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Relationship of Psychosocial and Background Variables to Older Adults' End-of-Life Decisions

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Aims were to determine acceptability of a full range of end-of-life decision options and identify related variables; 388 Black and White older adults ages 60–100 responded to 17 decision situations depicting terminal and nonterminal conditions with a very low quality of life, rating the acceptability of 7 end-of-life options per decision situation, and completed demographic, health, and psychosocial measures. Despite low quality of life, maintaining life (striving to live and seeking treatment) was the most acceptable option, but a significant minority of participants wished to end life (suicide, assisted suicide, or euthanasia) and a moderate number wished to defer the decision to others. In hierarchical regressions, psychosocial variables (religiosity, values, fear of death, etc.) contributed significantly ($p < .05$) to decisions beyond the effects of demographic and health variables.

In recent years, growing numbers of older people have become concerned with the right to exert some control over the way in which their lives end should they suffer from a terminal illness or nonterminal chronic condition that results in a very low quality of life, that is, a life characterized by pain, immobility, extreme dependency, and the like. At the very least, they wish to avoid prolonging life through onerous and ultimately futile medical treatment, and at the other extreme some wish to use active means to bring life to an end. This concern is becoming translated into action in various ways. Advanced directives for health care have now been legalized in all 50 states (Choice in Dying, 1993), so that individuals can formalize their wishes about refusing or withdrawing certain life-extending medical treatments under various circumstances, should they become decisionally incapacitated. Attitudes toward the presently illegal options of assisted suicide and voluntary active euthanasia (whereby a suffering individual asks someone else to end his or her life) have become more favorable (Leinbach, 1993). Suicide itself has become more frequent among older persons than among any other age group, and the rate continues to rise (Aiken, 1991; "Suicide Rate Among Elderly," 1996).

As the number of older people in the population continues to increase along with their life expectancy, more and more older adults will face difficult terminal illnesses or chronic conditions accompanied by an onerously low quality of life to be endured before eventual death. More of them may wish to make difficult end-of-life decisions about whether to refuse or withdraw life-extending treatments, to seek assisted suicide, to ask for voluntary active euthanasia, to commit suicide, to defer such decisions to others, or even to strive to continue living. Yet we know little about the extent to which each of these end-of-life decision options is regarded as acceptable by older people or how demographic, health, or psychosocial factors might be related to their views.

The basic objectives of the present study were (a) to compare the relative acceptability to older persons of various end-of-life decision options and (b) to determine the relationship of antecedent demographic, health, and psychosocial characteristics to the acceptability of each decision option. It is important to learn more about how older people today view various decision options, because any decisions they make or actions they take in regard to a terminal illness or a nonterminal condition with a low quality of life will affect not only them, but also their families and the larger society.

The empirical literature on older adults' views about end-of-life decision options is limited in size and scope, with one set of studies concerned with the morality and legalization of assisted suicide and voluntary active euthanasia and another set of studies concerned with treatment choices specified in advance directives for medical care. (Still other studies have investigated the extent to which older people have completed advance directives and the extent to which physicians and health care personnel respect such directives. However, these topics are not relevant to the present study.)

More specifically, the first group of studies has been concerned with determining whether people feel that assisted suicide and euthanasia are morally right and whether they should be legalized for people suffering from an incurable disease. Several studies (e.g., Leinbach, 1993; Ward, 1980) used large-sample survey data collected by the National Opinion Research Center. For example, Ward (1980) reported that 62% of the sample aged 18–85 approved of ending the life of an incurably ill patient, but only 49% of those over age 70 approved. However, these studies focused on only two end-of-life decision options, assisted suicide and euthanasia, with no consideration of other options. Beyond this, no distinction was made between passive and active euthanasia (which may have different moral implications) or between incurable diseases that result in a low quality of life and those that do not. Further, the studies measured approval of assisted suicide and euthanasia regarding people in

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general; there was no effort to determine whether respondents would desire either of these acts for themselves if they suffered from an incurable disease. This is an important distinction, as one recent study (Seale & Addington-Hall, 1994) indicated that only 4% of people who died from cancer and other lingering illnesses had asked for euthanasia, a small number in comparison with the general level of approval. In other words, an individual's general moral approval of an act may be quite different from the desire to carry out the act in his or her own life.

The second group of existing studies has investigated whether individuals presented with various decision scenarios would prefer to accept various life-extending treatments (e.g., cardiopulmonary resuscitation, tube feeding, and dialysis) or to refuse or withdraw the treatments with the prospect of an earlier death (e.g., Cassel & Zweibel, 1987; Cohen-Mansfield, Droge, & Billig, 1992; Lee & Ganzini, 1992; Zweibel & Cassel, 1989). In general, the more aggressive the treatment, the smaller the number of patients who desire it, except when it would result in greater comfort or safety. The aim of such decisions is to allow life to come to an end as comfortably as possible as a natural result of disease processes, rather than to prolong life artificially when there is no possibility of a cure. Whether life ends quickly or more slowly under circumstances where a treatment intervention is refused or withdrawn is not the issue; the intent is not suicide but to avoid futile prolongation of life by extraordinary means.

Only a few of the studies of either type (e.g., Cohen-Mansfield et al., 1992; Lee & Ganzini, 1992; Leinbach, 1993) attempted to relate selected demographic and psychosocial characteristics to individuals' end-of-life decisions, and the results were inconsistent. In regard to psychosocial variables, Lee and Ganzini (1992) found depression and lowered life satisfaction to be related to the withholding of life-sustaining treatments, whereas Cohen-Mansfield et al. (1992) did not. Cohen-Mansfield et al. found previous experience with end-of-life treatment decisions to be related to treatment preferences, but Zweibel and Cassel (1989) found no such relationship. Also, Cohen-Mansfield et al. found no relationship between religiosity and treatment preferences, but they did find that value for quality of life was related to treatment preferences.

In regard to demographic variables, ethnicity and socioeconomic status (i.e., education and occupation) seem to be related to several end-of-life decision options, with Whites and persons with more education more likely to approve of assisted suicide and euthanasia (Leinbach, 1993; Ward, 1980), to use advance directives (High, 1993), and to refuse various life-sustaining treatments (Cohen-Mansfield et al., 1992). Also, High (1993) found that less educated persons were more likely to place their trust in close family members to make end-of-life decisions. The effects of age, gender, and marital status in the various studies were inconsistent. Finally, we still do not know how favorably people feel toward other end-of-life decision options or whether their views regarding such options are related to demographic and psychosocial factors in any consistent manner.

At the present time, no existing theories can explain adequately why an older adult confronted with a terminal illness or nonterminal chronic condition resulting in a low quality of life would choose a given end-of-life decision option. Some theories of suicide exist, but they are generally vague and untested and do not apply to other decision options. For example, Miller (1979) hypothesized that each person has an idiosyncratically determined "line of unbearability"; when the quality of life drops below this line, the quantity of life becomes unimportant and the individual is likely to choose suicide. The concept of rational suicide (Battin, 1982) considers suicide to be a rational decision in which the positive and negative aspects of conditions of living are evaluated to reach a reasoned choice. The sociological theory of egoistic suicide (DeSpelder & Strickland, 1996) regards suicide as occurring when an individual is isolated and alienated from cultural traditions. Finally, a psychological theory of the suicide process (DeSpelder & Strickland, 1996) holds that suicide is the outcome of a crisis period in which mental anguish or turmoil is high, ambivalence is low, a lethal method has been selected, and there is little opportunity for intervention by others. The crisis period itself is the result of the occurrence of a critical life event and such predisposing psychosocial factors as low self-esteem and feelings of hopelessness, failure, depression, and the like. Although the various theories suggest factors that may be related to a person's suicide act, they do not deal with explaining decisions relative to other end-of-life options.

The following set of assumptions is advanced to provide a theoretical framework to guide the present study: (a) All individuals have a biological urge to survive under appropriate conditions; (b) despite the urge to survive, individuals have the capacity for self-destruction under conditions that impose bodily or environmental constrictions and are unacceptable or inconsistent with an appropriate life (e.g., the extreme dependency and suffering of certain terminal illnesses or intractable chronic conditions); (c) in end-of-life decision making as in everyday decision making, the selection of a particular decision option is related to the psychosocial characteristics of the individual as well as to deliberation regarding the options and their consequences (Zey, 1992); (d) certain sociodemographic factors help to provide the context in which related experiences foster the development of particular psychosocial characteristics; and (e) when quality of life is low, certain psychosocial characteristics will facilitate the selection of some decision options and inhibit the selection of others.

On the basis of the preceding theoretical discussion and existing findings in the literature, the following psychosocial characteristics were selected for the study: locus of control, values for quality of life, fear of death, subjective religiosity, subjective well-being (life satisfaction, self-esteem, depression, and loneliness), life events stress, and perceived social support. Similarly, demographic background factors were selected that had been found to be important in previous studies or are hypothesized to be antecedent to the preceding psychosocial factors (ethnicity, gender, age, marital status, and socioeconomic status). Measures of perceived health were also selected as important background characteristics.

Some tentative hypotheses can be suggested. For example, when the quality of life is low, high levels of psychosocial characteristics such as subjective religiosity and fear of death might lead to a decision to continue living. Self-destructive behavior would be inhibited because it would violate religious norms concerning the sanctity of life and also would be inhibited by a strong fear of death. Conversely, low levels of subjective religiosity and fear of death might lead to a decision to hasten death in some way. Similarly, when the quality of life is low (perhaps combined with institutional regulations and restrictions), strong values for a high quality of life might lead to a decision to end life. On the other hand, a high external locus of control may lead to deferring any end-of-life decisions to another person, inasmuch as those individuals with high externality would tend to feel controlled by powerful others.

In summary, neither existing theories nor existing studies have dealt with an individual's views concerning a full range of end-of-life decision options under conditions such as the low quality of life that characterizes certain terminal illnesses and intractable chronic conditions. The present study was an attempt to fill this gap in the present knowledge and to determine which of certain psychosocial and demographic variables are the most important predictors of older people's views regarding the various decision options.

Method

Sample

The sample of study participants was obtained from two sites, a medium-sized midwestern city (Greater Lafayette, Indiana, with approximately 100,000 residents) and a large urban area (Indianapolis, Indiana, with a population of approximately 1,250,000). Persons selected as study participants were at least 60 years of age; lived in private homes or apartments in the community; and were alert, oriented, and of sufficient cognitive ability to respond to the interview questionnaire (as judged by the interviewer or the center director).

People were sampled through seniors' organizations. A representation of such organizations at each site was secured first, and then people were interviewed within organizations. Data were collected at 20 different organizations, 16 in Indianapolis and 4 in Lafayette, selected to represent different geographic areas of the two cities and thus to represent a wide range of socioeconomic status levels. The Indianapolis organizations included 12 senior programs in community centers and 4 multidenominational church-operated centers; 11 of the 16 centers served both Black and White seniors. The Lafayette organizations included 1 community-operated senior center serving the entire city, 1 interdenominational church-operated center, and 2 small programs serving retirement housing complexes.

In each case, the investigator visited the center during a regularly scheduled group meeting, explained the study, and asked for participants. All who consented to be interviewed were scheduled to be interviewed at the center at a convenient time. (Participation rates ranged from 40% to 85%.)

To provide a basis for comparison of the sample with the general population of older adults, the demographic characteristics of study participants were compared with census data regarding the characteristics of White and Black older adults in the two cities (Schick & Schick, 1994; U.S. Bureau of the Census, 1993). These are presented in Table 1. As can be seen from the table, the three sample groups contained somewhat higher percentages of women than is found in the overall population of older people at the two sites. This is not surprising, given the greater propensity of women to participate in studies (Fowler, 1993) and in group activities. However, the percentages in the two age groups and the percentages for high school graduates for the sample groups were quite similar to those reported in census data. The percentage of married older adults with a living spouse was slightly lower than the census figures for the White samples at the two sites but was slightly higher than the census data for the Black sample at Indianapolis. Finally, the percentage of older persons living in households in the community was 100% for all three sample groups, whereas the census data range from 91.6% to 93.8%; this is indicative of the fact that the sample did not include people living in nursing homes or group homes. It should also be noted that the sample excluded frail older persons who were not well enough or active enough to come to a senior center. Overall, other than the somewhat higher percentage of women in the sample, the characteristics of the sample did not differ greatly from those of the general population of older adults at the sites studied.

Of the people who consented to participate in the study, 447 were interviewed. (Another 13 began the interview but were unable to finish it.) The sample used for the analysis consisted of 388 older people for whom all data were complete, ranging in age from 60 to 100. There were 285 women and 103 men, 265 Whites and 123 Blacks, and 293 from Indianapolis and 95 from Lafayette. All Blacks in the sample were from Indianapolis.

Measures

Several categories of measures were included in the interview questionnaire: end-of-life decision preferences, demographic background, health, and psychosocial variables.

End-of-life decisions. In order to obtain study participants' views regarding various end-of-life decision options, 17 decision situations were constructed. Some were adapted from scenarios found in the literature on advance directives (e.g., Cohen-Mansfield et al., 1992), several were based on situations reported in the media in relation to assisted suicide cases, and others were created for this study. The salient characteristics of each decision situation are summarized in Table 2. Seven

Table 1
Comparison of Selected Demographic Characteristics of the Study Sample With Census Data

			Indianapolis			
	Lafayette		White		Black	
Characteristic	Sample	Census	Sample	Census	Sample	Census
Female	85.4	59.5	70.5	58.5	70.1	59.7
Age 60–75	51.5	56.6	56.8	58.7	66.9	59.2
Age over 75	48.5	43.9	43.2	41.3	33.1	40.8
Graduated from high school	54.4	51.1	50.6	49.3	35.4	28.3
Married	33.0	40.1	32.1	41.2	29.2	27.9
Living in household	100.0	91.6	100.0	93.8	100.0	93.6

Note. Values are percentages.

Table 2
Summary of Salient Characteristics of 17 End-of-Life Decision Situations

Salient characteristics
1. Person with diabetes who has had both legs amputated as a result of gangrene, is alone and getting weaker, and is finding wheelchair mobility difficult. Prognosis: Gangrene is likely to recur and prove fatal.
2. Widow with terminal bone cancer for whom chemotherapy has been unsuccessful; side effects are difficult, and her condition is worsening, with only partial relief of pain.
3. Widower who has regained consciousness after a stroke and coma, requires a ventilator, and is immobile and unable to feed himself. Prognosis: Condition is unlikely to improve.
4. Person who has had several recent heart attacks and needed cardiopulmonary resuscitation each time and is very weak and bedridden. Prognosis: No chance for cure; further heart attacks are likely, with eventual death.
5. Person with incurable disease who is not experiencing any pain now. Prognosis: Six months to live; later stages of disease will involve suffering.
6. Heavy smoker with serious emphysema for whom each breath is difficult and eating is exhausting. Condition is worsening. Prognosis: Only a few months to live.
7. Person with large, incurable brain tumor. Prognosis: Six months to 1 year to live. The ability to speak will soon be lost, followed by loss of mental functioning and coma.
8. Person with advanced multiple sclerosis who is bedridden, completely dependent, and distressed over condition. Prognosis: It is only a matter of time until death.
9. Person with incurable disease who is unable to get relief from unbearable pain.
10. Person with total immobility of arms and legs after a stroke or an accident. Prognosis: No chance to regain mobility.
11. Person with incurable illness who is totally dependent on others for feeding, bathing, toileting, and so on.
12. Person with incurable illness. Prognosis: Serious mental illness (insanity) will soon set in; there is no hope of recovery.
13. Person with early stages of Alzheimer's disease. Prognosis: Loss of mental abilities in a few years.
14. Seriously ill person who is being kept alive by machines and tube feeding. Prognosis: No hope for recovery.
15. Seriously ill person who has been terribly disfigured by treatment and feels rejected by others.
16. Seriously ill person who feels useless and believes that life no longer has purpose.
17. Seriously ill person who is anxious, upset, depressed, and in great despair and feels unable to cope.

situations depicted an older person with a terminal physical health condition and a prognosis of a limited period of time left to live. Another 5 situations depicted a continuing physical health condition but provided no prognosis regarding the terminal outcome. The remaining 5 situations depicted mental health conditions and indicated a prognosis of loss of rational thinking abilities without specifying any terminal outcome. A sample decision situation is as follows:

> Mrs. Lee is an elderly widow who has terminal bone cancer. She has had chemotherapy to try to cure the cancer but it has not helped her, and the side-effects from the chemotherapy itself have been difficult to deal with. She is slowly getting worse, and the pain is unbearable. Drugs for pain help some, but leave her in a stupor.

For each decision situation, respondents were asked, "If you were in this condition, how would you feel about doing *each* of the following?" Seven end-of-life decision options were then presented: to strive to maintain life, to refuse medical treatment or request its withdrawal, to allow someone close to decide what is best in the situation, to commit suicide, to ask the doctor (or someone else) for assistance in committing suicide, to ask the doctor (or someone else) to end one's life, and to allow the doctor (or someone else) to decide to terminate life. Participants were asked to indicate for each of the seven decision options whether they would or would not decide to do it. They used a 5-point Likert-type scale from *would not do* (1) to *would do* (5) to indicate their decision.

Demographic background. Several demographic variables were assessed: site (Lafayette or Indianapolis), ethnicity (1 = White; 2 = Black), gender (1 = male; 2 = female), chronological age in years, marital status (1 = married; 2 = widowed, divorced, or unmarried), educational level, and occupational level (using occupation before retirement). Educational level and occupational level were coded using the 7-point Hollingshead (1957) scales, with 7 representing the highest level of each.

Health. Two indicators of health were included. First, a single-item self-rating of health was administered, with ratings made on a 6-point scale from *very poor* (1) to *excellent* (6).

Second, the Instrumental Activities of Daily Living scale (IADL; Lawton, 1972) was used to gain an indication of the participant's functional dependency. The IADL assesses the degree of help needed in each of eight daily living areas. Items are responded to on a 4-point scale; total scores can range from 8 to 32, with a high score indicating greater dependency.

Psychosocial variables. A number of psychosocial variables were assessed in an effort to determine their relationship to end-of-life decisions.

1. Religiosity. Subjective aspects of religiosity were assessed with three items drawn from the work of Markides (1983) and Krause (1993) that elicited the importance of religion, God, and private prayer in the respondent's life. The score was the sum of the item scores and could range from 3 to 16, with a higher score indicating greater subjective religiosity. Internal consistency reliability (coefficient alpha) for the participants in this study was .79.

2. Death anxiety. The measure selected to assess death anxiety was Neimeyer and Moore's (1994) adaptation of Hoelter's Multidimensional Fear of Death Scale (MFODS). The instrument consists of forty-two 5-point items yielding eight subscales. The subscales include Fear of the Dying Process (including fear of experiencing a painful or violent death), Fear of the Dead (including avoidance of human or animal bodies), Fear of Being Destroyed (including fear of cremation or dissection of the body for autopsy or organ transplants), Fear for Significant Others (apprehension about the impact of one's death on others), Fear of the Unknown (including fear of nonexistence and lack of knowledge about the afterlife), Fear of Conscious Death (including concerns about falsely being declared dead), Fear for the Body after Death (including concern about decay and isolation of the body), and Fear of Premature Death (concern about being unable to accomplish desired goals or experiences). Appropriate items were summed to yield subscores, with a high score indicating greater fear of death in each case. Neimeyer and Moore reported internal consistency reliabilities ranging from .65 to .81 and 3-week test–retest reliabilities ranging from .61 to .81. In addition, they reported factor analytic evidence for the subscales as well as evidence for construct validity. Internal consistency reliabilities for the participants in the present study ranged from .60 to .81, adequate for studies involving group comparisons.

3. Values. The Quality of Life Values Inventory (Cohen-Mansfield et al., 1992) was used to assess respondents' degree of agreement with values related to the quality of life. All study participants responded to the original 5 items used by Cohen-Mansfield et al., using a 5-point Likert scale to indicate the degree of their agreement with each item. (In an effort to provide more psychometric information about these

items, as well as provide a basis for future work in this area, an additional 7 items were constructed and administered to 150 study participants. Factor analysis of the 12 items revealed two factors. The first factor consisted of 4 items relating to the importance of quality of life, including the first 3 items on Cohen-Mansfield et al.'s inventory. The second factor consisted of 5 items related to the importance of preserving life. Three items had low loadings on both factors.) On the basis of the preliminary analysis, a Quality of Life Values score constructed from the first 3 Cohen-Mansfield et al. items was used for the study. These items were "I'd rather not live than be a burden on someone," "Having a good quality of life is more important than just keeping alive," and "Other people have the right to live their own lives; they took care of me long enough." The values score was the sum of the item scores; it could range from 3 to 15, with a high score indicating more value placed on quality of life. Internal consistency reliability was .67 for the participants in this study. Evidence for the validity of the instrument included Cohen-Mansfield et al.'s findings that Quality of Life Values scores were related to preferences about various end-of-life treatments, experience with end-of-life events, and the importance of relationships. Additional data collected in preliminary work for the present study provided further support for the validity of the values measure. As predicted, the Quality of Life Values score was found to correlate significantly ($p < .05$) with the number of additional years the older person desired to live ($r = -.28$), experience with the protracted and difficult dying process of a loved one ($r = .22$), completion of a living will ($r = .18$), and the Internality subscale of Levenson's (1981) Multidimensional Locus of Control Scale ($r = .20$). In addition, the values score of participants who belonged to fundamentalist Protestant churches was found to differ significantly from that of participants who were affiliated with traditional Protestant churches.

4. Locus of control. Levenson's (1981) Multidimensional Locus of Control Scale was used to assess respondents' locus of control beliefs. The measure consists of 24 items, each with a 7-point response scale indicating degree of agreement. Subscores for Internality, Powerful Others, and Chance, obtained by summing the appropriate 8 items, indicated belief in internal control of events, control by powerful others, and control by chance. Scores on each subscale could range from 8 to 56, with a high score indicating belief that the locus of control was of the given type. Levenson reported internal consistency reliabilities for the three subscales ranging from .64 to .73 and 7-week test–retest reliabilities ranging from .66 to .73, as well as evidence for the scales' validity. Internal consistency reliability for the participants of this study ranged from .69 to .75.

5. Self-esteem. The measure of self-esteem used was the Rosenberg (1965) Self-Esteem Scale. The scale consists of 10 items, each with a 4-point response scale; the total score is the sum of the item scores, with a high score indicating greater self-esteem. Estimates of internal consistency reliability for the instrument range from .77 to .88, with test–retest reliability ranging from .82 to .85. Internal consistency reliability for the participants of this study was .78. Considerable evidence for the convergent and discriminant validity of the scale exists (Robinson, Shaver, & Wrightsman, 1991).

6. Depression. The Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977), a 20-item, self-report measure of depressive symptomatology, was used to measure depression, in part because it was designed for use in survey research rather than as a clinical evaluation measure. Frequency of occurrence of each symptom is reported on a 4-point response scale ranging from *rarely or never* (1) to *most or all of the time* (4). The total score is the sum of the item scores, with higher scores indicating greater frequency of depressive symptomatology. Internal consistency reliabilities of .90 and higher have been reported, with test–retest reliabilities of .67 over 1 week and .32 over 12 months. Radloff (1977) reported evidence for validity. Internal consistency reliability for the participants of this study was .83.

7. Life satisfaction. Life satisfaction, as an indicator of subjective well-being, was assessed with the Life Satisfaction Index Z (LSIZ; Wood, Wylie, & Sheafor, 1969), a 13-item modification of Neugarten's Life Satisfaction Index A. Respondents are asked to agree or disagree with each statement, using a 3-point response scale. The total score is the sum of the item scores, with a high score indicating greater life satisfaction. Reliabilities from .77 to .83 have been reported; internal consistency reliability for the participants of this study was .73.

8. Loneliness. The UCLA Loneliness Scale (Russell & Cutrona, 1988) is an indicator of the individual's emotional response to a perceived discrepancy between desired and actual levels of social contact. The scale consists of 20 items in which the respondent is asked to indicate the frequency of feelings of loneliness on a 4-point scale ranging from *never* (1) to *always* (4). The total score is the sum of the item scores, with a higher score indicating greater loneliness. Russell and Cutrona (1988) reported an internal consistency reliability of .89 for an older adult sample and a 1-year test–retest reliability of .73, as well as evidence for the instrument's validity. The stability of the measure suggests that loneliness may be more like a trait than a transient state. Internal consistency reliability for the participants of this study was .89.

9. Life event stress. To assess the cumulative stress of critical life events, an adaptation of the Horowitz and Wilner (1980) Life Events Questionnaire was used. For each of 21 major life events pertinent to older persons (death or illness of family members or friends, divorce, misunderstandings, legal or financial difficulties, and so on), respondents were asked whether they had experienced the event in the past 2 years. The score was the number of events experienced. Horowitz and Wilner presented evidence for the validity of the measure.

10. Perceived social support. One indicator of social support is the number and closeness of people perceived by an individual to be in his or her support network. To assess this, the "circles" technique from Antonucci and Akiyama's (1987) Social Networks in Adult Life Survey was used. Respondents were asked to identify persons who were "close and important" to them at each of three levels of closeness depicted by concentric circles, with the inner circle including the persons who were closest. Scores consist of the number of persons named at each level (inner, middle, and outer), as well as a total number. Antonucci and Akiyama's evidence for validity includes the expected correlations with indicators of psychological health and a correlation between respondents' and their significant others' reports of social support.

Procedure

Interview questionnaires were administered to study participants in a separate activity room at the senior center they attended. Most of the participants completed the questionnaire independently in a small-group setting (3–10 persons), with two interviewers present to answer any questions or clarify misunderstandings. Depending on the number of people who wished to participate at a given site, several occasions for administering the interview questionnaire were arranged so that individuals could participate at a time convenient for them. On average, the interview questionnaire took about an hour and a half to complete.

Eighteen participants who had visual impairments or arthritis that made writing difficult were interviewed individually; in addition, 50 participants without impairments were interviewed individually to provide a comparison of the two methods of administration.

Results

Four types of findings are presented: descriptive findings, preliminary analyses of the data, correlations, and regression analysis.

Descriptive Findings

Characteristics of study participants. The demographic and health characteristics of the study participants are summarized in Table 3.

Views regarding end-of-life decision options. For descriptive purposes, the views of study participants favoring a given decision option for a given decision situation are expressed as the percentage of participants endorsing the option (i.e., responding *might do* or *would do*). The average percentage of older adults who endorsed a given option for all decision situations was obtained by taking the mean of the percentages obtained for the 17 decision situations. For the total group, 51% (range = 30–71%) wanted to try to continue living (Option 1), 36% (range = 30–46%) wanted to let someone close decide what was best (Option 2), 49% (range = 34–63%) found refusing or withdrawing treatment to be acceptable (Option 3), 7% (range = 5–11%) endorsed taking their own life (Option 4), 12% (range = 8–17%) wanted to ask someone else to help them take their own life (Option 5), 12% (range = 8–17%) wanted to ask someone else to end their life for them (Option 6), and 20% (range = 15–25%) found it acceptable to let their physician or someone else make a decision about ending their life (Option 7).

The percentages for the seven options totaled more than 100%, indicating that respondents tended to find more than one option acceptable. For example, those who endorsed taking their own life also tended to endorse assisted suicide and voluntary euthanasia; those who wanted to let someone else decide what is best also tended to find it acceptable to let someone else make a decision about ending their life. Factor analysis in the quantitative data analyses clarified such dependencies. Some respondents used sequential strategies in responding, such as, "I would want to try to live as long as possible, but when things really got bad I would commit suicide," to justify seemingly contradictory responses.

Preliminary Analyses

Comparison of individual and small-group administration. To determine whether the responses of the older adults who were interviewed individually differed from the responses of those who completed the interview questionnaire in a group setting, two groups matched on ethnicity, gender, education, and age group were compared on all study variables. It was possible to find approximate matches for the 50 unimpaired participants interviewed individually. Multivariate *t* tests revealed no significant differences at the .05 level in responses to the measures of the end-of-life decision options or to the measures of psychosocial variables. Consequently, the data from the two groups were combined for analysis.

Site differences. Because the Lafayette sample consisted only of Whites, whereas the Indianapolis sample consisted of both Blacks and Whites, preliminary analyses were carried out to determine whether the White samples at the two sites differed in their responses. Again, multivariate *t* tests were carried out comparing the two sites on the two sets of study variables. There were no significant differences, and the samples from the two sites were combined for analysis.

Table 3
Summary of Demographic and Health Characteristics of the 388 Study Participants

Variable	Frequency	%	*M*	*SD*
Study site				
Lafayette	95	24.5		
Indianapolis	293	75.5		
Ethnicity				
White	265	68.3		
Black	123	31.7		
Gender				
Male	103	26.5		
Female	285	73.5		
Age			72.66	7.73
60–69	139	35.8		
70–79	175	45.1		
80–89	66	17.0		
90–100	8	2.1		
Marital status				
Married	134	34.5		
Widowed	170	43.8		
Divorced	61	15.7		
Separated	6	1.5		
Never married	17	4.4		
Living arrangement				
Own home or apartment	324	83.5		
Home of child or family member	15	3.9		
Retirement village or apartment	43	11.1		
Other	6	1.5		
Education level			4.42	1.45
0–6 years of school	7	1.8		
7–9 years of school	29	7.5		
Some high school	68	17.5		
Graduated from high school	92	23.7		
Some college or vocational training	118	30.4		
Graduated from college	30	7.7		
Postgraduate study	44	11.3		
Occupational level			3.72	1.56
Unskilled manual	34	8.8		
Semiskilled manual	77	19.8		
Skilled manual	40	10.3		
Clerical, salesclerk, technical	106	27.3		
Lower administrative, sales, etc.	85	21.9		
Intermediate administrative, etc.	36	9.3		
Major professional, administrative	10	2.6		
Employment				
Working full-time	13	3.4		
Working part-time	44	11.3		
Retired	313	80.7		
Disabled, other	18	4.6		
Health rating			4.34	0.90
Very poor	0	0.0		
Poor	6	1.5		
Not so good	54	13.9		
Good	170	43.8		
Very good	116	29.9		
Excellent	42	10.8		
Functional dependency			9.15	2.35
No impairment of activities of daily living	261	67.3		
Some degree of impairment	127	32.7		

Factor analysis of end-of-life decision variables. Responses to the seven end-of-life decision options were gathered for the 17 decision situations, yielding 119 item response variables. It was important to reduce these variables in some way to carry out a meaningful analysis. As a preliminary step, an examination of the response patterns for the item responses indicated that most participants selected the first (*would not do*) or fifth (*would do*) scale response and that the second through fourth scale responses were selected by relatively few participants. Therefore, the response categories were collapsed to form a dichotomous variable, with 1 indicating that the respondent might or would find the option acceptable and 0 indicating that the respondent would not or was not likely to find the option acceptable or was not sure.

Next, two sets of factor analyses of responses to the 17 decision situations were carried out to explore whether these scores could be combined in some way. First, a separate principal-components analysis of scores on the 17 decision situations was carried out for each of the end-of-life decision options (seven analyses in all). Results of the seven analyses were closely similar, with only a single factor identified in each analysis; all 17 decision situations had factor loadings of .35 or greater on the unitary factor. (Further analyses using principal-components factor analysis supported this finding.) It was concluded, therefore, that a single score could be constructed for each decision option by summing the responses over the 17 decision situations. This conclusion was supported by the findings of Cohen-Mansfield et al. (1992), who also observed patterning of participants' responses across decision situations. Thus, although the percentage of respondents who endorsed a given response option varied from situation to situation, it did not appear that these response variations were linked to specific subsets of decision situations.

The second set of factor analyses was carried out to determine whether responses to the seven decision options could be combined in some way. A separate principal-components factor analysis (using varimax rotation) of the decision options was carried out for each of the 17 decision situations (17 analyses in all). Results of the factor analysis were closely similar for the 17 situations, identifying three factors with eigenvalues greater than 1 in each case. In addition, the factor loadings of the seven decision options had a similar pattern for each decision situation. Table 4 presents the factor loadings for a typical analysis. The first factor, Endlife, included the decision options of suicide, assisted suicide, and voluntary euthanasia. The second factor, Others, included the two items in which the end-of-life decision was deferred to a significant other or to the physician. The third factor, Maintain, included the decision options of trying to live as long as possible and refusing or withdrawing treatment; note that these two options loaded in opposite directions on the factor. It can be seen that the identification of factors was very clear-cut. Accordingly, factor scores were constructed by summing responses for the appropriate decision options in each case. For the option of refusal or withdrawal of treatment, the item was given reverse scoring (in effect, wishing to continue treatment) before being combined to form the Maintain factor score.

On the basis of the two sets of factor analysis, each respondent's scores for the three decision factors (Maintain, Endlife, and Others) was calculated for each decision situation and then summed over the 17 situations. The resulting Maintain and Others scores could range from 0 to 34, and the Endlife score could range from 0 to 51. Mean scores for these variables were 15.43 for Maintain (SD = 9.66), 9.32 for Others (SD = 4.71), and 5.17 for Endlife (SD = 11.45). (The Maintain score correlated −.35 with Endlife and −.16 with Others; Endlife correlated .23 with Others.) These three scores were used in the correlational analyses.

Table 4
Factor Loadings of Seven End-of-Life Decision Options

	Factor		
Decision option	Endlife	Others	Maintain
Take own life	**.879**	.002	.144
Perform assisted suicide	**.897**	.059	.170
Ask others to end life	**.893**	.147	.134
Let someone else decide	−.086	**.876**	.068
Let doctor decide when	.260	**.798**	.089
Try to live long	−.202	.001	**−.776**
Stop/refuse treatments	.096	.068	**.860**
Eigenvalue	2.87	1.23	1.03
% of variance explained	41	18	15

Note. Factor loadings of .50 or above are indicated in boldface type.

Relationship of Decisions to Psychosocial and Background Variables

Correlations. Prior to correlation analyses, score distributions of the study variables were examined. Because the distribution of Endlife scores was skewed, a log transformation was used to reduce skewness effects. Similarly, log transformations were used to reduce skewness in the life events and social support scores.

Pearson product–moment correlations were computed between demographic, health, and psychosocial variables and the three end-of-life decision factors (Maintain, Endlife, and Others). These correlations are shown in Table 5. Of 72 correlations computed, 23 were significant at the .01 level ($r > .12$) and another 6 were significant at the .05 level. Because a large set of correlations was computed, the hypothesis that observed correlations in the set differed from 0 only as a result of chance was tested using the omnibus null procedure (Cohen & Cohen, 1983, pp. 57–59). The chi-square statistic was sufficiently large to reject this hypothesis at the .001 level.

Of the demographic variables, ethnicity was related positively to Maintain and negatively to Endlife (with Blacks scoring higher on Maintain and Whites scoring higher on Endlife). Gender was related negatively to Endlife, with men scoring higher than women. Age was negatively related to Maintain and positively to Others, with older participants scoring lower on Maintain and higher on Others. Marital status was negatively related to Endlife, with married persons scoring higher. Socioeconomic status was related positively to Endlife and negatively to Maintain and Others.

In correlations involving the health variables, neither self-rated health nor IADL dependency was significantly related to the decision variables. This may be attributed to the limited

Table 5
Correlations of Demographic, Health, and Psychosocial Variables With Three End-of-Life Decision Factors (N = 388)

Variable	*M*	*SD*	Maintain	Endlife	Others
Demographic					
Ethnicity	1.32	0.46	.40**	−.17**	−.11*
Gender	1.73	0.44	−.07	−.12**	.09
Age	72.53	7.75	−.12**	−.03	.13**
Marital status	1.65	0.48	.01	−.11*	−.04
Socioeconomic status	8.13	2.80	−.13**	.20**	−.14**
Health					
Self-rated health	4.35	0.90	.05	−.01	−.06
Functional dependency	9.13	2.37	.09	.02	.09
Psychosocial					
Subjective religiosity	14.14	2.34	.19**	−.34**	−.08
Quality of life values	11.84	3.07	−.41**	.19**	.15**
Fear of death					
Fear of the dying process	18.02	6.47	−.28**	.14**	.11*
Fear of destruction of the body	13.08	4.47	.10*	−.25**	.07
Fear for significant others	19.49	4.84	−.20**	.09	.03
Fear of the unknown	10.35	4.54	−.06	.26**	.10*
Locus of control					
Internal	41.23	8.79	−.07	.02	−.02
Chance	29.11	9.55	−.04	.06	.20**
Powerful others	26.66	9.73	−.05	.06	.22**
Well-being					
Self-esteem	32.36	4.70	.15**	−.09	−.16**
Depression	31.15	7.61	−.10*	−.03	.03
Life satisfaction	32.73	4.78	−.02	.01	.03
Loneliness	38.53	9.10	−.01	.14**	.04
Critical life events	0.59	0.31	.07	.07	−.03
Social support					
Inner	0.78	0.40	−.01	−.01	.03
Middle	0.64	0.35	−.13**	.05	−.06
Outer	0.72	0.43	.05	.01	.07

Note. $^{*}p < .05$. $^{**}p < .01$.

range of the health variables, in that most respondents were in relatively good health.

In correlations involving psychosocial variables, higher subjective religiosity was related to lower Endlife scores and higher Maintain scores. It can be seen from Table 3 that all four of the variables measured by the selected Fear of Death subscales were related to the decision factors. In particular, fear of the dying process was related negatively to Maintain and positively to Endlife and Others, fear of being destroyed was related positively to Maintain and negatively to Others, fear for significant others was related negatively to Maintain, and fear of the unknown was related positively to Endlife and Others. Quality of life values was negatively related to Maintain but positively related to Endlife and Others. Of the three locus of control variables, the two indicators of externality (chance and powerful others) were positively related to Others. Higher self-esteem was related to higher Maintain scores and lower Others scores. There was a weak relationship between depression and Maintain, such that participants with less depressive symptomatology had higher Maintain scores. Life satisfaction was not related to the decision variables, whereas loneliness had a positive relationship to Endlife. The life events variable was not related to the decision factors. Finally, perceived social support was positively related to Maintain scores, but only for the middle support level.

Overall, the study variables with the strongest relationship to the end-of-life decision factor Maintain were ethnicity, fear of the dying process, and quality of life values. The variables most strongly related to Endlife were socioeconomic status, subjective religiosity, fear of destruction of the body, and fear of the unknown. The variables most strongly related to Others were the chance and powerful others locus of control variables and self-esteem.

Regression analysis. Before regression analysis was carried out, intercorrelations of the demographic, health, and psychosocial variables were examined to ensure that problems of multicollinearity were not present. Most relationships between variables were as expected. However, the correlations of ethnicity with socioeconomic status ($r = -.25$) and religiosity ($r = .19$), although significant, were not large, an interesting finding in view of the importance of the relationship of these three variables to the dependent variables of the study.

Two sets of predictor variables were entered in a hierarchical regression analysis in order to determine first the separate effect of the demographic and health background variables and then the added effect of the psychosocial variables when combined with the demographic and health background variables. In Step 1 of the analysis, a set of demographic and health variables was entered into the equation; in Step 2, the psychosocial variables were added. The analyses for each of the three end-of-life decision factors are shown in Table 6.

In the analysis for Maintain, the strongest predictors in Step 1 were ethnicity, health, and IADL. The multiple correlation was .44, explaining 20% of the variance in Maintain. In Step 2, quality of life values, fear of the dying process, fear of destruction of the body, self-esteem, and depression were the strongest predictors among the psychosocial variables; the multiple correlation was .60, explaining 35% of the variance in Maintain. (All variables were entered equally in Step 2, with the change in the squared multiple correlation due to the added variables tested for significance.) Here, the psychosocial variables accounted for an additional 15% of the variance in Maintain ($p < .01$) once the health and demographic variables were accounted for.

A reduced model was examined and is also summarized in Table 6. Variables that did not have significant beta coefficients or had beta coefficients smaller than .10 were deleted, and the regression recomputed to eliminate variables making negligible contributions to the model. In the reduced model, the multiple correlation for Step 1 was .44, explaining 19% of the variance.

Table 6

Summary of Hierarchical Regression of End-of-Life Decision Factors on Demographic, Health, and Psychosocial Variables, With Beta Weights for the Full and Reduced Models ($N = 388$)

	Maintain		Endlife		Others	
Variable	Full	Reduced	Full	Reduced	Full	Reduced
			Step 1			
Ethnicity	.41*	.43*	−.16*	—	−.14*	—
Gender	−.02	—	−.09	—	−.09	—
Socioeconomic status	−.06	—	.16*	.20*	−.18*	−.14*
Marital status	.03	—	−.06	—	−.04	—
Age	−.03	—	−.04	—	.11*	.13*
Health	.15*	.13*	−.07	—	−.02	—
Functional dependency	.14*	.14*	−.02	—	.04	—
R	.44*	.44*	.28*	.20*	.26*	.19*
R^2	.20	.19	.08	.04	.07	.04
			Step 2			
Ethnicity	.26*	.31*	−.05	—	−.07	—
Gender	.02	—	−.04	—	−.09	—
Socioeconomic status	−.05	—	.14*	.15*	−.13*	−.13*
Marital status	−.01	—	−.08	—	−.01	—
Age	−.03	—	−.05	—	.10*	.10*
Health	.10*	.11*	−.06	—	−.02	—
Functional dependency	.10*	.11*	.00	—	.04	—
Quality of life values	−.30*	−.31*	.11*	.12*	.14*	.14*
Religiosity	.10	—	−.19*	−.21*	.14	—
Fear of death						
Fear of the dying process	−.16*	—	.02	—	.07	—
Fear of destruction of the body	.11*	.12*	−.24*	−.20*	.05	—
Fear of the unknown	.08	—	.14*	.17*	−.03	—
Fear for significant others	.01	—	.03	—	−.01	—
Well-being						
Self-esteem	.12*	.12*	−.05	—	−.11	—
Depression	−.12*	—	−.05	—	.00	—
Life satisfaction	−.02	—	−.07	—	.17*	.11*
Loneliness	.08	—	.08	—	−.02	—
Locus of control						
Internal	−.02	—	−.03	—	−.05	—
Chance	.02	—	.10	—	.06	—
Powerful others	−.02	—	−.02	—	.13*	.19*
Life events	.04	—	−.02	—	.05	—
Social support						
Inner	.01	—	−.02	—	.02	—
Middle	.04	—	.07	—	−.05	—
Outer	.03	—	.00	—	.04	—
R	.60*	.58*	.52*	.47*	.39*	.31*
R^2	.35	.33	.27	.22	.15	.10

Note. Beta coefficients are standardized partial regression coefficients. Dashes indicate variables not included in reduced regression models.
$^* p < .05$.

(The apparent discrepancy between the squared multiple correlations for the full and reduced models when both had multiple correlations of .44 is due to rounding.) Adding the psychosocial variables in Step 2 increased the multiple correlation to .58, accounting for 33% of the variance. Here, the reduced set of psychosocial variables (quality of life values, fear of destruction of the body, and self-esteem) accounted for an additional 14% of the variance in Maintain ($p < .01$), once ethnicity, health, and IADL were accounted for. (The similarity between the variances accounted for by the reduced model, and those accounted for by the full model indicates that little was lost by deleting variables from the model.)

In the analysis for Endlife, ethnicity and socioeconomic status were the two strongest predictors in Step 1; the multiple correlation was .28, explaining 8% of the variance. In Step 2, quality of life values, subjective religiosity, fear of destruction of the body, and fear of the unknown were the strongest additional predictors. Adding the psychosocial variables in Step 2 raised the multiple correlation to .52, explaining 27% of the variance in Endlife. Adding the psychosocial variables increased the variance accounted for an additional 19% beyond that accounted for by the demographic background and health variables, a change significant at the .01 level.

In the reduced model, socioeconomic status was the only demographic and health variable to remain in Step 1; its correlation of .20 accounted for 4% of the variance in Endlife. In Step 2, quality of life values, subjective religiosity, fear of destruction of the body, and fear of the unknown were the remaining psychosocial variables; they raised the multiple correlation to .47, accounting for 22% of the variance in Endlife. The psychosocial variables accounted for 18% of the variance beyond the effects of socioeconomic status ($p < .01$).

In the analysis for Others, ethnicity, socioeconomic status, and age were the strongest predictors in Step 1; the multiple correlation was .26, explaining 7% of the variance. In Step 2, quality of life values, life satisfaction, and powerful others were the strongest predictors; the multiple correlation was .39, explaining 15% of the variance in the dependent variable. In this case, the addition of psychosocial variables to the regression equation accounted for 8% of the variance beyond the effects of the demographic background and health variables alone ($p < .01$).

In the reduced model, socioeconomic status and age were the only two demographic variables to remain in Step 1; the multiple correlation was .19, accounting for 4% of the variance in Others. In Step 2, quality of life values, life satisfaction, and powerful others were the remaining psychosocial variables added; the multiple correlation was .31, accounting for 10% of the variance. The addition of the psychosocial variables accounted for 6% of the variance beyond the effects of the demographic variables alone ($p < .01$).

Discussion

In the present study, the majority of older people (slightly more than half, on the average) favored a decision to strive to continue living even if they were to have a terminal illness or a nonterminal physical or mental condition that resulted in a continued low quality of life (a life characterized by some combination of immobility, extreme dependency, pain, loss of mental faculties, and so on). Although responses did vary from situation to situation, factor analysis did not reveal any subgroups of the decision situations presented that would account for this variation.

However, a small but significant minority (approximately one tenth) of the participants favored a decision to end their lives under such circumstances. More surprising, there was no particular preference about how life should be ended (through suicide, assisted suicide, or voluntary active euthanasia). The proportion who favored ending life was much smaller than the 40–50% of respondents reported in earlier studies (e.g., Leinbach, 1993; Ward, 1980) as feeling that assisted suicide and voluntary euthanasia would be morally acceptable and should be legalized. However, the earlier studies asked for general attitudes, whereas the present study asked respondents what they themselves would wish to do if they experienced the low quality of life depicted in the various decision situations presented. The implication seems to be that although many older adults favor having such options available for individuals who desire them under hopeless circumstances, fewer feel that they themselves would actually decide to end their lives through suicide, assisted suicide, or voluntary active euthanasia.

Most surprising is the moderate-sized group (approximately one third) of participants who favored deferring any end-of-life decisions to someone else, such as a family member, close friend, or physician. One might think that older adults would want to make such an important decision themselves. This proportion is much greater than the 4–15% reported in studies of the use of durable power of attorney (or other types of proxy designations) among older persons (e.g., High, 1993; Zweibel & Cassel, 1989) and may be partly attributed to the known procrastination of older persons in actually completing advance directives (High, 1993). However, two other explanations are possible. One is the propensity of older people to assume that family members will make decisions for them if needed (High, 1993). The other is the fact that many older people were socialized to regard the physician as an authority figure; as a result, they see themselves as having little autonomy in health care matters (Haug, 1981) and are willing to allow the physician to make end-of-life decisions as well.

From a theoretical viewpoint, the results confirm to some extent hypotheses that psychosocial and demographic variables are related to the acceptability of the various decision options. Ethnicity, socioeconomic status, religiosity, quality of life values, and death fears were each related in a different way to the acceptability of decisions to maintain life, to end life, or to let others decide. However, given the relatively small magnitude of the correlations between most of these variables and the decision factors, the reader is cautioned that the overall impact of these variables is not great.

Those who favored maintaining life no matter how dire the circumstances tended to be Black, to be of lower socioeconomic status (less education and lower occupational status), to have a greater subjective religiosity, to place a lower value on quality of life, and to have less fear of the dying process but more fear of destruction of the body. Those who favored ending their lives tended to be White, to have higher socioeconomic status, to have less subjective religiosity, to place a higher value on quality of life, and to have more fear of the dying process and the unknown but less fear of destruction of the body.

It is important to caution the reader that ethnic differences in end-of-life decisions do not appear to be attributable only to differences in socioeconomic status and religiosity. Correlations of these variables with ethnicity were only −.25 and .19, respectively, not large enough to have a major effect. When ethnicity was examined further in hierarchical regression analyses in which it was entered into the equation after socioeconomic status and religiosity, it accounted for an additional 12% of the variance in Maintain, 2% of the variance in Others, and 1% of the variance in Endlife ($p < .05$). Although reasons for the observed ethnic differences have not yet been established, this finding lends support to Ward's (1980) suggestion that the cultural history of American Blacks may have resulted in a will to survive regardless of extreme hardship.

Locus of control was not related to either decision option. This seems strange, because it might be expected that older persons with a high internal locus of control facing a low quality of life would favor a decision to end their lives, whereas those with an external locus of control would more easily adapt to the low quality of life and hence favor the decision to continue living. Another possibility is that high internality may be a factor in a decision either to actively strive to live or to actively hasten death; that is, the individual believes that he or she can bring about a desired reinforcement, whether that means life or death. A further possibility is that the use of a situational measure of locus of control related to health, rather than a general measure such as the Levenson (1981) scale, might have led to detection of the predicted relationship.

On the other hand, the most significant psychosocial characteristic related to deferring the decision to someone else was external locus of control. It may be that such older persons with an external locus of control feel controlled by powerful others in their social environment and perceive it as more adaptive to depend on such people for important decisions. The reliance of certain older people on others for important life decisions supports High's (1993) findings that many older adults prefer to place their trust in family members to make decisions in accord with their general views.

It is rather significant that such a large proportion of older people favored striving to continue living for as long as possible, no matter how onerous life would become. From a theoretical viewpoint, this finding attests to the existence of a strong need to survive as well as inhibitions against self-destruction developed during the socialization process. (The development of the cultural norms against self-destruction may be the result of the society's need to survive.)

Further, the unidirectional nature of the study participants' responses to a variety of decision situations depicting terminal illness, nonterminal physical conditions, and nonterminal mental conditions confirms an earlier identification of patterns in responses to scenarios by Cohen-Mansfield et al. (1992). The existence of such patterning suggests that older people may not be basing their decisions on an evaluation of the potential consequences of a given end-of-life decision option in response to the conditions depicted in the option, but rather deciding on the basis of well-established demographic and psychosocial characteristics. If this is the case, perhaps individual differences in end-of-life decision making, as in everyday life decisions, may be particularly explained by psychosocial and demographic characteristics rather than solely on the basis of deliberation of the consequences (Cicirelli, 1993; Zey, 1992). On the other hand, it can be argued that older individuals do evaluate the consequences of each decision situation in a rational way, but that the reasons for their decisions stem from basic values and other characteristics (e.g., socioeconomic status and religiosity) that are consistent across the types of decision situations provided.

The use of the quality of life values measure may seem questionable to some readers because the item content is rather specific to the end-of-life decision situations presented in the study. However, the values measure seeks to assess a more general principle or orientation regarding quality of life. It may be that other variables considered in the study can be regarded as causes of quality of life values, which is in turn related to the end-of-life decisions made.

Of particular interest regarding the option of ending life were the variables that were not significantly related to it, including many variables considered to be precursors of suicide. For example, certain demographic background factors frequently found to be related to suicide were unrelated here, such as ethnicity, gender, marital status, and age. More important theoretically, poor health and dependency were unrelated to the desire to end life, as were the indicators of lack of psychological well-being (depression, loneliness, low self-esteem, and low life satisfaction), stress due to critical life events, and lack of social support. It may be the case that such factors would come into play later in the actual dynamics of the suicide process, rather than far in advance. On the other hand, the desire to end life when it is of a very low quality and there is no realistic possibility of change other than an eventual death may be basically different from other kinds of suicide and may not predicted by the same factors. Of course, the fact that participants in the present study for the most part had good health and psychological well-being may have influenced the findings; there may not have been sufficient range of variation in these indicators to demonstrate an effect.

The limitations of the study are recognized. Although the sample size was large and the sample roughly represents the older populations at the selected sites, the findings apply primarily to persons attending senior citizen centers in the selected sites who agreed to participate in the study. Generalizations to other populations must be made cautiously. Another possible limitation is that although most respondents seemed quite open in expressing their views, some of them may have expressed views that they considered socially acceptable rather than their true views in these matters. Finally, there is the question of ecological validity, that is, whether participants' decision preferences in response to the hypothetical decision situations were the same as the decisions they would make if they were actually in the given circumstances. Certainly, some would make different decisions when in a real situation. On the other hand, decisions made under severe illness conditions may be heavily influenced by depression and regretted upon recovery, as demonstrated in a recent study (Potter, Stewart, & Duncan, 1994) of Do Not Resuscitate decisions made by older persons admitted to an acute care hospital unit. At the very least, a study is needed that compares decisions made by healthy older adults with those made by older persons who are less healthy or even terminally ill. Also, a study is needed that traces older people's end-of-life decisions over time and changing circumstances as their health declines. Certainly, proximity to dying (with accompanying poor quality of life) should influence end-of-life decisions. Until such studies are carried out, the findings of the present study provide an increased understanding of this difficult topic.

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