

Descriptive statistics were examined for the total sample. To examine self and proxy differences on health appraisals, we ran a paired sample t-test to analyze mean differences on all health variables. Third, we regressed the subjective health factors on the objective health factors and psychosocial resources for both the OA and proxy samples. Each linear regression was estimated by entering predictors with the ordering of demographics, objective health factors, and psychosocial resources. Given the small sample size and potential for bias from missing data, the variables were checked for potential issues. Missingness indicators were created and study variables were examined for potential relationships between variables and missingness. Several variables showed potential for being not being missing completely at random (MCAR) and so a multiple imputation model was used in Mplus 8 to create 20 datasets. The analysis was then rerun using these imputed datasets to help mitigate the potential bias of missing data. All analyses were examined using a significance level of .05 or less.

All participants provided consent to participate in the study and this study was approved by Oklahoma State University’s Institutional Review Board (HE-1373) on September 13, 2014.

3. Results

3.1 Descriptives

The sample consisted of $N = 72$ dyads composed of an older adult and a nominated proxy. Mean age of older adult participants was 85.04 years ($SD = 8.67$), compared a mean age of 64.88 years ($SD = 13.32$) among nominated proxies. Frequencies and percentages for study variables are presented in Table 1 and Table 2.

Table 1 Frequencies and percentages of older adult and proxy samples.

	Older Adult		Proxy	
	n	Percentage	n	Percentage
Gender				
Male	17	23.6	18	25
Female	52	72.2	54	75
Missing	3	4.2	0	0
Race/Ethnicity				
Alaskan Native	0	0	0	0
Asian/Asian American	0	0	3	4.2
Black/African American	1	1.4	1	1.4
Hispanic/Latino	0	0	0	0
Native American	3	4.2	3	4.2
Native Hawaiian and Pacific Islander	1	1.4	0	0
White/Caucasian	63	87.5	65	90.3

Multi-Racial	0	0	0	0
Missing	4	5.6	0	0
Relationship Status				
Never Married	3	4.2	11	15.3
Married	27	37.5	51	70.8
Divorced	5	6.9	6	8.3
Widowed	32	44.4	4	5.6
Education				
Some high school or less	6	8.3	0	0
Vocational, High School, GED	18	25	9	12.5
Some college and Associates Degree	18	25	8	11.1
College Degree	6	8.3	19	26.4
Some post graduate education, Graduate education	13	18.1	26	36.1
Ph.D./Doctoral Degree	8	11.1	10	13.9
Missing	3	4.2	0	0

Table 2 Frequencies and percentages related to proxy specific descriptives.

	n	Percentage
Relationship to Older Adult		
Adult Child	33	45.8
Friend/Acquaintance	10	13.9
Nephew/Niece	1	1.4
Physician/Nurse	8	11.1
Sibling	3	4.2
Spouse	14	19.4
Other	3	4.2
Distance to Older Adult		
Live together	17	23.6
Less than 5 miles	30	41.7
5-50 miles	12	16.7
51-150 miles	6	8.3
151-250 miles	2	2.8
251-500 miles	1	1.4
More than 500 miles	4	5.6
Weekly Communication		
None	3	4.2
1-2 times	13	18.1
3-4 times	21	29.2
5-8 times	14	19.4
9 or more	21	29.2

3.2 Paired-Samples T-test

Paired-samples t-tests were used to analyze the significant mean differences of the study variables between the two samples (See Table 3). On average, proxies tended to underrate their older adult’s activities of daily living ($M = 1.98$), happiness ($M = 2.77$), gratitude ($M = 2.13$), life satisfaction ($M = 2.95$), place attachment ($M = 4.59$), and relationship quality ($M = 2.81$), and while overrating psychological distress ($M = -5.76$) and loneliness ($M = -1.86$).

Table 3 Paired sample t-test descriptives.

	Older Adult Means	Proxy Means	Mean Difference	SD	t	N
<i>Underrated</i>						
ADL	24.05	22.07	1.98***	3.68	4.21	61
Perceived Health	2.88	2.70	.18	.94	1.57	67
Positive Affect	34.66	33.13	1.53	8.97	1.24	53
Happiness	22.73	19.95	2.77**	5.25	3.66	48
Gratitude	38.69	36.56	2.13*	6.61	2.23	48
Life Satisfaction	28.18	25.23	2.95**	7.91	3.01	65
Daily Spiritual Experiences	62.37	59.65	2.73	13.94	1.40	51
Place Attachment	44.37	39.78	4.59**	12.21	2.98	63
Relationship Quality	72.03	69.22	2.81**	7.34	3.07	64
Social Support	40.42	39.78	.64	4.71	1.05	59
<i>Overrated</i>						
Psychological Distress	6.09	11.85	-5.76**	12.72	-3.07	46
Negative Affect	15.67	15.83	-.17	6.25	-.20	54
Quality of life	57.47	58.42	-.94	10.27	-.67	53
Loneliness	19.28	21.14	-1.86**	4.78	-3.11	64

Note. * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

3.3 Multivariate Findings

Multiple linear regression analyses were conducted to assess the impact of self and proxy appraisals of objective health factors and psychosocial resources on subjective health factors of OA. Seven separate regression analyses were conducted for the OA sample and six separate regression analyses were conducted for the proxy sample to individually assess factors relevant to appraisals of well-being within each subsample. Linear order of entry for the variables was the same for all analyses, entered with the ordering of demographics (i.e., age, gender, and education),

objective health variables (i.e., perceived health, psychological distress, and ADLs), and psychosocial resources (i.e., daily spiritual experiences, place attachment, relationship quality, loneliness, and social provision). The subjective health criterion variables included gratitude, life satisfaction, happiness, positive and negative affect, and quality of life. Purpose in life was a criterion variable for the OA sample, but was excluded from the proxy sample due to the scale's unreliability with the sample.

Table 4 presents the results of OA subjective health factors regressed on self-appraisals of objective health factors and psychosocial resources. In the OA sample model predicting positive affect, the predictors explained 35% of the variance. It was found that place attachment significantly predicted negative affect ($\beta = .24, p < .05$). In the model predicting negative affect, the predictors explained 41% of the variance. It was found that age ($\beta = -.25, p < .05$), psychological distress ($\beta = .53, p < .001$), and daily spiritual experiences ($\beta = .33, p < .01$) significantly predicted negative affect. The predictors explained 30% of the variance in happiness. Age ($\beta = -.27, p < .01$) and relationship quality ($\beta = .37, p < .01$) was found to significantly predict happiness. Predictors explained 22% of the variance in life satisfaction. Psychological distress ($\beta = .10, p < .001$), place attachment ($\beta = .13, p < .01$), and relationship quality ($\beta = -.07, p < .05$) was found to significantly predict life satisfaction. The predictors explained 47% of the variance in quality of life. Age ($\beta = .08, p < .05$) was found to significantly predict quality of life.

Table 5 presents the results of proxy appraisals of OA subjective health factors regressed on proxy appraisals of objective health factors and psychosocial resource. In the proxy sample model predicting positive affect, the predictors explained 58% of the variance. Activities of daily living ($\beta = .29, p < .05$) and daily spiritual experiences ($\beta = .42, p < .001$) were found to significantly predict positive affect. The predictors explained 53% of the variance in negative affect. Psychological distress ($\beta = .53, p < .001$) was found to significantly predict negative affect. The model of happiness explained 60% of the variance. Gender ($\beta = .25, p < .05$) and daily spiritual experiences ($\beta = .39, p < .01$) were found to significantly predict happiness. The model of gratitude explained 68% of the variance. Daily spiritual experiences ($\beta = .42, p < .001$), place attachment ($\beta = .31, p < .01$), and social support ($\beta = .30, p < .01$) were found to significantly predict gratitude. In the model predicting life satisfaction, the predictors explained 76% of the variance. Age ($\beta = .15, p < .05$), daily spiritual experiences ($\beta = .36, p < .001$), place attachment ($\beta = .37, p < .001$), and loneliness ($\beta = -.41, p < .001$) were found to significantly predict life satisfaction. In the model of QoL, the predictors explained 84% of the variance. Activities of daily living ($\beta = .33, p < .001$), perceived health ($\beta = .23, p < .001$), daily spiritual experiences ($\beta = .21, p < .01$), place attachment ($\beta = .24, p < .001$), and loneliness ($\beta = -.35, p < .001$) were found to be significant predictors of QoL.

Table 4 Predicting well-being on older care recipient sample ($N = 72$).

Predictors	Positive Affect		Negative Affect		Happiness		Gratitude		Life Satisfaction		Quality of Life	
	β	S.E.	β	S.E.	β	S.E.	β	S.E.	β	S.E.	β	S.E.
Age	-.07	.13	-.25*	.12	-.27*	.13	-.33	.13	-.03	.15	.08*	.11
Gender	.17	.10	.14	.10	.01	.11	-.04	.11	.10	.12	-.09	.09
Education	.13	.11	.19	.10	.15	.12	-.04	.11	.08	.12	.00	.10
Psychological Distress	-.02	.12	.53***	.11	-.13	.13	.12	.13	.10***	.15	-.36	.10
Activities of Daily Living	.12	.13	.13	.12	-.13	.14	.08	.14	.04	.15	-.20	.12
Perceived Health	.16	.12	.12	.11	.01	.13	.11	.12	.18	.15	.05	.11
Daily Spiritual Experiences	.01	.12	.33**	.11	.04	.13	-.15	.13	.08	.13	-.25	.10
Place Attachment	.24*	.12	.08	.12	.12	.13	.11	.13	.13**	.15	.35	.11
Relationship Quality	.11	.12	.05	.11	.37**	.12	.22	.17	-.07*	.13	.24	.10
Loneliness	-.12	.13	.14	.13	-.08	.14	.10	.14	-.26	.14	-.13	.12
Social Support	.19	.13	-.02	.13	-.09	.15	.22	.15	.14	.14	.11	.11
R^2	.35		.41		.30		.28		.22		.47	

Note. * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

Table 5 Predicting well-being based on proxy sample (N = 72).

Predictors	Positive Affect		Negative Affect		Happiness		Gratitude		Life Satisfaction		Quality of Life	
	β	S.E.	β	S.E.	β	S.E.	β	S.E.	β	S.E.	β	S.E.
Age	.11	.09	-.17	.10	.20	.11	-.06	.08	.15*	.07	.08	.06
Gender	.13	.10	-.09	.10	.25*	.11	.06	.08	.01	.07	.05	.06
Education	.04	.10	-.15	.11	-.00	.09	.07	.09	.13	.07	.10	.06
Psychological Distress	-.17	.14	.53***	.13	.12	.16	.17	.16	-.02	.09	.02	.08
Activities of Daily Living	.29*	.14	.25	.13	.20	.12	.09	.13	.08	.09	.33***	.08
Perceived Health	.17	.10	.05	.11	.04	.10	.12	.09	.15	.08	.23***	.06
Daily Spiritual Experiences	.42***	.12	-.23	.13	.39**	.13	.42***	.10	.36***	.09	.21**	.08
Place Attachment	.18	.11	-.19	.11	.11	.10	.31**	.09	.37***	.07	.24***	.06
Relationship Quality	-.10	.12	.08	.12	.19	.14	.17	.10	-.14	.09	.04	.08
Loneliness	-.18	.13	-.04	.13	-.21	.13	.02	.20	-.41***	.09	-.35***	.08
Social Support	-.01	.14	-.23	.13	.18	.16	.30**	.11	.13	.09	.14	.07
R^2	.58		.53		.60		.68		.76		.84	

Note. *p < 0.05. **p < 0.01. ***p < 0.001.

4. Discussion

The aim of this study was to investigate the level of agreement between self and proxy appraisals of well-being. Our results confirmed that discrepancies persist between self and proxy appraisals. In particular, the results provide evidence regarding how OAs appraise their own well-being, as well as how proxies may perceive the OA's well-being. Milne and colleagues [15] note that proxies have a tendency to underestimate psychosocial components of well-being due to the abstract nature and decreased visibility of the components. Consistent with previous findings [22, 45], proxies in this study underestimated their OA's functional ability. Although there was significant difference between self and proxy appraisals of functional ability, much of the discrepancy in self versus proxy agreement in this study centered around psychosocial components of well-being.

Our findings are consistent with previous work suggesting that OAs tend to focus on subjective attributes of well-being [6]. Carstensen, Isaacowitz, and Charles [46] argue that this is attributed to older adults use of emotion regulation to optimize their well-being in the face of shrinking time horizons. The Strengths and Vulnerability Integration (SAVI) model [47] further proposes that age-related changes in perspective may be attributed to previous life experiences and an individual's perception of time left to live. In times of stress, individuals may employ emotion regulation skills through this changed perspective to minimize the experience of negative affect. According to Urry and Gross [48], the strategies individuals use to regulate emotion are based upon available resources, both internal and external. Data from this study suggests that relationship quality and place attachment are strongly associated with well-being. In late life, older adults place greater emphasis on building more positive social and community relationships within an intimate circle of friends [49]. Acquisition of material possessions tends to be secondary [49]. It is believed that the evolution of advanced human social systems has created a need to belong [50]. This is supported by relationship quality being a significant predictor of happiness. Socially intimate ties are among the most important attributes of positive well-being in later life [51, 52]. Social relationships can also provide the older individual with a sense of optimism about the future and opportunities to participate in their environment [53]. An older adult's relationship quality can affect emotional happiness and contribute to engagement within the community and overall well-being.

The theory of environmental press highlights the environmental challenges faced by older adults [54]. As communities change over time, the environment may not always be aging friendly and some older adults may lack the resources to adapt successfully to the negative environmental conditions [55]; increasing the OA's vulnerability for feeling ostracized [50] and decreased well-being in later life. It can be speculated that psychological distress (e.g., depression, anxiety) can limit an older adult's motivation to seek emotionally gratifying activities. This limited environmental engagement can have a detrimental impact on life satisfaction and positive aging.

Results from this study further suggest that proxies focus more objective attribute of well-being factors and psychosocial resources when appraising old-old adults well-being. However, this may be related to the proxies' preconceived perceptions of late life. According to Labelling theory, individuals integrate age stereotypes into their self-evaluations, thus influencing appraisals of SWB [56]. Cho, Martin, Margrett, MacDonald, and Poon [57] argue that an individual's attitudes and beliefs influence perceptions of health, so it can be speculated that proxies integrate age

stereotypes into their appraisals of their OA's well-being [58]. Other investigators have also reported that proxy appraisals of OA well-being can be influenced by the proxy's own mental health [59], pain [22], and depression [60]. In this study, this was supported by proxy overestimate of OA loneliness. Loneliness was a major predictor for proxies' assessment of OA life satisfaction and quality of life, but was not significant for OA self-appraisals of the same variables. It is plausible that proxies may rate OA loneliness based on the ageist assumption that older adults are lonelier due to normative age-associated losses in biological, psychological, and social functioning. This finding may also be related to proxy experience of isolation depending on whether the proxy may provide care to the OA [61]. Developmentally, the experience of loss is normative [62]. The OA's lack of focus on loneliness may be attributed to socioemotional selectivity theory in which older adults normatively adapt to loss by minimizing negative emotional relationships [46]. Older adults may obtain the companionship they need from their proxies, viewing the relationship as fulfilling and as a source of strength. However, the proxy may engage in social comparison, assuming that the older adult should have more relationships because the proxy would want a large quantity of relationships in later life [63]. Thus, while the older adult may view the proxy as his or her one true source of social intimacy, the proxy may view the small social networks as a negative or a sign of vulnerability. Further research is needed to examine this association.

An important contribution of the present study is that the discrepancies in self versus proxy agreement may be attributed to OA and proxy examination of well-being through different adaptive behaviors. Due to shrinking time horizons, OAs may be focused on "in the moment" well-being to ensure that they optimize their SWB and minimize their negative affect. Older adults may not focus on objective aspects such as functional limitations due to adaptation. Pavot and Diener [64] noted that positive or negative changes in life events can influence an individual's SWB, but only temporarily. Thus, OAs may adapt to negative health changes, returning to their baseline SWB overtime; indicative of a top-down approach to well-being. OAs may use these emotional regulation strategies to maintain a positive predisposition in which to examine various life domains. Perhaps, it can be argued that the psychosocial resources play a key role in how OAs adapt to negative changes and maintain a positive sense of aging. Further research will be needed to investigate this association.

Interestingly, proxies focused intently on the OAs quality-of-life. There has been to no research which has examined why proxies focus exclusively on quality-of-life, but there are two possibilities. First, the focus may be attributed to the health. First, proxies may strive to maximize OA health provided that this plays an instrumental part in quality-of-life [15]. Second, Torke, Schwartz, Holtz, Montz, and Sachs [65] speculate that proxies' current preferences for their own future aging may influence a focus of OA biopsychosocial functioning. In other words, proxies may perceive that they would want someone to care pay attention to their biopsychosocial needs in old age and therefore so should the OA.

This study has provided some preliminary evidence concerning the influence of objective and psychosocial factors on SWB. It is, however, important to acknowledge the limitations of this study. First, methodological limitations included a small sample size and a cross-sectional design. Several of the measures had low reliability scores, indicating that the scales were not capturing the concept they were originally intended to measure. Although most of the measures were in the acceptable range from exploratory studies (greater or equal to .60) [66], quality of life was very low for the OA sample. One issue might be that psychometrics for these scales were calculated

using younger populations and not elders. For example, while the CASP-19 was initially developed using a population aged 65-75 years [67], the mean age of the OA sample was outside of this range, thus the scale might not capture the characteristics of the oldest-old. Second, the sample was selected from a semi-rural state, so it is unlikely that it will be representative of the caregiving-care recipient dyad population as a whole. In addition, studies should follow dyads over time to examine how these discrepancies change over time, particularly examining cohort differences. Some of the findings, such as proxies' focus on quality of life, may be attributed to cohort effects. With these limitations, it is important to caution interpretation of these findings as the results are modestly statistically significant. Future research might also look at the context in which care is being provided. Some individuals in this sample resided with their proxies, while others resided in a long-term care facility.

5. Conclusions

Findings from this study indicate that regardless of cognitive impairment status, discrepancies exist between self and proxy appraisals of biopsychosocial health factors. This implies that proxies may not fully understand their older adults' well-being, underscoring the need to better understand what influences older adult and proxy well-being appraisal. Investigators have noted greater self-proxy agreement for physical health factors with low agreement for psychosocial components of well-being [15]. Future quantitative studies with larger samples are needed to examine self-proxy agreements of biopsychosocial health factors in OAs.

This study's findings lend to the importance of obtaining ratings from both OAs and proxies to better develop a more picture of the OA's well-being. Older adults appear to be focused on experiential well-being, while proxies are focused on their overall well-being. Because proxies are not focused on the same factors as their OAs, this may cause some friction. Educating proxies about this narrowed focus may alleviate some of the tension between proxy and OA.

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Author Contributions

Bishop, Smith, Gardner: concept, design, preparation of paperwork. Struckmeyer, Bishop: analysis, interpretation. Struckmeyer: preparation of paper. Bishop: continual edits throughout process.

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Competing Interests

The authors have declared that no competing interests exist.

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