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The Relationship of Social Engagement to Psychological Well-Being of Older Adults in Assisted Living Facilities

Nan Sook Park

University of Alabama, Tuscaloosa

The purpose of this study is to explore social engagement and its relationship to the psychological well-being of older adults residing in assisted living facilities (ALFs). Drawing on activity theory, the study focuses on the salience of social relationships on residents' life satisfaction and depressive symptoms. A total of 82 residents were interviewed face-to-face in eight ALFs in a southern state of the United States. The data were analyzed using hierarchical regression models in that demographic and health variables, site characteristics, and social engagement variables were entered into the model in successive steps. Results indicate that perceived friendliness of residents and staff was significantly associated with life satisfaction and depressive symptoms controlling for other variables, and enjoyment of mealtimes was related to low depressive symptoms. Findings suggest that ALFs could promote residents' psychological well-being by encouraging residents to develop meaningful relationships within the facility and by designing enjoyable mealtimes.

Keywords: *older adults; social engagement; psychological well-being; assisted living*

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Social engagement, referring to *making social and emotional connections with people and the community*, has been considered an important component influencing the health and psychological well-being of older people (Baltes, 1996; Dykstra, 1990; Tomaka, Thompson, & Palacios, 2006). Social engagement is typically achieved through direct contact with people; the construct has been used in understanding how older people age successfully despite changes in life circumstances and health conditions (Minkler & Fadem, 2002; Rowe & Kahn, 1998).

Research has documented the relationship of social engagement to health and mental health. Reported beneficial effects of social engagement on health and psychological well-being include decreased rates of mortality (Berkman & Syme, 1979; Rozzini, Bianchetti, Franzoni, Zanetti, & Trabucchi, 1991), slowing of functional decline (Mendes de Leon, Glass, & Berkman, 2003; Unger, Johnson, & Marks, 1997), higher levels of happiness and quality of life (Graney, 1975; Thompson & Heller, 1990), fewer depressive symptoms (Cacioppo & Hughes, 2006), and decreased risk for cognitive impairment (Bassuk, Glass, & Berkman, 1999).

The opposite end of social engagement is social isolation or loneliness, which includes physical and psychological disconnectedness from the community and people (Victor, Scambler, Bond, & Bowling, 2000). Social isolation may occur in both institutional and community settings (Hook, Sobal, & Oak, 1982). Although long-term care (LTC) facilities provide congregate living settings and opportunities for considerable interactions with other people, researchers have reported that the relationships in LTC facilities are likely to be transient and devoid of intimacy and meaningfulness compared to relationships with family and lifelong friends (Bear, 1990; Windriver, 1993). The lack of meaningful social engagement, whether it occurs in community or LTC settings, results in poor psychological well-being (Thompson & Heller, 1990; Victor, Scambler, Bowling, & Bond, 2005; Windriver, 1993).

Most studies of social engagement, however, focus on community-dwelling older adults. Relatively little is known about social engagement and its relationship to psychological well-being among older adults in LTC, especially in assisted living facilities (ALFs). Furthermore, studies in LTC mostly focus on social engagement through activity participation or interactions with family (Zimmerman et al., 2003); with few exceptions (Carpenter, 2002; Street, Burge, Quadagno, & Barrett, 2007), little attention has been paid to social interactions within the facility. Thus, few studies have examined multiple domains of social engagement (e.g., relationships with family, friends, and persons within the facility, social interactions through activities,

reciprocity of relationships) among ALF residents, which may differentially influence their psychological well-being (e.g., life satisfaction and depression).

In addition, older adults in ALFs are likely to have experienced physical and mental decline, and these factors should be controlled for in examining the linkage between social engagement and psychological well-being (Femia, Zarit, & Johansson, 2001). For example, measures such as perceived health have shown to be predictive of subsequent problems and individual well-being (R. L. Kane, 2000). As indicated by Spector and Mukamel (1998), research confounding may be reduced by taking into account of older adults' physical and cognitive health characteristics. Given these gaps in knowledge, the purpose of this study is to examine multiple domains of social engagement among residents in ALFs and the relationship of social engagement to life satisfaction and depressive symptoms controlling for individual demographics, cognitive function, and health. Five domains of social engagement were considered in this study: perceived social support from family, friends, and significant others, reciprocity of relationships, social activity participation, mealtime enjoyment, and perceived friendliness of other residents and staff.

The Context and Different Forms of Social Engagement

ALFs have become viable housing options that provide both housing and personal services for older Americans who favor independence and less institutional-like settings and who can afford the services they provide (R. A. Kane & Wilson, 1993). Because each state defines and regulates ALFs differently, they often include diverse types of residential care settings, including board and care, group homes, and supportive housing. ALFs share the commonality of housing people who need personal assistance in non-nursing settings (Park, Zimmerman, Sloane, Gruber-Baldini, & Eckert, 2006; Zimmerman, Sloane, & Eckert, 2001). The driving principles of ALFs include supporting older adults' independence, choice, control, and dignity as long as possible in socially nurturing, congregate living settings (R. A. Kane, 2001).

The social environment (i.e., the environmental climate that shapes social interactions) of the facility has been considered to be essential in promoting the psychological well-being of older adults (Kahana, Kahana, & Young, 1985). For instance, facilities that encourage supportive interpersonal relationships and resident autonomy have been associated with better social functioning and quality of life among their residents (Moos & Igra, 1980; Timko & Moos, 1990). Indeed, opportunities for engaging in meaningful activities and relationships within the facility are linked with higher

residents' morale and life satisfaction (Mitchell & Kemp, 2000; Noelker & Harel, 1978). The focus on social environment and residents' self-direction is also congruent with principles advocated by researchers and practitioners of ALFs. Advocators of improving residents' quality of life in ALFs suggest that there is a need to emphasize *meaningfulness* of relationships and activities to fully integrate quality of life into the psychosocial model of care (R. A. Kane, 2001).

Social ties with family (i.e., spouses and children) and friends are critical social resources for older people who move into ALFs. Continuing support from family and friends from the past helps older adults uphold their past roles and psychological well-being (Bear, 1990). The nature of the relationship is also important. For example, individuals appear to be most satisfied with relationships when they feel needed, and respected, and when they are able to exert control in reciprocal relationships (Dwyer, Lee, & Jankowski, 1994; Wolff & Agree, 2004). Thus, the positive effects of social interactions may be the greatest when older adults have positive feelings about the interactions by reciprocating favors and exerting some degree of control (Bocksnick & Hall, 1994; Schulz, 1976).

Theoretical Framework

This study draws on activity theory that explains the relationship between social engagement and psychological well-being of older people. Activity theory posits that social role participation is important to achieve positive adjustment in old age (Lemon, Bengtson & Peterson, 1972; Longino & Kart, 1982). That is, those who continue to participate in activities and engage in social relations as they age are likely to be satisfied with their life and maintain positive attitudes, thus contributing to their good health. Thus, frail older adults may age successfully in circumstances that enhance their levels of social interaction in spite of their physical or mental limitations (Minkler & Fadem, 2002); and their social connectedness, in turn, provides older adults with a fuller life and a sense of well-being.

Research Questions and Hypotheses

This study aims to answer two questions: (a) What is the association of multiple domains of social engagement with life satisfaction and depressive symptoms among older adults in ALFs? and (b) Are some social engagement variables more salient than others in their relationship to life satisfaction and depressive symptoms? Psychological well-being was conceptualized as high life satisfaction and fewer depressive symptoms in this article. Hypotheses were

based on activity theory and prior studies. First, because activity theory posits that some level of social engagement produces positive effects, it was hypothesized that all social engagement variables (i.e., perceived social support, reciprocity of relationships, social activity participation, mealtime enjoyment, and perceived friendliness of other residents and staff) would be associated with fewer depressive symptoms and higher life satisfaction to some extent. On the other hand, it is important to note that residents in ALFs live in a social environment isolated, to a certain extent, from past relationships including family and friends. Individuals who adapt to new social contexts and those who are content with everyday interactions and activities within the facility are expected to be more satisfied and less depressed than those who are not pleased with ongoing facility interactions or activities. Therefore, based on the premise that those who are socially integrated with new living arrangements are happier than those who are not (Cutchin, Owen, & Chang, 2003; Street et al., 2007), it is hypothesized that residents' perceptions of the friendliness of other residents and staff and their enjoyment of mealtimes will have significant impacts on residents' psychological well-being. These hypotheses indicate that social connectedness, in a general sense, is good for individuals' psychological well-being, but some social engagement variables are more salient than others in different social contexts.

Method

Site of Research

The Alabama State Board of Public Health defines an ALF as "individuals, corporations, partnerships, limited partnerships, or any other entity that provides or offers to provide residence and personal care to individuals who are in need of assistance with activities of daily living" (Alabama State Department of Public Health, 2002, p. 1). The state of Alabama has two major licensing categories for ALFs: (a) nondementia facilities and (b) specialty care assisted living facilities designed for residents with Alzheimer's or other types of dementia. This study included only nondementia ALFs because of its heavy reliance on self-report. In addition, there are three subcategories of nondementia ALFs based on bed capacity: (a) family (2 to 3 beds), (b) group (4 to 16 beds), and (c) congregate (17 or more beds). The study excluded the family ALFs under the assumption that, because of their extremely small size, family ALFs would not be comparable to group or congregate types. Evidence suggests that size determines the way facilities operate on a daily basis (e.g., interactions with staff, availability of recreational and health resources; Morgan, Gruber-Baldini, & Magaziner, 2001).

The study also considered location of the facility (i.e., rural vs. urban) to provide variability in facilities. The study followed the definition of rural and urban provided by the U.S. Census Bureau (2000). Areas can be classified as urban or rural based on population size and density. Urban areas are defined as those of 2,500 people or more, whereas rural areas have populations fewer than 2,500. Counties that have more than 50% of their population living in rural areas are classified as rural, whereas urban counties have more than 50% of their population living in urban areas.

The purpose of sampling ALFs was to select purposively a balanced number of ALFs in the categories of facility size (small vs. large) and location (rural vs. urban). The initial sampling frame consisted of 53 licensed facilities that were located in and within 120 miles of Tuscaloosa County in Alabama; two facilities were excluded because they were of the family type (2 to 3 beds). Of 51 eligible facilities, 21 facilities were invited to participate in the study, of which 8 agreed to take part. Of the 8 facilities, 3 facilities were located in rural counties, 2 facilities had fewer than 17 beds, and all except 1 facility were for-profit facilities.

Participants

Residents were eligible for this study if they (a) were age 65 and older, (b) were not diagnosed with dementia, and (c) were capable of understanding and answering questions. Table 1 presents sample characteristics for all analytic variables.

Procedure

Once the list of the 51 facilities was organized based on facility size and location, invitation letters were sent to facilities starting with ALFs in Tuscaloosa County (the county closer to the research team). Invitation letters were sent in five rounds (two to five facilities at a time) from March to September 2006. Some rural counties have only a couple of facilities. While conducting interviews in the participating facilities, we sent the next round of letters to recruit facilities until we had interviewed 82 residents. Administrators were informed that the purpose of the study was to enhance understanding of social relationships and well-being among residents in ALFs. The principal investigator contacted administrators by phone within 2 weeks after the letter was sent. If the administrator agreed to participate in the project, a visit was scheduled. Of a total of 21 ALFs to which letters were sent, 8 administrators agreed to participate, 7 administrators declined

Table 1
Description of Residents

Variable	<i>M</i>	<i>SD</i>	Range
Outcomes			
Life satisfaction	12.45	3.72	3–19
Depression	9.96	9.49	0–52
Demographics and health			
Age	84.09	6.08	71–100
Female (%)	74.4		0–1
Cognitive function (MMSE)	25.18	3.60	15–30
Perceived health	2.72	0.87	1–5
Site characteristics			
Rural (%)	41.5		0–1
Small (%)	17.1		0–1
Social engagement			
Perceived social support	50.88	6.46	35–60
Reciprocity	5.50	1.43	2–8
Social activity participation	5.37	2.03	1–9
Mealtime enjoyment	3.55	0.74	1–4
Perceived friendliness of residents and staff	17.50	2.65	10–20

Note: *N* = 82. MMSE = Mini-Mental State Examination. Values are means and standard deviations unless otherwise noted.

to participate, and efforts to initiate a telephone contact with administrators failed in 6 facilities. Thus, the response rate of ALF administrators was roughly 38%.

When the principal investigator visited facilities, she had a face-to-face interview with the administrator first. The administrator or the activity director of each facility was asked to provide names of eligible residents. In facilities with 16 or fewer beds, all eligible residents were asked to participate. In facilities with 17 or more beds, no more than 16 residents were selected to participate in the study, and those chosen were selected to fit with the criteria of the study. A total of 82 eligible residents were approached by the project team with assistance from staff members. All residents we approached agreed to participate in the study.

After a resident agreed to participate and signed the informed consent form, interviews took place in a private location within the facility (e.g., mostly residents' rooms or a semiprivate facility library). Interviews using closed-ended questionnaires took between 60 minutes and 90 minutes. The participants were

told that they could stop the interview any time and that the unfinished interview could be rescheduled at another time. All but one participant finished the interview in a single session.

Variables

Dependent variables. Life satisfaction was measured using the Life Satisfaction Index A (LSI-A), which includes 20 items in agree-disagree format (Neugarten, Havighurst, & Tobin, 1961). The LSI-A inquires about the degree to which people are satisfied with their present and past life. The LSI-A has been reported to be a stable measure of life satisfaction and to be highly correlated with an interview and expert rating assessment of life satisfaction (Grann, 2000). Examples of questions include "As I grew older, things seem better than I thought they would be" and "This is the dreariest time of my life." In all, 12 items were positively worded and 8 were negatively worded. The negatively worded items were reverse coded; thus, the summative score of the 20 items ranged from 0 to 20, with higher scores indicating greater satisfaction with life (see the appendix for the full instrument). Cronbach's alpha for the sample was .76. In terms of interpreting Cronbach's alpha, DeVellis (2003) presented guidelines that below .60 is unacceptable, .60 to .65 is undesirable, .65 to .70 is minimally acceptable, .70 to .80 is respectable, and .80 and above is very good.

The Center for Epidemiological Studies-Depression Scale (CES-D) was used to measure depressive symptoms (Radloff, 1977). Participants were asked how often they felt or behaved in a certain way during the past week (e.g., "I was bothered by things that usually don't bother me"). Response options were from *rarely or none of the time* (1) to *most or all of the time* (3). Of the 20 items, 4 positively worded items were reverse coded. Thus, the summative score could range from 0 to 60, with higher scores indicating more depressive symptoms. Cronbach's alpha for the sample was .89.

Demographic and health variables. Demographic variables included age in years and gender (1 = *female*, 0 = *male*). Cognitive function was measured with Mini-Mental State Examination (MMSE). The MMSE is a 21-item instrument measuring orientation, episodic recall, working memory, language, and visuospatial abilities (Folstein, Folstein, & McHugh, 1975). Scores could range from 0 to 30, with higher scores indicating better cognitive function. Perceived health was measured with the question, "How you would rate your overall health at this time?" There were five response options (1 = *poor*, 2 = *fair*, 3 = *good*, 4 = *very good*, and 5 = *excellent*). The

question, which was derived from the National Health Interview, has been widely used as a general health measure (R. L. Kane, 2000).

Site characteristics. Two facility variables were considered: rural location (1 = *rural*, 0 = *urban*) and facility size (1 = *small*, < 17 beds; 0 = *large*, $\geq$ 17 beds).

Social engagement variables. The Multidimensional Scale of Perceived Social Support (MSPSS) measured residents' subjective assessment of social support adequacy from family, friends, and significant others (Zimet, Dahlem, Zimet, & Farley, 1988). The MSPSS measure was significantly correlated with the strength of family and friend network ($r = .45$, $p = .01$), measured using a modified version of the Lubben's Social Network Scale (Lubben, 1988). The MSPSS consisted of 12 questions including the following: "There is a special person with whom I can share my joys and sorrows (significant others)"; "My family tries to help me (family)"; and "I can count on my friends when things go wrong (friends)." Participants used a Likert-type response to rate each item from (1) *strongly disagree* to (5) *strongly agree*. The summative score of the 12 items could range from 12 to 60, with higher scores indicating strong perceived social support. The scale has established good internal consistency and construct validity from various groups (Levin, 2000). Cronbach's alpha for the sample was .89 for the whole scale. The reliability coefficient was comparable to that of .85 with established samples (Levin, 2000).

Reciprocity was measured with two items: "How often do your family or people at this facility ask you for advice or talk over their problems with you?" and "How often do you feel your opinion is counted in making decisions in your facility?" Response options were (1 = *never*, 2 = *rarely*, 3 = *sometimes*, 4 = *often*). The summative score could range from 2 to 8, with higher scores indicating a greater level of reciprocity.

Social activity participation was measured with 11 items that were selected from a 20-item activity questionnaire asking if the resident participated in each activity in the last seven days (1 = *yes*, 0 = *no*). The 11 activities that typically involved social interaction with other people were going out and doing some shopping, going to the barber or beauty shop, attending religious services, attending arts and crafts classes, playing cards and other table games, going to the movies, eating out, talking with people on the phone, doing volunteering work, doing paid work, and visiting with other residents. The summative score of these 11 items could range from 0 to 11, with higher scores indicating greater participation in social activities.

Mealtime enjoyment was measured using an item from the Quality of Life (QOL) instrument for nursing home residents (R. A. Kane et al., 2003): "Do you enjoy mealtimes at this ALF?" (1 = *never*, 2 = *rarely*, 3 = *sometimes*, and 4 = *often*). Because residents typically eat together at ALFs, satisfaction with mealtimes could be associated with being connected to a social context and contentment with sociability of mealtimes (Frank, 2002; Hotelling, 1990; Street et al., 2007).

Questions regarding perceived friendliness of the facility were also adopted from the QOL questionnaire (R. A. Kane et al., 2003). Five questions were used: "Is it easy to make friends at this facility?" "Do you consider any other resident here as your close friend?" "In the last month, have people who worked here stopped just to have a friendly conversation with you?" "Do you consider any staff member to be your friend?" and "Do you think that the facility tries to make this an easy and pleasant place for families and friends of residents to visit?" All questions except the second question (1 = *no*, 4 = *yes*) used four response options (1 = *never*, 2 = *rarely*, 3 = *sometimes*, and 4 = *often*). The summative score of the five items ranged from 5 to 20, with higher scores indicating greater perceived friendliness within the facility. Cronbach's alpha of the five items was .61. The coefficient was lower than expected; however, it was comparable to the .64 reliability coefficient reported by R. A. Kane et al. (2003).

Data Analysis

Missing data. There were four values missing in LSI-A and two in CES-D. Because of the small sample size and otherwise complete data (less than 5% missing), missing values were imputed using mean substitution. In LSI-A, one case had two missing values and three cases had one missing value out of 20 items with two response options. Missing values were imputed from the mean score of the remaining items and then rounded to the nearest integer. For the CES-D, two cases had missing values (one missing for one case and two missing values for two cases) out of 20 items with four response options. Missing values were replaced by the mean score of the remaining items. With these substitutions, 81 cases had complete information; one case had a missing value in age, which could not be replaced using mean substitution.

The relationship of social engagement to psychological well-being. Because the data involved a multilevel structure (i.e., residents nested within facility), the random effects ANOVA model was run to test if there

was a statistically significant between-group (i.e., facility-level) variability in dependent variables. If this were the case, appropriate statistical models taking the multilevel data structure into account (e.g., hierarchical linear modeling) would need to be adopted. The result from the SAS proc mixed procedure (SAS Institute, 2002-2003) indicated that the variance components (τ_{00}) for facility for life satisfaction (0.00, $SE = 0.05$, $p > .50$) and depression (11.70, $SE = 11.77$, $p = .16$) were not statistically significant; this means that there was little facility-level variability in terms of life satisfaction and depression. Intraclass correlation coefficients (i.e., the proportion of total variability accounted by differences across facilities) were negligible, with 0 and 0.13 for life satisfaction and depression, respectively. This indicates that there would be few sources of variability probably because of small facility-level sample size and that traditional statistical analyses could be used because individual cases were assumed to be independent across facilities (Snijders & Bosker, 1999). Thus, instead of multi-level modeling, two variables related to facility characteristics (i.e., location and size) were included in resident-level hierarchical regression models.

Hierarchical regression models were adopted to examine the relationship of social engagement variables to life satisfaction and depressive symptoms controlling for demographics, health, and site characteristics. A block of demographic and health variables was entered into the model first, two site variables next, and a set of social engagement variables was entered last. In separate analyses, each social engagement variable was entered into the model with other individual and site variables to examine the independent contribution of each social engagement variable to life satisfaction and depression. In assessing model fit with the data, R^2 changes and collinearity measures were examined. SPSS (Version 16) was used for running hierarchical regression models and assessing model fit (SPSS Inc., 2007).

Results

Descriptive findings

Table 1 presents characteristics of the sample with respect to the outcome variables, demographics, health, site characteristics, and social engagement variables. Older adults in the sample were quite satisfied with life ($M = 12.45$, $SD = 3.72$) and had relatively few symptoms of depression ($M = 9.96$, $SD = 9.49$). The mean age of the sample was 84 ($SD = 6.08$) and 74% of the sample were females. About 42% lived in rural areas and 17%

in small facilities. The mean MMSE was 25.18 ($SD = 3.6$), indicating that the participants' cognitive function was overall intact. On average, older adults rated their overall health as fair to good. In terms of social engagement, the participants seemed to have a fairly strong perceived social support and they scored relatively high on the reciprocity measure. The perceptions about mealtime enjoyment and perceived friendliness of residents and staff were largely favorable; the mean scores were comparable to nursing home residents, although mean scores for the sample were slightly higher than for those in nursing homes (R. A. Kane et al., 2003). However, residents had participated in fewer than 6 of the 11 social activities in the past week. Activity participation is comparable to 4.6 of 11 social activities in a large national study with more than 2,500 residents in ALFs, although social activities items are slightly different (Zimmerman et al., 2003).

Hierarchical Regression Analyses

As shown in Table 2, when the demographic, health, site, and social engagement variables were entered into the hierarchical regression model (Model 3), perceived health and perceived friendliness of residents and staff were statistically significantly associated with life satisfaction ($p < .01$). That is, participants who rated their health better and those who perceived the friendliness of residents and staff to be higher were more satisfied with their lives than those who did not. None of the site variables was statistically significant. The final model explained 48% of the variance; R^2 change from Model 2 to Model 3 was statistically significant ($p < .01$).

In the final model for depression as presented in Table 3, higher cognitive function, better perceived health, greater mealtime enjoyment, and greater perceived friendliness of residents and staff were related to lower depressive symptoms ($p < .05$). This model explained 44% of the variance; R^2 change from Model to Model 3 was statistically significant ($p < .01$).

Because of correlations among social engagement variables, a check for multicollinearity was made. The "tolerance" indicates the percentage of variance in the independent variable that cannot be explained by other independent variables; a small value means that a predictor may be redundant. Tolerance values less than .10 can be problematic. The VIF (variance inflation factor) is $1/\text{tolerance}$. If the VIF value of a variable is greater than 10, it warrants further examination (Belsley, Kuh, & Welsch, 1980). Tolerances for variables in the final models for life satisfaction and depressive symptoms were greater than .51, and VIF values were less than 1.96, suggesting that multicollinearity is unlikely to be an issue in these analyses.

Table 2
Hierarchical Regression Analyses of Life Satisfaction

	Model 1		Model 2		Model 3 ^a	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Demographics and health						
Age	0.03	0.06	0.03	0.06	0.10	0.06
Female	2.00*	0.87	2.03*	0.89	0.64	0.84
Cognitive function (MMSE)	0.00	0.10	0.01	0.11	-0.06	0.10
Perceived health	1.74**	0.45	1.68**	0.45	1.49**	0.41
Site characteristics						
Rural			-0.45	0.84	-1.21	0.76
Small			-1.73	1.09	0.44	1.16
Social engagement						
Perceived social support					0.06	0.06
Reciprocity					0.55	0.29
Social activity participation					0.22	0.22
Mealtime enjoyment					0.10	0.49
Perceived friendliness of residents and staff					0.44**	0.16
<i>R</i> ^{2b}	.25		.27		.48	

^aWhen social engagement variables were entered one by one, reciprocity, social activity participation, and perceived friendliness of residents and staff were statistically significant at $p < .01$.

^b R^2 change from Model 2 to Model 3 was statically significant at $p < .01$.

* $p < .05$. ** $p < .01$.

The results of hierarchical regression analyses only partially support Hypothesis 1, that all social engagement variables would be associated with fewer depressive symptoms and higher life satisfaction to some extent. When social engagement variables were entered one by one in the model with control variables, higher life satisfaction was significantly associated with greater reciprocity, social activity participation, and perceived friendliness of residents and staff, whereas having fewer depressive symptoms was related to greater mealtime enjoyment and perceived friendliness of residents and staff. Thus, perceived social support was not related to either measure of psychological well-being.

Table 3
Hierarchical Regression Analyses of Depression

	Model 1		Model 2		Model 3 ^a	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Demographics and health						
Age	0.19	0.16	0.20	0.16	0.00	0.16
Female	-2.71	2.20	-2.27	2.22	-1.52	2.21
Cognitive function (MMSE)	-0.50	0.26	-0.60*	0.27	-0.66*	0.27
Perceived health	-5.00**	1.13	-4.78**	1.13	-3.83**	1.10
Site characteristics						
Rural			-1.17	2.10	-1.02	2.05
Small			4.18	2.72	0.29	3.07
Social engagement						
Perceived social support					0.13	0.17
Reciprocity					0.21	0.76
Social activity participation					-0.32	0.59
Mealtime enjoyment					-3.36*	1.31
Perceived friendliness of residents and staff					-0.95*	0.43
<i>R</i> ^{2b}	.26		.30		.44	

^aWhen social engagement variables were entered one by one, mealtime enjoyment and perceived friendliness of residents and staff were statistically significant at $p < .01$.

^b R^2 change from Model 2 to Model 3 was statically significant at $p < .01$.

* $p < .05$. ** $p < .01$.

The findings seem to support Hypothesis 2, that residents' perceptions of the friendliness of other residents and staff and their enjoyment of mealtimes would have a significant impact on residents' psychological well-being. In the final models, higher perceived friendliness of residents and staff was strongly associated with higher life satisfaction and fewer depressive symptoms. Mealtime enjoyment was significantly related to fewer depressive symptoms.

Discussion

The most salient finding of this study was that perceived friendliness of residents and staff and enjoyment of mealtime appeared to have a greater influence on psychological well-being than did perceived social support,

social activities, and relationship reciprocity. The findings are similar to those of Street et al. (2007) in that residents who were satisfied with food quality and those who were contented with internal social relationships reported more positive well-being (i.e., life satisfaction, quality of life, and feeling at home) than did those who were less happy about those aspects of life within the facility. The study by Street et al., however, included only three relationship characteristics (facility relationships, family contact, and friend contact). This study attempted to include a diverse range of social engagement variables that could reflect relationship quality and residents' social world in ALFs. Thus, the study corroborated the importance of relationships with staff and residents to residents' psychological well-being and found further that mealtime enjoyment was significantly related to depressive symptoms when controlling for a broad range of social engagement variables.

The salience of perceived friendliness of residents and staff and mealtime enjoyment over other social engagement variables on psychological well-being may be interpreted in consideration of social contexts of older adults in ALFs. Although it is important for older adults to maintain close social ties to family and friends outside the facility, the focus of these relationships may have shifted with the move to assisted living. Family and friends cannot be around ALF residents all the time, and residents may have increasing difficulty initiating visits or telephone calls to their family and friends because of health problems. Meanwhile, the reality of everyday activities and interactions becomes salient, and those who find meaning and joy in within-facility relationships may be more socially integrated and emotionally content. As "aging individuals are increasingly motivated to optimize the emotional climate of their lives" (Carstensen & Charles, 1998, p. 148), older adults who are satisfied with relationships and interactions in the present social context are likely to better regulate negative emotions.

Researchers have noted the importance of social integration with place and people on psychological well-being after older adults move into ALFs (Cutchin et al., 2003; Street et al., 2007). In the present study, nonfamily support and social and emotional connections to people and place appeared to play a critical role in influencing older adults' psychological well-being. This observation is in line with the notion of the dynamic interplay between individuals and their environments: Older adults who adapt to changing environments and those who reallocate their social resources tend to have a better state of psychological well-being than those who do not (Carstensen & Charles, 1998; Carstensen, Fung, & Charles, 2003).

This study has several limitations that need to be considered in interpreting results. First, the study involves only a modest number of residents in a

limited number of ALFs. The small sample size prohibited using more powerful statistical analyses that require a larger sample size. For example, it would have been more conceptually appealing if analyses had been done using structural equation modeling using a latent variable of social engagement with multiple indicators rather than using regression models (Bollen, 1989). Second, the small sample size and the fact that the study was conducted in a restricted geographic area may cast doubt on generalizing findings to residents in different areas. However, replication of findings of the Street et al. (2007) study suggests that these findings are not peculiar to the sample in Alabama. Third, in the participant selection process, the study might have excluded older adults who were more cognitively impaired and socially isolated. Older adults who are cognitively impaired tend to be disengaged from activities and relationships (Bitzan & Druzich, 1990). Also, the selection of particular facilities might have influenced the results in that facilities that agreed to participate in the study also could have influenced the relationship between social engagement and psychological well-being among residents. Fourth, Cronbach's alpha of perceived friendliness of residents and staff (.61) is undesirably low based on the criteria for evaluating reliability coefficients suggested by DeVellis (2003). Last, because of the cross-sectional design of the study, it is difficult to make a claim that social engagement is causally related to psychological well-being.

Implications for Practice and Policy

Although previous scholars have drawn attention to the importance of encouraging residents' connections with family and friends outside of ALFs (Hook et al., 1982; Mitchell & Kemp, 2000), findings of this study provide evidence for the importance of providing residents with opportunities to develop meaningful relationships within the facility as well (R. A. Kane, 2001; Mitchell & Kemp, 2000). Thus, it may be important for ALFs to provide residents with a variety of opportunities to develop meaningful activities and relationships within the facility. ALFs may differ in the degree to which each facility encourages supportive interpersonal relationships and self-direction. Despite the differences, however, a social climate that promotes active social engagement is associated with better quality of care and residents' quality of life (Timko & Moos, 1990).

Findings of this study suggest that residents' enjoyment of mealtime is inversely related to their depressive symptoms and that residents who perceive other residents and staff to be more friendly report higher life satisfaction. In

addition to structured activity sessions, mealtimes appear to provide important opportunities for residents to interact with other residents and with staff members for a prolonged time on a regular basis. Researchers have reported that mealtime atmosphere and culture are closely related to socialization and residents' quality of life (Cutchin, 2003; Sidenvall, Fjellström, & Ek, 1994). Mealtimes may be most enjoyable when residents dine with people with whom they feel comfortable in a pleasant environment. In the interview process, however, we learned that all facilities in this study assigned seats to residents in the dining area. It may be desirable for ALFs to allow residents to exert their own choices about dining partners and help them develop natural social groupings.

The study further suggests that facilities might consider making environmental modifications to support resident interactions within the facility. Significant proportions of residents in ALFs are impaired in some ways including physical, cognitive, and sensory function (Zimmerman et al., 2001). Common areas of ALFs such as the dining room, activity rooms, and sitting areas should be accessible to residents and quiet enough to encourage residents' interactions with other residents and staff. Also a variety of activities might be planned for small groups of residents so that residents could share their interests and develop friendships. In addition, staff members could be trained to understand residents' psychological needs and to help them build emotional and social ties with other residents. Given the importance of mealtime enjoyment and perceived friendliness within the facility, practitioners and researchers might profitably conduct focus groups with residents and staff to explore intervention strategies that will improve residents' social engagement and psychological well-being.

Appendix

Life Satisfaction Index A

I am going to say a statement about how happy you are with your life. Please tell me if you agree or disagree with each statement.

	Agree	Disagree
1. As I grow older, things seem better than I thought they would be.	1	0
2. I have gotten more of the breaks in life than most of the people I know.	1	0
3. This is the dreariest time of my life. ^a	1	0
4. I am just as happy as when I was younger.	1	0

(continued)

Appendix (continued)

5. My life could be happier than it is now. ^a	1	0
6. These are the best years of my life.	1	0
7. Most of the things that I do are boring or monotonous. ^a	1	0
8. I expect some interesting and pleasant things to happen to me in the near future.	1	0
9. The things I do are as interesting to me now as they ever were.	1	0
10. I feel old and somewhat tired. ^a	1	0
11. I feel my age, but it does not bother me.	1	0
12. As I look back on my life, I am fairly well satisfied.	1	0
13. I would not change my past life even if I could.	1	0
14. Compared to other people my age, I've made a lot of foolish decisions in my life. ^a	1	0
15. Compared to other people my age, I make a good appearance.	1	0
16. I have made plans for things I'll be doing a month or a year from now.	1	0
17. When I think back over my life, I didn't get most of the important things I wanted. ^a	1	0
18. Compared to other people, I get down in the dumps too often. ^a	1	0
19. I've gotten pretty much what I expected out of life.	1	0
20. In spite of what people say, the lot of the average man is getting worse, not better. ^a	1	0

^aNegatively worded items.

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Nan Sook Park is an assistant professor of social work and is associated with the Center for Mental Health and Aging at the University of Alabama. She is a John A. Hartford Geriatric Social Work Faculty Scholar. Her recent research has focused on psychosocial care and social engagement in long-term care settings and on the role of religiousness in the lives of older adults.