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This study examined the role that hopelessness plays in geriatric suicidal ideation. Sixty institutionalized elderly males were recruited. Multiple regression analyses revealed that while hopelessness was strongly related to suicidal ideation, the relationship between hopelessness and suicidal ideation was dependent on level of depression. Participants who reported moderate or higher levels of depressive symptoms were more likely to have suicidal ideation with increasing hopelessness, whereas hopelessness had little effect on level of ideation at mild or lower depressive symptom levels. Unlike previous studies in younger adults, hopelessness did not predict suicidal ideation better than depressive symptoms, although the relationship between depression and suicidal ideation was stronger within higher levels of hopelessness. These findings highlight the importance of considering depression and hopelessness simultaneously when assessing and treating geriatric suicidal ideation.

Key Words: Depression, Elderly, Hopelessness, Nursing home, Psychiatric, Suicide

Hopelessness and Suicidal Ideation in Older Adults

Heather Uncapher,[1] Dolores Gallagher-Thompson,[2] Nancy J. Osgood,[3] and Bruce Bongar[4]

Very little is known about the cognitions that influence suicidal ideation in later life. This is interesting considering we have known for many decades that the elderly have the highest rate of completed suicide of all age groups (National Center for Health Statistics, 1991). Although reports indicate many suicidal elderly people have hopeless cognitions (Barraclough, 1971; Farberow & Schneidman, 1957), and hopeless cognitions are prevalent in older populations (Blazer, 1982; Fry, 1984; Gatz & Hurwitz, 1990; Greene, 1989; Smyer & Pruchno, 1984), little is known about the relative importance of depressive and hopeless cognitions together in older suicidal adults.

Psychiatric treatment is generally encouraged to prevent elderly suicides (Conwell & Brent, 1995), but being hopeless and suicidal in later life is sometimes *mistakenly* construed as normal responses to the multiple losses of later life. This is quite distinct from the conceptualizations in younger adults, in which hopelessness and suicidal ideation are viewed as manifestations of distortions in cognitive processing (e.g., overgeneralization, constriction, dichotomous thinking, cognitive rigidity, or problem-solving deficits). Cognitive theory (Beck, 1976) has been applied extensively to the suicidal cognitions of younger adults, but not to those of older adults. In this article, we present findings which indicated that increasing hopelessness and suicidal wishes in older adults were present only in those with high levels of depressive symptoms suggestive of treatable pathology.

Cognitive models emphasize cognitions as influential in the intensity, quality, and persistence of an individual's mood state and behavior. Evidence for the cognitive model of depression is based in part on observations that individuals experiencing depressive states tend to show the main aspects of a cognitive triad consisting of negative thoughts of the self, the world, and the future (Beck, Rush, Shaw, & Emery, 1979b). Depressive states are suggested to play an important mediating role in the development of suicidal thoughts in later life. In addition, many of the older persons who complete suicide have a depressive disorder at the time of their death (Conwell, Caine, & Olsen, 1991; Rich, Young, & Fowler, 1986).

Hopelessness is also thought to influence the formation of suicidal thoughts. Within the cognitive model of psychopathology, hopelessness is defined as a cognitive characteristic that is both "a determinant and a component of the depressive condition" (Beck, Steer, Kovacs, & Garrison, 1985). Traditionally, hopelessness has been studied as a cognitive or affectively laden construct having an important an-

[1]Address correspondence to Heather Uncapher, PhD, Department of Psychiatry, Box CPT, University of California, San Francisco, 401 Parnassus Avenue, San Francisco, CA 94143-0984.

[2]Veterans Affairs Medical Center, Palo Alto, CA; Department of Psychiatry, Stanford University, Palo Alto, CA.

[3]Department of Gerontology, Virginia Commonwealth University, Richmond, VA.

[4]Pacific Graduate School of Psychology, Palo Alto, CA; Department of Psychiatry, Stanford University, Palo Alto, CA.

tecedent role in the development of depression (e.g., Melges & Bowlby, 1969; Stotland, 1969). Hopelessness has been defined as negative expectancies toward the future (Beck, Weissman, Lester, & Trexler, 1974b), as a state of negative expectancies (Weishaar & Beck, 1992), and as negative expectancies about changing the probability of events (Alloy, Abramson, Metalsky, & Hartlage, 1988). The negative expectations associated with hopelessness are considered maladaptive and abnormal. For instance, many people do not have a hopeless, pessimistic view of their future; instead, most people tend to be optimistic regarding their ability to meet challenges (Janoff-Bulman & Hecker, 1988; Weinstein, 1980).

The thoughts and beliefs that are expressed through the "hopelessness" construct are sometimes hypothesized to be part of a larger depressive condition. However, hopelessness can be thought of as a separate set of beliefs that influences how a person perceives and interprets information, as well as behaves in the world. It is suggested that hopeless thoughts can be chronic and persistent in certain individuals, activated in acute, specific situations in other individuals, or activated differentially in some individuals under certain conditions (Alloy et al., 1988; Weishaar & Beck, 1992). The activation of the hopeless schema is thought to influence the development of depression.

Suicidal persons in particular tend to have depressive cognitions and negative expectancies regarding their future. For instance, they may see no possibility of resolving their crises, no future happiness nor contentment, and no end to their suffering. Because they see no end to their psychological pain and forecast that nothing will help them, hopeless persons are likely to see only death as their solution to this forecasted unhappy existence.

In previous research, hopelessness was expected to moderate the relationship between depression and suicidal ideation, as hopeless cognitions were often present in depressive states. Moreover, since some suicide attempters and completers might not be depressed, but most were expected to be influenced by hopelessness, hopelessness was expected to have a stronger association with suicidal ideation and behavior than depression (Beck, Schuyler, & Herman, 1974a, p. 53). Investigations of young adult clinical populations have supported this framework as hopelessness correlated more strongly with suicidal ideation (Beck, Steer, Beck, & Newman, 1993; Dyer & Krietman, 1984; Silver, Bohnert, Beck, & Marcus, 1971; Wetzel, Marguiles, Davis, & Karam, 1980) and with eventual suicide than with depression (Beck et al., 1985; Beck, Brown, Berchick, Stewart, & Steer, 1990; Bedrosian & Beck, 1979; Fawcett et al., 1987; Weishaar & Beck, 1992). Moreover, in most studies of adult clinical populations, when hopelessness was partialed out of the relationship between depression and suicidal ideation, the partial correlations were reduced to nonsignificance, whereas partialing out depression had little effect on the significance of the partial correlation between hopelessness and suicidal ideation. These findings suggested that hopelessness may not simply be considered a proxy measure of mood and supported hopelessness as a moderator between depression and suicidal ideation and behavior.

Empirical support for the cognitive model of depression, hopelessness, and suicidal ideation in younger adults has been demonstrated in many studies (Weishaar & Beck, 1992). For instance, patients with primary depression were noticed to have hopeless thoughts frequently, and an increase in these thoughts was associated with an increase in suicidal wishes (Nekanda-Trepka, Bishop, & Blackburn, 1983). Beck and his colleagues (1985) reported that a score of 10 or more on the hopelessness scale correctly identified 91% of later suicides in one study of psychiatric inpatients, a score of 6 or more predicted 90% in another study of inpatients (Beck, Brown, & Steer, 1989), and the results were replicated in psychiatric outpatients as well (Beck et al., 1990). These findings support hopelessness being worthy of attention in the assessment, intervention, and prevention of suicidal ideation and behavior in younger adults.

The few empirical studies on elderly suicidal patients (e.g., Hill, Gallagher, Thompson, & Ishida, 1988; Trenteseau, Hyer, Verenes, & Warsaw, 1989) found hopelessness related to depression, but not more predictive of suicidal ideation than depression. Moreover, some studies did not find hopelessness to be related to suicidal ideation or behavior (e.g., Frierson, 1991). Lower correlations between hopelessness and suicide variables in older adults may be due to the small amount of research conducted on these relationships in the elderly, the restricted age range of older adults sampled, the lack of standardized suicide ideation measures for the criterion of suicidal ideation, or a function of the distinct differences in the origin, expression, and maintenance of these variables in the elderly.

In the present study, we replicated previous studies conducted on younger clinical populations (Beck et al., 1993; Wetzel et al., 1980) to examine three questions. First, does hopelessness have a significant role in later-life suicidal ideation? Second, do the relationships of depressive and hopeless symptoms consistently reported in young adults apply to older adults as well? Third, do these relationships vary within different clinical settings? We expected the cognitive model with its emphasis on perceptions and thoughts to apply to adults in their second half of life; thus we anticipated significant associations among self-reported depression, hopelessness, and suicidal ideation in these older adults. We also expected that hopelessness would predict suicidal ideation over and above self-reported depressive symptoms, and we did not expect the relationships to vary with the setting in which the older adult resided. To address previous concerns of elderly suicide research, we administered standardized, comprehensive measures of depression, hopelessness, and suicidal ideation to two older adult samples with reported high rates of depression and hopelessness (Koenig et al., 1991; Parmalee, Katz, & Lawton, 1989).

Method

Sample

Sixty older institutionalized males participated in the study. Half of the subjects (n = 30) were younger psychiatric inpatients (mean age of 69 years, SD = 8.1) and half were older nursing home patients (mean age of 76 years, SD = 10.43). Individuals were excluded who had evidence of mental retardation, organic brain syndrome, organic mental disorder, dementia, major psychoses, or bipolar disorder. Nursing staff at each facility identified and notified the first author of individuals who met inclusion criteria for this study. The first author individually approached eligible patients. Twenty-two individuals were either ineligible due to the presence of overlooked exclusion criteria, or were unavailable for the interview (e.g., discharged). Three individuals refused to participate, and ten individuals were unable to complete the full battery of measures. We did not collect demographic information on the participants who were not included in the study. Interested individuals completed a consent form, brief screening interview, and the clinician-administered self-report measures.

Measures

Background and demographic information was obtained in a clinical interview with the subject. The information included each subject's age, gender, marital status, employment status, education, number of perceived social supports, level of perceived physical health, religious affiliation (if any), past psychiatric hospitalizations, past suicide history including number of attempts, and recent bereavement experienced. The patient's diagnosis was recorded through chart review. We recorded a presence of depressive disorder if a DSM-IV diagnosis (American Psychiatric Association, 1994) was made within the three months preceding the research interview. Since the psychiatric patients were admitted into a short-term unit, the depression diagnosis was made upon admission; the most recent diagnosis given to the nursing home participants was made either at the time of admission or at their quarterly review, whichever occurred closest in time prior to the research interview. The depression diagnoses were made by the unit psychiatrist. The level of functional status was also obtained through chart review and verified by having a member of the nursing staff record the status on the Katz ADL scale (Katz, Downs, Cash, & Grotz, 1970). The number of physical illnesses being treated at the time of the interview was recorded through chart review as well, and grouped by the first author and a physician assistant according to illness categories on the Cumulative Illness Rating Scale (Linn, Linn, & Gurel, 1968).

Depression. — The Geriatric Depression Scale (GDS) is a 30-item true/false scale with good psychometric properties (Abraham, 1991; Trenteseau et al., 1989; Yesavage, Brink, Rose, Lum, Huang, Adey, & Leirer, 1983), which assesses cognitive and affective symptoms of depression without assessing somatic symptoms. Scores range from 0 (no depression) to 30 (severe depression) by summing responses on endorsed items of depressed symptoms. Depression was indicated by scores of 11 or more. We selected the GDS for several reasons. First, it has been developed for use specifically with older adults. Second, the GDS has been found to be a reliable and valid indicator of depression, despite its exclusion of somatic symptoms. Third, because the GDS deemphasizes somatic and vegetative symptoms of depression, results regarding depressive symptoms from using the GDS are less likely to be influenced by symptoms of medical or physical illness (decreased energy, appetite, sleep, etc.) in medically ill subjects. Fourth, the GDS does not contain suicidal ideation items.

Hopelessness. — The measure of hopelessness was also developed on a geriatric population. The Geriatric Hopelessness Scale (GHS) is a 30-item yes/no scale designed to assess and measure severity of pessimism and thoughts of hopelessness in older adults (Fry, 1984). Although standardized on nonclinical, community older adults with acceptable reliability and validity (Fry, 1984, 1986), it was found to be a good instrument for psychiatric patients (Trenteseau et al., 1989; Fry, 1986). This scale, like the GDS, does not have any suicidal ideation items. High levels of hopelessness were indicated by scores of 11 or more.

Suicidal Ideation. — The Beck Scale of Suicide Ideation (BSS) is a 19-item scale designed to measure presence, intensity, and severity of suicidal ideation (Beck, Steer, & Ranieri, 1988). Each item had a scale of 0 to 3; summing the item ratings yielded a possible score of 0 to 38. This scale was normed on psychiatric inpatients and had very high correlations with the clinically rated Scale for Suicide Ideation (SSI), which was developed by Beck, Kovacs, and Weissman (1979a). Although psychometric properties of this scale with older adults were not available, the BSS is one of the few well-validated self-report measures of suicidal ideation in psychiatric inpatients (Beck et al., 1988). The authors caution against using a specific cutoff score, but suggest that a positive response to having a current wish to end one's life (or have it end prematurely by other circumstances) is indicative of suicidal ideation and a criterion for administering the remainder of the scale items.

Results

In order to evaluate whether there were any significant differences between the psychiatric and nursing home participants on background and clinical characteristics collected in the interview, t tests (for normally distributed variables) and Mann-Whitney mean ranks (for variables that did not have a normal distribution) were conducted to assess mean differ-

ences, and chi-square tests of association were used to measure proportional differences. Not surprisingly, the nursing home group was older (M = 75.90, SD = 10.43 versus M = 68.67, SD = 8.10; t[58] = 9.00, $p < .001$, .95CI = 2.41, 12.05, ES = .77), had spent more time in the hospital (mean rank of 19.7 versus 41.3 u[1, N = 60] = 125, z = –4.81, $p < .01$), and had more functional impairment (mean rank of 34.8 versus 26.1) on the Katz ADL scale, u[6, N = 60] = 317, z = –2.11, $p < .05$).

There were no significant differences between the psychiatric and nursing home groups in racial proportions (proportion of Caucasian participants, respectively 63% and 83%, .95CI = $-.02 < p_1–p_2 < .42$), marital status (proportion of married participants, respectively 63% and 67%, .95CI = $-.21 < p_1–p_2 < .27$), level of education (M = 12.73, SD = 3.12 versus M = 10.87, SD = 4.13, .95CI = –.08, 3.80, ES = .51), number of supports (M = 1.70, SD = 1.09 versus M = 1.63, SD = 1.07, .95CI = –.50, .64, ES = .06), or average number of impaired health systems that were targeted for treatment by their hospital treating staff at the time of their interview (M = 2.80, SD = 1.90 versus M = 3.50, SD = 1.60, .95CI = –.23, 1.63, ES = .40). In addition, the proportions of those who had prior psychiatric hospitalization (respectively, 57% and 33%, .95CI = $-.01 < p_1–p_2 < .47$) or past suicide attempts (respectively, 10% and 13%, .95CI = $-.13 < p_1–p_2 < .19$) did not differ significantly. Both groups had equal proportions of subjects (23%) with possible mild cognitive impairment as measured by a score of 20–23 on the Mini Mental Status Exam (MMSE; Folstein, Folstein, & McHugh, 1975), whereas the larger majority of participants (77%) in each setting scored 24 or higher on the MMSE. The proportions of psychological problems noted in the charts of the psychiatric and nursing home participants were not statistically different (respectively, 63% and 47%, .95CI = $-.08 < p_1–p_2 < .41$). In addition, no statistical difference existed in the proportions of patients with a current diagnosis of depression (respectively, 30% and 33%, .95CI = $-.21 < p_1–p_2 < .27$), or the self-reported experience of a recent death among their family or friends (respectively, 27% and 17%, .95CI = $-.11 < p_1–p_2 < .31$).

One-way analyses of variance (see Table 1) indicated that participants in the psychiatric setting did not report statistically more symptoms of depression (F[1,58] = 2.07, $p > .10$, .95CI = –1.08, 6.62, ES = .37), hopelessness (F[1,58] = 2.54, $p > .10$, .95CI = –.59, 5.27, ES = .41), nor suicidal ideation (F[1,58] = .02, $p > .10$, .95CI = –2.56, 2.88, ES = .03) than those in the nursing home. In addition, there were no statistical differences in the proportion of psychiatric versus nursing home participants who expressed a wish to end their life prematurely, indicated by positive response to at least one of two items on the BSS: item 4, active desire to kill self, and/or item 5, passive desire to kill self. Using this definition, six (20%) of the psychiatric group and 5 (17%) of the nursing home group were suicidal, χ^2 (1, N = 60) = .11, $p > .05$, .95CI = $-.42 < p_1–p_2 < .48$.

Table 1. Comparisons Between Psychiatric and Nursing Home Participants

	Psychiatric Participants		Nursing Home Participants	
Scale	*M*	*SD*	*M*	*SD*
Depression	12.67	7.59	9.90	7.31
Hopelessness	7.03	4.59	9.37	6.57
Suicidal ideation	2.63	4.66	2.47	5.81
n	30		30	

Note: Statistical tests for differences between psychiatric and nursing home participants' mean scores were nonsignificant at $p > .05$.

Based on our findings of no significant differences between the groups on most of these background variables as well as predictors and criterion variables, we combined the groups for subsequent regression analyses. By combining the groups, the age range of the sample was more varied, ranging from 60 to 95, an asset in light of previous criticism that the restricted age range of previous geriatric samples might account for why hopelessness was not more predictive than depression in past older adult studies.

The original distribution of the suicidal ideation scores was positively skewed (skewness = 2.32), so we used the square-root transformation of the scores in all subsequent analyses, which reduced the skewness to 1.48. In addition, in order to run cleaner multiple regression analyses with interaction terms in the model, we employed a statistical procedure designed to reduce the intercorrelations between the predictors and the product term that are inherent when an interaction term is created. This technique is called centering. For instance, when we created the two-way interaction product term from the predictor variable "depression" and the predictor variable "hopelessness," depression naturally had a high correlation with the product term and hopelessness naturally had a high correlation with the product term. Although the correlations were not high enough to suggest multicollinearity, employment of the centering technique reduced the potential of sampling instability of the coefficients. Cohen and Cohen (1983, p. 238) explain the rationale for using the technique:

> Theoretically, no matter how high [the multiple correlations of predictors in a multiple regression model] get, as long as such R's do not reach 1.0 (and, theoretically they cannot), . . . in theory, the Multiple Regression can proceed. In practice, however, there is a limit on the accuracy provided by the given computing algorithm used by the program and realized on the computer. As the R's among the independent variables get very large and very close to 1, the matrix of the intercorrelations is said to be "highly multicollinear." . . . Most correct Multiple Regression software [in this study, SPSS], however, issues a warning when it encounters this threat to its accuracy and refuses to proceed. . . . Another consequence of high multicollinearity . . . is that the regression coefficients may become very unstable. . . . The problem here is not one of computational accuracy for the sample at

> hand but rather of sampling stability of the coefficients. . . . Both problems of accuracy and stability may be at least partly solved by reducing the size of the intercorrelations. . . . This can be accomplished without any loss or change in information by the simple expedient of "centering" . . . centering does no harm and is fairly easily accomplished.

This centering technique of subtracting the GDS mean from the total scores on the GDS, and likewise, subtracting the GHS mean from the total scores on the GHS, reduced the redundancy that existed when we created cross-products of the predictors. In order to incorporate the two- and three-way interaction terms needed for the regression analyses, we used this centering technique to create new centered variables for the GDS and the GHS. The correlations and all subsequent analyses are based on these centered variables.

The means, standard deviations, and intercorrelations among the geriatric depression, hopelessness, and suicidal ideation scores for the entire sample (N = 60) are displayed in Table 2. As predicted by cognitive theory, the correlations of depression and hopelessness with suicidal ideation were in the expected direction and significant beyond the .001 alpha levels in two-tailed significance tests. Those older adults with more depressive symptoms were more likely to be hopeless (r = .61), and those who were more hopeless were more likely to be suicidal (r = 53). Depressive cognitions were most strongly associated with more suicidal ideation (r = .72). Neither depressive, hopeless, nor suicidal symptoms were significantly associated with the setting within which the older adult resided (psychiatric = 0, nursing home = 1).

Before conducting the regression analyses, we examined correlations of specific background variables with the suicide scale scores to determine which, if any, variables needed to be controlled for in subsequent regression analyses. Because being Caucasian is a consistent risk factor of suicidal behavior in elderly males, and 27% of the total sample (N = 60) were African American, we examined the correlations of ethnicity (0 = Caucasian, 1 = African American), as well as age (years), length of stay in the hospital (days), and functional disability (rank of level of impairment, 0–6) with the square roots of the suicidal ideation scores (r's = –.24, –.12, –.06, and .01, respectively). As the correlations were nonsignificant, we did not control for these variables in initial hypothesis-testing analyses. In addition, although a history of past suicide attempts is a significant risk factor for suicide in all ages, we did not control for this variable in the main analyses because we were not attempting to evaluate past behavioral predictors; rather, the purpose of this study was to focus on the relationship of current cognitions of depression and hopelessness in predicting current suicidal thoughts.

We performed hierarchical multiple regression analyses that partialed out main effects (see Cohen & Cohen, 1983) to evaluate the ability of hopelessness to predict suicidal ideation within and above the context of depression. Based on our research questions, we first examined the unique role of hopelessness. Hopelessness, controlling for group, explained 31% of the variance in suicidal ideation, significant at $F(2,57) = 25.92$, $p < .001$. Consistent with studies in younger adults and the cognitive model, the participants with more negative expectancies toward the future were more likely to be having suicidal thoughts. Depression, entered next into the model, explained a statistically significant 21% additional variance (over and above hopelessness) in predicting suicidal ideation. Thus depression was a significant predictor of suicidal ideation in this sample, even after controlling for the effects of hopelessness.

The second regression analysis examined the relative roles of hopelessness and depression together. Based on the previously mentioned findings in younger populations that hopelessness explained more variance in suicidal ideation after controlling for depression, our expectations were that hopelessness would contribute unique variance in this older adult population as well. The GHS scores were entered after GDS scores in order to determine the amount of variance hopelessness explained in suicidal ideation above depression (see Table 3). Two-way and three-way interactions of the setting, depression, and hopelessness were also examined. All together, the variables in the model predicted 58% of the variance in suicidal ideation, significant at $F(7,52) = 10.32$, $p < .001$.

Unexpectedly, while depression accounted for 51% more of the variance in suicidal ideation over

Table 2. Intercorrelations Among Variables

Variables	*M*	*SD*	1	2	3	4	5	6	7
1. BSS[a]	.84	1.37							
2. Setting (SET)[b]	.50	.50	–.07						
3. GDS[c]	.00	7.52	.72*	–.19					
4. GHS	.00	5.74	.53*	.20	.61*				
5. SET*GDS	–.69	5.17	.58*	–.13	.70*	.58*			
6. SET*GHS	.58	4.65	.49*	.13	.49*	.82*	.73*		
7. GDS*GHS	25.81	47.94	.37*	.16	.22	.35*	.48*	.34*	
8. SET*GDS*GHS	16.81	44.76	.42*	.38*	.30*	.36*	.48*	.39*	.86*

[a]BSS: the Beck Suicide Ideation Scale scores were transformed to square roots.

[b]Setting: 0 = psychiatric, 1 = nursing home.

[c]GDS and GHS scores were "centered" for all individual and product terms.

*$p < .05$.

Table 3. Final Hierarchical Regression Model to Predict Suicidal Ideation

Variables	Beta	F	$R^2\Delta$
Setting	–.05	.31	.01
GDS	.70	60.53	.51***
GHS	–.09	1.28	.01
Setting*GDS	–.18	.79	.01
Setting*GHS	.26	.48	.00
GDS*GHS	.18	5.20	.04*
Setting*GDS*GHS	.09	.13	.00

GDS = Geriatric Depression Scale; GHS = Geriatric Hopelessness Scale.

Final model: $R^2 = .58$, $F(7,52) = 10.32$, $p < .001$.

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

setting, hopelessness explained only an additional 1% of the variance over depression in suicidal ideation [$F(3,56) = 1.28$, $p > .10$]. However, based on the cognitive model of depression, we expected hopelessness to be important within the context of depressive symptomatology, so we included an interaction term of depression × hopelessness in the model. As we expected, this two-way interaction effect of hopelessness and depression provided significantly more unique variance (4%) in suicidal ideation scores [$F(6,53) = 5.20$, $p < .03$] after controlling for setting effects, depressive and hopeless symptoms separately, and the interaction of setting with the two predictors. Examination of the standardized beta weights revealed the interaction of depression and hopelessness explained eight times more variance in suicide scores than hopelessness.

In order to graph the interaction effect depicted in Figure 1, the depression scores were divided into low and high scores, with higher levels of depressive symptoms indicated by scores of 11 or more on the GDS (Parmalee et al., 1989; Yesavage et al., 1983). Consistent with the cognitive model of depression, older adults with more hopelessness symptoms reported significantly higher levels of suicidal ideation within the context of higher levels of depressive symptoms, whereas hopelessness was not effective at predicting suicidal ideation at lower levels of depression.

Next, we examined whether the setting where the participants were interviewed influenced the relationships among depression, hopelessness, and suicidal ideation. We included setting (0 = psychiatric, 1 = nursing home) in the regression analyses and, as expected, setting was not only a nonsignificant predictor of experiencing suicidal ideation [$F(1,59) = 3.07$, $p > .10$], but none of the interaction terms with setting was significant either. Thus, depressive and hopeless cognitions predicted suicidal ideation in a similar manner in both settings, as expected by the cognitive model.

Last, these hierarchical regression analyses were repeated with various potentially influential background variables that have been identified as risk factors of suicidal ideation in order to partial out their effects in the relationships among depression, hopelessness, and suicidal ideation. We controlled for the effects of age (years), education (years), being

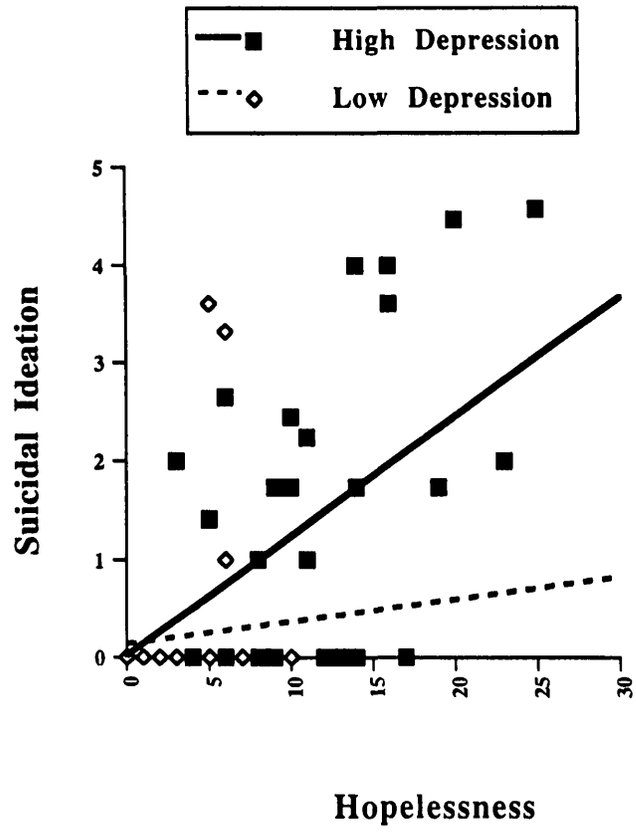

Figure 1. Suicidal ideation as a function of depressive symptoms and hopelessness.

married (0 = no, 1 = yes), presence of a religious affiliation (0 = no, 1 = yes), having more children, cognitive impairment (0 = no, 1 = yes), days spent in the hospital at time of measurement, current psychiatric problems (0 = not present, 1 = present), current depressive disorder (0 = not present, 1 = present), reported experience of a recent bereavement (0 = no, 1 = yes), level of functional dependence on others, perceived health as reported by participant (poor, fair, good, excellent), and the number of medical illnesses identified for current treatment in the patient's medical chart. Only having a psychiatric and/or depressive disorder and having fewer persons who provided social support were significantly related with more suicidal ideation (respectively, r's = .27, .30, and –.26, p's < .05). Nonetheless, the findings were essentially the same for most of the abovementioned variables: Depression predicted significantly more variance in suicidal ideation scores than the controlled risk factor, hopelessness was not able to predict more information above depression, and the interaction of depression and hopelessness together provided significantly more information over the other variables in the model. The only exception was that when controlling for increasing age ($r = .12$, $p > .10$), the interaction term only approached significance (R^2Change = .03, FChange = 3.53, $p = .07$).

These analyses were also repeated for a history of past suicide attempts and a history of suicide in the participant's family, for these suicide-specific vari-

ables may also mediate the relationships among depression, hopelessness, and suicidal ideation (Hawton, 1987). These suicide variables were both significantly related to more ideation (respectively, r's = .55 and .32, p's < .05) and after controlling their effects, depression explained a significant amount of ideation over and above each of the controlled suicide-specific variables and hopelessness. In addition, the interaction effect of depression and hopelessness approached significance.

Discussion

Consistent with cognitive theory conceptualizations and findings in younger adult populations (Weishaar & Beck, 1992), hopelessness was significantly related to suicidal ideation. As expected, older adults with more negative expectancies toward the future were more likely to be suicidal.

Inconsistent with the numerous studies in younger adults, hopelessness was less predictive of suicidal ideation than depression. However, the results indicated that the effects of hopelessness were dependent on the level of depression. The cognitive model predicts that those with more depressive cognitions will be more likely to have negative expectations of the future and more suicidal. In our sample, negative expectations indeed provided important information about suicidal ideation at higher levels of depressive symptoms. Overall, within low levels of depressive symptomatology, hopelessness did not predict being suicidal, while hopelessness was strongly predictive of suicidal thoughts when depressive symptoms were moderate or severe. These findings highlight the importance of assessing for treatable depressive disorders when encountering older adults with hopeless and suicidal cognitions.

The finding that hopelessness did not predict suicidal ideation better than depression was unexpected. The elderly may have distinct differences from younger adult populations that contribute to the relative importance of depression as compared to hopelessness in predicting suicidal thoughts. The predictive power of hopelessness holds up fairly well in adult clinical populations, but findings similar to ours have been noted in other samples, such as child psychiatric inpatients (Beck et al., 1993) and high school students (Cole, 1989). Factors that contribute to suicidal ideation in younger people (such as inadequate social support, physical illness, and loss) are more predominant in older adults (Osgood, 1992). These older adults may experience more control, dependency, and loss issues within the context of decreased functioning, physical health, and social supports. In addition, negative perceptions, expectations, and experiences of residing even temporarily in an institutional setting may influence depressive symptoms.

Elderly suicide attempts and completions are consistently found to involve the presence of mood disorders and psychiatric illness, especially depressive disorders (e.g., Barraclough, Bunch, Nelson, & Sainsbury, 1974; Conwell & Brent, 1995; Conwell et al., 1991; Rich et al., 1986). The findings of this study suggest that the influence of depressive symptoms extends from suicide completions and attempts to elderly suicidal ideation. The results suggest that depressive symptoms may have a powerful mediating effect on suicidal cognitions in later life. Given that there were no unique differences in degree of hopelessness predicting presence of suicidal ideation after accounting for the effects of depressive symptoms, hopelessness may be a sufficient but unnecessary symptom in geriatric depression (Alloy et al., 1988; Greene, 1989), while depressive symptoms might be both sufficient and necessary for suicidal ideation in most of the hopeless older adults. Only two outlier suicidal cases reported neither high depressive nor hopeless symptoms. Across the entire sample, however, although not all those with suicidal ideation were hopeless, most suicidal persons were depressed. Moreover, there were no suicidal persons who were hopeless without also being depressed. These results support the cognitive models that stress the importance of depressive states in the activation of suicidal ideation and suggest that the presence of simultaneously activated hopeless and depressive thoughts are associated with the presence of suicidal thoughts in most older adults. Prospective investigation is needed to determine the effects of trait and state hopelessness on causal pathways to suicidal ideation.

It is interesting that some elderly in our study endorsed more hopeless symptoms (GHS ≥ 11) despite a lack of self-reported depressive symptomatology, but none of these persons was suicidal. Nondepressed hopeless persons may have a chronically activated hopelessness schema (Weishaar & Beck, 1992), or be experiencing a hopeless state prior to the development of a depressive disorder (Alloy et al., 1988). These speculations deserve research attention in prospective studies that can evaluate change in the constructs over time. A third possibility is that hopelessness in these nondepressed older adults represents a different construct, a form of time perspective. For instance, older adults closer to the end of their existence might present as more hopeless when they actually have a realistic truncated perspective of time. This shortened time perspective would not be expected to predict suicidal ideation better than depressive symptoms. Time perspective studied in young adults had little effect on suicidal ideation after effects of mood disturbance were accounted for (Lennings, 1992), similar to the little effect of hopelessness on suicidal ideation within the context of lower level of depressive symptoms in this study. More research is needed to distinguish hopelessness and time perspective in older adults.

Several limitations are specific to this study. First, this study did not have sufficient power to detect if the increments in R^2 change smaller than .04 were indeed significant, such as the .01 increments in R^2 change shown for the effects of setting, hopelessness, and the interaction of setting with depression and hopelessness in Table 3. Studies with larger

sample sizes can determine if the change in variance of 1% or less is statistically significant. On a practical level, it is unlikely that changes in variance of 1% or less are theoretically meaningful or clinically significant. Second, this research was limited to the study of suicidal ideation in elderly males residing in institutions at the time of the interviewing. Caution is advised when generalizing from these findings to a larger population of elderly males. Third, this study was biased toward selecting patients who were less impaired in daily functioning, not psychotic or cognitively impaired, and not diagnosed with bipolar disorder. Consequently, the pattern of findings may not be the same in more frail elderly populations, or those with other forms of psychiatric impairment.

Given the mostly repetitive findings in younger adults that hopelessness was a stronger predictor than depression of suicidal ideation, this study should be replicated, particularly with older women and comparison groups of younger adults, to assess sample-specific differences. In addition, we examined only cognitive and affective aspects of the constructs, and excluded somatic symptoms. Overlap in item content in the measures, as well as construct overlap between the measures, could produce artificially high correlations. Although we selected our measures carefully to reduce this possibility, nonetheless, because depression and hopelessness are related, this study should be replicated to ascertain the consistency of the findings. Future research also needs to examine the contribution of somatic symptoms of depression and their contribution to suicidal ideation. Finally, constructs studied in younger adults, such as problem-solving deficits, dysfunctional attitudes, cognitive distortions, and time perspective, require exploration in relation to geriatric hopelessness.

In sum, hopeless perceptions contributed most to suicidal ideas when depressive psychopathology was present. These findings support the cognitive model of depression in conceptualizing suicidal thoughts and suggest further questions for exploration in an attempt to understand the cognitive processes that underlie older adults' suicidal thoughts. For instance, the characteristics of the thinking patterns in depressed older adults that contribute to being suicidal have yet to be fully understood. Identifying these cognitive patterns may increase understanding of what contributes to an older person's suicidal thoughts, as well as provide tools for clinicians to use in identifying and treating suicidal elderly. Because geriatric depression is treatable, the findings highlight the clinical significance of identification, assessment, and treatment of depression and hopelessness together to potentially decrease suicidal ideation in later life.

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