Suicide and Life-Threatening Behavior 31(1) Spring 2001

Personal and Professional Factors and Suicide Intervention Skills

ROBERT A. NEIMEYER, PHD, BARRY FORTNER, PHD, AND DIANE MELBY, MS

This research investigated the relationship of professional and personal factors to the ability of counselors to respond appropriately to suicidal verbalizations using the Suicide Intervention Response Inventory (SIRI). Level of training, experience with suicidal clients, and death acceptance were positively related to suicide intervention competencies. A personal history of suicidality and a belief that suicide is a personal right were negatively related to such skills. Regression analysis revealed that personal history of suicidality and attitude toward suicide as a personal right accounted for a modest, but significant, percentage of the variance in SIRI scores, beyond that accounted for by professional factors. Post hoc analysis indicated that the negative relationship between personal history of suicidal behaviors and suicide counseling skills was significant in the professionally trained participants. These results highlight the importance of attitudes toward suicide and personal history of suicidality, as well as training and experience, in effectively counseling potentially suicidal clients.

Suicide has been and continues to be a serious problem in contemporary society. Figures from the National Center for Health Statistics (1997) estimated that nearly 30,000 Americans commit suicide each year, and the number who attempt suicide is at least eight times that amount (Leenaars, 1995). Thus suicidal clients present a common and often distressing challenge for potential professional and nonprofessional caregivers alike.

Kirchberg and Neimeyer (1991) found that suicidal clients were rated by beginning counselors as being extremely uncomfortable to work with; furthermore, the level of discomfort counselors felt was not related to experience, suggesting that counselors at all levels of experience may feel similar discomfort when interacting with self-destructive individuals. Those who are called upon to work with suicidal clients may feel anxious or unprepared, yet relatively little research has examined the factors that contribute to effective counseling skills with this population.

Knowledge of variables associated with effective suicide intervention skills would allow the assessment of competence in individuals who work in crisis intervention as well as pinpoint areas for skill improvement and additional training for therapists and others who encounter suicidal individuals. Thus the purpose of this research is to inves-

ROBERT A. NEIMEYER, PHD, is with the Department of Psychology, University of Memphis, Memphis, Tennessee. BARRY FORTNER, PHD, is Director of Psychology and Cancer Symptom Research at the West Cancer Clinic, Memphis, Tennessee. DIANE MELBY, MS, practices psychology in Memphis, Tennessee.

Address correspondence to Robert A. Neimeyer, PhD, Department of Psychology, University of Memphis, Memphis, TN 38152; E-mail: neimeyer@memphis.edu, or to Barry Fortner, PhD, West Cancer Clinic, 1775 Moriah Woods Blvd., Suite 5, Memphis, TN 38117; E-mail: bfortner@westclinic.com.

tigate both professional and personal factors associated with suicide intervention skills in samples of nonprofessional, paraprofessional, and professional interventionists.

BACKGROUND FACTORS ASSOCIATED WITH SUICIDE INTERVENTION SKILLS

Professional Factors

Training and experience are two variables whose relationship to suicide intervention skills has been examined empirically. Training in intervention skills has been shown to increase competence in suicide counseling among crisis intervention staff (Neimeyer & MacInnes, 1981). Furthermore, Neimeyer and MacInnes (1981) found that veteran crisis counselors' competence in choosing appropriate responses to suicidal verbalizations was higher than those of volunteers in training, and skills of volunteers in training were, in turn, higher than those of untrained psychology students. Similar improvements of suicide response skills have been reported as a function of in-service training sessions for teachers (Davidson & Range, 1999) and "life management" workshops for college students (Abbey, Madsen, & Polland, 1989). Assessment of the impact of training on suicide intervention skills is important for determining an optimal level of training for persons likely to have contact with suicidal clients, students, or peers. Obviously, potential caregivers should be adequately trained; conversely, resources should not be wasted on training that does not improve intervention skills.

Experience is another professional factor that has been hypothesized to affect suicide intervention skill. Though level of *discomfort* with suicidal clients appears unrelated to experience among beginning counselors (Kirchberg & Neimeyer, 1991), *intervention skills* with suicidal individuals may improve with experience. Neimeyer and Diamond (1983) found that 3rd-year medical students scored higher on a measure of suicide response skills upon completion of an inpatient psychiatry rotation in which they gained experience in managing suicidal patients under supervision of a senior psychiatrist. Similarly, Cotton and Range (1992) reported that more experienced crisis interventionists gave more adequate responses to suicide scenarios than did a less experienced control group. The present study investigates whether training and/or counseling experience can account for a significant proportion of variance in suicide intervention skills in a broader group of respondents.

Personal Factors

Attitudes toward death and suicide and personal suicide behaviors are areas in need of further investigation as they relate to suicide intervention skills. Although the relationship between death anxiety and suicide intervention skills has received some attention, little research has been focused on the relationship between attitudes specifically toward suicide and suicide intervention skills. Even less attention has been paid to the effects of personal history of suicidal behaviors on the part of the interventionist and suicide counseling skill.

Neimeyer and Neimeyer (1984) investigated one area of attitudes toward death, namely anxiety about confronting reminders of death and dying. They found that suicide interventionists scored significantly lower on a measure of death anxiety than controls, reversing a previous trend found by Neimeyer and Dingemans (1980). Death anxiety scores of the interventionists were not related to a measure of suicide intervention skills, however. Thus, although it seems plausible that death anxiety could hinder counselors faced with suicide threats from remaining effectively focused on the client, current evidence on this point is inconclusive. Moreover, attitudes toward death other than death anxiety (e.g., death acceptance) remain to be investigated.

A second attitudinal variable that might be related to effective suicide intervention concerns the interventionist's views of

suicide per se. Although the majority of mental health professionals and the public at large believes that suicide should be prevented, significant differences of opinion persist in both groups regarding the rationality or defensibility of suicide under certain circumstances (Ingram & Ellis, 1992; Lester & Leenaars, 1996). Unfortunately, evidence linking suicide attitudes to intervention efforts is rare, but Norton, Durlak, and Richards (1989) have reported that high school students with more "pathologizing" views of suicide tend to produce more inappropriate responses to self-destructive individuals. Thus the present study assesses whether attitudes toward death in general and suicide in particular relate to suicide intervention skill.

Personal history of suicidal behaviors also warrants investigation in regard to suicide intervention competencies. No research to date has documented the extent to which a background of personal suicidal ideation or attempts interferes with an interventionist's ability to counsel potentially suicidal clients effectively. The present study addresses this omission.

In summary, a variety of personal and professional factors may be relevant to an individual's skill in intervening with potentially suicidal individuals. The purpose of this study was to (a) assess the degree to which professionals, paraprofessionals, and nonprofessionals differ on these background and attitudinal factors; and (b) determine what combination of personal and professional factors is associated with higher levels of suicide intervention skill.

METHOD

Participants

Participants comprised 131 volunteers consisting of undergraduate psychology students at the University of Memphis, suicide hotline volunteers from the Memphis Suicide and Crisis Intervention Service, and graduate students in clinical and counseling psychology programs at the University of Memphis (see Table 1). These three groups served as nonprofessional, paraprofessional, and professional groups, respectively. This classification of participants was in keeping with definitions of professionals as individuals who have received formal clinical training, past the baccalaureate level, in professional programs in psychiatry, psychology, social work, or psychiatric nursing, and paraprofessionals as individuals who have not received formal clinical training (Durlak, 1979).

Paraprofessionals were further distinguished from nonprofessionals by the former's having received some type of less formal training such as attendance at a preparatory workshop for suicide or crisis counseling. Most of the paraprofessionals in this sample had completed the suicide hotline training session; however, a few individuals in the undergraduate group had received some other form of paraprofessional training (e.g., crisis intervention in college peer counseling programs) and were hence included in the paraprofessional group as well.

TABLE 1
Participant Characteristics

	Mean	*SD*	Range
Age	32.5	15.9	19–76
			% (n = 131)
Gender			
Male			22.1
Female			67.2
Did not report			10.7
Counselor Training			
None			45.0
Paraprofessional			22.1
Professional			31.3
Did not report			1.5
Number of suicidal clients counseled			
None			68.7
1 or more			23.0
Did not report			8.3
Years of counseling experience			
Less than 1			168.7
1 or more			25.2
Did not report			6.1

Procedure

Participants volunteered to complete the questionnaires in three different settings. Undergraduates completed the packets during class time in an introductory psychology course or as participants in an undergraduate subject pool in order to gain course credit. Paraprofessionals from the Memphis Suicide and Crisis Intervention Service individually filled out and returned the packets during their assigned shift at the crisis intervention hotline. Graduate students completed the packets either during graduate level counseling courses or on their own time and then returned the packets to the experimenters. All participants gave their informed consent prior to taking part in the study.

Measures

The packets administered to the participants contained the following instruments in counterbalanced order.

Demographic Information. The demographic questionnaire included multiple-choice questions concerning gender, age, marital status, racial identification, level of education, counseling experience and training, personal and professional experience with suicide, and history of psychological counseling received. Of particular relevance to this investigation were extent of counseling training (professional, paraprofessional, or nonprofessional), years of counseling experience, and number of suicidal persons counseled.

Death Attitude Profile—Revised. The Death Attitude Profile—Revised (DAP-R) (Wong, Reker, & Gesser, 1994) contains 32 items on 7-point Likert scales that measure five dimensions of death attitudes: (a) fear of death, (b) death avoidance, (c) neutral acceptance, (d) approach acceptance, and (e) escape acceptance. Examples of items from the DAP-R include "The prospect of my own death arouses anxiety in me" and "Death should be viewed as natural, undeniable, and unavoidable." Wong and colleagues (1994) thoroughly investigated the validity of the DAP-R. The factor scales were found to have internal consistencies that ranged from fair to excellent (alpha coefficients ranged from .65 to .97). Test-retest reliability was established (stability coefficients over a 4-week interval ranged from .61 to .95). Convergent and discriminant validity were also supported by correlating each of the five dimensions of the DAP-R with established measures. Fear of Death was positively correlated with Templer's (1970) Death Anxiety Scale and negatively correlated with semantic differential (SD) ratings of life and death, on which higher scores indicate more positive attitudes. Death Avoidance was negatively correlated with SD ratings of death and unrelated to SD ratings of life. Neutral Acceptance was positively correlated with the Indifference toward Death subscale of the Death Perspective Scale (DPS) (Hooper & Spilka, 1970) and SD ratings of life but not significantly correlated with SD ratings of death. Approach Acceptance was positively correlated with the Death as an Afterlife of Reward subscale of the DPS and to SD ratings of death. Finally, Escape Acceptance was positively related to SD ratings of death, although it was unrelated to SD ratings of life, contrary to predictions.

Suicidal Behaviors Questionnaire. The Suicidal Behaviors Questionnaire (SBQ) consists of four questions from a factor analysis (Cotton, Peters, & Range, 1995) of a larger questionnaire (Cole, 1988). Three items assess the frequency of suicide behaviors in the respondent and a final question asks the respondent to assess the probability that he or she will one day attempt suicide. The responses to these questions can be summed for a total score ranging from a minimum of 0 to a maximum of 16. Research indicates that this abbreviated form of the SBQ has good internal consistency ($r = .75$ for a clinical sample, $r = .80$ for nonclinical sample) and test-retest reliability ($r = .95$ over a 2-week interval). The SBQ also has adequate construct validity as evidenced by its convergence with the Scale for Suicidal Ideation (Beck, Kovacs, & Weissman, 1979) and its negative correlation with the Reasons for

Living Inventory (Linehan, Goodstein, Nielsen & Chiles, 1983).

Suicide Opinion Questionnaire. The Suicide Opinion Questionnaire (SOQ; Domino, Moore, Westlake, & Gibson, 1982) consists of 100 questions regarding attitudes toward suicide as well as factual knowledge of suicide. The SOQ uses a 5-point Likert scale ranging from strongly agree to strongly disagree. This instrument produces eight clinical scales addressing (a) suicide as a reflection of mental illness, (b) suicide threats as "a cry for help," (c) the right to die, (d) importance of religion, (e) suicide and impulsivity, (f) suicide as a normal behavior, (g) suicide as a reflection of aggression and/or anger, and (h) suicide as a moral evil. Examples of items from the SOQ include "Almost everyone has at one time or another thought about suicide" and "People who commit suicide must have a weak personality structure."

Evidence for the reliability and validity of the SOQ has been somewhat mixed. Various factor structures have been proposed for this measure including a five-factor model (Domino, 1980), a seven-factor model (Limbacher & Domino, 1986), and two different fifteen-factor models (Domino, 1985; Domino et al. 1982; Domino & Leenaars, 1989; Swain & Domino, 1985). Additionally, a nine-content-area model has also been used based on rational analysis of the items (Domino, 1980). The scoring method used in the present analysis is based on an eight-factor model developed using a combination of a clinical perspective and an internal consistency approach (Domino, MacGregor, & Hannah, 1989). Domino found the eight factors to have adequate test-retest reliability, ranging from .75 to .86; internal consistency data were not reported. Research by Rogers and DeShon (1992) failed to support the eight-factor model, however.

Because definitive support for any one factor structure is currently lacking, the present investigation provisionally adopted Domino's eight-factor model (Rogers & DeShon, 1992) but attempted to further clarify the measure through a preliminary principal component analysis of its subscales, in combination with the death attitude measure (see below).

Suicide Intervention Response Inventory. The Suicide Intervention Response Inventory (SIRI; Neimeyer & MacInnes, 1981; Neimeyer & Pfieffer, 1994a) was designed to measure competence in choosing appropriate therapeutic responses to suicidal individuals. It contains 25 items, each of which consists of a "client" remark and a choice between two "helper" responses, one of which is deemed facilitative, the other nonfacilitative from the standpoint of crisis intervention theory. A characteristic item portrays a man who laments that his life has been "worthless" since the loss of his wife, Emma, some years before and which concludes with his implication that he "would be better off dead." Response options present a choice between the helper urging him to "think of what Emma would want," namely, that he "continue leading a productive life," and the helper's empathic reflection of his general desolation, followed by an inquiry about any recent precipitants to the current crisis (Neimeyer & Bonnelle, 1997). The score on the original version of the SIRI consists of the number of appropriate options selected.[1]

Convergent validity of the SIRI has been established by demonstrating its correlation with both written and filmed assessments of crisis intervention skills (Neimeyer & MacInnes, 1981; Neimeyer & Oppenheimer,1983), as well as with expert opinion of what constitutes appropriate responses (Neimeyer & Bonnelle, 1997). The

1. Recently, Neimeyer and Bonnelle (1997) constructed and validated a revised version of the SIRI, the SIRI-2, which retains the original items, but alters the response format to reflect deviation from mean ratings of response options made by highly expert suicidologists. This revision effectively removed the ceiling effect that limited use of the original SIRI with respondents having advanced training in the helping professions (e.g., at the doctoral level). We chose to use the original SIRI, however, because of its ease of administration and its appropriateness for the nonprofessional and paraprofessional respondents who comprised the majority of our sample.

instrument's construct validity is reflected in its ability to discriminate between novice and veteran crisis counselors (Neimeyer & MacInnes, 1981), 1st- and 3rd-year medical students (Neimeyer & Diamond, 1983), and masters level psychotherapists and introductory psychology students (Neimeyer & Bonnelle, 1997). Acceptable internal consistency (coefficient alpha = .78–.85) and test-retest reliability (r = .86 over a 3-month interval) have also been demonstrated in several studies (Cotton & Range, 1992; Neimeyer & Bonnelle, 1997; Neimeyer & MacInnes, 1981). Finally, scores on the instrument have been demonstrated to be independent of the potentially confounding factor of social desirability (Neimeyer & Bonnelle, 1997).

RESULTS

Preliminary Analysis

To reduce the subscales of the attitudinal measures to a manageable set of variables, principal components analysis (PCA) of the eight subscales of the SOQ and the five subscales of the DAP-R was conducted. PCA is a method of data reduction whose goal is to find a smaller set of components that extract most of the variance of a larger set of variables (Pedhazur & Schmelkin, 1991). Five components had eigenvalues greater than 1, accounting for 68% of the total variance (Table 2). To enhance the interpretation of the components, varimax rotation was completed on the five component solution, and subscales loading at .50 or above were given primary weight in interpreting each component.

Examination of the rotated component matrix suggested that the components represented five distinct attitudinal dimensions regarding suicide. The first component was defined by high loadings for subscales emphasizing the right to die and the "normality" of the suicidal choice, and moderate reverse loadings for those concerned with the immorality of suicide and the importance of religion. We therefore labeled this component, which accounted for 22% of the variance, Suicide as a Personal Right. The second component included several positively loaded subscales associating suicidal behavior with mental illness, aggression, and impulsivity, and involving moral condemnation of the act from a religious perspective. We therefore labeled this factor, accounting for nearly 17% of the variance, Suicide as Pathology. The third component consisted of positive loadings for neutral acceptance of death and negative loadings for death avoidance and fear of death. We therefore labeled this component, which accounted for nearly 13% of the variance, Death Acceptance. The fourth component consisted of positive loadings on approach acceptance and escape acceptance. We labeled this factor, which accounted for 9% of the variance, Death as Means to an End. Finally, the fifth factor consisted of positive loadings on suicide as an impulsive act and suicide as a cry for help. We labeled this factor, which accounted for 8% of the variance, Suicide as an Impulsive Act. Factor scores were estimated for each case using the regression method and saved for use in analyses described below.

Primary Analysis

Correlational results presented in Table 3 show that several variables were significantly related to suicide intervention skills. Of the professional factors, higher level of training and a greater number of suicidal clients counseled predicted higher SIRI scores. Of the personal factors, Death Acceptance was positively correlated with the SIRI, whereas both the attitude that Suicide is a Personal Right and personal history of suicidality as assessed by the SBQ were negatively related to suicide counseling competency. In contrast, the demographic variables of age and gender were unrelated to scores on the SIRI.

Although the association between respondent variables and suicide intervention skills was the primary focus of the study, the interrelationships among the other variables presented in Table 3 deserve notice. First, and unsurprisingly, there is a positive rela-

TABLE 2
Results of Principal Components Analysis with Varimax Rotation of Death Attitudes (Death Anxiety Profile) and Suicide Attitudes (Suicide Opinion Questionnaire)

Total Variance Explained

	Initial Eigenvalues		
Component	Total	% of Variance	Cumulative %
1	2.799	21.528	21.528
2	2.164	16.643	38.172
3	1.698	13.059	51.231
4	1.132	8.709	59.940
5	1.071	8.238	68.177

Rotated Component Matrix

	Component				
	1	2	3	4	5
Fear of Death	–.168	–.121	–.605	.131	.434
Death Avoidance	.064	.036	–.765	–.136	–.032
Neutral Acceptance	–.054	–.016	.750	.206	.220
Approach Acceptance	–.050	–.163	.418	.775	.092
Escape Acceptance	.074	–.163	.012	.885	–.118
Mental Illness	–.006	.759	–.101	–.107	–.011
Not Real	–.222	.300	.224	–.044	.598
Right to Die	.911	–.074	–.085	.006	.087
Importance of Religion	–.500	.640	.090	.072	.083
Impulsive	.113	.089	–.023	.049	.816
Suicide as Normal	.869	.123	.125	.009	.011
Aggression or Anger	.146	.720	.009	.086	.215
Morally Bad	–.531	.500	.190	–.142	.191

Note. Extraction method: Principal component analysis. Rotation method: Varimax with Kaiser normalization. Rotation converged in eight iterations.

tionship among level of training, general psychotherapy experience, and experience counseling suicidal clients, the largest of which is between experience with suicidal clients and general psychotherapy experience. Second, a number of variables were related to Death Acceptance, which taken together indicate that respondents who had more training in psychology, more general psychotherapy experience, greater experience counseling suicidal clients, and less history of personal suicidal behavior were relatively more accepting of death.

Because previous studies have shown that experience and education are related to suicide counseling ability, we wanted to determine if personal variables added to the ability to predict suicide intervention competencies, over and above the effects of training and experience per se. We therefore performed a hierarchical regression analysis in which the professional variables—level of training (nonprofessional, paraprofessional, or professional), counseling experience, and experience with suicidal clients—were entered first in a stepwise fashion in order to determine their impact on responses to suicidal verbalizations as assessed by the SIRI.

TABLE 3
Pearson Correlations between Suicide Intervention Response Inventory and Personal and Professional Factors

	1	2	3	4	5	6	7	8	9	10	11	12
1 Age (years)	1.00											
2 Sex (1 = M; 2 = F)	−.10	1.00										
3 Training (1 = non, 2 = para, 3 = prof)	.05	.00	1.00									
4 Psychotherapy Experience (years)	.12	−.33**	.51**	1.00								
5 Suicidal Clients (total number)	.17	−.19*	.38**	.70**	1.00							
6 Suicide Behaviors Questionnaire	.04	−.10	−.18*	−.07	−.11	1.00						
7 Suicide as a Personal Right	−.04	.00	−.17*	−.20*	−.05	.05	1.00					
8 Suicide as Pathology	.02	.07	.04	.01	.07	.14	.00	1.00				
9 Death Acceptance	.04	−.14	.35*	.28**	.36**	−.35**	.00	.00	1.00			
10 Death as a Means to an End	.11	−.02	.09	−.07	−.04	−.36**	.00	.00	.00	1.00		
11 Suicide as an Impulsive Act	.03	−.03	.15	.09	.18*	−.08	.00	.00	.00	.00	1.00	
12 Suicide Intervention Response Inventory	.13	−.08	.24*	.14	.23*	−.40**	−.21*	−.15	.27**	.13	.11	1.00

*Correlation is significant at the .05 level (two-tailed).
**Correlation is significant at the .01 level (two-tailed).

We then entered the personal variables (i.e., the five attitudinal components and the SBQ) in stepwise order to determine whether they accounted for a significant proportion of variance beyond the effects of training. The two demographic variables, age and gender, were not significantly related to SIRI scores and so were not entered into the equation.

Because some participants omitted at least one item under analysis, the number of participants included in the hierarchical regression was 90. Of the professional variables, only the number of suicidal clients counseled was retained in the regression model, indicating that those individuals who had more experience specifically with potentially self-destructive clients tended to respond more appropriately to suicidal verbalizations. Once this variable was entered, level of training and years of experience failed to account for any unique variance in the SIRI score. Likewise, entry of the personal variables led to retention of the SBQ and Suicide as a Personal Right in the final regression equation. Both of these variables were negatively correlated with SIRI scores, indicating that those individuals with a history of suicide behaviors and thoughts, and who considered suicide normal and morally acceptable, tended to respond less appropriately to suicidal verbalizations. The addition of these personal factors significantly improved the prediction of SIRI scores beyond that obtained by professional variables alone, accounting for over 20% of the variance in suicide counseling skills, $F\ (1,\ 86) = 7.47$, $p = .001$. See Table 4 for a regression model summary.

Post Hoc Analysis

The correlations in Table 3 suggest that participants with more training tended to have less personal history of suicidal behavior. Therefore we wanted to know if personal history of suicide was predictive of suicide counseling skills even at the highest level of training. To answer this question we correlated the SBQ and the SIRI for those participants who were categorized as professionals. Results indicated that within this professionally trained subgroup, having relatively more extensive personal history of suicide behaviors predicted poorer suicide counseling skills even more strongly than it did for the sample as a whole, $r(36) = -.67$, $p < .001$.

DISCUSSION

The results of this study shed light on attitudes and skill related to suicide intervention at both a psychometric and a substantive level. In the former case, the present principal components analysis of the subscales of the SOQ, in combination with the subscales of the DAP-R, helped identify clearer and more interpretable clusters of suicide attitudes than have been reported by previous investigators. These five components, entitled Suicide as a Personal Right, Death Acceptance, Suicide as Pathology, Death as a Means to and End, and Suicide as an Impulsive Act, could be useful in future survey, correlational, experimental, and outcome studies that investigate suicide attitudes and

TABLE 4
Regression Model Summary

Model	*R*	R^2	*Beta*	R^2 Change	*F* Change	*df*	Sig. *F* Change
1. Number of suicidal clients counseled	.28	.08	.23	.08	7.54	1, 88	.007
2. SBQ score	.41	.17	–.29	.09	8.96	1, 87	.004
3. Suicide as a personal right	.46	.21	–.21	.04	4.53	1, 86	.036

Note. SBQ, Suicide Behaviors Questionnaire.

their amenability to change across the course of relevant education or training.

At a substantive level, the present results are consistent with the idea that suicide counseling skills, as assessed by the SIRI, can be improved by both training and experience in working with suicidal clients. However, it is equally clear that attitudes toward the legitimacy of suicide are related to effective responses to life-threatening crises, with those individuals having more laissez-faire, accepting stances toward bringing about one's own death responding less appropriately to threats of suicide in another. Importantly, the findings suggest that conventional training may not overcome factors in the counselor—such as a personal history of suicidality—that are deleterious to effective intervention.

These results suggest that even trained counselors who have experienced or are currently dealing with their own suicidal tendencies may not respond optimally to their potentially suicidal clients. Additional research is needed to replicate this observation and determine precisely the way and extent to which personal history of suicide behaviors and other personal needs of counselors interfere with appropriate crisis intervention for this vulnerable and demanding population. Furthermore, attention should be given to considering the development of screening strategies to identify counselors who have a history of self-destructive behavior or ideation and professional training strategies to help these individual counselors overcome personal struggles with suicide as it relates to their ability to counsel suicidal clients.

The emergence of Suicide as a Personal Right as a significant predictor of SIRI scores is also of interest. In this sample, considering suicide an unacceptable option was associated with more appropriate responses to suicidal verbalizations. Additionally, Death Acceptance was positively correlated with SIRI scores, indicating that viewing death as a natural part of life rather than something to be feared is associated with more appropriate responses to suicidal verbalizations. Taken together, these results imply that interventionists who maintain their composure in death-related situations, but are not permissive in relation to suicide, are most likely to engage the threat of suicide in a helpful fashion. These findings suggest that personal attitudes regarding suicide may be important for effective counseling with potentially suicidal clients. In combination with the findings concerning personal history of suicidality reviewed above, these results argue for the expansion of suicide intervention training agendas to include personal factors as well as the response skills usually featured in such curricula (Neimeyer, 2000).

A final observation concerns the common theme that united all of the variables that contributed unique variance to the prediction of suicide intervention scores. Of all the various factors whose relationships to suicide counseling skills were investigated, it is noteworthy that those that were retained in the regression analysis all focused specifically on attitudes, behaviors, and experiences with suicide per se, rather than on personal or professional background variables of more general relevance. This pattern provides at least an indirect argument that the appropriate response to suicidal crises is a unique skill, one that is distinctively linked to the interventionist's history with and reactions to situations involving life-threatening behavior.

Although informative, this study has a number of acknowledged limitations that can be addressed in future research. The first of these stems from missing variables. In general, participants responded to most of the questions, omitting a few items throughout the packet. A larger sample size with complete data would increase power to detect more subtle effects only hinted at in the present analyses.

Another limitation of this study is its reliance on graduate psychology and counseling students as representative of professionals. Although this sample might reasonably represent beginning master's-level practitioners, it clearly is not representative of professional therapists in general. Completion of training may be necessary for a training effect to emerge more strongly. Additionally, greater

average longevity in professional practice could permit still stronger effects to emerge for years of experience in counseling. In this sample, training might also be confounded with education; a purer comparison sample of nonprofessionals would be individuals in graduate programs not related to the fields of psychology or counseling.

This study is also constrained by its reliance on cross-sectional data. Further studies should measure relevant variables before and after an educational intervention to determine the effect of training on these variables, as well as its ability to mitigate the impact of deleterious personal attitudes or history of self-destructiveness on suicide intervention.

Perhaps most basically, the finding that a substantial amount of the variance in suicide counseling skills remains unaccounted for in this study points to the need to broaden the search for predictors of crisis intervention competencies. In keeping with the present results, we suspect that such predictors might be found in both the personal characteristics and professional backgrounds of the interventionists. For example, Neimeyer and Pfieffer (1994b) identified such characteristics as avoidance of strong feelings, defensiveness, and passivity as deleterious to effective crisis management, and it is likely that such issues as unresolved grief from suicidal losses could also impair interventionists' responses to self-destructive clients. On a professional level, our focus on *level* of training and experience might be complemented by study of the *type* of training (e.g., values clarification, specific skills or theories taught) and experience (e.g., whether or not suicidal crises with clients were successfully managed), which might contribute to greater counselor efficacy with self-destructive clients.

Finally, studies of suicide counseling *skills* like the current one provide only indirect clues to suicide counseling *outcomes*, whose prediction is ultimately an important objective in its own right. Examination of the correlation coefficients in Table 3 suggests the relationships between suicide intervention skills and the significant predictors range from small- to medium-sized effects (Cohen, 1988). However, the size of the effect does not speak to clinical significance, and more work is needed to understand how differences in the SIRI relate to relevant clinical issues such as suicide intervention outcome or crisis counseling job performance. We hope that the current research suggests at least some useful directions for this further study.

In spite of these limitations, the present findings should prompt serious consideration and further research. The relationship of personal factors to crisis intervention competence deserves more attention than it has received, particularly for those who are likely to encounter, and potentially counsel individuals in suicidal crisis. At a minimum, the results of this research suggest that interventionists working with such persons should examine their own attitudes and propensity toward suicide and the extent to which these facilitate or impede their effective engagement with life-threatening clients.

REFERENCES

ABBEY, K. J., MADSEN, C. H., & POLLAND, R. (1989). Short-term suicide awareness curriculum. *Suicide and Life-Threatening Behavior*, *19*, 216–227.

BECK, A. T., KOVACS, M., & WEISSMAN, A. (1979). Assessment of suicidal intention: The Scale for Suicide Ideation. *Journal of Consulting and Clinical Psychology*, *42*, 861–865.

COHEN, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). New York: Erlbaum.

COLE, D. A. (1988). Hopelessness, social desirability, depression, and parasuicide in 2 college student samples. *Journal of Consulting and Clinical Psychology*, *56*, 131–136.

COTTON, C. R., PETERS, D. K., & RANGE, L. (1995). Psychometric properties of the suicidal behaviors questionnaire. *Death Studies*, *19*, 391–397.

COTTON, C. R., & RANGE, L. M. (1992). Reliability and validity of the suicide intervention response inventory. *Death Studies*, *16*, 79–86.

DAVIDSON, M. W., & RANGE, L. M. (1999). Are teachers of children and young adolescents responsive to suicide prevention training modules? Yes. *Death Studies*, *23*, 61–71.

DOMINO, G. (1980). Altering attitudes toward suicide in an abnormal psychology course. *Teaching of Psychology*, *7*, 239–240.

DOMINO, G. (1985). Clergy's attitude toward suicide and recognition of suicide lethality. *Death Studies*, *9*, 187–199.

DOMINO, G., & LEENAARS, A. A. (1989). Attitudes toward suicide: A comparison of Canadian & U.S. college students. *Suicide and Life-Threatening Behavior*, *19*, 160–172.

DOMINO, G., MACGREGOR, J. C., & HANNAH, M. T. (1989). Collegiate attitudes toward suicide: New Zealand and United States. *Omega*, *19*, 351–364.

DOMINO, G., MOORE, D., WESTLAKE, L., & GIBSON, L. (1982). Attitudes toward suicide: A factor analytic approach. *Journal of Clinical Psychology*, *38*, 257–262.

DURLAK, J. A. (1979). Comparative effectiveness of paraprofessional and professional helpers. *Psychological Bulletin*, *86*, 80–92.

HOOPER, T., & SPILKA, B. (1970). Some meanings and correlates of future time and death among college students. *Omega*, *1*, 49–56.

INGRAM, E., & ELLIS, J. B. (1992). Attitudes toward suicidal behavior: A review of the literature. *Death Studies*, *16*, 31–43.

INMAN, D. J., BASCUE, L. O., KAHN, W. J., & SHAW, P. A. (1984). The relationship between suicide knowledge and suicide intervention skill. *Death Studies*, *8*, 179–184.

KIRCHBERG, T. M., & NEIMEYER, R. A. (1991). Reactions of beginning counselors to situation involving death and dying. *Death Studies*, *15*, 603–610.

LEENAARS, A. A. (1995). Suicide. In H. Wass & R. A. NEIMEYER (Eds.), *Dying: Facing the facts* (pp. 347–384). Philadelphia: Taylor & Francis.

LESTER, D., & LEENAARS, A. A. (1996). The ethics of suicide and suicide prevention. *Death Studies*, *20*, 163–184.

LIMBACHER, M., & DOMINO, G. 1986). Attitudes toward suicide among attempters, contemplators, and nonattempters. *Omega*, *16*, 325–344.

LINEHAN, M., GOODSTEIN, J. NIELSEN, S., & CHILES, J. (1983). Reasons for staying alive when you are thinking of killing yourself: The Reasons for Living Inventory. *Journal of Consulting and Clinical Psychology*, *51*, 276–286.

NATIONAL CENTER FOR HEALTH STATISTICS. (1997). Births, marriages, divorces, and deaths for 1996. *Monthly Vital Statistics Report*, *45*.

NEIMEYER, R. A. (2000). Suicide and hastened death: Toward a training agenda for counseling psychology. *The Counseling Psychologist*, *28*, 551–560.

NEIMEYER, R. A., & BONNELLE, K. (1997). The Suicide Intervention Response Inventory: A revision and validation. *Death Studies*, *21*, 59–81.

NEIMEYER, R. A., & DIAMOND, R. (1983). Suicide management skill and the medical student. *Journal of Medical Education*, *58*, 562–567.

NEIMEYER, R. A., & DINGEMANS, P. M. (1980). Death orientation in the suicide intervention worker. *Omega*, *11*, 15–23.

NEIMEYER, R. A., & MACINNES, W. D. (1981). Assessing paraprofessional competence with the Suicide Intervention Response Inventory. *Journal of Counseling Psychology*, *28*, 206–209.

NEIMEYER, R. A., & NEIMEYER, G. J. (1984). Death anxiety and counseling skill in the suicide interventionist. *Suicide and Life-Threatening Behavior*, *14*, 126–131.

NEIMEYER, R. A., & OPPENHEIMER, B. (1983). Concurrent and predictive validity of the Suicide Intervention Response Inventory. *Psychological Reports*, *52*, 594.

NEIMEYER, R. A., & PFIEFFER, A. M. (1994a). Evaluation of suicide intervention effectiveness. *Death Studies*, *18*, 131–166.

NEIMEYER, R. A., & PFIEFFER, A. M. (1994b). The ten most common errors of suicide interventionists. In A. A. Leenaars, J. T. Maltsberger, & R. A. Neimeyer (Eds.), *Treatment of suicidal people* (pp. 207–224). Philadelphia: Taylor & Francis.

NORTON, E. M., DURLAK, J. A., & RICHARDS, M. H. (1989). Peer knowledge of and reactions to adolescent suicide. *Journal of Youth and Adolescence*, *18*, 427–437.

PEDHAZUR, E. J., & SCHMELKIN, L. P. (1991). *Measurement, design, and analysis: An integrated approach*. Hillsdale, NJ: Erlbaum.

ROGERS, J. R., & DESHON, R. P. (1992). A reliability investigation of the eight clinical scales of the suicide opinion questionnaire. *Suicide and Life-Threatening Behavior*, *22*, 428–441.

SWAIN, B. J., & DOMINO, G. (1985). Attitudes toward suicide among mental health professionals. *Death Studies*, *9*, 455–468.

TEMPLER, D. (1970). The construction and validation of the Death Anxiety Scale. *Journal of General Psychology*, *82*, 165–177.

WONG, P. T., REKER, G. T., & GESSER, G. (1994). Death Attitude Profile-Revised: A multidimensional measure of attitudes toward death. In R. A. Neimeyer (Ed.), *Death anxiety handbook: Research, instrumentation, and application* (pp. 121–148). Washington, DC: Taylor & Francis.

Manuscript Received: December 11, 1998
Revision Accepted: May 20, 2000.