

AN ABSTRACT OF THE DISSERTATION OF

John Michael Bratten for the degree of Doctor of Philosophy in Human Development and Family Studies presented on May 4, 2000. Title: Marital Status, Gender, and Determinants of Subjective Well-Being in Unmarried Older Adults

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Abstract approved: \_\_\_\_\_

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The purpose of this research was to enhance our understanding of the subjective well-being of unmarried older adults, specifically, to investigate how marital status and gender may interact with certain covariates of well-being. Marital status and gender appear to have predictable influences on well-being in later life. There is limited evidence to date, however, regarding specific dimensions of these influences for unmarried older people. The sample for the current study included 884 primary respondents to the National Survey of Families and Households (NSFH, Sweet et al., 1988) who were 55 years old or older, were unmarried, and, if formerly married, were never remarried at any point. The outcome of interest was well-being, operationalized as life satisfaction. Research hypotheses were based on Atchley's (1989) continuity theory of aging, that attributes the well-being of older adults to adaptive choices that preserve and maintain continuity of internal structures (such as self-concept) while they navigate the various changes that accompany aging. Controlling for age, race, and income, it was expected that gender and marital status would interact with social variables (social support and social integration) and a nonsocial variable (health) in predictable ways to

influence well-being for unmarried older adults. Social variables were hypothesized to be the strongest predictors of well-being for formerly married older men, but the nonsocial variable was expected to best predict well-being for never-married older men and all unmarried older women. Multiple regression analyses involving five hierarchical models were used to test the significance of the three-way interactions involved in these hypotheses. Results showed no main effects for marital status. Gender, however, was directly associated with well-being. The well-being of unmarried older women depended more upon health quality than upon social support or social integration, although social integration was a strong predictor of well-being for never-married women. The well-being of unmarried older men was enhanced with higher levels of all three predictors, although higher levels of social support were negatively associated with well-being for formerly married men.

Marital Status, Gender, and Determinants of Subjective Well-Being  
in Unmarried Older Adults

by

John Michael Bratten

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Dean of Graduate School

I understand that my dissertation will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my dissertation to any reader upon request.

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John Michael Bratten, Author

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This work is dedicated to the memory of my father, John Lambert Bratten,  
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# Marital Status, Gender, and Determinants of Subjective Well-Being in Unmarried Older Adults

## Introduction

### Purpose of this Study

The purpose of this research was to enhance our understanding of the subjective well-being of unmarried people in later life and, specifically, to investigate how marital status and gender may interact with certain covariates of well-being in old age. Marital status and gender appear to have predictable influences on well-being in later life. There is but limited evidence to date, however, regarding the dimensions of these influences for unmarried older people.

Understanding the unmarried portion of our elderly population will become more important over time as numbers of unmarried older people – especially the never-married and divorced – increase in the future. It is likely that attitudes about life-long singlehood will continue to change, that singlehood will continue to be a viable alternative to marriage, and that more adults will choose to stay single for life (Seccombe & Ishii-Kuntz, 1994). As recently as 40 years ago a long single life was viewed as a pathology, but this attitude changed over the course of 20 years such that, by the mid-1970s, single adults were viewed as simply enjoying a lifestyle that made them happy (Thornton, 1989). In regards to the divorced, Uhlenberg and Myers (1981) expected a rapid increase in numbers of elderly divorced persons beginning in the 1980s and 1990s. Because they found that being divorced is detrimental to one's social and economic welfare in old age, they expected the growing proportion of divorced elders to have macrolevel effects on the economic and social welfare of the elderly population as a whole. One benefit of the

current research should be in helping future care providers, case managers, activities directors, and other gerontologists concerned with the day-to-day well-being of older adults consider implications that the rising rate of divorce and life-long singlehood among older adults may have for their programs.

### Marital Status, Self-Concept, and Well-Being in Later Life

#### Marriage as a Consistently Strong Predictor of Well-Being

One constant finding provided a reasonable starting point for developing hypotheses for this research: Over at least the past three decades, married individuals of all ages and of many cultures (Krause, Dowler, Liang, & Gu, 1995) have consistently shown higher levels of subjective well-being than do their unmarried counterparts. One view of this trend is that there is some quality or component of marriage that enhances well-being. It is as if marriage causes well-being (White, 1992). This view was illustrated by researchers such as Pearlin and Johnson (1977) who thought marriage provided a protective barrier against external physical, economic, socioemotional, and psychological threats – a barrier that is apparently unavailable to the unmarried. An alternative view is that well-being may somehow be enhanced more efficiently for those who are married than for those who are not. From this view, marriage itself is not necessarily a source of well-being, nor does it provide something inaccessible to the unmarried. Rather, it may be that other determinants of well-being are more efficiently supported within the context of committed, long-term relationships like marriage than they are within the contexts of life-long singlehood, divorce, or widowhood (Berger & Kellner, 1975). In other words, what appears to be a direct effect of marriage on well-being may indeed be a spurious

effect: Marriage may moderate the effects of other determinants of well-being in predictable ways (Lawton, Moss, & Kleban, 1984).

The current research had nothing to do with what predicts well-being for the married. This research, however, began by assuming that, in the same manner that marriage seems to almost draw well-being to it, other marital statuses may, in their own ways, also positively influence well-being in old age. Research has shown that it is not marriage per se that enhances well-being. Instead, there are attributes of marital relationships that enhance well-being. For example, Williams (1988) found that it is the quality of a marital relationship – a “good marriage” – and not marriage in and of itself, that serves psychological health. Similarly, Ross (1995) showed that it is the presence or absence of a partner, of socioemotional support, of economic well-being, and of relationship quality – not the legal distinction of marriage – that predicts psychological well-being of adults. Likewise, it may be that certain life circumstances help to determine psychological well-being for unmarried older adults. Furthermore, certain circumstances may help determine well-being in predictable ways depending on how older individuals are unmarried.

Marriage and the importance of continuous self-concept to well-being in later life. An essential implication of hypotheses that directed the current research is that the well-being of older adults is strongly dependent on their maintenance of a continuous self-concept. Markus and Herzog (1992) theorized that self-concept is a dynamic entity that directly supports well-being. This view is reflected in Atchley’s (1989) continuity theory of aging, the theoretical perspective in which hypotheses for the current study are based. From Atchley’s perspective, a stable and continuous sense of self is a strong determinant of well-being in later life. Continuity theory proposes that adults who age successfully



(i.e., adapt to the change and loss that are so common in later life) are “independent adults with persistent self-concepts and identities . . . [who] lead active, satisfying, and purposeful lives” (Atchley, 1989, p. 184). Atchley thought that the association between stable self-concept and well-being involves self-concept as an organizer of life’s experiences: A continuous self-concept helps us make sense of life, and thus it supports well-being. Making meaning of life’s experiences becomes increasingly salient in old age, a period of life during which individuals are more frequently faced with change and loss than they were in earlier years (Atchley, 1989; Brown, 1996; Markus & Herzog, 1992). Thus, it is expected that one’s well-being in later life is largely determined by the stability and continuity of one’s self-concept.

A marriage relationship may be an especially effective substrate for growing and maintaining stable self-concept throughout life. This idea is explicated most clearly by Berger and Kellner (1975). They thought of marriage as a meaning-making instrumentality: It sustains for individuals the ongoing validation of their worlds, their realities, and their individual locations within those realities. This offers one reasonable explanation for the very strong association between marriage and well-being. In the absence of a marriage relationship, however, to what might we attribute consistent stabilizing influences on self-concept – and thus well-being – for unmarried older adults? The answer to this question may depend largely on how an individual is unmarried in later life.

Sources of well-being for the formerly married compared to the never-married. The literature demonstrates that, among unmarried older adults, the never-married consistently show higher well-being than the formerly married. The relatively lower well-

being of the formerly married has generally been explained in one of two ways: (a) resource losses commonly associated with divorce or widowhood (e.g., Kessler & Essex, 1982; Pearlin & Johnson, 1977), and (b) discontinuity of self-concept associated with the loss of a spouse to divorce or death (e.g., Essex & Nam, 1987; Gubrium, 1974). Of these two explanations, the latter was adopted to guide hypotheses for the current research. Older never-married adults may face severe losses during the course of their lives (Rubinstein, 1987), but they may rarely face discontinuity as severe as that associated with the loss of a spouse to divorce or death. Such loss involves the discontinuity of a social relationship that provides crucial validation for self-concept (Berger & Kellner, 1975; Essex & Nam, 1987; Gove, Style, & Hughes, 1990; Gubrium, 1974). Certainly, never-married individuals are likely to pass through life engaged in valuable, continuous, long-term, supportive relationships with friends and family (Rubinstein, 1987). When compared to their formerly married peers, however, they are perhaps less likely to suffer the loss of one very singular significant other who provided significant support for “lifelong generated definitions of self and everyday living” (Gubrium, 1974, p. 108).

This is not to imply that discontinuity of a key social relationship is a direct cause of the relatively lower well-being of the formerly married. It is suspected, however, that their relatively lower well-being may be an artifact of their attempts to repair, establish or reestablish, and maintain self-defining social connections following the loss of a marriage. Hypotheses for the current research reflect the idea that discontinuity determines potential sources of well-being differently for the formerly married than for the never-married. The well-being of the formerly married may depend largely on the continuity of important social connections, whereas the well-being of the never-married

may depend more on the continuity of nonsocial circumstances that support autonomy and independence. Thus, for the current study, it was hypothesized that variables such as social integration and social support would best predict well-being for the formerly married while nonsocial variables such as health would best predict well-being for the never married.

#### How Gender May Interact with Marital Status in Later Life to Influence Well-Being

In addition to the differential influences of social integration, social support, and good health on well-being for the unmarried in later life, there is a second influential factor to be considered: gender. Relationships between marital status and determinants of well-being that are of interest in the current study are likely to be conditioned by interactions between marital status and gender. To treat older, unmarried men and women as an homogenous group is to ignore that individual outcomes of singleness may vary by gender and marital status in old age (Keith, 1986c). For example, Antonucci and Akiyama (1987) found that formerly married women enjoy relatively greater levels of support from sources outside their marriages than do formerly married men. Men appear to have been more dependent on their spouses not only to provide support but to maintain links with larger social networks. Social support is a predictor of well-being in the current analysis, so if effects for gender were left unanalyzed, the results would be generalizeable to neither unmarried older men nor unmarried older women as the distinct groups they apparently are.

### Research Methods

In the current analysis, main and interaction effects for both gender and marital status were of interest. More explicitly, gender and marital status were expected to influence how three independent variables – social support, social integration, and health – would predict well-being for older, unmarried women and men. Data for this analysis came from the National Survey of Families and Households (NSFH, Sweet, Bumpass, & Call, 1988). The outcome of interest was well-being, operationalized as life satisfaction. While controlling for age, race, and income, it was expected that gender and marital status would interact with social support, social integration, and health in predictable ways to influence well-being.

The data analysis technique used in this study was hierarchical multiple regression consisting of five distinct models. In Model 1, three control variables (age, income, and race) were examined to explain variance in well-being. In Model 2, the three predictor variables (social support, social integration, and health) were added to the analysis. These two models clarified the importance of relationships between the predictor variables of interest and the well-being of unmarried older adults in general, absent considerations of gender and marital status. In Model 3, gender and marital status variables were added. This third model highlighted the unique main influences of gender and marital status while holding constant the influence of the predictor and control variables. Model 4 focused on interactions between gender and marital status and between each of the three predictors and both the gender and marital status variables. That is, the fourth model regressed well-being on all three control variables while simultaneously including all possible two-way interactions among gender, marital status and all three predictors. It

highlighted the relative importance of social support, social integration, and health by gender and marital status, and it modified significant main effects seen in Model 3. The fifth model accounted for all possible interactions between gender, marital status, and each of the three predictor variables. Like Model 4, this final model modified main effects seen in Model 3 as well as significant two-way interactions seen in Model 4. Significant three-way interactions that emerged from Model 5 were easily graphed and thus interpreted, for in these analyses, gender and marital status were coded as dichotomous variables.

It is hoped that this research will contribute new evidence to support Atchley's (1989) continuity theory of aging across gender and marital statuses. Furthermore, it is hoped that it will give researchers and practitioners new ways to conceptualize well-being and sources of well-being for diverse groups of elderly persons.

## Literature Review

Marriage appears to be a powerful predictor of well-being for adults in general and for older adults in particular. With what Pearlin and Johnson (1977) considered rare consistency, research showed – and continues to show – married people obtaining higher scores than their unmarried counterparts on several well-being-related outcomes (Glenn & Weaver, 1988; Gove, Hughes, & Style, 1983; Gove, Style, & Hughes, 1990; Keith, 1985; Kessler & Essex, 1982; Lawton, Moss, & Kleban, 1984; Mookherjee, 1997; Verbrugge, 1979). When compared with their nonmarried counterparts, for example, married people had better physical health (Verbrugge, 1979), more home and overall life satisfaction, more positive mental health, more overall happiness (Gove et al., 1983), and enhanced perceptions of well-being (Mookherjee, 1997). Among older adults in particular, the married are happier in general and happier with their family lives than are the unmarried. They are also more positive in their evaluations of everyday life, are physically healthier, feel less lonely, and are less likely than their unmarried peers to score high in anomia (Gubrium, 1974; Keith, 1985; Lawton et al., 1984; Rubinstein, 1987; Ward, 1979). According to Herzog, Rodgers, and Woodworth (1982), marriage is among the most powerful of commonly used sociodemographic predictors of well-being for older adults.

Over the past decade, however, research into the antecedents of individual well-being in marital relationships has discovered that it is not marriage *per se* but rather qualities of “good” marriage relationships that are responsible for the relatively greater observed well-being of married individuals (Ross, 1995; Williams, 1988). From these findings came the current research question: If certain qualities of married life such as reliable

socioemotional support, economic well-being, and relationship quality promote psychological well-being (Ross, 1995), do related qualities promote well-being for the unmarried in later life? More concisely, what are the important predictors of subjective well-being for unmarried older adults?

### The Association Between Well-Being and Marital Status

#### Operationalizing Well-Being for Older Adults

Gerontologists have viewed well-being in many ways, and they have measured it using a variety of intercorrelated indicators. George (1990) asserted that one's well-being in later life refers to how one perceives one's overall quality of life, which is usually assessed by measuring the presence of one or several positive concepts, such as life satisfaction, morale, and happiness. Well-being has also been measured in terms of the absence of negative qualities such as anomia, anxiety, stress, distress, strain, and depression (e.g., Acock & Hurlbert, 1993; Connidis & McMullin, 1993; Kahn & Antonucci, 1980; Kessler & Essex, 1982; Williams, 1988); as a combination of both negative and positive dimensions (Williams, 1988); and as both feelings (e.g., happiness, worries, satisfaction) and sources of well-being (e.g., sources of happiness, sources of worries) (Veroff, Douvan, & Kulka, 1981).

For the current study, well-being was operationalized as life satisfaction. Support for using life satisfaction measures to assess well-being comes in large part from the idea that intrapsychic states such as well-being are composites of satisfactions with major domains of life (Andrews & Withey, 1976; Campbell et al., 1976) – domains such as leisure time, friendships, marriage, home, finances, and so on. In their comprehensive study of

subjective well-being among different age groups, Herzog et al. (1982) used mostly these kinds of measures. They argued that, for the sake of clarity, measurements of subjective well-being should concentrate on intrapsychic states rather than be extended to measuring other factors such as self-perceived health or social interactions.

#### Distinguishing Direct from Spurious Influences of Marital Status on Well-Being

A review of the literature revealed two quite different ways of looking at the association between marital status and well-being. Some researchers focused on what appear to be the direct effects of marital status on well-being, while to others, marital status is a variable that filters the effects of other variables in predictable ways.

The hierarchical order of marital statuses in terms of well-being. The temptation to take the former of these views and isolate marital status as a direct influence on well-being may be attributed in part to a consistent relationship between marital status and well-being: Different marital statuses have proven to be associated with well-being in a hierarchical order. Married people have shown the highest levels of well-being, usually followed (not distantly) by the never married, and the divorced and the widowed have traded third and fourth places on this from study to study, depending on variation (e.g., covariates) in analytic models (Connidis & McMullin, 1993; Gove et al., 1983; Gubrium, 1974; Krause et al., 1995; Larson, 1978; Veroff et al., 1981). This hierarchical relationship is reflective of one Verbrugge (1979) saw between marital status and the physical health of adults. She showed that the married generally had the best physical health, followed by the never-married, and then the widowed, with the divorced being in the worst physical health.



A social-psychological perspective on the hierarchic order of marital statuses. Insofar as the well-being of unmarried older adults is concerned, however, this hierarchical pattern may actually have less to do with any direct influence of marital status on well-being than with interactions between marital status and other important predictors of well-being in old age. Research from a social-psychological point of view has considered marital status as a factor that exerts influence on a number of social structural (e.g., kinship networks), social process (e.g., leisure activity), or nonsocial (e.g., age) variables that, in turn, predict well-being. This perspective was demonstrated by Lawton et al. (1984) who suggested that marital statuses are boundaries that define limits for certain outcomes (e.g., well-being), but these outcomes are shaped by personal, social, and environmental characteristics of individuals. Similarly, George (1990) wrote that well-being in later life could be viewed as a social-psychological state, a subjective experience influenced to some extent by social-structural or social context variables like marital status. For example, White (1992) discussed how being married in the United States doubles the probability of an individual being covered by an employee medical benefits package, and he believed such coverage would result in positive influences on psychological well-being. Acock and Hurlbert (1993) postulated that marital status serves as a structural factor that affects the relationship between social network structure and well-being. Their research showed that characteristics of social networks significantly affect well-being and that some effects of networks vary across marital statuses.

These social-psychological viewpoints go far towards affirming Williams's (1988) and Ross's (1995) findings: It is not marital status per se that determines well-being in later life; rather, the qualities (e.g., social attachment or socioeconomic support) of

intimate, long-term relationships, like marriage, are the true predictors. Although some past research has highlighted direct relationships between marital status and well-being, marital status is more likely a moderator of the effects of other determinants on well-being than it is a direct predictor (George, 1990).

### A Theoretical Perspective on the Association between Marital Status and Well-Being in Later Life

Hypotheses for the current research were informed largely by a continuity theory of aging (Atchley, 1989). Something underlies those qualities that make marriage a consistent predictor of positive well-being in adulthood, and that “something” may also influence what predicts well-being in the unmarried. One set of theoretical explanations proposes that marriage promotes well-being by its stabilizing influence on individual self-concept (Berger & Kellner, 1975; Gove et al., 1990; Gubrium, 1975). Atchley’s (1989) continuity theory of aging logically extended this perspective so that it might apply to the unmarried in later life. Specifically, it allowed that, depending on how older adults are unmarried (i.e., whether they are never-married, divorced, or widowed), their well-being may be influenced differently by the types of variables that help maintain continuity of self-concept in later life.

### Marriage, Continuity of Self-concept, and Well-Being in Later Life

Self-concept and well-being. To best understand what these types of variables may be and how they function to support well-being, it is helpful first to consider that marriage may promote well-being by enhancing stability of self-concepts. Two basic premises underlie this view. First, individuals develop self-concepts – empirical manifestations of

the self (Bengtson, Reedy, & Gordon, 1985) – through social interaction (LaRossa & Reitzes, 1993). Second, stable, continuous self-concepts promote well-being (Atchley, 1989; Gove et al., 1990; Markus & Herzog, 1992).

From these premises, the self is a social product that is created and validated by individuals' interactions with significant others (Gove et al., 1990; LaRossa & Reitzes, 1993; Markus & Herzog, 1992; Rosenberg, 1981). Berger and Kellner (1975) thought of the spouse as a most important significant other and of the marriage relationship as an especially powerful self-validating relationship for adults. They claimed that "marriage occupies a privileged status among the significant validating relationships for adults in our society. [It is] a crucial nomic instrumentality" (p. 53) in that it is "a social arrangement that creates for the individual the sort of order in which he can experience his life as making sense" (p. 50). The marriage relationship gives individuals "major ground for self-validation" (Gubrium, 1975, p. 30), providing a particularly stable context for a continuous, reliable sense of identity, self-worth, and mastery. As Gove et al. put it (1990, p. 4), "The primary interaction provided by the marital relationship is particularly well suited to the development of a clear definition of the individual's self and worth. Because of these attributes, marriage tends to be strongly related to the well-being of individuals."

Self-concept and well-being in later life. Self-concept and self-perception have received increasing attention from gerontologists over recent decades (e.g., Baltes & Baltes, 1990; Bengtson, Reedy, & Gordon, 1985; Birren & Hedlund, 1987; Erickson, Erickson, & Kivnick, 1986; Longino, McClelland, & Peterson, 1980; Markus & Herzog, 1992; Rodin & Langer, 1980; Tobin & Lieberman, 1976) as their functions

and importance in old age have become clearer. Later life is a period when opportunities for self-confirmation from others are as crucial as ever but may be less plentiful. It is also a period of sometimes drastic changes in identity and self-perception (Brown, 1996). A stable and durable sense of self may be especially important during this period when individuals negotiate the transitions and adjustments of adulthood in the face of relatively frequent and potentially profound loss (e.g., loss of health and physical functioning) and impending death (Tobin, Ellor, & Anderson-Ray, 1986).

Among the many important ways gerontologists have operationalized self-concept, one in particular offers a basis for understanding associations among marital status, self-concept, and well-being in later life: Self-concept provides organization to one's life experiences (Atchley, 1989; Markus & Herzog, 1992). More specifically, Markus and Herzog saw self-concept as a social product shaped by sociocultural factors (such as marital status) that gives a sense of coherence and continuity across various life domains and across time, and thus influences a variety of motivational consequences (including well-being) that provide bases for behavior. This definition of self-concept fits especially well within the framework of Atchley's (1989) continuity theory of aging, for this theory proposes that older adults preserve existing self-concepts by maintaining links between present and past selves.

A continuity theory of aging. Atchley (1989, p. 186) proposed that continuity is a "preferred strategy" to facilitate normal aging. Continuity as a strategy allows older individuals to emphasize what they regard as their strengths and minimize the impacts of their deficits as they grow older and face increasing change and loss. It allows

them to face the profound physical and social changes that accompany later life and to perceive these changes as being somehow linked to their pasts and thus their selves. Atchley proposed that healthy, satisfied, normally aging adults maintain persistent self-concepts and adapt to changes by maintaining consistent patterns of familiar internal and external structures (i.e., identity and social/physical environments) over time. From this viewpoint, well-being in later life is an outcome or a consequence of the successful implementation of this strategy (see also Markus & Herzog, 1992).

Atchley's interpretation of continuity theory proposed two distinct types of continuity, both of which affect self-concept and thus well-being. The first is internal continuity: a "remembered inner structure, such as the persistence of a psychic structure of ideas, temperament, affect, experiences, preferences, dispositions, and skills" (p. 184). An individual who maintains internal continuity has the capacity to perceive inner change as somehow connected to her past sense of self. She maintains her identity over time and throughout various circumstances, and this continuous sense of self supports individual mastery and competence, ego integrity, self-esteem, and thus, well-being. The second type of continuity, external continuity, regards a persistent, remembered structure of environments, role relationships, behaviors, and activities that support a continuous sense of self. External continuity of relationships and social environments facilitates a sense of belonging and predictable physical and social support. It maximizes the probabilities of consistent feedback from others that supports identity and self-concept, and it allows one a familiar stage upon which one may present oneself to others (see also Goffman, 1967).

The link between one's subjective well-being in later life and one's continuity of self-concept has to do with how well one's self-concept integrates and organizes life experiences, changes, and losses. Atchley (1989) emphasized that maintaining continuity is not equivalent to maintaining homeostasis; that is, maintaining self-concept is not necessarily about restoring equilibrium to self-concept following change. Rather, continuity of self-concept assumes a kind of evolution whereby the self integrates and makes meaning of change. From the perspective of continuity theory, maintaining well-being in later life is less a matter of keeping a sameness about life as it is about being able to integrate the effects of external change.

#### Applying Continuity Theory to the Associations Between Marital Status and Well-Being

Application of continuity theory to the continuity of self-concept and thus well-being in older unmarried persons requires consideration of how one is unmarried. Specifically, continuity theory helps explain how the formerly married may suffer lower levels of well-being due to the internal and external discontinuity associated with the loss of a spouse. It predicts that, upon marital dissolution, self-concept is best preserved through social resources. Continuity theory also explains how continuity of self-concept may be supported by more durable, nonsocial resources for the never-married than for the formerly married.

Marital dissolution and the well-being of the formerly married. Individuals in two of the three unmarried statuses, divorce and widowhood, may have experienced profound external and internal discontinuity when their marriages ended. They are individuals who suffered interruptions of important, intimate social engagements in

which they may have had long-term psychosocial investments (Essex & Nam, 1987; Gubrium, 1974, 1975; Ward, 1979). Pearlin and Johnson (1977) hypothesized that marriage provides a protective barrier against external physical, socioemotional, and psychological threats, and that the loss of this protective barrier leaves the unmarried relatively more exposed and more vulnerable to these threats. They found that the greater social isolation attributable to the sudden loss of a spouse enhanced depression. Kessler and Essex (1982) saw similar depressive consequences among the formerly married, and they believed these consequences were due to the loss of intrapsychic coping resources that come with intimate social relationships like marriage. Ross (1995) showed that, before controlling for emotional support and social integration, all types of the unmarried were significantly more distressed than were the married. When she controlled for the absence of a partner, emotional support, and social integration, however, the divorced and widowed remained significantly distressed while distress scores of the never-married were not unlike those of the married. This may indicate that it is the loss and not the lack of socioemotional resources that negatively affects the well-being of the formerly married. Furthermore, the effects of losses associated with divorce and widowhood are believed to be stable and long-term (Mastekaasa, 1995).

Atchley (1989) thought that personal identity is served in part through maintaining external continuity of relationships. Intimate relationships such as marriage reinforce personal identities in ways that less close relationships do not. Atchley believed that interruptions (e.g., divorce or death of a spouse) of the external continuity of relationships have "serious implications for adaptation" (p. 189), and the

stress connected with such discontinuity can have substantial impacts on identity and self-concept.

To the extent that external continuity of social relationships (e.g., with friends, children, and other kin) serves to stabilize self-concept, the social environments (i.e., intimate, supportive social relationships) people construct after marital dissolution should have much to do with their well-being (Keith, 1986a). Thus, for formerly married older adults, well-being might best be predicted using measures of social involvement and social support. That is, measures of social support and social integration should be relatively stronger predictors of well-being for the formerly married than for their never-married peers.

Nonsocial variables and the well-being of the never-married. For the never-married, maintaining continuity of self may be less a matter of building and maintaining external social continuity than of maintaining the nonsocial aspects of self (e.g., income and health) that allow for the independence, autonomy, and fluidity that appear to be important to the never-married in later life (Gubrium, 1975; Keith, 1985; Ward, 1979). This is not to infer that social relationships are not important or valuable to the never-married. Rather, although the never-married benefit from the support of relatively dense friendship and kinship networks (Acock & Hurlbert, 1993; Connidis, 1994; Rubinstein, 1987), they may depend less on these relationships to provide the relatively strong levels of self-validation that are a consequence of committed, intimate relationships such as marriage. For this reason Gubrium (1975) thought that being ever-single is "a kind of a premium" (p. 31) in old age: Because the never-married individual has no spouse, she does not experience the social



disruptions that come with the loss of a spouse to death or divorce. When contrasted to the married or formerly married, older never-married persons may receive self-validation on grounds that are established somewhat more strongly in lifelong experiences than in social relations (Gubrium, 1975). Thus, certain nonsocial variables (e.g., good health) are relatively more likely to insure continuity of self-concept and thus well-being in later life for the never-married than they are for the formerly married.

### Predictors of Well-Being for the Unmarried in Later Life

The hierarchical order of well-being across marital statuses and the explanations for this order have implications for the selection of variables to predict well-being for the unmarried elderly. The social/nonsocial dichotomy discussed above is reflected in three strong influences of well-being in later life: (a) social integration, (b) social support, and (c) good health. Although all three may predict well-being for most adults regardless of age and marital status, it is expected that the two social variables will be stronger predictors of well-being for formerly married older adults while the nonsocial variable will be a stronger predictor for never-married older adults.

#### Social Integration

In the current study, social integration was viewed as synonymous with social interaction (Duckitt, 1982; Lee & Ishii-Kuntz, 1987) and as the opposite of social isolation (Ross, 1995) and loneliness (Lee & Ishii-Kuntz, 1987; Rook, 1980). Social integration is distinct from social support, for socially isolated elderly persons have demonstrated poorer psychological well-being than their nonisolated peers regardless of

perceived levels of social support (Thompson & Heller, 1990). For example, Frischer, Ford, and Taylor (1991) found that community-dwelling elderly people who were not well integrated socially experienced a more severe decline in well-being in reaction to negative life events than did their well integrated peers. This buffering effect of social integration suggests that it helps individuals maintain both external continuity (i.e., of social relations) and internal continuity (i.e., of role and identity) during periods of stress and change. Thus, social integration is considered a relatively more salient predictor of well-being for the formerly married than for the never married because the formerly married may have suffered a discontinuity of self-concept.

Although the benefits of social interaction may be especially important for the formerly married elderly, this group tends to interact less frequently with individuals outside their families than do the never-married (Antonucci & Akiyama, 1982; Greenwood, 1983; Rubinstein, 1987; Ward, 1981). For older adults in general, interaction with friends has a stronger relationship with well-being than does interaction with family members (Adams, 1986; Campbell et al., 1976; Chappell & Badger, 1989; Duckitt, 1982; Edwards & Klemmack, 1973; Lee & Ishii-Kuntz, 1987). This may be true because, more so than family relationships, friendships keep older adults connected to and engaged with the larger society (Adams, 1986). Contact with close friends has proven to diminish the potential of personal disruptions (such as marital dissolution) to upset well-being for adults in general (Gander & Jorgensen, 1990; Linn & McGranahan, 1980).

For unmarried elderly persons in particular, friendship relations meet needs for intimacy, sociability, and emotional security while also supporting identities (Gupta & Korte, 1994). Among the unmarried, however, the never-married tend to have more and

closer friendships in old age than do the divorced and widowed (Greenwood, 1983; Rubinstein, 1987). This pattern in friendship relationships suggests that the needs of formerly married older adults for social integration may be somewhat different from those of the never-married. The more extensive friendships networks of the never married may explain the tendency for them to be less lonely in old age than their formerly married counterparts (Essex & Nam, 1987), highlighting the idea that, moreso than for the never married, social integration should be a salient predictor of well-being for the formerly married in later life.

Well-being and coresidence. Although the majority of older unmarried people live alone (Mutchler, 1992), a form of social interaction that has proven to be especially positive to the well-being of the formerly-married is coresidence. For example, adults who began living with others during the first year following marital separation showed significantly higher levels of well-being than did those who lived alone following their divorce or the onset of widowhood (Mastekaasa, 1994). Of the unmarried in later life, however, the never married appear to be more likely to coreside than the formerly married. In contrast to earlier stereotypes of never-married elderly persons as lifelong social isolates (Cargan, 1986; Gubrium, 1975), fewer never-married than divorced and widowed elders live alone (Rubinstein, 1987). According to Mutchler (1992), being older and divorced increases the odds of living alone 13% over being older and never-married, while being older and widowed increases those odds by 8%.

The special importance of social integration to the formerly married. The picture that emerges from the literature is one of never-married older adults as relatively well-

integrated individuals who are not unlikely to live with others and who have the benefits of long-term, well-established friendships. Because the formerly married are more likely than the never-married to be less well socially integrated, their level of social integration is expected to be a relatively more salient and sensitive predictor of their well-being in the current study. This may be especially true for widowed elders. Neale (1981) found that social engagement and well-being were more strongly correlated for widowed than for married women. Similarly, Arens (1982) found that widows experienced lower levels of well-being because they were less socially integrated than were their married counterparts. At the same time, the formerly married apparently benefit from increased social integration, so social integration should be especially likely to differentiate the formerly married with higher levels of well-being from those with lower levels. From the point of view of continuity theory, greater social integration should help individuals maintain both external continuity (of social relations) and internal continuity (of role and identity) during and following periods of stress and change following divorce and widowhood.

### Social Support

Past research indicates that social support will predict well-being differently for the formerly married than for never-married older adults for two reasons: (a) the two groups have different needs for social support, and (b) the two groups typically have different sources of support.

Differences between the formerly married and the never-married in terms of needs for social support. Social support is believed to be a major predictor of well-being for both

widowed and divorced elderly persons (Bankoff, 1983; Lubben, 1988; McGloshen & O'Bryant, 1988; Stroebe, Stroebe, Abakoumkin, & Schut, 1996; Thuen, Reime, & Skrautvoll, 1997). Although supportive social relations are not absent from the lives of the never-married elderly (Rubinstein, 1987), in certain situations, their well-being is higher when they rely on themselves rather than on external social support (Matthews, 1991). The never-married are less lonely than their formerly married counterparts (Essex & Nam, 1987), and they may be relatively more adept at meeting their instrumental needs. The never-married appear to enjoy close friendship networks (Rubinstein, 1987; Strain & Payne, 1992) and small, dense kinship networks thought to offer more socioemotional than instrumental support (Acock & Hurlbert, 1993). In contrast, the divorced rely on more diverse, age heterogeneous sources of support that may be better able to provide an array of instrumental support (Acock & Hurlbert, 1993). For the formerly married, these sources are more likely to be family (i.e., children and siblings) than friends (Connidis, 1994; McGloshen & O'Bryant, 1988). In fact, Wright and Maxwell (1991) concluded that filial support is "crucial to the well-being of most older divorced individuals" (p. 45).

The convoy model of social support. Kahn and Antonucci (1980) presented a thesis illustrating how social support influences well-being in later life. Their central proposition was that "social support is important to individual well-being throughout the life course, both for its direct contributions and for its ability to moderate the effects of stress, including stresses often ascribed to the process of aging" (p. 255). Like others (e.g., Pearlin & Johnson, 1977; Thuen et al., 1997), Kahn and Antonucci thought that social support may provide a buffer between external stressors and well-being. Their

convoy model of social support placed significant others within a circle of lifelong supportive relationships that helps the individual negotiate change. The buffering effect of one's convoy might be seen most clearly during times when one's major life roles undergo change, such as marital dissolution. In line with Atchley's (1989) continuity theory, the convoy model describes an important social instrumentality (i.e., the convoy) that helps individuals maintain both external continuity (of social relations) and internal continuity (of role and identity) during and following periods of stress and change. In this way, the convoy provides social support at crucial moments when one's self-concept may be jeopardized by the loss of a crucial support source. More importantly, the convoy itself may be disrupted by divorce or widowhood. Such disruption would enhance the significance of remaining sources of support.

### Health

Although good health is one of the most important factors underlying well-being for adults of all ages (George, 1990; Herzog et al., 1982), it represents a specific type of variable (i.e., a nonsocial variable) that should best differentiate sources of well-being between the never married and the formerly married.

Good health is an especially salient predictor of well-being for the never married in later life (e.g., Gubrium, 1975; Keith, 1985; Ward, 1979). This is because the never married are most likely of all unmarried older adults to require the autonomy and independence afforded by good health. Keith (1985) found that the strongest interaction between marital status and another covariate occurred for health: A change in health had a much stronger effect on happiness for the never married than for the divorced or

widowed, and health was particularly salient to predicting happiness for the never married over time.

Keith's (1985) findings provide support for the current hypothesis that the strongest predictors of well-being for the never-married in later life should be nonsocial variables. More so than the formerly married, the never-married probably enjoy higher levels of stable social integration and social support from long-term, well established friendships and close-knit kinship networks. Keith's (1985) findings indicate that health might best predict well-being for this group because health is a resource necessary to maintain "the fluidity and autonomy of a lifestyle with little institutional or ideological support" (p. 415).

#### How Gender May Influence Predictors of Well-Being in Later Life

Relationships between marital status and the above predictors of well-being are likely to be conditioned by interactions between marital status and gender. To treat older, unmarried men and women together as an homogenous group is to ignore that individual outcomes of singleness may vary by gender and marital status in old age (Keith, 1986b). Seccombe and Ishii-Kuntz (1994) argued that, by treating men and women the same, past research regarding the never-married elderly concealed distinct and important differences. It may be preferable to treat marital status and gender as separate factors that have potentially strong main and interaction influences on important predictors of well-being in later life.

When direct effects of marriage on well-being are compared for men and women, marriage appears to be more beneficial for men (Bernard, 1972). Older men report greater satisfaction with marriage than do older women (Antonucci & Akiyama, 1987),

and marriage appears to be associated with comparatively lower rates for men of negative outcomes such as psychological stress (Glenn, 1975) and mental illness (Gove, 1972; Keith, 1986b). Williams (1988) found that it is not marriage in and of itself but the quality of marital interaction that predicts well-being, and this holds true for both men and women. She noted an interaction, however, between sex and marital status such that unmarried women generally report higher levels of well-being than do unmarried men. Glenn (1975) found that, among the unmarried of all types (divorced, widowed, and never-married), women reported being very happy more frequently than did men. Keith (1986b) noted that older married men have lower rates of some forms of mental illness than older married women, but the opposite is true for the unmarried. Seccombe and Ishii-Kuntz (1994) validated this finding, at least as far as the never-married elderly are concerned: Ever-single older women appear to be happier and to have a greater sense of psychological well-being than do never-married older men.

#### Gender, Marital Status, Social Support, and Social Integration

Two of the three predictors of well-being of interest in the current study – social support and social integration – may be especially influenced by differences between unmarried women and men. Specifically, formerly married women appear to be better off than are formerly married men with regard to both social integration and social support; that is, formerly married women appear to enjoy continuity of social relationships. Discontinuity of social ties for formerly married men may be especially problematic in terms of their well-being. They may be dependent on relatively higher levels of social support and social interaction to maintain external continuity.



Social support, social interaction, and the well-being of formerly married men. Keith (1986a) found that gender interacted with marital status such that social support and social integration were especially relevant to the well-being of divorced men. Although never-married elderly people are relatively less likely to be distant from contact with kin than are the formerly married elderly, older never-married and divorced men were more isolated from their kin than were older unmarried women. Connidis and Campbell (1995) also found that women maintain more active sibling ties in middle and later life than do men. Thus, it is expected that, in the current study, divorced men will be less likely than their never-married counterparts to enjoy well-established, long-term friendships, and less likely than their widowed counterparts to have close ties with relatives, especially children.

Antonucci and Akiyama (1987) hypothesized both widowed and divorced older men should experience a relative lack of support because “men can easily become isolated when the traditional marital role is disrupted and there is no wife present to maintain the supportive links” (p. 746). In other words, marital dissolution is likely to result in external discontinuities for formerly married men because they are likely to have depended on their wives to facilitate their social and supportive relationships. Maintaining continuity of social environments, then, may be a real challenge for widowed as well as divorced men (Lawton et al., 1984).

The impact of financial discontinuity on the well-being of formerly married older women. The negative effects of widowhood and divorce for women that are less likely to be problematic for men are generally related to financial problems. Arens (1982) found that widowhood increased the likelihood of serious financial problems for women, and

she saw low socioeconomic status as a source of relatively lower well-being particularly for women. Discontinuity of financial circumstances is yet another form of external discontinuity that can have implications for adaptation in later life. To the extent that marital status is negatively associated with well-being for formerly married women, we might suspect that nonsocial – especially financial – circumstances may be more salient influences than social circumstances for formerly married women than for formerly married men.

### Gender, Marital Status, and Well-Being

Gender and marital status interact in ways that may influence determinants of well-being for the unmarried in later life. From the perspective of Atchley's (1989) continuity theory, we expect that men are relatively more reliant on marriage relationships to support their identities than are women and that marital dissolution more profoundly affects internal as well as external continuity for men. Preliminary hypotheses stated earlier posited social support and social interaction as strong influences on well-being for the formerly married, for these social variables should help relieve the potential negative effects (i.e., loss and isolation) of marital dissolution. Differences between men and women in terms of supportive relations with kin and with friends, however, may affect the availability of support and the sizes and compositions of support networks, thus differentially influencing well-being for formerly married men and women. Of all groups of the unmarried, formerly married men may suffer more profound breaks in internal and external continuity due to the death of a spouse or to divorce. Thus, they should be more likely than other unmarried older people to benefit from social support and integration in later life.

Analytic Model and Research Hypotheses

Figure 1 is a graphic representation of the model for the current research. In addition

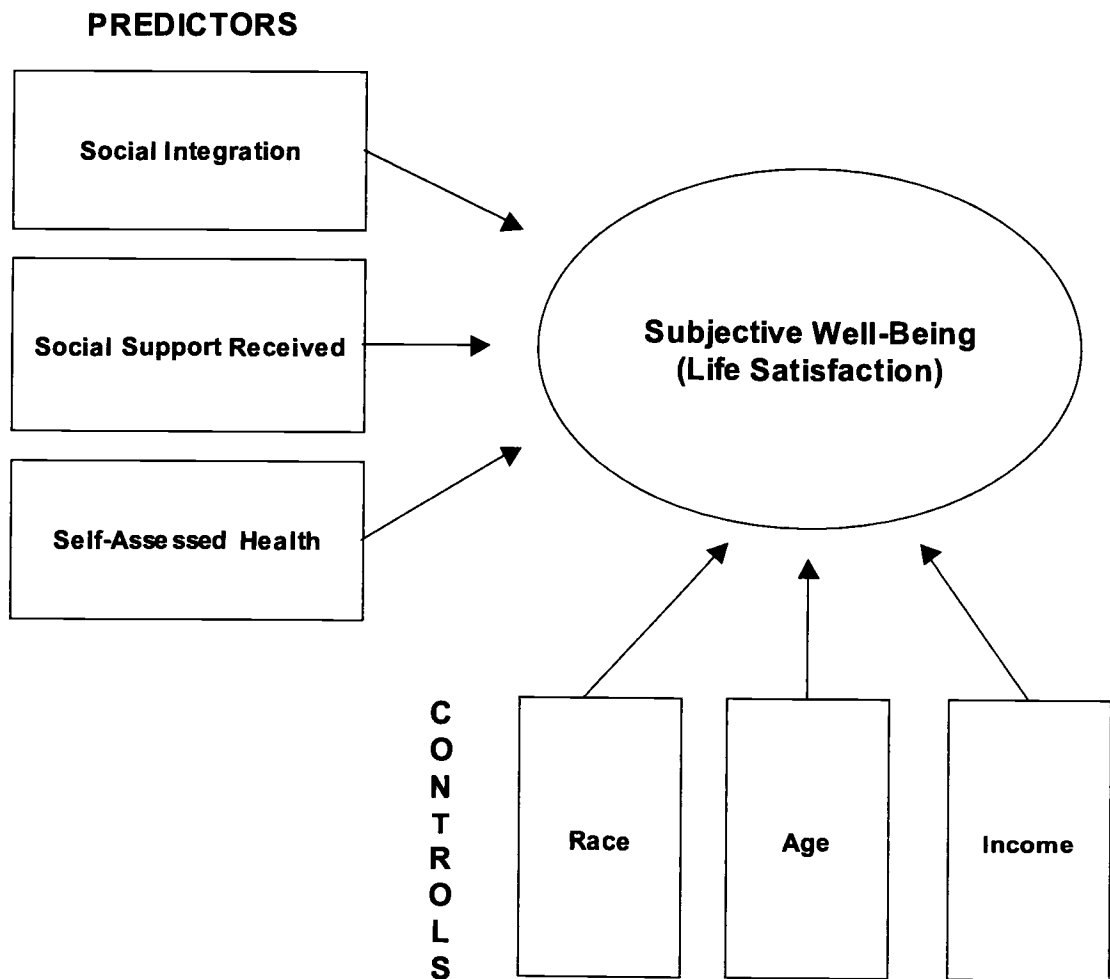


Figure 1. Initial regression model. Influence of social integration, social support, and health on well-being, controlling for race, age, and annual income.

to the outcome variable and predictors discussed above, this model includes three control variables expected to have effects on the outcome variable, well-being.

### Control Variables

Age. The most important concern regarding age as a control variable was the effect it would have on all three predictor variables. Health-related effects on well-being become more salient as people grow older (Herzog et al., 1982). Also, it is likely that the effects of perceived social support and relative isolation grow more salient with age-related changes in needs and circumstances (Kahn & Antonucci, 1980), and it is not unlikely that the association between marital dissolution or widowhood and well-being depends to some extent on age (Mastekaasa, 1994). In the current analysis, age might influence the associations between all three predictor variables and well-being such that the predictors would be relatively more salient to well-being for relatively older respondents.

Controlling for age held these potential influences constant for respondents of all ages.

Race. The strongest effects of race on well-being might be linked to income and health. There is a tendency of never-married women to be predominantly White, more well-educated, and to have higher incomes and thus greater well-being than their non-White counterparts (Glenn & Weaver, 1981; Spreitzer & Riley, 1974). This has special relevance to the current analysis given that race-related differences in socioeconomic circumstances have also proven to influence differences in health and health care service utilization between Whites and non-Whites in later life (Mutchler & Burr, 1991). Health is hypothesized to be an especially salient predictor of well-being for the never married in

the current analysis; thus, controlling for race prevents the importance of health from being inflated for never-married, non-White respondents.

Income. Although income by itself has been an inconsistent and weak indicator of well-being in older adults (Herzog et al., 1982), income might interact with other covariates of well-being to influence the outcome variable in the current model. There is evidence to expect interactions between different combinations of gender, marital status, and income that could produce a variety of effects on well-being for older adults. For example, Keith (1986a) found that low income was a predictor of social isolation for all types of older unmarried women (never-married, widowed, and divorced), whereas, among older unmarried men, it predicted social isolation for only the divorced. This finding is especially relevant to the current analysis given that social isolation is a negative form of one of the predictors, social integration. Also, Connidis and McMullin (1994) found that income was positively related to avowed happiness and life satisfaction and negatively related to depression for older women but not for older men. As noted above, Arens (1982) found negative income-related effects of widowhood and divorce that are more problematic for older women than for older men. By controlling for income, the analysis avoided these potential negative influences of income on well-being for unmarried older women.

### Hypotheses

The goal of the current research was to discover and differentiate main and interaction effects of two demographic factors – marital status and gender – as well as

three predictors of well-being – social integration, social support, and health – among unmarried older adults. There are three research hypotheses:

H<sub>1</sub>. Controlling for potential influences of gender, age, race, and income, the two social predictors, social support and social interaction, will be stronger predictors of well-being for formerly married than for never-married older adults.

H<sub>2</sub>. Controlling for potential influences of gender, age, race, and income, the single nonsocial predictor, health, will be a stronger predictor of well-being for never-married than for formerly married older adults.

H<sub>3</sub>. Controlling for potential influences of age, race, and income, the well-being of all three types of unmarried women will be best predicted with the nonsocial variable, health. In contrast, social variables will be the most salient predictors of well-being for formerly married older men while the nonsocial variable, health, will be the most salient predictor of well-being for never-married men.

## Methods

### Sample

The sample for this study included unmarried men and women aged 55 and older who were primary respondents to the National Survey of Families and Households (NSFH, Sweet et al., 1988). At the first wave of data collection (1987 – 1988), the NSFH was a national probability sample representative of the population of noninstitutionalized adults aged 19 and older in the United States that selected households via a multistage area probability sampling procedure. Several population groups (e.g., ethnic minority groups and cohabiting persons) were double-sampled to ensure generalizability. NSFH data used for the current study were generated from face-to-face interviews and from self-administered questionnaires.

The NSFH surveyed primary respondents and their spouses or cohabiting partners in the first wave of data collection (NSFH1, 1987). Primary respondents to NSFH1 were adults in the randomly selected households, aged 19 or older, whose birthday was in closest proximity to the date the household was first contacted. The spouse or partner interview included a selected portion of the items in the primary respondent interview. In the second wave (NSFH2, 1992), data were collected from surviving members of the original sample and from their spouses or cohabiting partners as well as from others somehow related to primary respondents. These others included original spouses in cases where the relationship had ended during the time between the two waves of data collection, randomly selected children aged 10 - 23, and one parent of the respondent.

The sample assembled for the current study included 884 primary respondents to NSFH2. Of the 10,008 primary respondents to NSFH2, the current subsample included only individuals who were 55 years old or older at Wave 2, were unmarried, and, if formerly married, were divorced or widowed at Wave 1 and were never remarried at any point.

The restriction to those aged 55 or older was established for the following reasons. Census data from 1993 (U.S. Bureau of the Census, 1994) indicated that the proportion of never-married people in the population stayed fairly stable (about 6%) among those aged 45 to 65. Age 55, however, was at the beginning of an age range (ages 55 – 65) wherein the proportion of widowed men and women began to increase markedly in the national population in 1993. Age 55 was also at the beginning of a range wherein the proportion of divorced men and women in the population began a marked and steady descent. Thus, for those belonging to the late 1930s birth cohort, age 55 appears to be a transition point of sorts: In 1993, numbers of widowed people began increasing at that age, whereas numbers of divorced people began decreasing. To select only respondents who were much younger than 55 in 1992 would be to risk excluding more widowed respondents than necessary and selecting those who may be considered in their middle-age rather than later life. To select only respondents much older than 55 would be to risk excluding many of the divorced who may remarry in later life.

All respondents identified as divorced or widowed in this sample had been married only once during their lives, had become divorced or widowed by the point of data collection for Wave 1, and had never remarried. By including only these individuals, this



subsample of NSFH respondents avoided effects on the dependent variable that may be due to differences in the life course trajectories of individuals who marry more than once.

### Two Distinct Subsamples

The 884 respondents eligible for the study sample at Wave 2 were further classified into two distinct subsamples. The first subsample (referred to hereafter as Sample A) included all 884 eligible respondents, and the second (Sample B) was a stratified random subsample of Sample A, consisting of 282 respondents including equal numbers of never-married, divorced, and widowed individuals. The advantages of using these two samples had to do with sample size and the estimation of regression coefficients. Coefficients produced from analyses using the smaller Sample B were used to check the reliability of those produced from the larger Sample A. Because Sample A was more than three times as large as Sample B, statistical procedures had much greater power to detect the influences of independent variables in the analysis. Because subgroups in Sample A were of unequal sizes, however, certain partial regression coefficients from these analyses might be distorted, although standardized regression coefficients should be reliable. Analyses performed with Sample A were compared to those using Sample B, and the regression coefficients produced from Sample B were used to verify those produced from the larger Sample A.

How Sample B was constructed. Sample B included 282 individuals because, of the 884 eligible respondents in Sample A, the smallest gender/marital status subgroup consisted of 47 men who never married. Other groups, most notably widowed women ( $n = 479$ ), were much larger. To equalize the numbers of respondents in each gender/marital

status subgroup, each subgroup could be no larger than the smallest of the six subgroups. Thus, from all 884 respondents eligible for inclusion in this study, 47 individuals were selected at random from each of the following groups: never-married women, widowers, widows, divorced men, and divorced women. These 235 individuals were combined with the 47 never-married men to form Sample B. This random selection was accomplished with the Statistical Package for the Social Sciences (SPSS). Table 1 summarizes key demographic characteristics of Sample A and Sample B.

Table 1

Subsample Characteristics in Percentages (n)

Characteristic	Sample A	Sample B
<b>Gender</b>		
Men	21.2 (187)	50.0 (141)
Women	78.8 (697)	50.0 (141)
<b>Marital Status</b>		
Divorced	22.6 (200)	33.3 (94)
Widowed	62.6 (553)	33.3 (94)
Never-married	14.8 (131)	33.3 (94)
Mean age (years)	71.5 (884)	69.3 (282)
<b>Race</b>		
White, non-Hispanic	75.1 (664)	72.7 (205)
Other	24.9 (220)	27.3 (77)
Mean annual income (thousands of dollars)	17.2 (884)	21.4 (282)

Equivalence of the two subsamples. Table 2 shows that the subsamples were not statistically equivalent in terms of two of the three control variables, age and income, and the dependent measure, life satisfaction. The two samples were equivalent, however, in terms of one of the three control variables, race, and all of the three predictor variables, coresidence, social support, and health.

Differences between the samples, even when significant, seem substantively meaningless. Regarding the demographic variables age and income, those in Sample B were about two years younger and earned about \$4,000 per year more income on average than did those in the larger Sample A, minor differences considering the range and variability of ages and incomes. Ages of respondents in Sample A ranged from 55 to 97 years old, and annual incomes ranged from \$0 to \$400,000. Differences in mean age for the two samples were probably not due to the influence of extreme data points, for the median age for Sample A was 71 years, and the median age for Sample B was 69 years. It is likely, however, that outliers influenced the difference in mean income between the two samples. The mean and median incomes for both groups differed a great deal, but the difference between the median income of Sample A (\$11,500) and Sample B (\$13,130) – a difference of only about \$2,000 – is somewhat smaller than the mean difference between the two samples (about \$4,000). The age and income differences between the samples are largely due to intersample differences in numbers of widowed individuals. Because Sample A included nearly six times the number of widowed people in Sample B, and about 84% of these were women, it is not surprising that respondents in Sample A are older and have lower incomes. In 1992, 14% of women between the ages of 55 and 64, 35% of women between the ages 65 and 74, and 64% of women over age 75 were

widows. In addition, the median incomes for households where the householder was 65 years old or older was \$17,160, yet when householders were from 55 to 64 years old, median household incomes were nearly twice as high: \$34,062 (U.S. Bureau of the Census, 1994).

The only other difference between the samples regarded the dependent variable, life satisfaction. Life satisfaction was measured on a 70-point scale; a difference of fewer than 3 points between the samples is minor. Thus, Sample A and Sample B are sufficiently similar for the purposes of this research.

Table 2

Comparing Sample A to Sample B on Study Variables

Variables	Sample A		Sample B		t
	<u>M</u>	<u>(SD)</u>	<u>M</u>	<u>(SD)</u>	
Control variables					
Race <sup>a</sup>	0.25	(0.43)	0.27	(0.45)	0.81
Age (years)	71.45	(9.84)	69.18	(10.09)	3.34**
Annual income (thousands of dollars)	17.22	(21.00)	21.37	(30.52)	2.13**
Independent variables					
Coresidence <sup>b</sup>	0.28	(0.45)	0.32	(0.47)	1.26
Social support <sup>c</sup>	1.66	(1.57)	1.62	(1.56)	.36

(table continues)

Table 2 (continued)

Variables	Sample A		Sample B		t
	<u>M</u>	<u>(SD)</u>	<u>M</u>	<u>(SD)</u>	
Health <sup>d</sup>	16.92	(4.02)	17.29	(4.19)	1.34
Dependent variable					
Life satisfaction <sup>e</sup>	55.24	(10.43)	52.95	(10.81)	3.18**

<sup>a</sup>Race was dummy-coded for analysis of the differences between the two subsamples, and the reference category for race is White. <sup>b</sup>Coresidence was dummy coded. The reference category for coresidence includes respondents who lived alone. <sup>c</sup>Measured on a 12-point scale where higher scores represent greater amounts of support. <sup>d</sup>Measured on a 21-point scale where higher scores represent better self-perceived health. <sup>e</sup>Measured on a 70-point scale where higher scores represent greater life satisfaction.

\* $p < .05$ , two-tailed. \*\* $p < .01$ , two-tailed.

#### Effects of Between-Wave Attrition on Sample Selection

Primary respondents interviewed at Wave 2 of the NSFH had been primary respondents at Wave 1. Although the NSFH took a national probability sample at Wave 1, the Wave 2 sample cannot be considered a true national probability sample due to between-wave attrition of primary respondents. Attrition of about 3,000 respondents (23% of original respondents) between the two waves of data collection may have introduced some systematic bias to the Wave 2 sample that did not exist at Wave 1. Such bias logically extends to the subsamples assembled for the current study. Following is an analysis of this attrition for the purposes of uncovering potential systematic biases in the study sample.

At the first wave of data collection, 1,438 (11%) of the 13,007 primary respondents in the NSFH were eligible for the current study. That is, they were unmarried; if formerly married, they had not remarried by Wave 1 of data collection; and they were 49 years old or older (which would make the youngest of them about 55 years old or older at Wave 2). Of these, 554 (39%) were not eligible for inclusion in the current study at Wave 2. These 554 individuals, considered lost to attrition, were either not reinterviewed at Wave 2, or were married between Wave 1 and Wave 2 ( $n = 28$ , 5% of all those lost to attrition). Thus, of the 1,438 primary respondents who at Wave 1 were eligible for inclusion, 884 (61%) were reinterviewed at Wave 2 and were included in the current data set.

In terms of the study's independent and dependent variables, an analysis comparing those lost to attrition to the sample in the current study was not feasible. The dependent variable in the current model (life satisfaction) was not measured at Wave 1 of the NSFH, and two of the three independent variables (social support and coresidence) and one control variable (income) were measured differently at Wave 1 than they were at Wave 2. Differences in several demographic characteristics of the two groups, however, were comparable using Wave 1 data, and these are shown in Table 3. For the sake of convenience, those lost to attrition were compared with Sample A but not Sample B. This was possible because Sample A and Sample B are generally equivalent in terms of the demographic variables included in the attrition analysis.

Overall, Sample A differed significantly from the attrition group in terms of gender, marital status, and age. Those lost to attrition included 6% more men than did Sample A,

Table 3

Characteristics of Sample A and of Respondents Lost to Attrition in Percentages (n)<sup>a</sup>

Characteristic	Sample A	Attrition	t
<b>Gender</b>			
Women	79 ( 697)	73 (402)	2.74**
<b>Marital status</b>			
Divorced	23 (200)	14 (78)	4.01**
Widowed	63 (553)	73 (402)	4.00**
Never-married	15 (131)	13 (74)	0.77
Mean age (in years)	66 (884)	72 (554)	11.32**
<b>Race</b>			
White, non-Hispanic	75 (664)	74 (409)	0.55

<sup>a</sup>Characteristics measured using Wave 1 data.

\*\*p < .01, two-tailed.

although women outnumbered men in both groups. The attrition group included about 9% fewer divorced people and about 10% more widowed people than did Sample A. Also, those lost to attrition were older than those in Sample A by over six years. The two groups, however, had statistically equivalent proportions of never-married people, and they were also equivalent in terms of race.

At Wave 2, data were collected from a proxy (e.g., a relative or partner) for 27% of all primary respondents to NSFH1 who could not be re-interviewed at Wave 2. There were proxy interview data for 302 (55%) of the 554 respondents considered lost to attrition in the current study. Of these 302, 223 (74%) were deceased at Wave 2, and 79

(26%) were too ill to respond. Besides those for whom there were proxy data and the 28 individuals who remarried between Wave 1 and Wave 2, there were no Wave 2 data (proxy or otherwise) available for 224 (40%) of the 554 individuals considered lost to attrition in the current sample. Table 4 shows the differences in demographic characteristics among the three groups of individuals considered lost to attrition.

Statistical comparison of these three groups was problematic due to the small subsample size ( $n = 28$ ) of the remarried group. The other two groups, however, were large enough to compare. As can be seen in Table 4, those lost to attrition for whom there were proxy data were, in many respects, different from those lost to attrition for whom no proxy data were available. The two groups were equivalent in terms of gender, but they were different in terms of all other variables included in Table 4.

Table 4

Characteristics of Those Lost to Attrition in Percentages (n)<sup>a</sup>

Characteristic	Proxy data available ( $n = 302$ )	Proxy data not available ( $n = 224$ )	Remarried ( $n = 28$ )
Gender			
Women	72 (218)	77 (172)	43 (12)
Marital status			
Divorced	11 (32) <sup>b</sup>	18 (40)	21 (6)

(table continues)



Table 4 (continued)

Characteristic	Proxy data	Proxy data	Remarried
	available	not available	
	( <u>n</u> = 302)	( <u>n</u> = 224)	( <u>n</u> = 28)
Widowed	80 (241) <sup>c</sup>	63 (142)	70 (19)
Never-married	10 (29) <sup>d</sup>	19 (42)	11 (3)
Mean age (in years)	75.74 <sup>e</sup>	68.50	60.21
Race			
White, non-Hispanic	85 (258) <sup>f</sup>	60 (134)	61 (17)

<sup>a</sup>Wave 1 data. <sup>b</sup>The proxy group included a smaller proportion of divorced respondents than the group for which proxy data were not available:  $\chi^2(1, N = 526) = 5.73, p < .05$ .

<sup>c</sup>The proxy group included a larger proportion of widowed respondents than the group for which proxy data were not available:  $\chi^2(1, N = 526) = 17.49, p < .001$ . <sup>d</sup>The proxy group included a smaller proportion of never-married respondents than the group for which proxy data were not available:  $\chi^2(1, N = 526) = 9.22, p < .01$ . <sup>e</sup>Those in the proxy group were older than were those in the group for which proxy data were not available:  $t = 8.13, p < .001$ . <sup>f</sup>The proxy group included a smaller proportion of non-Whites than did the group for whom there were no proxy data:  $\chi^2(1, N = 526) = 44.43, p < .001$ .

Given the differences between those lost to attrition and those in the study sample (i.e., those lost to attrition were more likely to be men, widowed, and older), it seems reasonable to speculate that attrition was largely due to death or illness concurrent with very old age. The significant marital status, age, and race differences between those in the proxy group and those for whom there were no proxy data, however, defies this

reasoning: Those lost to attrition were different in many respects. The gender and marital status profiles of those for whom there were no proxy data approximates those of the study sample more closely than the group for whom there were proxy data. Also, the mean age of those for whom proxy data were unavailable is closer to the mean age of those in the study sample ( $M = 65.8$  years,  $SD = 9.9$ ) than those for whom there were proxy data.

The differences in gender, marital status, and age between those in the study sample and those lost to attrition are due mainly to the influence of those who died or became too ill to respond to Wave 2 interviews. From the proxy data it is clear that more than half of those lost to attrition were lost to death and illness that might be associated with very old age, but the other half of those lost to attrition were like those in the study sample. It seems reasonable to conclude, therefore, that, because there are no consistent differences between the study sample and those lost to attrition, the study sample is an unbiased reflection of the population sampled at Wave 1.

### Measures

All variables included in this analysis are listed in a codebook (Appendix). This codebook includes variable names and variable labels, the text for each item, and value labels or response categories. It also indicates whether a given item was from a face-to-face interview (main interview item), from a self-administered questionnaire, or was a constructed item (i.e., an item that was synthesized from responses to either or both of the other two surveys).

### Control Variables

In order to focus on the effects of the predictor variables, this analysis statistically controlled potential effects of a set of three variables that may affect the well-being of the unmarried elderly. This set included age, race, and income.

Age. A single item recorded respondents' age in years at Time 2.

Race. A single item recorded respondents' race in one of the following eight categories at Wave 2: Black, White (non-Hispanic), Mexican American, Puerto Rican, Cuban, other Hispanic, American Indian, Asian, and other. Because race was selected as a control variable mainly to prevent the potential of the predictor variable health to be influenced by income differences between Whites and non-Whites, this item was recoded for the current study to include only two categories: (a) White, non-Hispanic and (b) other.

Income. A single item summarized all sources of a respondent's income at Wave 2. This item presented an amount for each respondent that reflected annual income to the dollar. This amount included earned income; unearned income (e.g., public benefits and assistance, pension benefits, alimony); and income from interest, dividends, and other investments.

### Predictor Variables

In this analysis, well-being is explained using three predictors. See Figure 1 for a graphic representation of this model.

Social integration. Social integration was defined in terms of relative isolation (Ross, 1995). Rubinstein (1987) believed that relative isolation is best measured in terms of coresidence. Ross (1995) concurred: She measured social integration in terms of respondents living in a household with other adults or with children under age 18. Indicators of coresidence in the NSFH at Wave 2 included (a) a measure of whether the respondent was the householder, and (b) a measure of how many additional persons lived in the household where the respondent lived. This latter measure included everyone staying in the household half the time or more and people temporarily in a hospital or institution. It did not include sons or daughters away at college, in the armed forces, or temporarily home on vacation. A dichotomous score for coresidence that summarized the scores from these two NSFH indicators was computed for each respondent as follows: If a respondent was head of her household and had no other people living with her, she received a code of 0 for coresidence. If a respondent lived in the household of another or had others living in her household with her, she received a code of 1.

Social support. Social support was measured as socioemotional and instrumental support actually received during the month prior to the interview. Twelve indicators of support received are listed in Table 5. Each item asked whether the respondent received a particular form of support (e.g., help with transportation) from a given source (e.g., brothers or sisters) during the month prior to the interview. The response categories for these items were 0 (no) and 1 (yes). Each respondent received a score for social support that reflected the sum of these dichotomous values for all 12 variables. For example, if a respondent received support in 7 of these 12 items but received no support in the other 5 items, that respondent's social support score was 7. Appendix B shows precisely how the

Table 5

Support Received


---

During the past month, have you received help from . . .

---

1. friends, neighbors, co-workers with transportation?
  2. parents or children with transportation?
  3. brothers or sisters with transportation?
  4. other relatives with transportation?
  5. friends, neighbors, co-workers with housework, yardwork, car repairs, and other work around the house?
  6. parents or children with housework, yardwork, car repairs, and other work around the house?
  7. brothers or sisters with housework, yardwork, car repairs, and other work around the house?
  8. other relatives with housework, yardwork, car repairs, and other work around the house?
  9. friends, neighbors, co-workers with advice, encouragement, moral, or emotional support?
  10. parents or children with advice, encouragement, moral, or emotional support?
  11. brothers or sisters with advice, encouragement, moral, or emotional support?
  12. other relatives with advice, encouragement, moral, or emotional support?
- 

different forms and sources of social support listed in Table 5 were distributed by gender and marital status.

The internal consistency of this index is only moderate:  $\alpha = .48$  for Sample A, and  $\alpha = .44$  for Sample B, but this should be considered in light of the nature of items. It seems unlikely that individuals would receive a form of support from multiple sources in the course of one month. It would be unusual as well for respondents to receive all sources of support within the course of one month. For example, receipt of advice or encouragement is not always likely to co-occur with receipt of more tangible support such as transportation. It is unreasonable, therefore, to expect any one form of support from any one source of support to be correlated with other sources of that same form of support. Rather than a scale, then, this is an index, a fact reflected in its low internal consistency.

Perceived health. The measure of health was a subjective assessment of health quality: an assessment of functional capacities. Older individuals' self-ratings of health quality are correlated with physician ratings (Maddox & Douglass, 1974). The assessment of functional capacities included the seven indicators listed in Table 6.

Table 6

Self-Rated Functional Capacity

---

How much do physical or mental conditions limit your ability to . . .

---

1. care for personal needs, such as dressing, eating, or going to the bathroom?
  2. move about inside the house?
  3. do day-to-day tasks?
- 

(table continues)

Table 6 (continued)

---

How much do physical or mental conditions limit your ability to . . .

---

4. climb a flight of stairs?
  5. walk six blocks?
  6. do heavy work like shoveling snow or heavy housecleaning?
  7. work for pay, such as the amount or type of work you do?
- 

Response categories for each item indicated the extent to which respondents thought their physical or mental conditions limited their abilities to perform each of the activities: 1 (does not limit at all), 2 (limits a little), and 3 (limits a lot). As individual scores for the predictor health were the sums of these responses, response categories were reverse coded so that a greater sum indicated a higher quality of perceived health. The internal consistency of this scale is strong:  $\alpha = .89$  for Sample A, and  $\alpha = .91$  for Sample B.

#### Outcome Measure

The dependent variable, well-being, was operationalized as life satisfaction. The NSFH included a series of items at Wave 2 that assessed satisfaction with particular domains of life. Support for using these measures comes from the idea that intrapsychic states such as well-being are composites of satisfactions with major life domains (Andrews & Withey, 1976; Campbell et al., 1976) – domains such as leisure time, friendships, marriage, home, finances, and so on. In their comprehensive study of subjective well-being among different age groups, Herzog et al. (1982) used mostly these kinds of measures. In the NSFH, life satisfaction was measured at Wave 2 with a series of

10 indicators listed in Table 7. Responses were measured on a seven-point Likert type scale with scores ranging from 1 (very dissatisfied) to 7 (very satisfied). Respondents received a life satisfaction score that summarized their responses to the 10 indicators in this scale. Using data from the study sample, internal reliability of this scale is strong:  $\alpha = .84$  for Sample A, and  $\alpha = .83$  for Sample B.

Table 7

Life Satisfaction

---

Overall, how satisfied are you with . . .

---

1. your home?
  2. your neighborhood?
  3. your city or town?
  4. your financial situation?
  5. the amount of leisure time that you have?
  6. your health?
  7. your physical appearance?
  8. your friendships?
  9. your sex life?
  10. your family life?
- 

Missing Data

All three independent variables and the dependent variable in the current model were constructed of multiple constituent items. When a given item was missing data, the score



for the variable that item related to was also considered missing (i.e., listwise deletion of missing data). For example, the dependent variable life satisfaction was constructed of 10 constituent items. If scores for one or more of those items were missing for a given case, that case's score for life satisfaction was not computed.

Missing data were problematic with the current sample for the social support index and the health limitations and life satisfaction scales. More than half (55%) of the cases in this sample were missing data for the life satisfaction construct alone. To exclude from analysis all cases missing data for the dependent measure would be to have entirely excluded important subgroups of cases (e.g., all never-married men were missing data for at least one item in the life satisfaction construct). A method of replacing missing data, therefore, was essential to using NSFH2 data in the current analysis.

SPSS allowed for the imputation and replacement of missing values using a variety of methods including listwise, pairwise, expectation maximization (EM), and regression methods. The choice of method to use demanded certain considerations. Listwise and pairwise methods assume that missing values do not occur in any particular pattern – that the values are missing completely at random. Data from Sample A, however, violated this assumption, as noted above for never-married men. Thus, either the EM or the regression method was more suitable to use with the current data. The method selected for the current analysis was the EM method, for, unlike the regression method, it is capable of basing missing values imputations on existing values for given mechanism variables. In the current case, this method estimated items in the social support index and the health limitations and life satisfaction scales on the basis of respondents' age, race, income, coresidence status, gender, and marital status.

The only missing values imputed were values for items in the scales used to measure the dependent variable and predictor variables, not summary scores for the scales themselves. For example, in no cases were individual scores for life satisfaction, the dependent variable, imputed; rather, scores on items in the life satisfaction scale for which there were missing data were imputed. Thus, scores for the dependent variable were never imputed but were computed from nonmissing data and imputed data.

Table 8 shows counts of cases with missing data for each item in the social support index and the health limitations and life satisfaction scales. Patterns of missing data indicate that fairly predictable numbers of missing values occur for every item with two exceptions. Extreme amounts of missing data occurred for one item in both the health limitations and life satisfaction scales. When respondents were asked if health limitations hindered their ability to work for pay, there were missing values for 170 (19%) of the 884 cases in Sample A. The mean number of cases with missing data for all other items in the health limitations scale was about 51 (6% of all cases). That 19% of all cases are missing data for this item is not unusual given that the respondents in the current data set were over age 55. The majority was probably retired and the question not appropriate for them. When respondents were asked if they are satisfied with their sex life, there were missing data for 238 (27%) of the 884 cases in Sample A. The mean number of cases with missing data for all other items in the life satisfaction scale was about 50 (6% of all cases). That 27% of all cases are missing data for this item may indicate that it was too personal in nature, as might be expected from a sample of people belonging to American birth cohorts dating back to the 1930s or earlier.

Table 8

Number of Cases Missing Data on the Social Support Index and Health Limitations and Life Satisfaction Scales

Scale or index and item description	N
<b>Social Support Index</b>	
During the past month, have you received help from . . .	
1. friends, neighbors, co-workers with transportation?	65
2. parents or children with transportation?	65
3. brothers or sisters with transportation?	65
4. other relatives with transportation?	65
5. friends, neighbors, co-workers with housework, yardwork, car repairs, and other work around the house?	64
6. parents or children with housework, yardwork, car repairs, and other work around the house?	64
7. brothers or sisters with housework, yardwork, car repairs, and other work around the house?	64
8. other relatives with housework, yardwork, car repairs, and other work around the house?	64
9. friends, neighbors, co-workers with advice, encouragement, moral, or emotional support?	55
10. parents or children with advice, encouragement, moral, or emotional support?	55

(table continues)

Table 8 (continued)

Scale or index and item description	N
11. brothers or sisters with advice, encouragement, moral, or emotional support?	55
12. other relatives with advice, encouragement, moral, or emotional support?	55
<b>Health Limitations Scale</b>	
How much do physical or mental conditions limit your ability to . . .	
1. care for personal needs, such as dressing, eating, or going to the bathroom?	39
2. move about inside the house?	45
3. do day-to-day tasks?	48
4. climb a flight of stairs?	60
5. walk six blocks?	55
6. do heavy work like shoveling snow or heavy housecleaning?	60
7. work for pay, such as the amount or type of work you do?	170
<b>Life Satisfaction Scale</b>	
Overall, how satisfied are you with . . .	
1. your home?	39
2. your neighborhood?	41
3. your city or town?	57

(table continues)

Table 8 (continued)

Scale or index and item description	N
4. your financial situation?	47
5. the amount of leisure time that you have?	56
6. your health?	55
7. your physical appearance?	53
8. your friendships?	47
9. your sex life?	238
10. your family life?	58

### Data Analysis

NSFH data were downloaded via file transfer protocol (FTP) from where they are stored at the University of Wisconsin to a personal computer at Oregon State University. They were analyzed using SPSS.

The main analysis technique employed in this study was hierarchical multiple regression analysis consisting of the five models represented in Table 9. Each analysis was conducted twice: once using data from Sample A and again with data from Sample B. In Model 1, well-being was regressed on all three control variables. In Model 2, the three predictor variables were entered into the analysis. Gender and marital status variables (dummy-coded) were entered in Model 3, as were gender/marital status interaction terms. Then, because two research hypotheses for this study posited that both marital status and gender are important factors mediating the effects of the three predictor

variables on well-being, two-way interaction terms representing the products of each of the three predictors and both the marital status and gender dummy variables were entered

Table 9

Main and Interaction Effects Predicted for Each Model

Predictor	Model				
	1	2	3	4	5
Control variables					
Age	*	*	*	*	*
Race <sup>a</sup>	*	*	*	*	*
Income	*	*	*	*	*
Predictor variables					
Coresidence		*	*	*	*
Social support		*	*	*	*
Health		*	*	*	*
Gender and marital status					
Women <sup>b</sup>			*	*	*
Formerly married <sup>c</sup>			*	*	*
2-way interactions: gender x predictor and marital status x predictor					
Women x formerly married <sup>b, c</sup>				*	*
Women x coresidence <sup>b</sup>				*	*

(table continues)

Table 9 (continued)

Predictor	Model				
	1	2	3	4	5
Women x social support <sup>b</sup>				*	*
Women x health <sup>b</sup>				*	*
Formerly married <sup>c</sup> x coresidence <sup>c</sup>				*	*
Formerly married <sup>c</sup> x social support <sup>c</sup>				*	*
Formerly married <sup>c</sup> x health <sup>c</sup>				*	*
3-way interactions: gender x marital status x predictor					
Women x formerly married x coresidence <sup>b, c</sup>					*
Women x formerly married x social support <sup>b, c</sup>					*
Women x formerly married x health <sup>b, c</sup>					*

<sup>a</sup>Reference category is White. <sup>b</sup>Reference category is women. <sup>c</sup>Reference category is never married.

in Model 4. That is, the fourth model regressed well-being on all three control variables simultaneously with all possible interactions of gender and marital status with each predictor. In Model 5, every possible three-way interaction involving gender, marital status, and each predictor variable was tested along with every main and interaction effect included in the previous four models. Thus, the third hypothesis concerning how gender may modify marital status/predictor interactions was addressed.

The following information is reported for each of the five separate models involved in this analysis: (a) The overall regression  $F$ -statistic for the model, (b) the value of  $R^2$  (explained variance) for the model, (c) any change in  $R^2$  represented by the additional

variables or interaction terms in subsequent models, (d) regression coefficients and their associated significance levels for each independent variable or interaction term in each model, and (e) Beta weights for each independent variable or interaction term in each model.



## Results

Hypotheses for the current research proposed that variation in the well-being of older, unmarried adults may be explained by multiple interactions involving marital status, gender, and social and nonsocial predictors of well-being. Three research hypotheses were presented. First, social predictors of well-being (i.e., coresidence and social support) should be more salient to well-being for formerly married than for never-married older adults. Second, nonsocial predictors of well-being (i.e., health) should prove more salient to the never married than to the formerly married. Third, social predictors should best predict increased well-being for formerly married men, while nonsocial predictors should be most salient to never-married men as well as all unmarried women.

### Preliminary Analyses

Preliminary to the study analyses, means and standard deviations for the dependent measure and each control and predictor variable were calculated for every combination of gender and marital status. These are presented in Table 10 (for Sample A) and Table 11 (for Sample B).

These descriptive statistics highlight several key points. First, the two samples are generally consistent with each other. Although means and standard deviations are not identical, in most instances, groups from both samples defined by gender, marital status, and gender/marital status interactions can be rank ordered similarly in terms of the dependent and predictor variables. For example, women in Sample A have higher levels of social support but lower levels of health than do men; the same trend is evident in Sample B. The second key point to note is that, in both samples, unmarried older women

– regardless of marital status – appear to have higher overall life satisfaction than do unmarried older men. Life satisfaction differences between the marital status groups are also consistent from Sample A to Sample B. A third key point is that never-married men showed much lower levels of coresidence than their peers, especially formerly married women. Finally, note the relatively large differences in social support between formerly married women and men. Although never-married women and men in both samples appear to use nearly equivalent levels of social support, divorced and widowed older women in both samples used more social support than did comparable men.

Table 10

Means (SD) for Predictor Variables by Gender and Marital Status: Sample A

Variable ( <u>n</u> )	Co- residence <u>M (SD)</u>	Social support <u>M (SD)</u>	Health <u>M (SD)</u>	Life satisfaction <u>M (SD)</u>
<b>Gender</b>				
Women (697)	.28 (.45)	1.79 (1.60)	16.66 (4.07)	56.11 (10.14)
Men (187)	.29 (.45)	1.18 (1.34)	17.87 (3.69)	51.99 (10.87)
<b>Marital status</b>				
Divorced (200)	.34 (.47)	1.73 (1.63)	18.21 (3.68)	51.59 (10.45)
Widowed (553)	.27 (.44)	1.67 (1.55)	16.35 (4.00)	56.72 (9.85)
Never-married (131)	.24 (.43)	1.52 (1.56)	17.33 (4.14)	54.55 (11.35)

(table continues)

Table 10 (continued)

Variable (n)	Co- residence <u>M (SD)</u>	Social support <u>M (SD)</u>	Health <u>M (SD)</u>	Life satisfaction <u>M (SD)</u>
<b>Gender by marital status</b>				
<b>Divorced</b>				
Women (134)	.37 (.48)	2.04 (1.67)	17.93 (3.86)	52.93 (9.98)
Men (66)	.29 (.46)	1.11 (1.36)	18.79 (3.23)	48.85 (10.92)
<b>Widowed</b>				
Women (479)	.25 (.44)	1.75 (1.57)	16.21 (4.04)	57.08 (9.86)
Men (74)	.35 (.48)	1.14 (1.32)	17.30 (3.60)	54.43 (9.53)
<b>Never-married</b>				
Women (84)	.26 (.44)	1.61 (1.66)	17.24 (4.10)	55.65 (10.95)
Men (47)	.19 (.40)	1.36 (1.36)	17.49 (4.24)	52.57 (11.88)

Table 11

Means (SD) for Predictor Variables by Gender and Marital Status: Sample B

Variable (n)	Co- residence <u>M (SD)</u>	Social support <u>M (SD)</u>	Health <u>M (SD)</u>	Life satisfaction <u>M (SD)</u>
<b>Gender</b>				
Women (141)	.36 (.48)	2.06 (1.62)	16.81 (4.49)	53.98 (10.36)
Men (141)	.28 (.45)	1.18 (1.38)	17.77 (3.83)	51.92 (11.18)
<b>Marital status</b>				
Divorced (94)	.37 (.49)	1.62 (1.57)	18.51 (3.56)	50.61 (10.49)
Widowed (94)	.36 (.48)	1.68 (1.55)	16.11 (4.19)	54.55 (9.90)
Never-married (94)	.22 (.42)	1.56 (1.58)	17.26 (4.46)	53.69 (11.67)
<b>Gender by marital status</b>				
<b>Divorced</b>				
Women (47)	.45 (.50)	2.30 (1.53)	18.09 (4.07)	52.23 (9.21)
Men (47)	.30 (.46)	.94 (1.31)	18.94 (2.96)	48.98 (11.50)
<b>Widowed</b>				
Women (47)	.38 (.49)	2.11 (1.54)	15.32 (4.31)	54.89 (10.28)
Men (47)	.34 (.48)	1.26 (1.47)	16.89 (3.95)	54.21 (9.61)
<b>Never-married</b>				
Women (47)	.26 (.44)	1.77 (1.76)	17.02 (4.71)	54.81 (11.47)
Men (47)	.19 (.40)	1.36 (1.36)	17.49 (4.24)	52.57 (11.88)

### Searching for Potential Multicollinearity Problems

Hierarchical regression analyses were used to examine the multiple interactions implied by hypotheses for the current research. Prior to these analyses, a correlation matrix of all variables in the analysis was developed to search for potential multicollinearity problems among the independent variables. As Table 12 shows, no two independent variables were correlated at higher than  $r = .35$ , so there was no reason to suspect that multicollinearity was problematic (Hickey, 1986).

Table 12

#### Correlation Matrix of All Variables in the Analyses

Variable	1	2	3	4	5	6	7
Sample A ( $n = 884$ )							
1. Age	--	-.24**	-.17**	-.18**	.02	-.35**	.24**
2. Race <sup>a</sup>	-.24**	--	-.12**	.20**	.04	-.10**	-.15**
3. Income	-.17**	-.12**	--	-.03	-.01	.25**	-.08*
4. Coresidence	-.18**	.20**	-.03	--	.10**	-.03	-.06
5. Social Support	.02	.04	-.01	.10**	--	-.15**	-.06
6. Health	-.35**	-.10**	.25**	-.03	-.15**	--	.18**
7. Life Satisfaction	.24**	-.15**	-.08*	-.06	-.06	.18**	--

(table continues)

Table 12 (continued)

Variable	1	2	3	4	5	6	7
Sample B ( $n = 282$ )							
1. Age	--	-.21**	-.17**	-.18**	.01	-.33**	.22*
2. Race <sup>a</sup>	-.21**	--	-.14*	.11	.10	-.18**	-.11
3. Income	-.17**	-.14*	--	-.03	-.07	.30**	-.07
4. Coresidence	-.18**	.11	-.03	--	.13*	.03	.02
5. Social support	.01	.10	-.07	.13*	--	-.14*	-.07
6. Health	-.33**	-.18**	.30**	.03	-.14*	--	.17**
7. Life satisfaction	.22**	-.11	-.07	.02	-.07	.17**	--

Note. For each matrix, correlation coefficients for women are above the diagonal; coefficients for men are below the diagonal.

<sup>a</sup>The reference category for race is White.

\* $p < .05$ , two-tailed. \*\* $p < .01$ , two-tailed.

The largest of the correlation coefficients in the Table 12 are weak although significant, but a few are worth noting. The negative correlations between the control variable age and the predictor health were the strongest in the matrix. Interestingly, both age and health are also positively associated with life satisfaction, but they are negatively correlated with each other. Otherwise, the bivariate correlations suggest fairly weak predictions of life satisfaction, though the joint influence of the independent variables is difficult to predict from this information alone.

### Results from Hierarchical Multiple Regression Analyses

The hierarchical multiple regression analyses failed to support the first and second research hypotheses presented at the conclusion of Chapter 2: There were no significant main effects for marital status, nor were there significant two-way interactions involving marital status and any of the predictor variables. The analyses, however, offered some support for the third hypothesis: Significant three-way interactions involving gender, marital status, and predictor variables showed that coresidence, social support, and health influence well-being differently depending on gender and marital status.

Table 13 shows unstandardized and standardized regression coefficients for every variable and interaction in the five separate models analyzed with Sample A data. Table 14 shows the same for Sample B. The overall regression  $F$ -statistic for each model, the proportion of variance in well-being explained by each model, and the change in the proportion of explained variance from model to model are also given in these tables.

These tables show similar results for the two samples with two exceptions. First, coefficients for the control variable, income, were significant for Sample A but not Sample B, except in Model 2 where coefficients for income were significant for both samples. Second, a significant three-way interaction (i.e., gender/marital status/coresidence) that produced the single largest regression coefficient ( $b = -12.85$  [ $t(281) = -2.19, p < .05$ ]) for any main or interaction effect in all five models was present in Sample B but not in Sample A. Other than these two differences, however, results for all five models were comparable for the two samples. That is, when a main effect or interaction was statistically significant in one sample, it was significant in the other, and

magnitudes of regression coefficients for all significant effects were similar for both samples.

Table 13

Hierarchical Regression Analyses Predicting Life Satisfaction of Unmarried, Older Adults: Unstandardized (Standardized) Regression Coefficients for Sample A

Variable or interaction	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	40.56**	18.41**	16.43**	17.94**	18.76**
Control variables					
Age	.22** (.21)	.34** (.32)	.33** (.32)	.33** (.31)	.32** (.31)
Race <sup>a</sup>	-2.43** (-.10)	-1.23 (-.05)	-1.12 (-.05)	-.82 (-.03)	-.87 (-.04)
Income	-.03 <sup>†</sup> (-.06)	-.05** (-.11)	-.04* (-.08)	-.04* (-.07)	-.03* (-.07)
Predictor variables					
Coresidence		.28 (.01)	.37 (.02)	5.42* (.23)	2.08 (.09)
Social support		-.13 (-.02)	-.27 (-.04)	-.71 (-.11)	1.42 (.21)
Health		.81** (.31)	.82** (.32)	.78** (.30)	.62 <sup>†</sup> (.24)

(table continues)



Table 13 (continued)

Variable or interaction	Model 1	Model 2	Model 3	Model 4	Model 5
<b>Gender and marital status</b>					
Women <sup>b</sup>			3.88**	-3.63	-3.55
			(.15)	(-.14)	(-.14)
Formerly married <sup>c</sup>			-.77	3.68	3.66
			(-.03)	(.13)	(.13)
<b>2-way interactions</b>					
Women x formerly married <sup>b,c</sup>				2.11	1.56
				(.09)	(.07)
Women x coresidence <sup>b</sup>				-5.12**	-.12
				(-.20)	(-.01)
Women x social support <sup>b</sup>				.32	-2.62*
				(.05)	(-.40)
Women x health <sup>b</sup>				.39 <sup>†</sup>	.57
				(.29)	(.42)
Formerly married x coresidence <sup>c</sup>				-1.17	3.16
				(-.05)	(.13)
Formerly married x social support <sup>c</sup>				.19	-2.69*
				(.03)	(-.40)
Formerly married x health <sup>c</sup>				-.35	-.19
				(-.23)	(-.13)

(table continues)

Table 13 (continued)

Variable or interaction	Model 1	Model 2	Model 3	Model 4	Model 5
3-way interactions					
Women x formerly married x coresidence <sup>b, c</sup>					-6.23 (-.24)
Women x formerly married x social support <sup>b, c</sup>					3.81** (.57)
Women x formerly married x health <sup>b, c</sup>					-.19 (-.15)
$F^d$	22.03	25.99	22.72	13.15	11.55
$R^2$	.070	.151	.172	.185	.194
Adjusted $R^2$	.067	.145	.164	.171	.177
Change in $R^2$		.081**	.021**	.013 <sup>†</sup>	.009*

<sup>a</sup>Reference category is White. <sup>b</sup>Reference category is women. <sup>c</sup>Reference category is never married. <sup>d</sup> $p < .001$  for each model.

<sup>†</sup> $p < .10$ . \* $p < .05$ . \*\* $p < .01$ .

Table 14

Hierarchical Regression Analyses Predicting Life Satisfaction of Unmarried, Older Adults: Unstandardized (Standardized) Regression Coefficients for Sample B

Variable or interaction	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	39.04**	17.82**	17.31**	17.77*	18.10*
Control variables					
Age	.21** (.20)	.33** (.31)	.34** (.32)	.33** (.31)	.33** (.31)
Race <sup>a</sup>	-1.87 (-.07)	-.36 (-.02)	-.47 (-.02)	.59 (.02)	.30 (.01)
Income	-.02 (-.05)	-.04 <sup>†</sup> (-.11)	-.03 (-.09)	-.03 (-.08)	-.02 (-.06)
Predictor variables					
Coresidence		1.64 (.07)	1.76 (.08)	7.23* (.31)	2.33 (.10)
Social support		-.29 (-.04)	-.49 (-.07)	-.09 (-.01)	1.47 (.21)
Health		.75** (.29)	.76** (.30)	.67* (.26)	.59 <sup>†</sup> (.24)

(table continues)

Table 14 (continued)

Variable or interaction	Model 1	Model 2	Model 3	Model 4	Model 5
<b>Gender and marital status</b>					
Women <sup>b</sup>			2.54*	-5.79	-3.47
			(.12)	(-.27)	(-.16)
Formerly married <sup>c</sup>			-1.62	4.37	5.58
			(-.07)	(.19)	(.24)
<b>2-way interactions</b>					
Women x formerly married <sup>b, c</sup>				2.56	1.68
				(.12)	(.07)
Women x coresidence <sup>b</sup>				-5.07 <sup>†</sup>	4.18
				(-.18)	(.15)
Women x social support <sup>b</sup>				-.54	-3.17*
				(-.07)	(-.45)
Women x health <sup>b</sup>				.52 <sup>†</sup>	.50
				(.43)	(.42)
Formerly married x coresidence <sup>c</sup>				-3.85	3.05
				(-.15)	(.12)
Formerly married x social support <sup>c</sup>				-.18	-2.54 <sup>†</sup>
				(-.03)	(-.35)
Formerly married x health <sup>c</sup>				-.34	-.32
				(-.27)	(-.26)

(table continues)

Table 14 (continued)

Variable or interaction	Model 1	Model 2	Model 3	Model 4	Model 5
3-way interactions					
Women x formerly married x coresidence <sup>b,c</sup>					-12.85** (-.41)
Women x formerly married x social support <sup>b,c</sup>					4.09* (.52)
Women x formerly married x health <sup>b,c</sup>					.07 (.01)
<u>F</u> <sup>d</sup>	5.62	7.00	6.02	3.92	3.89
<u>R</u> <sup>2</sup>	.057	.132	.150	.181	.210
Adjusted <u>R</u> <sup>2</sup>	.047	.113	.125	.135	.156
Change in <u>R</u> <sup>2</sup>		.075**	.017 <sup>†</sup>	.031	.029*

<sup>a</sup>Reference category is White. <sup>b</sup>Reference category is women. <sup>c</sup>Reference category is never married. <sup>d</sup> $p < .001$  for each model.

<sup>†</sup> $p < .10$ . \* $p < .05$ . \*\* $p < .01$ .

#### Model 1: Main Effects for Control Variables

##### Age

Age was a consistent positive predictor of well-being (i.e., life satisfaction) across all five models and both samples: Higher values for life satisfaction were predicted from greater age. From model to model, values of the unstandardized and standardized regression coefficients for age were similar. Regardless of other main and interaction

effects in the various models, each one-year difference in age predicted about a one-third point increase in life satisfaction for both samples. Thus, an unmarried older adult at age 73 should enjoy a level of life satisfaction that is about one-point higher than one at age 70.

In Sample A, individuals in the bottom 20<sup>th</sup> percentile for age were between 55 and 61 years old, and those in the top 20<sup>th</sup> percentile were between 81 and 92 years old. These results predict that, in all five models, the life satisfaction of the youngest 20% of individuals should be three to five points below those of average age (71) in the sample. Life satisfaction scores of the oldest 20% should be three to seven points above those of average age in the sample. Thus, the predicted difference in life satisfaction between the youngest 20% and the oldest 20% should be at least 6 points and as many as 12 points – one-third to more than one whole standard deviation of the distribution of life satisfaction scores.

### Race

Race was important only in Model 1, the model containing control variables and no other factors. In Model 1, race was significant for Sample A. In Sample A, controlling for age and income, Whites enjoyed somewhat better life satisfaction over non-Whites. This result has little substance, however, as the effect of race was not significant for Sample B, and it lacks significance in both samples in Models 2 through 5.

### Income

Income produced a significant main effect for Sample A but not for Sample B. In every model and for both samples, income was negatively associated with life

satisfaction. To make coefficients more interpretable, values for income were rescaled: Original values were divided by 1,000. Thus, for example, an annual income of \$15,350 was transformed to a value of 15.30.

Although income was significant across models for Sample A, the effect was not substantive. If, as in Model 2 for example, a \$1,000 increase in annual income predicts a .05 decrease in life satisfaction for Sample A, a gain of \$10,000 in annual income would predict a .50 point reduction in life satisfaction. For Sample A, the mean income is \$17,218, and the standard deviation is \$20,948. Given Model 2, which produced the highest coefficient for income, the life satisfaction of an individual with an income two standard deviations above the mean would be about two points lower than that of an individual with an average income. Only about 8% of individuals in Sample A, however, had annual incomes greater than two standard deviations above the mean. The effect of income, then, like the effect of race, is not substantive, for the magnitudes of the regression coefficients are small, and they are generally not significant for Sample B.

### Model 2: Main Effects for Predictor Variables

#### Coresidence

The main effect of coresidence on well-being was not significant in four of the five models. It was significant in Model 4 for both samples, but only when all two-way interactions were entered into the analysis. In Model 4, coresidence predicted an increase in life satisfaction of more than five points for Sample A and more than seven points for Sample B. This main effect, however, must be considered in light of the two-way

interaction between coresidence and gender that was also significant in Model 4. This interaction complicates the interpretation of main effects for coresidence.

### Social Support

There was no main effect for social support (i.e., received support) on well-being for either sample in any of the models, nor were there any significant two-way interactions involving social support (i.e., social support/gender or social support/marital status). Social support was involved, however, in a significant three-way interaction in Model 5 (i.e., gender/marital status/social support). That interaction is discussed below.

### Health

Like the control variable age, there was a significant main effect for the predictor health (i.e., functional limitations) in every model for both samples. Also like age, health produced regression coefficients that were fairly consistent from model to model. In Model 4, however, health interacted with gender, and this interaction complicates the interpretation of main effects for health.

The mean value for health was about 17 points (see Table 2), with a standard deviation of about 4 points. In Models 2, 3, and 5, the predicted life satisfaction for those whose health was at about one standard deviation above the mean should be about three points higher than that of those reporting average health. This means that those reporting the fewest functional limitations enjoyed better life satisfaction by about 3 points than those reporting an average number of limitations, and those reporting the most limitations had life satisfaction levels around 9 points below average.



Although the role of health must be tempered by the recognition of the significant health/gender interaction in Model 4, the main effects in Model 2 should not be overlooked. Substantial change occurred in the explained variance in life satisfaction in Model 2 when the predictor variables were added to the control variables. That change of about 8% between Models 1 and 2 was the single most profound intermodel change, and it appears to be due mainly to the influence of health.

### Model 3: Main Effects for Gender and Marital Status

Model 3 examined main effects for gender and marital status along with those for control and predictor variables. Although there were significant effects for gender in Model 3 for both samples, subsequent models included two- and three-way interactions involving gender. There was no main effect for marital status in any model.

For Sample A, there was nearly a 4-point difference in life satisfaction for women over men. For Sample B, the difference was in the same direction but smaller: 2.5 points. This main effect for gender was frequently reflected in two- and three-way interaction effects where, in most cases, low values for predictor variables corresponded with higher levels of life satisfaction for women than for men.

### Interaction Effects and Reduced Models

Significant interaction effects in Models 4 and 5 were examined further by transforming those full models to reduced models. Reduced Models 4 and 5 included only those variables involved in significant main or interaction effects. These reduced models are shown in Tables 15 and 16.

Table 15

Unstandardized (Standardized) Regression Coefficients for Main Effects and Interactions in Reduced Model 4

Variable or interaction	Sample	Sample
	A	B
Intercept	18.50**	21.12**
Control variables		
Age	.34** (.32)	.33** (.30)
Income	-.03* (-.07)	-.03 (-.09)
Predictor variables		
Coresidence	3.98* (.17)	3.82* (.17)
Health	.56** (.22)	.46* (.18)
Gender		
Women <sup>b</sup>	-.91 (-.04)	-5.77 (-.27)

(table continues)

Table 15 (continued)

Variable or interaction	Sample A	Sample B
<b>Two-way interactions</b>		
Women x coresidence <sup>b</sup>	-4.93** (-.20)	-4.66 <sup>†</sup> (-.17)
Women x health <sup>b</sup>	.34 (.25)	.54 <sup>†</sup> (.45)
$F^c$	26.97	7.41
$R^2$	.177	.159
Adjusted $R^2$	.171	.138

<sup>a</sup>Reference category is White. <sup>b</sup>Reference category is women. <sup>c</sup> $p < .001$  for each sample.

<sup>†</sup> $p < .10$ . \* $p < .05$ . \*\* $p < .01$ .

Table 16

Unstandardized (Standardized) Regression Coefficients for Main Effects and Interactions in Reduced Model 5

Variables or interactions	Sample	Sample
	A	B
Intercept	14.29**	15.70**
Control variables		
Age	.34** (.32)	.34** (.32)
Income	-.03* (-.07)	-.03 (-.07)
Predictor variables		
Coresidence	2.33 (.10)	2.30 (.10)
Social support	1.39 (.21)	1.43 (.21)
Health	.81** (.31)	.72* (.28)
Gender and marital status		
Women <sup>b</sup>	6.48* (.25)	5.29 <sup>†</sup> (.25)

(table continues)

Table 16 (continued)

Variable or interaction	Sample	
	A	B
Formerly married <sup>c</sup>	.07 (.00)	-.32 (.01)
Two-way interactions		
Women x formerly married <sup>b, c</sup>	-1.51 (.07)	-.31 (.01)
Women x coresidence <sup>b</sup>	-.70 (.03)	4.63 (.17)
Women x social support <sup>b</sup>	-2.76* (.42)	-3.32* (.47)
Formerly married x coresidence <sup>c</sup>	2.59 (.11)	2.68 (.11)
Formerly married x social support <sup>c</sup>	-2.52* (.38)	-2.35 <sup>†</sup> (.32)
Three-way interactions		
Women x formerly married x coresidence <sup>b</sup>	-5.47 (.21)	-12.80* (.41)
Women x formerly married x social support	3.79** (.57)	4.06* (.51)

(table continues)

Table 16 (continued)

Variable or interaction	Sample	Sample
	A	B
$F^d$	14.33	4.70
$R^2$	.188	.198
Adjusted $R^2$	.175	.156

<sup>a</sup>Reference category is White. <sup>b</sup>Reference category is women. <sup>c</sup>Reference category is formerly married.

<sup>d</sup> $p < .001$  for each sample.

<sup>†</sup> $p < .10$ . \* $p < .05$ . \*\* $p < .01$ .

Although regression coefficients for main and interaction effects in Sample A were comparable to those for Sample B in both the full and reduced models, interaction effects were modeled below with results from Sample B rather than Sample A. Results from Sample B showed more clear differences between groups (i.e., gender and marital status) than did results from Sample A. Also, one three-way interaction in the full and reduced Model 5, and one two-way interaction in the reduced Model 4 were significant for Sample B but not for Sample A. For these reasons, the discussion and graphic representation of interactions below were based on results from Sample B.

#### Model 4: Two-Way Interactions

Hypotheses for the current study specified significant two-way interactions involving marital status and the predictor variables. The two social variables were expected to best predict well-being for the formerly married while the nonsocial variable was expected to

best predict well-being for the never-married. Because no two-way interaction involving marital status was significant, neither of these hypotheses was supported. Significant interactions in the full Model 4 included gender and two of the three predictor variables – coresidence and health, but not marital status or the predictor social support. These interactions increased the amount of explained variance in life satisfaction by 2% to 3% above that explained by Model 3.

#### Gender/Coresidence Interactions

In both the full and reduced Model 4, gender interacted with coresidence to a significant extent ( $p < .01$ ) in Sample A but at only the  $p < .10$  level in Sample B. The magnitude of effects was similar for both samples, however. The difference in significance levels between the samples is due largely to the difference in sample sizes. Figure 2 is a graphic representation of this gender/coresidence interaction.

Recall that the full Model 4 showed a main effect for coresidence predicting a difference in life satisfaction of about 6-points favoring unmarried older adults who live with others over those who live alone. Figure 2 shows how this effect is tempered by the interaction between gender and coresidence. For older, unmarried women, life satisfaction should be affected negatively by coresidence, while for men, life satisfaction should improve with coresidence. Women living alone should enjoy levels of life satisfaction that are about two points above average, while women living with others should enjoy levels about one point above average. The life satisfaction of older unmarried men living alone, however, should be almost two points below average, while that of men living with others should be about two points above average – slightly higher than that of women living alone.

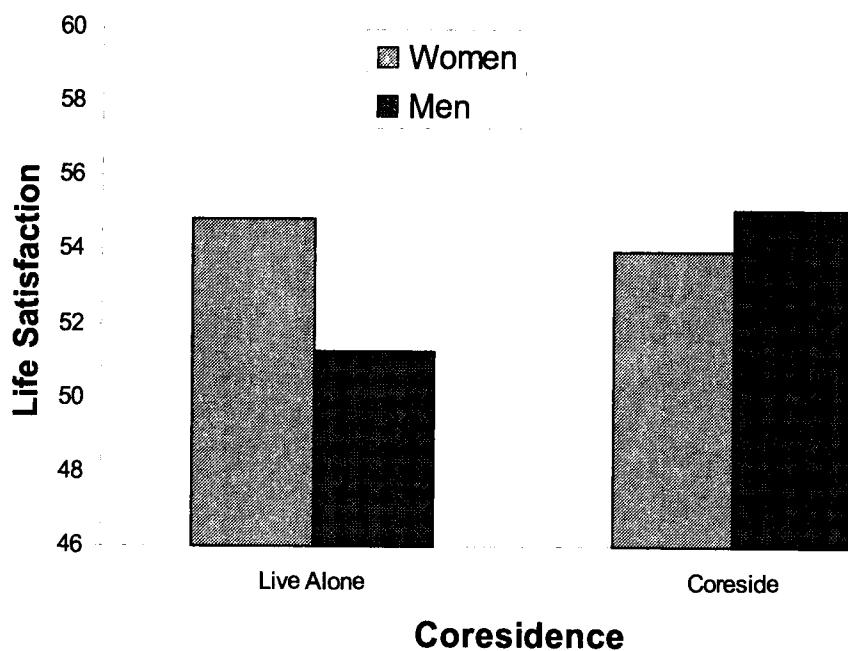


Figure 2. The influence of gender and coresidence on life satisfaction.

#### Gender/Health Interactions

In the full Model 4, there was a trend ( $p < .10$ ) for gender to interact with health in both samples. In the reduced Model 4, this trend was evident for Sample B only ( $p < .10$ ). In both the full and reduced models, the magnitude of the effects was similar for both samples, however, with a relatively small difference in regression coefficients. Figure 3 is a graphic representation of this interaction.

Recall that Model 4 showed a main effect for health such that better health predicted higher levels of well-being. Figure 3 shows how this effect is tempered by gender such that the positive effects of good health on well-being are more dramatic for women than for men. The life satisfaction levels of women and men in the poorest health were about





Figure 3. The influence of gender and health on life satisfaction.

seven points below average for women and about four points below average for men. Life satisfaction levels improved with higher levels of reported health for both women and men, although the improvement for women was much greater. Men reporting the best health (i.e., no functional limitations) had average life satisfaction levels, while women with the best health had life satisfaction levels about three points above average. For men, the difference in life satisfaction between those with the poorest health and those in the best health is about four points. For women, that difference is about 10 points.

#### Model 5: Three-Way Interactions

All possible three-way interactions were explored in Model 5. These were expected to confirm the third research hypothesis: The well-being of formerly married men should be

best predicted with the social variables while the well-being of all unmarried women and never-married men should be best predicted with the nonsocial variable. These hypotheses were confirmed in part. Two of the three possible gender/marital status/predictor interactions were significant: gender/marital status/coresidence and gender/marital status/social support. Together, these interactions had a small effect on the amount of explained variance in well-being for Sample A, increasing it by 3% above what was explained by Model 4 for Sample B.

#### Gender/Marital Status/Coresidence Interaction

In both the full and reduced models, this interaction was significant at  $p < .05$  for Sample B, but it was not significant for Sample A. This difference is assumed to be an artifact of large differences between the samples in the numbers of widowed women and their mean levels of coresidence. As shown in Tables 9 and 10, Sample A included 479 widows and a low mean coresidence score:  $M = .26$ ,  $SD = .44$ . In contrast, Sample B included only 47 widows with a relatively higher mean coresidence score:  $M = .38$ ,  $SD = .49$ . Thus, the differences in the significance levels of the interaction between the two samples may be attributed to the fact that Sample A is composed predominantly of widowed women with relatively low levels of coresidence.

Recall that, in Model 4, there was a main effect for coresidence and significant two-way interactions involving coresidence and gender (Figure 2). The three-way gender/marital status/coresidence effects in Model 5 superceded those main and two-way effects, for they were modified by the influence of marital status as shown in Figure 4.

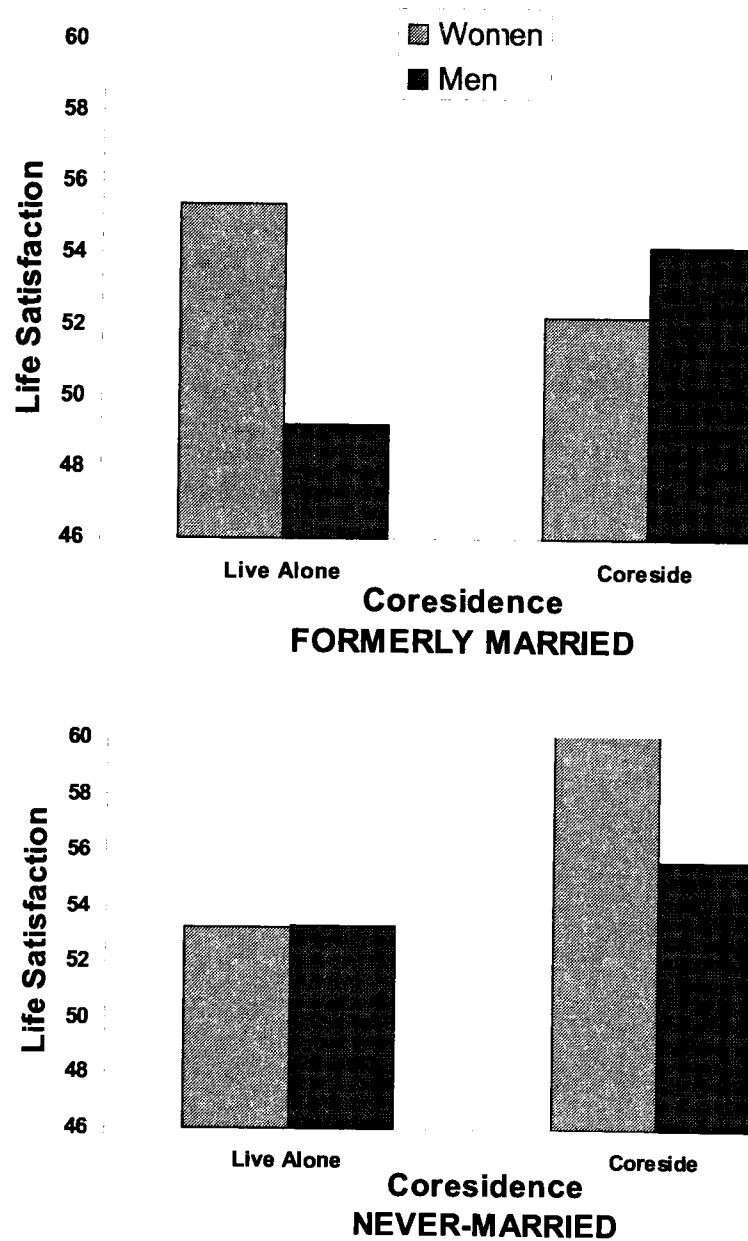


Figure 4. The influence of gender, marital status, and coresidence on life satisfaction.

The significant three-way effects in Model 5 modify the two-way effects in Model 4 only slightly for the formerly married, but they modify those effects dramatically for the never married.

In Model 5, as in Model 4, the well-being of the formerly married was higher for women who live alone than with others, but higher for men who live with others than who live alone. Formerly married women living alone enjoyed levels of life satisfaction about two points above average, while those living with others had life satisfaction levels almost one point below average. In contrast, formerly married men living alone had life satisfaction levels about four points below average, while those who live with others had levels of life satisfaction about one point above average. Both never-married men and women living alone had similar life satisfaction levels (slightly below average), while never-married women who live with others enjoyed greater well-being (about seven points above average) than never-married men living with others (about two to three points above average).

#### Gender/Marital Status/Social Support Interaction

For both the full and reduced models, this three-way interaction was significant for Sample A ( $p < .01$ ) and Sample B ( $p < .05$ ). Differences between Sample A and Sample B in the magnitude of this effect were relatively small, and the differences in significance levels between the two samples are assumed to be due to differences in sample sizes.

Note that regression coefficients for the main effect of social support in the full model – although not significant – were much larger in Model 5 than in any of the previous models. Model 5 also showed significant two-way interaction effects involving social support (i.e., gender/social support and marital status/social support) for both the full and

reduced models – two-way effects that did not appear in Model 4. These enhanced main effect and two-way interactions were not present until three-way gender/marital status/social support interactions were considered. That is, modeling these three-way interactions drew out the effects of social support not apparent in earlier models.

Figure 5 shows that the influence of social support on well-being was quite different depending on gender and marital status. For all unmarried women and formerly married men, higher levels of social support predicted lower levels of well-being. This effect was barely perceptible for formerly married women, but more dramatic for never-married women and formerly married men. Specifically, formerly married women with low levels of social support had life satisfaction levels about two points above average, while those who received higher levels of support had levels of life satisfaction slightly above average. Never-married women, in contrast, enjoyed high life satisfaction (levels about five or six points above average) when they had low levels of support, and they had low life satisfaction levels (about four points below average) when they had high levels of support. Formerly married men had average levels of life satisfaction when they used no social support, but levels about five points lower when they used high levels of support.

For never-married men, in contrast, well-being increased as levels of support increased. These men had somewhat lower than average levels of life satisfaction (about one point below average) when they used no social support, but when they used higher levels of support, their life satisfaction rose as high as six points above average.

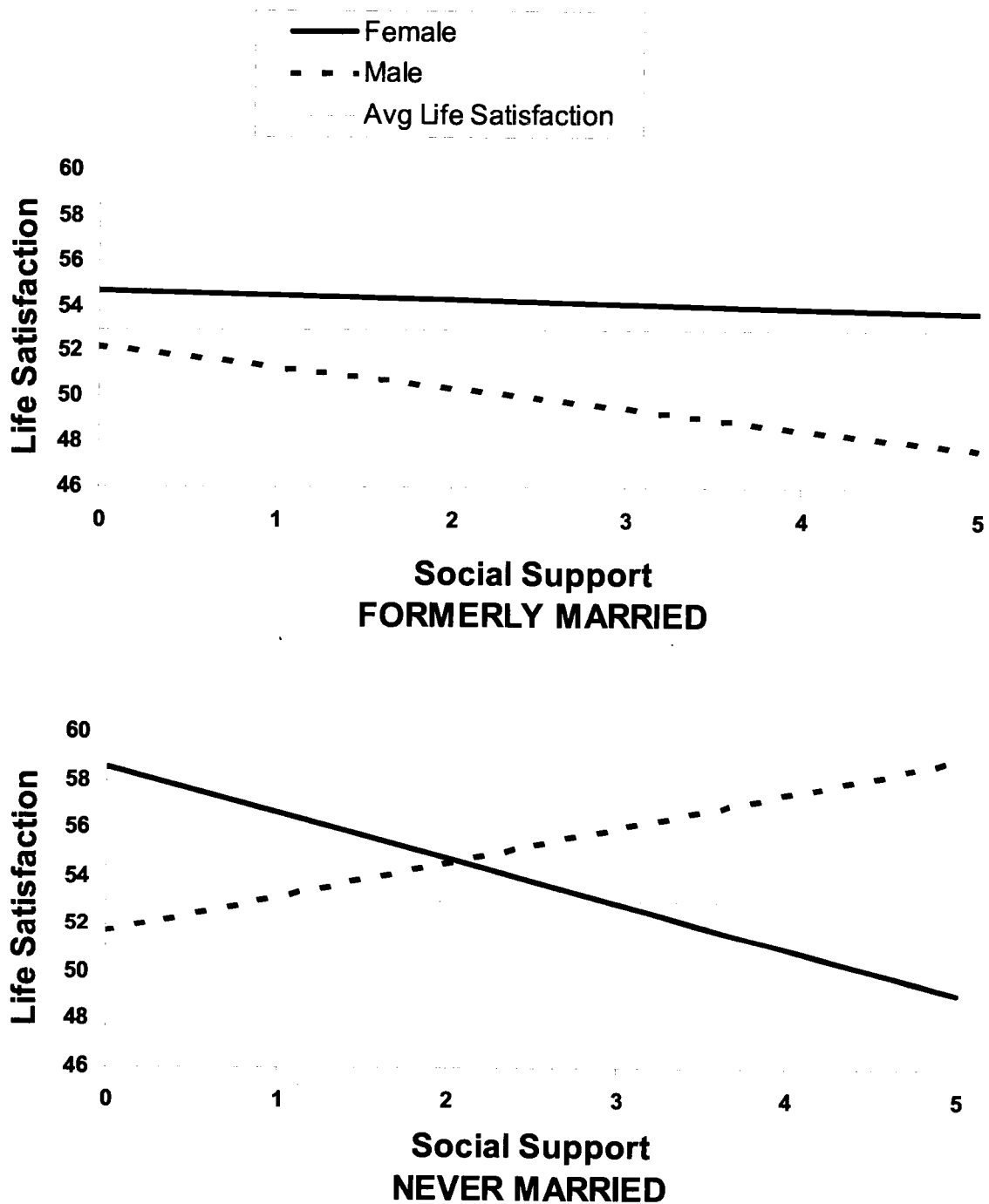


Figure 5. The influence of gender, marital status, and social support on life satisfaction.

## Discussion

Hypotheses for the current study proposed that the well-being of unmarried older adults should be predicted differently depending on gender and marital status. Atchley's (1989) continuity theory of aging supports the idea that continuity of external circumstances and self-concept – thus, well-being – may best be preserved in different ways for individuals depending on their gender, marital status, and gender/marital status interactions. For formerly married older adults in general, well-being should depend more strongly on the preservation of social resources, while, for the never married, well-being should depend more strongly on the preservation of nonsocial resources. These relationships between marital status, social and nonsocial resources, and well-being should be further tempered by gender. On one hand, social resources should be especially valuable to formerly married older men, who, due to the loss of a spouse, may be most likely to suffer the discontinuity of ties to such resources. On the other hand, never-married older men and all unmarried older women, whose social circumstances should be relatively more stable, should more highly value nonsocial resources that would help them preserve continuity of self-concept through autonomy and independence.

Four main findings emerged from the current analyses. First, marital status, in and of itself, had little influence on well-being for unmarried older adults. Marital status did not, as expected, interact directly with social and nonsocial predictors of well-being. The effect of marital status on well-being was evident only when gender and predictor variables were considered simultaneously. The results of these interactions were mixed and showed marital status to be an unreliable predictor of well-being among the

unmarried in later life. These results counter the implications of earlier studies that marital status may be directly associated with well-being.

Second, gender was related more directly to well-being than marital status was. Although there were no main or two-way interaction effects involving marital status, there were main effects for gender and two-way gender/social integration (i.e., coresidence) and gender/health interactions showing that older, unmarried women enjoy higher well-being than older, unmarried men. These findings support earlier research showing that men generally enjoy better well-being than do women among older married people, but, among unmarried people, women generally enjoy better well-being than men.

Third, as hypothesized, the nonsocial predictor, health, was especially important to older, unmarried women, while social predictors generally had negative effects on women's well-being. With the exception of never-married women, for whom coresidence had a strong positive effect, older, unmarried women did not benefit from coresidence and social support, but they did benefit – more so than older, unmarried men – from good health.

Fourth, for most older, unmarried men, all social and nonsocial predictors included in these analyses were important for well-being. With the exception of formerly-married men, for whom social support had a strong adverse effect on well-being, higher levels of coresidence, social support, and good health predicted greater well-being for older, unmarried men. This finding contrasted with the generally negative association between social predictors and the well-being of older, unmarried women.



## Discussion of Major Findings

### Marital Status and Well-Being

Past research highlighted what appeared to be a direct connection between marital status and well-being. Several researchers (e.g., Gove et al., 1990; Verbrugge, 1979; Veroff et al., 1981; Ward, 1979) associated marital status directly with well-being. Married older adults consistently have higher levels of well-being than the unmarried, and among unmarried older adults, the never-married consistently have higher levels of well-being than the formerly married. Results from the current analysis, however, warn against the temptation to associate marital status directly with well-being. They indicate in two ways that marital status does not act alone to affect well-being for unmarried older adults.

First, these results show a different hierarchical relationship between marital status and well-being than that commonly noted in past studies. Descriptive statistics for life satisfaction showed that average life satisfaction scores were highest for the widowed, followed by the never-married, and then by the divorced. Second, there were no significant main effects for marital status or two-way marital status/gender and marital status/predictor interactions in any of the five models examined. Marital status may, however, act with both gender and social predictors to affect well-being. Thus, marital status influences well-being for the unmarried in later life, but it does so via interactions with multiple other important variables. It is not the case, then, that the well-being of formerly married elders is best predicted by social variables and that of never-married elders by nonsocial variables.

Although some researchers (e.g., Gove et al., 1990; Verbrugge, 1979; Veroff et al., 1981; Ward, 1979) reported that marital status has direct effects on well-being, others (e.g., Acock & Hurlbert, 1993; Chappell & Badger, 1989; Lawton et al., 1984; Peters & Liefbroer, 1997; White, 1992) disagreed. The current analyses support the findings of the latter group. Furthermore, they uphold social-psychological perspectives regarding the association between variables such as marital status and well-being. Marital status is a "contextual factor" (Acock & Hurlbert, 1993, p. 310) that filters the effects of other variables in predictable ways to influence social-psychological states like well-being. In the current study, marital status proved to have no direct influence on well-being. Indeed, it was entirely ineffective as a predictor of well-being until it interacted with multiple other variables that, in turn, influenced well-being. It seems to be as Lawton et al. (1984) suggested: Marital status is a factor that defines limits for certain outcomes (such as well-being), but these outcomes are shaped by personal (i.e., gender, health), social (i.e., social support and coresidence), and environmental characteristics of individuals, not by factors like marital status alone.

### Gender and Well-Being

Gender appears to have direct effects on well-being for older, unmarried adults, and, as hypothesized, it appears to interact with social and nonsocial variables in predictable ways to influence their well-being. There were main effects for gender in both samples: The well-being of older, unmarried women was somewhat higher than that of older, unmarried men. Although these effects were small, the effect of gender was manifested also in significant interactions with social predictors. That is, when values for coresidence

and social support are at their lowest, women have higher life satisfaction than men. The opposite is true for health, in which case men (regardless of marital status) in the worst health have somewhat better well-being than women in the worst health.

These findings highlight the idea that gender is a crucial factor in the prediction of well-being for older unmarried adults. They support the views of other researchers (e.g., Keith, 1986b; Seccombe & Ishii-Kuntz, 1994) who argued that when older men and women are treated as an homogenous group, variability in outcomes of interest goes unexplained and distinct and important gender differences are concealed. These results showed that it is preferable to treat marital status and gender as separate factors that, when allowed to interact, have strong influences on important predictors of well-being in later life. This is shown best by results from three-way marital status/gender/predictor interactions described in detail below.

#### Marital Status, Gender, and Predictors of Well-Being

Health and the well-being of unmarried older women. Health was strongly correlated with well-being for unmarried older women in general, while, for the most part, social predictors were negatively correlated with well-being for this group. The one exception regarded never-married women, whose well-being was enhanced with higher levels of coresidence. For older, formerly married women, however, as levels of social support and coresidence rise, well-being falls. An inverse relationship between social support and well-being also holds true for never-married women. Although the social predictors were negatively correlated with well-being for unmarried women, the nonsocial variable, health, was strongly, positively related to well-being. Good health was positively

correlated with well-being for women and men alike, although the positive effects of good health on well-being were twice as strong for women than for men. Women in the worst health suffered lower levels of well-being than men in the worst health, and women in the best health enjoyed higher levels of well-being than men in the best health.

These results are in accordance with the third research hypotheses listed at the conclusion of Chapter 2, specifically, that the well-being of all unmarried older women would be best predicted with the nonsocial variable, health. It was expected that continuity of self-concept, thus well-being, would not be as strongly dependent on social variables as it would on nonsocial variables. Despite discontinuities associated with divorce or widowhood, unmarried women were expected to have relatively large social networks and maintain strong ties with multiple sources of social support (Antonucci & Akiyama, 1987; Connidis & Campbell, 1995; Keith, 1986a). The nonsocial variable, health, was expected to represent a class of predictors that would be more vitally important to the well-being of unmarried older women: predictors that support autonomy and independence. Results showing that the well-being of women, more so than men, is strongly correlated with health while it is generally negatively correlated with the social variables support this third research hypothesis.

Sources of support and living arrangements and the well-being of older, unmarried women. The effect of the particular social predictors studied here was generally, although mildly, detrimental to well-being for unmarried women. This may be understood by considering coresidence patterns of older, unmarried women and their typical sources of social support.

Formerly married women are the most likely of all groups of unmarried elderly adults to live with or receive support from children or other family members. In contrast, older, never-married women may be more likely than divorced or widowed women to live with other adults who are not relatives than with family (Keith, 1986a). Although immediate and extended family members provide major social connections for older adults in general (Shanas, 1979), family connections are not as positively correlated with well-being for older, unmarried women as are connections with friends and other adults who are not relatives (Adams, 1986; Lee & Ishii-Kuntz, 1988). Support from family may impose negative psychological consequences related to dependency, whereas support from friends is characterized by an equal exchange of assistance (Bankoff, 1983). This may explain why coresidence predicts higher levels of depression for unmarried elders living with children than for those living with other adults (Ross, 1995).

While formerly married women suffered somewhat from increasing levels of coresidence, never-married women appeared to benefit from coresidence. Because older, never-married women tend to be better off financially than are their formerly married peers (Keith, 1988; Spreitzer & Riley, 1974), living independently from family may be more financially feasible for them than for divorced or widowed women. Thus, the tendency for coresidence to enhance well-being for never-married women, as shown in the current analysis, may be attributed to a greater freedom to live with others outside their family. Conversely, the well-being of formerly married women was negatively correlated with social support and coresidence, and this may be because they are more likely than their never-married peers to live with their children or other family members.

Never-married women with the most support had levels of life satisfaction about 10 points (or one standard deviation) lower than those with the least support. Conversely, never-married men with the most support enjoyed levels of life satisfaction about 7 points higher than those with the least support. The negative correlation between social support and well-being for never-married women may be explained by factors other than sources of support. Currently, never-married women older than 55 are more likely than their formerly married peers to be well educated, employed, and financially stable (Spreitzer & Riley, 1974). Thus, in comparison to their peers, they may be relatively independent. Independence has proven to be especially important to the never-married (Gubrium, 1975; Keith, 1985; Ward, 1979), and perhaps it is more important to never-married women than to never-married men. The negative correlation between social support and well-being for never-married women may have less to do with discomfort in facing certain sources of social support (as it may for older, formerly married women) as it does with the loss of independence implied by needing support from any source. That is, of all older unmarried people, the loss of independence may be especially unsavory for never-married women.

The negative correlation between the social predictors and the well-being of older unmarried women is consistent with continuity theory (Atchley, 1989). Older, unmarried women in general should maintain well-established social ties despite the discontinuity associated with events like divorce and the death of a spouse (Connidis & Campbell, 1995; Keith, 1986a; Wright & Maxwell, 1991). In other words, no absence of social ties threatens their continuity of external circumstances and self-concept. Instead, their continuity of self-concept may be more strongly threatened by the loss of nonsocial

variables such as health or finances that allow them to remain independent. This may explain the findings that, while for the most part the social predictors were negatively correlated with their well-being, the positive effect of health on well-being was about twice as strong for unmarried older women than it was for unmarried older men.

Social and nonsocial predictors and the well-being of unmarried older men. It was hypothesized that social predictors would be more important to formerly married men while a nonsocial predictor would be more important to never-married men. Because there were no significant three-way interactions involving gender, marital status, and health, it is not possible to conclude that health is more important to never-married men than it is to formerly married men. All three predictor variables are important to older, unmarried men regardless of their marital status with one exception: As levels of social support rise, the well-being of formerly married men declines. Otherwise, as levels of any of the three predictors rise, the well-being of older, unmarried men increases.

That the well-being of unmarried older men is positively affected by better health is not surprising, for health is an important correlate of well-being for older adults (Verbrugge, 1979). That coresidence is positively related to well-being for these men also is not surprising. Living alone in middle age and beyond is problematic for men. Keith (1986b) noted that mortality rates are much higher for men who live alone than for those who live with others and that the best living situation for men outside of being married is to live in a family without being its head. As reflected in hypotheses for the current study, the external continuity (Atchley, 1989) of formerly married men should be especially challenged by the loss of a spouse to death or divorce. Of all older, unmarried people,

they should benefit from maintaining continuity of social environments after the loss of a spouse (Lawton et al., 1984), and coresidence may be an effective way of doing so. Coresidence may be associated with better well-being for never-married men for the same reasons it is for never-married women: When they coreside in later life, never-married men are more likely to live with friends than with family (Rubinstein, 1987), and, for older adults, coresidence with friends is more strongly associated with well-being than is coresidence with family (Bankoff, 1983; Ross, 1995). Rubinstein (1987) noted that, contrary to stereotypes of the never-married, older, never-married men are not necessarily socially isolated, and they often coreside and find social support in well-established friendship and extended kinship networks. Thus, never-married men, like never-married women, may be socially well integrated in that they do live with others and their levels of well-being are the better for it.

Social support and the well-being of formerly-married men. Social support is negatively correlated with well-being for formerly married men. Social support and well-being are negatively correlated for formerly married women as well, but not as strongly so. The well-being of formerly married men with high levels of support was well below the overall average well-being, while the well-being of formerly married women with high levels of support was above average.

This effect applies to all formerly married men, but it may be due largely to the influence of social support on well-being for divorced men, not for widowed men. Keith (1986a) noted that, of all older, unmarried men, the widowed were the least likely to be socially isolated and most likely to use support. In contrast, divorced older men were



relatively more isolated from friends and family than other unmarried men. The current results showed that levels of social support, as well as levels of well-being, were especially low for divorced men.

That social support should have adverse effects on well-being for formerly-married men may be explained partly by the tendency for divorced men to be more isolated from both family and friends (Keith, 1986a), to have the lowest average levels of emotional support of any group (Ross, 1995), and to display less family satisfaction than any other group of unmarried men or women (Ward, 1979). Support from sources established in the context of marriage (e.g., children and in-laws) may be less available for formerly married men, especially those who never remarried, than for divorced women, who are more likely to have maintained close ties with children and in-laws. This explanation is validated by Kahn and Antonucci's (1980) convoy model of social support. In their view, "the adequacy of social support is determined by properties of the convoy . . . [and] well-being . . . [is] determined by adequacy of social support, and by personal and situational properties" (p. 254). The formation of support convoys are life-long processes affected by changes in circumstances, and the process of forming one's convoy could conceivably be truncated by a situation like divorce. This condition is less likely for women than for men: Formerly married women are more likely than formerly married men to enjoy life-long continuity of kinship relations (Connidis & Campbell, 1995; Keith, 1986a; Wright & Maxwell, 1991). Because their wives were important links to social resources (Antonucci & Akiyama, 1987; Lawton et al., 1984), keeping ties to these resources may be challenging for formerly married men.

Although this effect was not predicted in the current hypotheses, it may be explained by continuity theory. It was expected that the well-being of formerly married men would depend on the preservation of social resources. This may be true for widowed men, for the strength of their relationships with sources of support may remain continuous following the death of their spouse. Because divorced men may suffer discontinuity in the strength of their social ties, however, higher levels of support may present increased stress. That is, support may be readily available and relatively accessible to widowed and never-married men from sources to which they maintain continuous connections. Because connections to the sources of support available for divorced men may have at some point been severed as a result of divorce, however, support may be less readily available and thus relatively less accessible.

#### Limitations

As is true for all research, this study has limitations. Relative to the sample, these limitations include the inability of the sample to represent accurately the population of interest, attrition between two waves of data collection, the small sample size of Sample B, and the potential for systematic bias regarding gay and lesbian respondents. Relative to methods, it was not possible to model the effect of length of time since the loss of a spouse to divorce or death. As is shown below, however, these limitations should have minimal impact on the results of this study.

## Sample

Representativeness. As others pointed out (Seccombe & Ishii-Kuntz, 1994), the NSFH – and thus this subsample – was unlikely to be completely representative of the current population of unmarried older adults in the United States. It did not include individuals who were institutionalized at Time 1, and it was unlikely to include individuals who were homeless or transitory during that time. The sample was somewhat more likely to include individuals with better education, who may thus have higher and perhaps more reliable incomes and better health care than do all members of the elderly population. This presented a pertinent consideration given that one of these qualities (income) was employed as a control variable in the current analysis, and the other quality (mental or physical health) was a main predictor (health) as well as the dependent variable (well-being) in this analysis.

Examining the distribution of income among the members of the current subsample however, it appears that those in lower income categories in the current samples were as representative of the larger elderly population as could be expected. In 1992, 39.7% of all households with householders over age 55 had annual incomes below \$10,000 (US Bureau of the Census, 1994). In the current subsample, the proportion of those with incomes below \$10,000 was greater than that of the general population: 43.6% of individuals in Sample A and 34.8% of those in Sample B had annual incomes below \$10,000 in 1992. Thus, the likelihood that the current subsample was not representative of the least well-educated, lower income portion of the elderly population – and thus of older adults who are likely in the poorest health – was smaller than might be expected.

Attrition. As discussed in Chapter 3, because there was a substantial rate of attrition in the NSFH between Waves 1 and 2 of data collection, it was questionable that the sample at Wave 2 could be considered a multistage area probability sample as it was at Wave 1. The analysis of that attrition presented in Chapter 3 proved, however, that differences between all eligible older, unmarried adults at Wave 1 and the Wave 2 sample in the current study were negligible.

Sample size. Another limitation had to do with the sample size for Sample B. As pointed out above, relatively large discrepancies in the sizes of the six subgroups (i.e., never-married men, never-married women, widowers, widows, divorced men, and divorced women) of unmarried adults 55 years old and older in the original NSFH sample may have made results from multiple regression analyses with these groups largely unusable. Therefore, it was necessary to construct six subgroups of equal size determined by the size of the smallest subgroup (never-married men,  $n = 47$ ). The limitations of using relatively small subgroups had to do with the power of the statistical analyses to distinguish significant effects of the predictor variables on differences in well-being between groups (Keppel, Saufley, & Tokunaga, 1992). This limitation was offset, in part, by performing the analyses on two samples (A and B). Results for Sample B, with the few exceptions noted in Chapter 4, were similar in terms of the magnitude of regression coefficients and of effects to those for the larger Sample A. Although sample size was somewhat problematic in these analyses, the strength of the study sample was that here are longitudinal data on a select group of people: Older adults, largely representative of

the target population, who have only ever married once, if at all, and who, if they were divorced or widowed, never remarried.

Systematic bias: gay and lesbian respondents. It is possible that older, never-married respondents to the NSFH may be gay or lesbian. Because the NSFH is a multistage area probability sample of the population of the United States, there are gay and lesbian respondents to the NSFH. Any such respondents in the NSFH who withheld their sexual orientation may have represented themselves as never married. These individuals may very well enjoy the benefits of long-term, intimate relationships that resemble marriage in important respects (i.e., presence of a partner, socioemotional support, economic well-being). Thus, their well-being may be more comparable to married than to heterosexual, never-married individuals. This relatively higher level of well-being might have introduced a systematic bias that could have positively influenced indicators of well-being for never-married older adults in the current study.

Unfortunately, when using NSFH data, there is no reliable way to control for the influence of sexual orientation. The survey does not contain specific measures for identifying sexual orientation. There is a variable that asked respondents about their relationships to the householder in their homes, but although one of the response categories for that variable was "same-sex lover/partner," it was not an accurate measure of sexual orientation. If, for example, a lesbian respondent living with her partner considered herself the householder in her home, she may have indicated that she is the householder, not that she is the same-sex lover or partner of the householder although her same-sex partner may have resided with her for decades. Thus, there was no reliable way

to control for the potential influence of sexual orientation on the well-being of older, never-married respondents to the NSFH.

#### Length of Time Since Divorce or Death of Spouse

It could be expected that, for divorced and widowed respondents in the current sample, the span of time between their loss of a marital relationship and the date of NSFH2 data collection may have had some influence on the predictors of well-being included in the current model. For example, it seems reasonable that, as more time passes after the death of a spouse, an individual's convoy of social support (Kahn & Antonucci, 1980) may grow as new friendships are added. If, as hypothesized, increased levels of social support predict greater well-being (especially for formerly married older adults), those who were divorced or widowed for longer periods of time may enjoy more extensive social support networks than those who were divorced or widowed for shorter periods of time. It seemed reasonable, therefore, to include length of time since divorce or death of a spouse as a control variable in the current analysis.

Including this variable, however, was problematic in terms of assigning data values to never-married respondents. To give these cases any value at all (even a value of 0) would have introduced a systematic bias to the estimation of regression coefficients. An alternative solution would have been to omit this specific control variable from estimations involving never-married respondents and analyze the never-married separately from the formerly married, but this solution might also have biased final results. The practical solution to this problem was to exclude this control variable from the analyses.

More than five years had passed between NSFH2 data collection and their divorce or the death of their spouse for about 98% of all formerly married respondents in the current sample. This was almost guaranteed through the intentional exclusion of cases who might possibly have been married at Wave 1 but divorced or widowed by Wave 2, since four to five years passed between the two waves of data collection. It has been shown that the negative effect of partner loss on well-being is strongest directly following the loss, and that the effect diminishes over time. For example, Ross (1995) found that, controlling for social and economic support, people who were widowed for more than five years did not have significantly higher depression levels than did married persons, while more recent widows tended to be more depressed. Additionally, Essex and Nam (1987) found that older women became less lonely as the length of time since their divorce or the death of a spouse became greater. Mastekaasa (1994, p. 685) concurred: He noted that the effect of partner loss on subjective well-being, although strong during the period of time directly following the loss, seems to be "entirely temporary".

A very small minority of formerly married respondents in the current sample ( $n = 26$ , 2.3%) were divorced or widowed fewer than five years as of NSFH2. It seemed reasonable, therefore, to assume that any influence of that span of time on predictor variables or the dependent variable of interest in the current study would be minimal. To explore this assumption, all control variables, predictor variables, and the dependent variable in the current study were correlated with the date formerly married respondents in both samples were divorced or widowed. A variable in NSFH1 recorded the date of divorce or death of a spouse in century months. A century month is the number of months elapsed between the turn of the 20<sup>th</sup> century (January, 1900) and the specific month of a

later event. Thus, for example, if a woman were divorced in June, 1979, the century month corresponding with the date of her divorce would be  $[(1979 - 1900) \times 12] + 6 = 954$ . Relatively higher values for this variable represent relatively briefer spans of time between date of divorce or widowhood and the date of NSFH2 data collection. Data for this variable were available for more than 98% of all formerly married respondents in Samples A and B.

Table 17 presents the correlations between this variable and others of interest in the study. It indicates that the length of time between data collection for NSFH2 and the dates of formerly married respondents' divorces or the onset of widowhood was not strongly correlated with any of the study variables. It was, however, moderately correlated with age for divorced women and men, and with health for divorced men. The correlations between age and length of time since divorce and widowhood indicate that marriages ended earlier for the divorced, and that women were widowed later than men. There is no reason to believe, however, that this relationship would affect any of the variables in the current analysis. Given that divorced men reported the best health of all gender/marital status groups in Samples A and B (see Tables 10 and 11), the moderate correlation between health and length of time since divorce may not be as substantial as it appears. Because unpredictable biases might have resulted from any attempt to accommodate a measure of the length of time since divorce or death of a spouse as a control variable in the planned analyses, it seems justifiable to have left it out of the analyses all together.



Table 17

Correlations (r) Between Study Variables and Length of Time Since Divorce or Death of Spouse

Variable	Divorced		Widowed	
	Men ( <u>n</u> = 58)	Women ( <u>n</u> = 124)	Men ( <u>n</u> = 73)	Women ( <u>n</u> = 479)
Age	-.57**	-.50**	.12	-.17**
Race <sup>a</sup>	-.09	-.13	-.27*	-.10*
Income	.21	.13	.16	.09
Coresidence	.20	-.11	-.01	-.08
Social support	.06	-.03	-.12	.07
Health	.43**	.10	-.07	.07
Life satisfaction	-.16	-.15	-.04	.03

\* $p < .05$ , two-tailed. \*\* $p < .01$ , two-tailed.

Summary of Limitations

The above limitations were mostly consequences of what might be considered shortcomings of the NSFH. In defense of this data set, however, the NSFH is one of the most – if not the most – comprehensive and well-conducted national surveys ever administered to a large national probability sample of American households (personal communication, A. C. Acock, April, 1997).

Of the problems regarding the sample, only the first was a fault of the NSFH; the second was a reasonable consequence of the limited numbers of a select subgroup of respondents: never-married older men. That the sample for the NSFH did not represent

individuals who were homeless, transitory, or in institutions at Time 1 is a problem that would be faced when using data from any large national probability sample. Problems of attrition should certainly be expected with a national probability sample with two waves of data collection four years apart. Of the shortcomings regarding the failure of the data set to include a variable identifying gays and lesbians, the NSFH could have included an item asking respondents to specify their sexual orientation.

Whatever the reasons behind these sampling and measurement problems, the NSFH does an otherwise acceptable job of providing valid and reliable data regarding a select subsample of individuals. The information provided by the NSFH was likely the very best available for the purposes of the current study.

#### Summary of Study and Findings

The purpose of this research was to enhance our understanding of the subjective well-being of unmarried people in later life, and, specifically, to investigate how marital status and gender may interact with certain social and nonsocial covariates of well-being in old age. It was expected that these covariates would have stabilizing influences on self-concept and thus on well-being for the unmarried in later life, but that these influences would be differentially effective for different people depending on their marital status and gender.

Results confirmed this latter idea: The well-being of the unmarried in later life cannot be definitely attributed to a specific marital status or marital status/gender combination alone, but it can be seen as a consequence of interactions involving marital status, gender, and specific covariates. Statistical models of these interactions explained sizeable

proportions – as much as 21% – of variance in well-being of this group of adults. These interactions, however, were complex, mixed, and rarely as hypothesized. For example, it was expected that, for formerly married men, continuity of self-concept, thus well-being, would be best preserved via social variables such as coresidence and social support for formerly married men. Results showed that although coresidence correlates with well-being for this group of men, social support does not. Similarly, it was hypothesized that the well-being of all unmarried women would be better served by a nonsocial variable, health, than by social variables. Although this hypothesis was partially supported, coresidence proved to be important to well-being for never-married women. Thus, well-being for unmarried older adults may best be explained by complex interactions among gender, marital status, and covariates such as those examined here, but results of those interactions are mixed and unpredictable given the theoretical basis for the current hypotheses.

Results did, however, speak to two issues raised by past research in this area. First, they showed clearly that marital status does not directly predict well-being, thus confirming social psychological perspectives that regard marital status as a context variable that helps shape the influence of other predictors of well-being. Second, they supported past research that shows the well-being of unmarried older women to be generally better than that of unmarried older men.

Multiple implications for further research proceed from this study. One effect not well explained by the theoretical basis or empirical literature for this study is the differential effect of social support on the well-being of never-married women and men. As levels of social support increase, the well-being of never-married men rises, but the

well-being of never-married women falls. This effect is not mild, but relatively strong. The explanation posited for this effect for never-married women is that their independence and autonomy is compromised by any need for support. Why would the same not be true for never-married men? That social support should so have so different an effect on never-married women than on never-married men poses a question unanswered by this study, one that, if studied further, may reveal important gender differences in this unique subgroup of unmarried older adults.

Future research could use different variables to operationalize the social versus nonsocial dichotomy represented here by social support (measured here as use of specific sources of social support during the previous month) and coresidence versus health (i.e., self-assessed functional limitations). For example, it could be argued that social support might be assessed better as perceived availability of support, in which case it may correlate positively with well-being for both divorced men and never-married women.

That unmarried older women enjoy better well-being than unmarried older men suggests a special, perhaps urgent need to understand predictors of well-being better for unmarried men. Specifically, because this study did not differentiate predictors of well-being for formerly married men from those for never-married men, further research into the unique needs of these two groups is warranted.

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APPENDICES

Appendix A

Codebook of Items from the National Survey of Families and Households Used in the Current Research

Variable label	Variable name	Interview number, questionnaire type, and data set	Column numbers
Case number	mcaseid	Interview 1, Main, d1all.002	0001-0005
Age of respondent	ma8	Interview 2, Main, drmain.004	0017-0019
Race of respondent	m484	Interview 1, Main, d1all.002	2606-2607
Respondent's income from all sources, Wave 2	muintor	Interview 2, Constructed, drconst.003	1061-1066
Gender of respondent	m2dp01	Interview 1, Main, d1all.002	0025
Marital status of respondent	m2cp01	Interview 1, Main, d1all.002	0024
Number of times married.	m95	Interview 1, Main, d1all.002	0904-0905

(table continues)

Appendix A (continued)

Variable label	Variable name	Interview number, questionnaire type, and data set	Column numbers
Changes in marital status since NSFH1 (M2CP01). Since NSFH1, has respondent married?	mi39	Interview 2, Main, drmain.004	2038
Date (in calendar months) that respondent's marriage ended due to divorce or death of spouse.	marend	Interview 1, Main, d1all.002	7360-7361
Is respondent the householder?	ma9	Interview 2, Main, drmain.004	0020
How many additional persons live in household with respondent? (Includes everyone staying in household half the time or more and people temporarily in hospital or institution. Does not include sons or daughters away to college in armed forces or temporarily home on vacation.)	mb1num	Interview 2, Main, drmain.004	0021-0022

(table continues)

Appendix A (continued)

Variable label	Variable name	Interview number, questionnaire type, and data set	Column numbers
During the past month, have you received help from friends, neighbors, co-workers with transportation?	mt188bb1	Interview 2, SE, drse.001	0696
During the past month, have you received help from parents or children with transportation?	mt188bb2	Interview 2, SE, drse.001	0697
During the past month, have you received help from brothers/sisters with transportation?	mt188bb3	Interview 2, SE, drse.001	0698
During the past month, have you received help from other relatives with transportation?	mt188bb4	Interview 2, SE, drse.001	0699
During the past month, have you received help from friends, neighbors, co-workers with housework, yardwork, car repairs, and other work around the house?	mt188cc1	Interview 2, SE, drse.001	0701
During the past month, have you received help from parents or children with housework, yardwork, car repairs, and other work around the house?	mt188cc2	Interview 2, SE, drse.001	0702

(table continues)

Appendix A (continued)

Variable label	Variable name	Interview number, questionnaire type, and data set	Column numbers
During the past month, have you received help from brothers/sisters with housework, yardwork, car repairs, and other work around the house?	mt188cc3	Interview 2, SE, drse.001	0703
During the past month, have you received help from other relatives with housework, yardwork, car repairs, and other work around the house?	mt188cc4	Interview 2, SE, drse.001	0704
During the past month, have you received help from friends, neighbors, co-workers with advice, encouragement, moral, or emotional support?	mt188dd1	Interview 2, SE, drse.001	0706
During the past month, have you received help from parents or children with advice, encouragement, moral, or emotional support?	mt188dd2	Interview 2, SE, drse.001	0707
During the past month, have you received help from brothers/sisters with advice, encouragement, moral, or emotional support?	mt188dd3	Interview 2, SE, drse.001	0708
During the past month, have you received help from other relatives with advice, encouragement, moral, or emotional support?	mt188dd4	Interview 2, SE, drse.001	0709

(table continues)



Appendix A (continued)

Variable label	Variable name	Interview number, questionnaire type, and data set	Column numbers
How much do physical or mental conditions limit your ability to care for personal needs, such as bathing, dressing, eating, or going to the bathroom	mt205a	Interview 2, SE, drse.001	0111
How much do physical or mental conditions limit your ability to move about inside the house?	mt205b	Interview 2, SE, drse.001	0112
How much do physical or mental conditions limit your ability to do day-to-day tasks?	mt205c	Interview 2, SE, drse.001	0113
How much do physical or mental conditions limit your ability to climb a flight of stairs?	mt205d	Interview 2, SE, drse.001	0114
How much do physical or mental conditions limit your ability to walk six blocks?	mt205e	Interview 2, SE, drse.001	0115
How much do physical or mental conditions limit your ability to do heavy work like shoveling snow or heavy housecleaning?	mt205f	Interview 2, SE, drse.001	0116

(table continues)

Appendix A (continued)

Variable label	Variable name	Interview number, questionnaire type, and data set	Column numbers
How much do physical or mental conditions limit your ability to work for pay, such as the amount or type of work you do?	mt205g	Interview 2, SE, drse.001	0117
Overall, how satisfied are you with your home?	mt202a	Interview 2, SE, drse.001	0098
Overall, how satisfied are you with your neighborhood?	mt202b	Interview 2, SE, drse.001	0099
Overall, how satisfied are you with your city or town?	mt202c	Interview 2, SE, drse.001	0100
Overall, how satisfied are you with your financial situation?	mt202d	Interview 2, SE, drse.001	0101
Overall, how satisfied are you with the amount of leisure time that you have?	mt202e	Interview 2, SE, drse.001	0102
Overall, how satisfied are you with your health?	mt202f	Interview 2, SE, drse.001	0103
Overall, how satisfied are you with your physical appearance?	mt202g	Interview 2, SE, drse.001	0104
Overall, how satisfied are you with your friendships?	mt202h	Interview 2, SE, drse.001	0105
Overall, how satisfied are you with your sex life?	mt202i	Interview 2, SE, drse.001	0106
Overall, how satisfied are you with your family life?	mt202j	Interview 2, SE, drse.001	0107

## Appendix B

Percentages of Respondents Reporting Use of Specific Social Support Resources

Sample, gender, and marital status	Help with transportation			
	Friends, neighbors, or coworkers	Parent or children	Siblings	Other relatives
Sample A				
Women				
Divorced (n = 134)	12	24	5	6
Widowed (n = 479)	15	27	3	7
Never-married (n = 84)	30	6	7	5
Men				
Divorced (n = 66)	20	5	2	0
Widowed (n = 74)	14	16	1	1
Never-married (n = 47)	17	4	15	4

(table continues)

## Appendix B (continued)

Sample, gender, and marital status	Help with transportation			
	Friends, neighbors, or coworkers	Parent or children	Siblings	Other relatives
Sample B				
Women				
Divorced ( <u>n</u> = 134)	11	30	4	4
Widowed ( <u>n</u> = 479)	19	34	9	9
Never-married ( <u>n</u> = 84)	30	9	9	6
Men				
Divorced ( <u>n</u> = 66)	17	2	2	0
Widowed ( <u>n</u> = 74)	15	19	2	2
Never-married ( <u>n</u> = 47)	17	4	15	4

(table continues)

## Appendix B (continued)

Sample, gender, and marital status	Help with housework, yardwork, and so on			
	Friends, neighbors, or coworkers	Parent or children	Siblings	Other relatives
Sample A				
Women				
Divorced ( <u>n</u> = 134)	12	29	0	4
Widowed ( <u>n</u> = 479)	8	28	1	5
Never-married ( <u>n</u> = 84)	11	8	7	7
Men				
Divorced ( <u>n</u> = 66)	11	3	3	0
Widowed ( <u>n</u> = 74)	9	19	0	0
Never-married ( <u>n</u> = 47)	26	4	13	2

(table continues)

## Appendix B (continued)

Sample, gender, and marital status	Help with housework, yardwork, and so on			
	Friends, neighbors, or coworkers	Parent or children	Siblings	Other relatives
Sample B				
Women				
Divorced ( <u>n</u> = 134)	19	34	0	2
Widowed ( <u>n</u> = 479)	2	40	2	6
Never-married ( <u>n</u> = 84)	15	11	11	6
Men				
Divorced ( <u>n</u> = 66)	11	2	2	0
Widowed ( <u>n</u> = 74)	9	19	0	0
Never-married ( <u>n</u> = 47)	26	4	13	2

(table continues)

## Appendix B (continued)

Sample, gender, and marital status	Advice, encouragement, emotional support			
	Friends, neighbors, or coworkers	Parent or children	Siblings	Other relatives
Sample A				
Women				
Divorced ( $n = 134$ )	25	54	19	13
Widowed ( $n = 479$ )	19	39	11	10
Never-married ( $n = 84$ )	38	10	17	15
Men				
Divorced ( $n = 66$ )	33	21	6	8
Widowed ( $n = 74$ )	19	30	1	3
Never-married ( $n = 47$ )	23	4	19	4

(table continues)

## Appendix B (continued)

Sample, gender, and marital status	Advice, encouragement, emotional support			
	Friends, neighbors, or coworkers	Parent or children	Siblings	Other relatives
Sample B				
Women				
Divorced ( <u>n</u> = 134)	23	38	17	17
Widowed ( <u>n</u> = 479)	13	47	17	13
Never-married ( <u>n</u> = 84)	43	9	15	15
Men				
Divorced ( <u>n</u> = 66)	28	21	4	4
Widowed ( <u>n</u> = 74)	21	34	2	2
Never-married ( <u>n</u> = 47)	23	4	19	4