

The Relation of Psychological Needs for Autonomy and Relatedness to Vitality, Well-Being, and Mortality in a Nursing Home¹

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Drawing from both self-determination theory (Deci & Ryan, 1991) and Carstensen's (1993) socioemotional selectivity theory, we hypothesized that well-being and health would be facilitated by: (a) greater personal autonomy; (b) perceived support for autonomy from both nursing-home staff and residents' friends and relatives; and (c) the emotional quality (rather than quantity) of residents' contacts with friends and family. Results based on structured interview and survey data from 50 nursing-home residents, showed that both autonomy support and relatedness indexes correlated with psychological outcomes. Personal autonomy also was significantly related to mortality at a 1-year follow-up. It also was found that subjective vitality (Ryan & Frederick, 1997) was associated with lower distress and greater well-being, and perceived autonomy and relatedness.

Recent work in motivational psychology has suggested that across the life span there are basic psychological needs that must be fulfilled for well-being and vitality to be enhanced (Ryan, 1995; Ryan, Deci, & Grolnick, 1995; Sheldon, Ryan, & Reis, 1996). The purpose of the current study is to focus on two of these basic psychological needs; namely, the needs for autonomy and relatedness in relation to the health and well-being of nursing-home residents. Using the perspectives of both self-determination theory (Deci & Ryan, 1985, 1991) and socioemotional selectivity theory (Carstensen, 1993), it is argued that perceived autonomy and relatedness to others will positively predict physical- and mental-health indexes. More specifically it is argued that the interpersonal interactions that most effectively meet psychological needs are characterized not by frequency or amount, but rather by the degree to which they convey support for autonomy and communicate care and affection.

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Psychological Well-Being and Residential Care

Only a minority of older Americans live in nursing-care facilities. Typically the move to an institutionalized setting is driven by the need for both physical and social supports that were not available within a person's preexisting community. How well a nursing-care facility meets the psychosocial and medical needs of its residents is, accordingly, a primary determinant of subsequent quality and even quantity of life. The meeting of physical needs involves the provision of a safe comfortable setting, adequate nutrition, and skilled medical services, among other factors. Less well understood is what comparable provisions are required within institutional settings for meeting the psychological needs of residents, and thus promoting subjective well-being and vitality.

One part of the problem of developing an adequate model of psychological care stems from the theoretical ambiguities of the concept of psychological need itself. The term *need* has been used in at least two distinct ways by developmental and personality theorists. One definition of need is quite broad and refers to any motivational force within a person that organizes perception and goal-directed action (Murray, 1938). Thus, a person who is acquisitive can be said to "need more money" or an addict can be said to "need more drugs." In this broad usage, need is equated with virtually any desire or want.

A more focused definition of psychological needs is one that restricts the idea of need to nutriments that are necessary for well-being and integrity (Ryan, 1995). In this definition, a need is something required or essential for sustenance, growth, and health. In the physical realm, for example, people can be said to need water, food, and protection from the elements. They cannot be said to need Perrier, caviar, or a designer coat, since these exceed the idea of necessity or essentialness. In the psychological realm, people may *want* many things by virtue of their background and habits, but they *need* only a few essential inputs for well-being to be sustained. Knowing what is truly needed helps us to define effective interventions and appropriate standards of care, definitions that may be obscured by a looser conception of needs (Ryan, Sheldon, Kasser, & Deci, 1996).

Self-determination theory (Deci & Ryan, 1985, 1991) is a model of motivation and personality that is based on the narrower conception of human needs. Briefly, the theory argues that there are three essential psychological needs; namely, those for autonomy, competence, and relatedness. Environmental and interpersonal factors perceived to meet these needs are said to maintain and enhance the self, whereas those that frustrate or block need satisfaction foster ill health, conflict, and distress.

The Need for Autonomy Among the Elderly

The need for autonomy appears to be central to people's well-being and may be especially salient for elderly people in institutional settings (Baltes & Silverberg, 1994; Williams, 1990). *Autonomy* refers not to independence but rather to volition—the sense that one's behavior emanates from and is endorsed by oneself. When one is autonomous, actions are characterized by a feeling of freedom and choicefulness. deCharms (1968) argues that autonomy is a primary motivation propensity in that people strive to be the primary cause or "origin" of their behavior. In attributional terms, autonomous actions are said to have an internal perceived locus of causality (IPLOC)—one's behavior is viewed as being initiated by and congruent with the self (Sheldon & Kasser, 1995). By contrast, *heteronomy* (the opposite of autonomy) entails an external perceived locus of causality (EPLOC)—the view that one's actions are being caused or pressured from sources outside the self (Deci & Ryan, 1985, 1987). Within a care setting, for example, a woman who freely chooses to go to evening Bingo without pressure or coercion would be acting autonomously (IPLOC). In contrast, if she plays because she is afraid that the staff will be upset with her if she does not do an activity, she would be acting out of an EPLOC.

A great deal of research has confirmed the functional impact of experiencing autonomy as opposed to heteronomy in important life domains. Briefly, factors that undermine autonomy typically detract from intrinsic motivation, creativity, self-motivation, confidence, interest, and vitality. The absence of support for autonomy has also been associated with poorer self-esteem, weakened or inconsistent motivation, and other outcomes indicative of psychological ill-being (Deci & Ryan, 1987; Ryan et al., 1995).

Studies in nursing homes have tended to support the view that autonomy is just as critical to the institutionalized elderly as it is to people in other contexts and phases of development. For example, Langer and Rodin (1976) reported that nursing-home residents who were encouraged to take responsibility and make decisions for themselves were more alert, active, and happy than were residents who were treated in a sympathetic manner and told that the staff desired to care for them and make them happy. A follow-up study showed that improvements in health and decreases in mortality rate were evident in the group that was afforded greater personal autonomy after 18 months, while the comparison group mainly accounted for changes in ratings of mood, awareness, sociability, attitude, and physical activity (Rodin & Langer, 1977). These results have been partially supported by Banziger and Roush (1983), who used a similar autonomy-supportive talk and care of a bird feeder as their intervention. However, it is unclear whether the positive changes in psychological and physical outcomes were due to having a bird feeder, the autonomy-supportive talk, or both. Mercer and Kane (1979) also conducted a study in two nursing homes in which one was a control group

and the other received an intervention similar to Langer and Rodin's (1976). Results showed that the experimental group experienced a significant reduction in hopelessness, and a significant increase in activity and behavioral measures compared to the control group, but these results may have been due to a general Hawthorne effect from participation in the study.

A related intervention was conducted by Schulz (1976), who recruited college students to visit people in a nursing home. Schulz found that residents who were given more choice and decision-making ability in determining the time and duration of the visits had increased activity levels, health, and satisfaction, compared to residents who had little or no control over these details. However, at a 2-year follow-up, Schulz and Hanusa (1978) reported sharp psychological and physical declines in people who had originally benefited from the predictable visits once the visits were terminated. These results show the importance of giving people in nursing homes more autonomy, personal responsibility, and control, but also warn against the aversive effects of giving control and then taking it away.

In a more direct test of self-determination theory constructs, Vallerand, O'Connor, and Blais (1989) classified nursing homes into those supportive of self-determination and those low in support of self-determination. They then compared life-satisfaction ratings of residents of both types of homes, as well as of elderly individuals living in low-income housing and private residences. They found that residents in high self-determination-oriented nursing homes were comparable in their life satisfaction to those still in the community, whereas those residing in low self-determination nursing homes evidenced significantly poorer psychological outcomes. Vallerand and O'Connor (1989) reported additional evidence concerning autonomy in the life of the elderly. They administered surveys to 146 nursing-home residents concerning the degree to which they experienced autonomy with respect to their self-care, religious, interpersonal, and recreational activities. The results showed that residents experiencing greater autonomy across these domains reported lower depression and higher self-esteem, life satisfaction, meaning in life, general health, and psychological adjustment. Most recently, O'Connor and Vallerand (1994) reported similar findings showing that across their sample of nursing-home residents, greater self-determination was associated with higher levels of psychological adjustment. In the current study, beneficial effects of experiencing greater self-determination or autonomy within a nursing-care facility were expected to receive further confirmation. Specifically, we expected positive relationships between indexes of personal autonomy and both physical and mental-health outcomes.

As an additional aspect of this study, we measured residents' perceptions of how autonomy-supportive others in their environment are. *Autonomy support* is defined as the extent to which people feel supported in their ability to function autonomously, be choiceful, and make decisions. Research by Baltes and Reizenstein (1986) and Baltes and Wahl (1987) has shown that lack of autonomy

support in long-term care facilities is a major concern. The dominant interaction pattern observed in such facilities between elderly residents and the nursing staff is described as a *dependency-support* script, such that dependent rather than independent behaviors are rewarded with increased social contact and attention. This leads to an environment that is insensitive to people's needs for autonomy and results in the provision of overcare (Baltes & Silverberg, 1994) and diminishes autonomy support.

The findings reviewed here collectively suggest that elderly people in nursing homes who perceive their environment as controlling rather than autonomy supportive may be at risk for low psychological well-being. Such a conclusion would be consistent with other studies of the effects of autonomy versus control on intrinsic motivation, and behavior change in a variety of settings. For example, a study in a weight-loss program for morbidly obese individuals (Williams, Grow, Freedman, Ryan, & Deci, 1996) found that patients who perceived the staff as autonomy-supportive had higher rates of attendance, developed greater self-motivation for change, and were more likely to complete the program—outcomes which were in turn related to maintained weight loss at a 2-year follow-up. Another study by Ryan and Grolnick (1986) found that children's perceptions of autonomy support and acceptance in a classroom setting correlated with greater self-esteem, perceived cognitive competence, mastery motivation, and more perceived control over outcomes. Furthermore, Vallerand, Fortier, and Guay (1997) used a prospective design with 4,000 high-school students to test a sequence relating to dropping out from school. They found that parental, teacher, and school-administrator autonomy support led to perceived academic autonomy, which led to self-determined academic motivation which was negatively associated with behavioral intentions to drop out, and that finally led to actual dropout. Thus, it is hypothesized that both self-reported personal autonomy and perceived autonomy support from others will predict well-being among nursing-home residents.

The Need for Relatedness

Another prominent psychological need whose importance is increasingly recognized in applied settings is the need for *relatedness*—the need to feel securely connected with and loved by other people (Baumeister & Leary, 1995). Individuals of all ages appear to function better, be more stress resilient, and report fewer psychological difficulties when they experience others standing behind them with love and affection (Cohen, Sherrod, & Clark, 1986; Lepore, 1992; Ryan et al., 1995; Ryan, Stiller, & Lynch, 1994; Sarason et al., 1991; Windle, 1992).

However, as the body of research bespeaking the benefits of relatedness has grown, so have questions concerning the specific nature of its facilitating effects (Ryan & Solky, 1996). In particular, what types of relationships function as true

supports and which ones yield no or negative effects? Complicating this question is new evidence suggesting that the functions and nature of relationships change in different phases of development (Carstensen, 1993).

Carstensen (1993) has introduced a theory of relationships that emphasizes developmental differences in the functions of relationships, and even more specifically the particular types of relationships most pertinent and functionally valuable to elderly individuals. She labels her approach *socioemotional selectivity theory* (SST) to emphasize the idea that people are selective in their relationships and that such selections are, in part, driven by the changing issues and interests faced by individuals across the life span. With respect to the elderly, SST specifically proposes that what is salient is quality over quantity. Carstensen argues that many of the benefits of a high quantity of relationships (e.g., for mate selection, information acquisition, opportunities for action) are less relevant to the elderly person, who is not typically looking to open up new life courses. Rather, the type of relationship most salient and critical to an older individual is one that affords a high degree of emotional contact and expression. Indeed, according to Carstensen, emotion is the dominant motivating factor in relationships in old age. Thus, according to this approach, it is primarily those relationships that convey care, affection, and depth that benefit the elderly, whereas other, more superficial types of contact may yield little psychological benefit. Furthermore, her theory attributes the drop in number of relationships with age not to increases in disengagement or declines in functioning, but rather to greater selectivity and economy in relationship choices.

We believe that Carstensen's (1993) theory correctly specifies that the effects of social support on the institutionalized elderly are a function of quality over quantity, and further that the issue of emotional contact and expression is critical to the quality issue. Accordingly, we asked participants in this study to rate their social contacts for the degree of affection and care provided, and we predicted that greater emotional affection would be related to positive psychological outcomes, whereas mere amount of social contacts would not. In addition, we hypothesized that perceived autonomy support would also serve as a critical index of the quality of relatedness. In autonomy-supportive relationships, one perceives the other as accepting and allowing self-expression, which is a necessary condition for authentic emotional communication (Ryan, 1993). Thus, not only will affection and care perceptions be correlated with perceived autonomy support, but both indexes should be associated with positive effects on psychological well-being.

Subjective Vitality Among Institutionalized Elderly

A final focus of this investigation is the examination of correlates of subjective vitality in a nursing-care population. Ryan and Frederick (1997) recently hypothe-

sized that vitality is a central indicator of well-being, reflecting the energy available to the self of an individual. They developed a construct of subjective vitality, and demonstrated that it is systematically related to both physical factors (e.g., pain, somatic symptomatology) and psychological factors (e.g., perceived locus of causality, feelings of competence). However, their construct studies included no elderly populations. Nonetheless vitality is an often-mentioned indicant of well-being in the elderly (e.g., American Psychological Association [APA], 1993; Erikson, Erikson, & Kivnick, 1986; Fries & Crapo, 1981). Because of its apparent salience within this developmental period, a further purpose of the current study is to examine the construct relations of a brief measure of subjective vitality within a nursing care sample to indicators of physical and psychological health.

Method

Participants

A total of 87 residents at a nursing home in upstate New York who were over 60 years of age and judged by nurses as competent to give informed consent were asked to participate in this study. Of those residents, 9 were too sick or disabled to participate and 28 refused, leaving a total of 50 subjects. The average age of participants was 83 years, with a range of 70 to 99 years. Seventy-eight percent of the sample was female, and 86% were state-funded residents. Participants' length of stay in the nursing home ranged from 0.5 to 99 months, with a mean of 22 months and a standard deviation of 26 months. Not all participants completed each measure, so sample sizes vary across measures as indicated.

Procedure

Potential subjects at the nursing home were visited individually by a member of the research team, who described the nature of the study and invited them to participate. If consent was obtained, a convenient time was arranged for the participants to complete the structured interview and survey items. At this later session, assistance in reading or completing the questionnaire was provided to participants who needed or desired such help. The time required for the data session averaged 34 min, but ranged up to 165 min. Participants who needed more than 40 min to complete the interview were given a second session, if desired, to lessen fatigue.

Measures

Prior to collecting data, a pilot study was conducted at the nursing home using a 210-item Likert scale survey. Given the difficulties residents had in

completing Likert items and the resulting fatigue from the length of time it took to complete the questionnaires, the survey was shortened to 66 items by eliminating some measures, offering abbreviated versions of others, and assessing other constructs through structured-interview items (see Measures section). After another round of pilot-testing, the survey was further reduced to 61 items representing a mix of structured-interview and Likert-scale questions accompanied by an enlarged Likert scale as a visual aid. Both the shortened versions of existing scales and the ratings of orally administered measures yielded adequate reliability, as indicated in the section on Measures.

Measures of Autonomy and Relatedness

Autonomous self-regulation. A measure of relative autonomy was developed for this study based on a conceptual scheme outlined by Ryan and Connell (1989), and employed by Vallerand and O'Connor (1989) with an elderly population, in which people's reasons for performing various actions are assessed along the dimension of perceived locus of causality or relative autonomy. Subjects were asked to provide open-ended answers to the following questions: (a) "Why did you decide to come to the nursing home?"; (b) "In general, why do you get up and ready to start each day?"; and (c) "How do you spend your time during the day? Why?" Follow-up questions, such as "Was the decision made by you or someone else?" were used when necessary to illuminate the amount of choice and autonomy that participants experienced. Three independent raters scored response transcripts on 5-point scales ranging from 1 (*external regulation*) to 5 (*integrated self-regulation*). Interrater reliability for each of the three questions was .90, .91, and .84, respectively. Cronbach's alpha using the three items coded by the three raters was .83. A principal components analysis revealed one factor with all three items loading above .64. Therefore, scores were totaled to form a composite score reflecting each participant's level of autonomous self-regulation.

Staff autonomy support. To measure residents' perceptions of staff autonomy support, seven items were drawn from the Health-Care Climate Questionnaire developed by Williams, Grow, et al. (1996), a 15-item survey that measures perceived quality of care from health-care providers. The chosen items focus on the autonomy-support issue (e.g., "I feel the staff provides me with choices and options"). Answers were rated on a 5-point scale ranging from 1 (*not true at all*) to 5 (*very true*). These 7 items yielded an alpha of .85.

Friends and family autonomy support. Similar to the staff autonomy-support measure, we constructed a brief four-item scale to assess the autonomy supportiveness of friends and family. These four items yielded an alpha of .64 in this sample.

Number and frequency of social contacts. Participants were asked to list up to eight people who "are currently important to you in your life." They were then

asked how many times per month they had contact with each of them in the form of visits, telephone calls, or letters. The mean number of important others listed was 3.4, ranging from 1 to 8. The frequency of contacts per month ranged from 2 to 30, with an average of 19.8.

Relationship Quality Questionnaire (RQQ). A seven-item questionnaire measured the perceived quality of an individual's relationships with family and friends. Item contents were drawn from a previously published survey that examines familial social supports (Dean, Kolody, Wood, & Ensel, 1989), but items were modified to apply to an elderly sample. The instrument includes items that measure perceived affection (e.g., "My family and friends hug or kiss me"), and perceived care (e.g., "My friends care about me as a person"). The RQQ items had an alpha of .77.

Outcome Measures

Rand Health Insurance Questionnaire (RAND; Brook et al., 1979). This version of the RAND health survey is a widely used, well-validated scale consisting of 20 items tapping mental health for the "past month" rated on 5-point Likert scales. In this abbreviated administration, we used six items from the anxiety scale ($\alpha = .65$, $N = 41$), six items from the depression scale ($\alpha = .71$, $N = 42$), and four items assessing positive well-being ($\alpha = .82$, $N = 38$). The depression and anxiety scales were coded such that a higher score indicates greater distress.

Subjective vitality. Subjective vitality was assessed with a seven-item self-report scale tapping feelings of energy, enthusiasm, and spirit. For purposes of economy, only four of the original seven items were administered, yielding an alpha of .82 ($N = 42$). Sample items include "I feel alive and vital" and "I have energy and spirit." Ryan and Frederick (1997) report a number of studies relating subjective vitality to both physical and mental-health outcomes.

Life satisfaction. This five-item, 5-point Likert scale is a widely used and well-validated measure of general life satisfaction (Diener, Emmons, Larsen, & Griffin, 1985). Forty participants completed the measure, yielding an alpha of .85.

Relative perceived health. Participants rated the statement "I am in good health compared to others my age" on a 5-point scale ranging from 1 (*not true at all*) to 5 (*very true*). This cohort-relative rating is conceptually similar to that employed by Fredrickson and Carstensen (1990).

Mortality indexes. Approximately 13 months following the participant interviews, the medical-records division of the nursing home was contacted to obtain mortality data. Of study participants, 17 died during the 13-month period. The variable of mortality status was developed by assigning those who were living a 0 code, and those who had died a 1 code. A second mortality index represents the number of days lived since the interview.

Table 1

Relationships Among Independent Variables

	Autonomous regulation	Autonomous support of staff	Autonomous support of family/ friends	Frequency of social contacts	Number of social contacts
Autonomous support of staff	-.05 (40)	—			
Autonomous support of family/friends	.04 (42)	.59*** (39)	—		
Frequency of social contacts	-.36* (38)	.23 (36)	.06 (37)	—	
Number of social contacts	.06 (43)	.17 (40)	.19 (42)	.21 (38)	—
Quality of relatedness to family/friends	-.23 (41)	.38* (38)	.69*** (41)	.01 (36)	.21 (41)

Note. Samples sizes are presented in parentheses.

* $p < .05$. *** $p < .001$.

Results

Correlational analyses were used to examine associations between the primary study variables and the demographic indexes of age, gender, source of payment, and length of stay in the nursing home. Only length of stay was significantly associated with a primary study variable, being correlated with perceived staff autonomy support ($r = -.41, p < .01$). This finding indicates that the longer participants had lived at the nursing home, the less they viewed the staff as autonomy supportive. As no other significant correlations were in evidence, subsequent analyses collapse across demographic dimensions.

Correlations between the independent variables are presented in Table 1. Autonomous self-regulation was negatively related to the frequency of social contacts. In addition, perceived autonomy supportiveness of staff was positively correlated with perceived autonomy supportiveness of friends and family, as well as with perceived relationship quality with family and friends. Thus, it appears that people who perceive the staff as autonomy supportive also perceive their friends and family that way. Perceiving family and friends as autonomy

supportive was also highly correlated with the perceived quality of relatedness to them, as predicted.

Table 2 presents correlations between the dependent variables. A principal focus here was on the relations between subjective vitality and other outcome measures. Vitality was significantly negatively related to anxiety and depression and positively related with perceived health, well-being, and life satisfaction. More generally, measures of psychological distress were positively associated with each other, as were measures of well-being. Although most indexes of psychological distress and well-being were significantly negatively related to each other, there was only a marginal relation between anxiety and positive well-being, and no relation between anxiety and perceived health.

Table 3 reports correlations between the independent and dependent variables. Autonomous self-regulation was positively associated with subjective vitality and days lived since the interview; it was significantly negatively related to mortality status and marginally negatively related to depression. Perceived staff autonomy support was negatively correlated with depression and positively correlated with positive well-being, vitality, and life satisfaction. Perceived autonomy support of friends/family was significantly correlated with depression (negatively), and positive well-being and life satisfaction (positively); it was also marginally positively related to vitality. Relatedness to family and friends was significantly associated with positive well-being and marginally related to life satisfaction, both in a positive direction. There were no significant associations between overall frequency of social contacts and any of the dependent variables, as expected. Number of different social contacts, however, was significantly correlated with perceived health, vitality, and life satisfaction.

A further test of the association between autonomous regulation and the mortality variables was conducted in order to control for the possible influence of perceived health, and length of stay in the nursing home. Using simultaneous regression, mortality variables were regressed onto autonomous regulation, perceived health, and length of stay. Autonomous regulation accounted for a significant portion of the variance in the mortality-status variable ($\beta = -0.34, p = .03$) and a marginal portion of the days-lived variable ($\beta = 0.29, p = .07$). Perceived health and length of stay were not significant in either regression equation.

Exploratory regression analyses were conducted to examine the total contributions of perceived autonomy support of both staff and family/friends to psychological well-being outcomes. Only those outcome measures which were significantly correlated with both perceived autonomy-support scores were included in these analyses, each outcome being regressed simultaneously onto both staff and family/friends autonomous support (Table 4). Total perceived autonomy support accounted for a significant portion of the variance in depression (17%) and a marginal portion in positive well-being (17%). Autonomy

Table 2

Relationships Among Dependent Variables

	Perceived health	Anxiety	Depression	Positive well- being	Vitality	Life satisfaction	Mortality status
Anxiety	-.23 (40)	—					
Depression	-.40** (42)	.46** (41)	—				
Positive well-being	.35* (37)	-.28† (38)	-.51*** (38)	—			
Vitality	.49*** (42)	-.33* (40)	-.48*** (41)	.55*** (37)	—		
Life satisfaction	.50*** (40)	-.50** (38)	-.54*** (39)	.52*** (36)	.68*** (40)	—	
Mortality status	-.06 (42)	.07 (41)	.22 (42)	-.28† (38)	-.20 (42)	.12 (40)	—
Days lived	.07 (42)	-.05 (41)	-.31* (42)	.25 (38)	.10 (42)	-.06 (40)	-.89*** (44)

Note. Sample sizes are presented in parentheses.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3

Relationships Between Independent Variables and Dependent Variables

	Perceived health	Anxiety	Depression	Positive well-being	Vitality	Life satisfaction	Mortality status	Days lived
Autonomous regulation	.11 (42)	-.03 (41)	-.26† (42)	.22 (38)	.37* (42)	.21 (40)	-.36* (44)	.31* (44)
Autonomous support of staff	.19 (39)	-.15 (38)	-.41** (39)	.39* (35)	.47** (39)	.41* (37)	-.06 (40)	-.02 (40)
Autonomous support friends/family	.24 (41)	-.24 (40)	-.33* (41)	.39* (38)	.29† (41)	.57*** (40)	.05 (42)	-.02 (42)
Quality of relatedness to friends/family	.14 (30)	-.10 (39)	-.13 (40)	.40* (37)	.10 (40)	.31† (39)	.06 (41)	-.01 (41)
Frequency of social contacts	.05 (37)	-.24 (36)	-.16 (37)	.00 (33)	-.04 (37)	.15 (35)	.18 (38)	-.23 (38)
Number of social contacts	.38* (42)	-.06 (41)	-.21 (42)	.15 (38)	.31* (40)	-.31 (40)	.18 (41)	.21 (41)

Note. Sample sizes are presented in parentheses.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4

Regression Analyses Assessing the Combined Contributions of Perceived Autonomy Support of Nursing Home Staff and Friends/Family

Dependent measure	Friends/family autonomy support	Staff autonomy support	Total R^2	F
	β	β		
Depression	0.05	0.38†	.17	3.65*
Positive well-being	0.17	0.29	.17	3.22†
Vitality	0.13	0.39*	.23	5.51**
Life satisfaction	0.48**	0.14	.32	8.13**

† $p < .10$. * $p < .05$. ** $p < .01$.

support also accounted for 23% of the variance in subjective vitality and almost one third of the variance in life satisfaction.

Discussion

In this study we investigated the effects of perceived autonomy support and relatedness on the well-being of nursing-home residents. Drawing from both self-determination theory (Deci & Ryan, 1985, 1991) and SST (Carstensen, 1993), it was hypothesized that: (a) autonomy support from both staff and friends/family would be associated with greater psychological health; (b) personal autonomy, as reflected in one's autonomous self-regulation regarding daily events, would also predict well-being; and (c) quality of relatedness as reflected in emotional contact would predict well-being outcomes whereas frequency of contacts would not.

To a large extent, these hypotheses were supported. Specifically, we found that perceptions of autonomy support from family and friends, as well as from staff, were associated with lower depression and increased well-being, vitality, and life satisfaction. Furthermore, exploratory regression analyses showed that overall perceived autonomy support accounted for up to one third of the variance in these outcome measures. These findings support the theoretical proposition that autonomy support represents a primary form of psychological nurturance that facilitates well-being (Ryan, 1995; Williams, Deci, & Ryan, 1996) and appears to be an important factor for well-being in a nursing home.

The effects of autonomous self-regulation were less systematic, but were suggestive of the connection between volition and vitality, as well as frequency of

social contacts. Perhaps most dramatic was the association of autonomous self-regulation and mortality at a 13-month follow-up, even after controlling for perceived health and length of stay. This finding revealed that those who experienced a more EPLOC for daily activities were less likely to be alive at follow-up. It appears that people who were more autonomously motivated or self-determined to come to the nursing home and who felt a sense of volition throughout the day also felt more vital (despite fewer social contacts) and may have been less physically susceptible, thus resulting in a lower mortality rate. While suggestive, it is important to sound a note of caution: The mortality variable may be an insensitive index of either health or psychological well-being. There are many factors aside from those operating in the psychosocial environment that have a known influence on mortality whose variance is uncontrolled herein. Thus, while the autonomy/mortality connection, which has also been suggested in other studies (e.g., Rodin & Langer, 1977), is intriguing, the current findings fall short of either strongly confirming this connection or explicating the process through which it occurs.

Relatedness variables were also found to be associated with health and well-being ratings in a manner that supported the propositions of SST (Carstensen, 1993). Specifically, whereas the quality of relatedness with friends and relatives was significantly correlated with positive well-being and life satisfaction, frequency of outside contacts predicted no outcomes. These correlational data suggest that greater depth of emotional contact with outside social supports may enhance well-being, if not ameliorate distress or disease, whereas amount of contact has less impact. Again, the correlational nature of the findings also leaves open the possibility that the relationship issue is transactional, such that those who are less satisfied and subjectively well may elicit less care and affection, leading to even less well-being.

A secondary focus of this study was the investigation of the construct of subjective vitality within an elderly population. Subjective vitality (Ryan & Frederick, 1997) is defined as the feeling of aliveness and energy, and it was shown here to vary systematically with subjective physical health, anxiety, depression, psychological well-being, and life satisfaction. These data are consistent with findings from other demographic groups, suggesting that vitality is a central marker of organismic well-being. The brief four-item measure of vitality used herein may be both efficient and substantively useful in studies of aging, particularly since vitality is an oft-cited issue in old age (e.g., APA, 1993; Erikson et al., 1986; Fries & Crapo, 1981).

There are several other notes of caution that should attend the interpretation of the current findings. First, we limited our sample to residents who were competent to give informed consent and who could meaningfully participate in a mixed interview/survey-style data collection. This obviously limited our sample to residents within the higher functioning range. Generalization to lower

functioning residents is not warranted. Second, the sample is very small, is taken from only one nursing home, and tends to be positively skewed in terms of some of the well-being measures. Third, although we wished to use standardized measures of health, motivation, and relationships, we also quickly learned in pilot studies that there were severe practical limitations to using lengthy or redundant measures. Thus, as indicated in the Method section, we abbreviated a number of measures to reduce fatigue and reactance, and we used a common Likert scale for item level ratings. These accommodations improved the task focus and completion rate of our participants, but also involved some psychometric compromises. Nonetheless, the reliability- and validity-related outcomes appeared to be adequate. Fourth, all of the measures except mortality are self-reported, although Vallerand and O'Connor (1989) found that subjective and objective measures both led to similar results in an elderly sample. Nevertheless, the results are merely suggestive of the relationships we propose. In sum, while this study has some interesting results suggesting the importance of autonomy and relatedness in a nursing-home setting, the extent of the methodological limitations underscores the need for caution with respect to interpretation and generalizability.

Among the implications of this work, those concerning the psychological care of the institutionalized elderly are the most prominent. As previously stated, only a minority of older Americans enter into nursing-care facilities, and they do so primarily because they have needs that cannot be adequately met in the community. Whereas the requirements of physical health care have received considerable attention within the medical literature, the issue of what defines proper psychological care has only recently become more fully appreciated as a health issue. Both qualitative and quantitative studies have suggested that there may be important relationships among the experiences of autonomy and relatedness and both the health of the spirit and the body in old age (e.g., Rodin, 1986; Vallerand et al., 1989). However, there are also formidable problems in effecting support for autonomy in institutions where economy and behavior management are high priorities (Ryden, 1985).

In this paper we attempted to further the understanding of psychological care by applying two theoretical frameworks, namely self-determination theory and SST, which place emphasis on issues of autonomy support and relatedness as inputs to health and well-being. Both theories emphasize the functional importance of experiencing high-quality relationships, and both attempt to specify elements of social interactions that lead to fulfillment of the basic human need for relatedness (Carstensen, 1998; Ryan & La Guardia, *in press*). The results of this study support these views by showing that both autonomy and relatedness supports are critical to psychological health, and accordingly the study highlights the need to focus on the dynamics of autonomy and relatedness in nursing-home care.

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