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Effects of Different Telephone Intervention Styles with Suicidal Callers at Two Suicide Prevention Centers: An Empirical Investigation[1]

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To determine the relative effectiveness of telephone intervention styles with suicidal callers, researchers listened unobtrusively to 617 calls by suicidal persons at two suicide prevention centers and categorized all 66,953 responses by the 110 volunteer helpers according to a reliable 20-category checklist. Outcome measures showed observer evaluations of decreased depressive mood from the beginning to the end in 14% of calls, decreased suicidal urgency ratings from the beginning to the end in 27% of calls, and reaching a contract in 68% of calls, of which 54% of contracts were upheld according to follow-up data. Within the context of relatively directive interventions, a greater proportion of "Rogerian" nondirective responses was related to significantly more decreases in depression. Reduction in urgency and reaching a contract were related to greater use of Rogerian response categories only with nonchronic callers.

KEY WORDS: suicide prevention; crisis centers; volunteers; intervention styles; evaluation; chronic callers; telephone services.

Each day, thousands of suicidal callers throughout the world contact community-based suicide prevention and crisis intervention centers for help.

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Despite the proliferation of the centers and their general community acceptance, there has been little systematic research to understand the nature of telephone interventions by volunteers and their effectiveness (Lester, 1993; 1994; Medoff, 1984). Most prior attempts to evaluate the effectiveness of suicide prevention centers have focused on the effect of the presence of a suicide prevention center in an area on the population suicide rate. The results have sometimes been positive (e.g., Bagley, 1968; Lester, 1991, 1993; Medoff, 1984; Miller Coombs, Leeper, & Barton, 1984), but often no significant effects were found (e.g., Ashford & Lawrence, 1976; Barraclough, Jennings, & Moss, 1977; Kreitman, 1976). Such evaluations have two important shortcomings: First, death by suicide is an infrequent event; so, small annual fluctuations in the number of deaths may greatly effect annual suicide rates. Second, these studies ignore the fact that suicide prevention centers claim to do much more than prevent deaths by suicide; they help troubled and depressed people in crisis and they may reduce the likelihood of a nonlethal suicide attempt. Moreover, prior outcome research has generally focused only upon the effects of telephone interventions while ignoring the specific nature of the process of intervention. This study differs from previous investigations in several ways: (a) It explores the proximal effects of telephone interventions by volunteers with individual suicidal callers rather than studying population suicide rates, and (b) it relates proximal effects to process variables describing the nature of the interventions. Furthermore, we assess the relationship between process and outcome measures for two important client populations which traditionally use telephone intervention services: chronic and acutely suicidal persons.

Previous Studies of the Effectiveness of Suicide Prevention Center Activities

Apart from investigations of changes in population suicide rates, the effectiveness of volunteer suicide prevention activities has been generally studied by two methods: evaluation of client satisfaction and observations of changes from the beginning to the end of calls. Client satisfaction studies have invariably had favorable results (e.g., Apsler & Hoopke, 1976; King, 1977; McKenna Nelson, Chatterson, Koperno, & Brown, 1975; Motto, 1971; Rogers & Rogers, 1978; Stein & Cotler, 1973; Stein & Lambert, 1984; Streiner & Adams, 1987; Tekavčič-Grad & Zavasnik, 1987; Wold, 1973). However, satisfaction with the call does not necessarily indicate client improvement. Also, because of the confidential nature of calls, response rates in the satisfactory studies are generally poor (ranging from 40–80%), leaving open the possibility of a bias toward successfully contacting more satisfied clients in follow-up.

A few researchers have attempted to evaluate changes during calls using independent observers and qualitative measures. These evaluations were all conducted in a context where tape-recording of calls was permitted. Knickerbocker (1973) concluded that there was a general improvement from the beginning to the end of calls in anxiety, depression, and self-exploration. Similarly, Echterling and Hartsough (1983) observed significant improvements on three dimensions (affective, behavioral, and cognitive) during telephone interventions.

Based upon our review of outcome measures used in these prior studies, we concluded that it would be desirable to evaluate effectiveness in terms of reliable proximal measures obtained from behavioral data gathered by outside observers. However, for ethical and legal reasons, we did not have the possibility of tape-recording telephone conversations. In the context of this constraint we identified three easily obtainable observable outcome measures relevant to telephone interventions: changes in the suicidal urgency from the beginning to the end of the call, changes in depression, and follow-up information on upholding a contract and not attempting suicide. The measures of changes in urgency and making a contract with the caller are very important components in community telephone crisis interventions. Monitoring depressive mood has been used before to evaluate telephone interventions, but refers more to a psychotherapeutic rather than a crisis intervention model. However, since depression is germane to the psychiatric explanations of the suicidal crisis and the fact that it has been previously investigated with volunteer organizations, we felt this type of measure would complement the other two outcome measures.

The Process of Intervention

In addition to gathering outcome information, this study explores the relationship between the nature of the telephone interventions and the outcome variables. This allows for investigation of whether certain intervention styles seem more beneficial than others. This research was inspired by a debate within the Montreal suicide prevention center over the value of teaching a specific intervention method to volunteers. A literature review revealed that there were no comparative studies indicating what type of intervention style is most effective. The principal investigator in this study was a volunteer consultant with the center and he formulated the present investigation in order to help respond to the center's desire to learn more about the relationship between intervention styles and outcomes.

Most prior research used indirect measures of the accomplishment of tasks during the intervention rather than studying the actual intervention

styles. One such task-oriented method consisted of simply checking if there is systematic collection and registration of information on callers (Kolker & Katz, 1971; Whittemore, 1970). Others simply studied the amount of time it took to actually reach a volunteer helper on the phone (McGee, Richard, & Bercun, 1972). Fowler and McGee (1973) studied if helpers included three "essential" tasks in their telephone intervention: securing the communication with the caller, assessing the caller's condition, and developing a plan of action. Walfish, Tulkin, Tapp, Slaikeu, and Russel (1976) developed a similar task-oriented system which looks at explorations of callers' internal and external resources, exploration of callers' feelings about a contract or a plan of action, an assessment of the clinical nature of the situation, and an exploration of the "practicalities" of the plan of action.

All of the above studies have assumed that certain practices are "good" and others less desirable. However, none of the research tested whether or not certain practices were actually related to more positive outcomes. Similarly, several researchers who examined the process of telephone interventions borrowed their methodology from research on the process of professional psychotherapy (e.g., Garfield & Bergin, 1986; Goodman & Dooley, 1976; Greenberg & Pinsof, 1986; Hill & Corbett, 1993; Kiesler, 1973; Lambert, Christensen, & DeJulio, 1983). These evaluations focused upon measuring what they believed to be facilitative of a therapeutic relationships according to the "Rogerian" model as reflected in the use of a set of well-defined techniques (Rogers, 1951; Truax & Carkhuff, 1967). These techniques (but not necessarily the entire Rogerian therapeutic method) are relevant to lay telephone crisis interventions since they are taught to volunteers in many suicide prevention centers. All previous researchers *assumed* that certain techniques are better than others because they fit a certain theoretical model, but they never tested their assumptions by assessing the relationship between process variables and outcome (Hirsch, 1981; Lester, 1970). Knickerbocker and McGee (1973) found that professionals and volunteers had "a low level" of performance according to criteria established by Rogerian theory. However they found that the nonprofessionals "did better" than the professionals. Genthner (1974) had one confederate caller pretend to seek help from 10 different community hotlines. He found that facilitative techniques, according to the Carkhuff (1968) psychotherapy model were "inadequate." Nevertheless, France and Kalafat (1975) and Kalafat, Boroto, and France (1979) showed that training methods could increase the use of facilitative techniques by volunteers. Carothers and Inslee (1974) suggested that although levels of empathy may be low in telephone interventions, volunteer services have the advantage over professional therapy of being free of charge and available at all times.

Several studies have tried to use more operational clinical constructs borrowed from psychotherapy research. D'Augelli et al. (1978) used a system to categorize helper responses into broad categories: continuing responses, leading responses, and self-referent responses. They concluded that volunteers at a University help-line were "too directive." Crocker (1985) used simulated calls to evaluate verbal responses (open vs. closed questions, reflections, advice), amount of talking time, and levels of comprehension, acceptance, and problem solving. He was also critical of the level of performance of volunteers based upon his assumptions about what is best. Again, these studies were all based upon an a priori model of which qualities are best for *all* interventions, and the researchers all assumed that the desired qualities in crisis intervention are the same qualities previously suggested for nonsuicidal therapy patients. Our study is different in that we focus specifically upon crisis interventions with suicidal callers and we explore the actual relationship between process variables and outcome rather than simply evaluating an a priori model of what is supposed to be best according to a model of psychotherapy. To do so, we had to generate new objective measures of the intervention process which were not limited to the Rogerian model and which could be evaluated in the context of lay telephone interventions, within the ethical constraint of not being able to tape-record calls.

Chronic and Acute Callers to Suicide Prevention Centers

Since the beginning of the voluntary suicide prevention movement, persons involved in telephone intervention have recognized two broad categories of callers: chronic and acute suicidal persons. This distinction between those who are experiencing a recent suicidal crisis and individuals who call a suicide prevention center repeatedly, often many times a week, in a state of "perpetual" crisis over periods of months or years is well documented in descriptions of clinical interventions. However, there has been no empirical outcome research to evaluate if certain intervention styles seem more or less appropriate for acute and chronic callers. In the early 1970s, Wold (1971) and Lester and Brockopp (1970) described a "subgrouping" of callers to the Los Angeles suicide prevention center which they identified as "chronic callers," who were just as likely to have a high suicidal risk as the "average" caller, but who called the center a large number of times over an extended period. Since then, several published articles and presentations at suicidology meetings have suggested how crisis center volunteers may best respond to the needs of chronic callers. McKenna et al. (1975) reported that a crisis center in Winnipeg had more chronically

suicidal than acute callers and suggested the chronic callers often did not improve after telephone interventions. Desmond et al. (1985) suggested that on the basis of their clinical opinion, chronic suicidal clients may fit the diagnostic criteria of the borderline personality disorder. Thigpen and Jones (1977) reported that among five categories of suicidal clients, only the chronic crisis clients have no set client management plan and are handled on an individual basis. Other articles and presentations at meetings for practitioners discuss the challenge of helping chronic callers (Bonie, Raab, & Sheehan, 1986; Lewin et al., 1992; Rudestam, 1978; Sawyer & Jameton, 1979).

All of the above articles and presentations emphasize the clinical importance of distinguishing between chronic and acute callers to suicide prevention centers and often describe the frustration of telephone volunteers in helping chronic callers after a limited number of contacts. When we developed the protocol for this research study, staff and volunteers in the community agencies involved suggested that it would be important to look at differences in the effectiveness of intervention styles for chronic and acute callers. This appears to be the first study to gather empirical data on which intervention styles may prove to be more effective with chronic and acute callers. At the time the present study was conducted, no special guidelines for handling calls from chronic callers differently were in place at either of the centers. We investigated possible differences in the relationship between process and outcome for chronic and acute callers because of the expressed needs of the suicide prevention centers to better understand how they may most effectively help these different types of callers.

METHOD

Participants

Participants were the volunteers at two primarily French-speaking Canadian suicide prevention centers, Suicide-Action Montreal and Carrefour Intervention Suicide, Sherbrooke, Quebec. Both centers are identified only as suicide prevention centers and thus serve almost exclusively suicidal clients, which was not always the case for the "crisis centers" or "hotlines" previously studied. The first center is located in a large metropolitan area and is open 24 hours a day, 7 days a week. Most of its services are delivered by volunteers, particularly the telephone service. Other services include school suicide prevention programs, follow-up with suicidal clients, post-suicide interventions with the bereaved, and training for professional and nonprofessional helpers. The telephone service represented 23,790 hours

of volunteer time for the year 1990-1991, that is, 18,852 telephone interventions (an average of 52 calls per day).

The Sherbrooke center, on the other hand, is located in a smaller community but serves a larger rural area by accepting long distance calls. It is open only from Mondays to Saturdays, 8:00 a.m. to midnight. At other times, there is a recording system giving general information to callers. At Sherbrooke, the volunteers gave 3,936 hours to the telephone service for 1990–1991 and there were 2,587 telephone interventions (an average of 8 calls per day). The centers readily agreed to participate in this study since the research objectives were developed out of a need expressed by the centers to better understand the relationship between the nature of their activities and outcome variables. Center personnel were consulted in all steps of developing the research protocol. Furthermore, the principal investigator (Brian L. Mishara) was involved on a volunteer basis with the Montreal center for over 10 years and had conducted previous studies on stress and coping among telephone volunteers which were well appreciated (Mishara & Giroux, 1993).

After screening, volunteers receive at least 32 hours of training on the nature of suicidal crises and how to help on the telephone. Training includes role plays and is followed by on-line supervision until they are deemed ready to "go it alone." However, unlike the practice in many American centers, no specific style of intervention is taught and there is no practical training in specific active listening skills. Still, some volunteers have a background in human services and have had training in active Rogerian techniques.

We contacted all current volunteers at the two centers who had completed their on-line supervision. Of those contacted, 145 (95%) gave their consent to be part of the study and 110 were finally observed. Not all the volunteers who agreed to participate were observed because of the intermittent schedule of volunteers on vacation or ill and the balanced time sample in this study. Volunteers were informed that someone may listen to some of their calls for research purposes (with the listening device described in the next section), but complete anonymity would be maintained. The sample of volunteers observed had almost identical characteristics to the total population of all volunteers of the two centers. They were mainly women (59%). Their mean age was 32 (SD=11), ranging from 17 to 70, and they were rather new to the field of telephone intervention (M=109 hours of posttraining practice, SD=94).

The clients were 263 suicidal callers to the prevention centers. It is interesting to note that the callers had demographic characteristics similar to the volunteer helpers: 59% were women and the age ranged from 13 to 72 (M=35, SD=12). These clients were often considered "chronic"

(25%), that is, long-time frequent callers with recurring problems. At the moment of the call, they were often previously prescribed psychotropic drugs (52%) or were already followed up by a mental health professional (60%). More important, 71% of callers reported previous suicide attempts and their mean suicidal risk was evaluated at 4.4 on a 9-point evaluation scale (1 = minimal). From these data one may conclude that the overlap with the clients of mental health services is about 60%. However, the other services were not necessarily available to answer the specific problems presented day and night by these clients at the suicide prevention centers.

Apparatus

Listening to the telephone interventions was accomplished through a custom-made electronic device which allowed for unnoticed listening of the calls from a remote area and without any signal on the Prevention Centers' intervention lines.

Process Measure

The intervention techniques were identified by the "Helper's Response List," an instrument we designed which lists 20 possible techniques a practitioner could use in a telephone intervention with a suicidal caller (Daigle & Mishara, 1995). This instrument was derived from pretests with a more exhaustive inventory of 36 well-known techniques used in many different psychotherapeutic approaches. These techniques can also be considered "verbal responses modes" (Hill, 1986) which are the most easily observable behaviors utilized by practitioners in the field. However, categorization schemas of traditional psychotherapy and coding methods for professional interventions do not necessarily apply to this naturalistic study of lay volunteer telephone crisis intervention. We therefore developed what seems to be the first instrument for classifying telephone interventions by lay volunteers. Apart from the specificity of our instrument for volunteer interventions, we had to develop a new instrument because existing instruments used to evaluate psychotherapy relied upon taped interviews which allowed for repeated verifications of coding and classification. Since we were not allowed to tape interviews because of ethical concerns, we had to develop a simplified coding schema which could be reliably coded while listening only once to a telephone conversation.

First, two independent observers conducted a pretest (1,822 ratings) with the exploratory 36-technique instrument. The analyses of their observations (decision matrices) indicated when more than one category

could be applied to the same observed verbal mode. On the basis of the pretest, we simplified the instrument. The final instrument had only 20 categories (Table I) including the two new categories added to cover statements which had not previously been identified: Information/suggestion/advice (S) and Threat (S). These categories involved "Structuring activity" (Stephenson, Ayling, & Rutter, 1976, p. 114) and described what telephone practitioners usually do when trying to structure (S) a sometimes disorganized contact with the callers. For example, "Speak louder, I can't hear you" (Suggestion S) or "Please stop cursing me or I will have to hang up" (Threat S).

Outcome Measures

According to Shneidman (1986) the desired immediate effect of interventions with suicidal individuals is "reduction of perturbation" (p. 13). We included three different outcome measures based upon the availability of data and what was practically possible given the nature and limitations of our observation techniques, two of which may well indicate degree of perturbation in the suicidal callers:

Brasington Depression Scale. Knickerbocker (1973) used a simple 5-point rating scale developed by Brasington to assess the degree of depressive mood in telephone conversations (1=none; 5 =extreme). Knickerbocker indicated that Brasington had reported that three of four raters were in total agreement for 58% of rated tape segments and that disagreement tended to be in the form of a consistent over- or underrating by one of the observers. Knickerbocker (1973) reported interrater reliability of .69 using three independent observers. A similar five-level scale was used to evaluate depression during psychotherapy by Luborsky, Singer, Hartke, Crits-Christoph, & Cohen (1984) and they reported interrater reliability between two independent observers of 87. In our study, observers used this scale to assess the caller's level of depression at the beginning and the end of the call.

Suicide Urgency Scale. This consists of a rating conducted by the telephone volunteer at the beginning of each telephone intervention and at the end of the intervention using a 9-point scale developed by Morissette (1984) to identify the probability of a suicide attempt in the immediate future (within the next 2 days). These ratings range from 1 (minimal urgency) to 9 (committed suicide during the intervention). Morissette did not report any reliability data for this instrument; however these ratings are routinely conducted by all volunteers on each intervention at both centers and constitutes a means of assessing changes in suicidal urgency as evalu-

Table I. Sums and Percentages of Utilization for the 20-Category Helper's Response List at Montreal and Sherbrooke

Category	Total responses (N = 66,953)	Mean percentage of use[a]					
		Montreal		Sherbrooke		Total	
		M	*SD*	*M*	*SD*	*M*	*SD*
Silence	148	0.25	1.06	0.12	0.61	0.23	1.00
Incomplete thought	50	0.06	0.35	0.22	0.95	0.09	0.51
Orientation/investigation	15,447	26.67	12.88	21.04	10.35	25.68	12.65
Acceptance	24,889	31.38	17.45	43.95	15.22	33.60	17.73
Reassurance	2,424	2.46	4.23	4.04	5.07	2.74	4.43
Approval	495	0.58	1.31	0.41	1.12	0.55	1.28
Intentional misinterpretation	14	0.01	0.10	0.00	0.00	0.01	0.09
Moralization	368	0.32	1.39	0.35	1.08	0.33	1.34
Rejection	385	0.53	2.98	0.28	0.92	0.48	2.73
Reflection	4,542	6.82	5.97	6.65	5.72	6.79	5.93
Information/suggestion/advice	8,535	15.00	12.15	16.06	10.46	15.19	11.87
Threat	30	0.05	0.64	0.03	0.25	0.05	0.59
Information/suggestion/adv. (S)	2,689	6.52	8.01	0.41	1.50	5.44	7.65
Threat (S)	13	0.05	0.17	0.00	0.00	0.01	0.16
Clarification/interpretation	5,599	6.99	7.03	5.35	4.94	6.71	6.73
In-depth interpretation	49	0.05	0.57	0.03	0.14	0.05	0.52
Personal experience	221	0.19	0.71	0.12	0.55	0.18	0.69
Third-party experience	51	0.04	0.32	0.03	0.22	0.04	0.31
Projection	37	0.03	0.21	0.01	0.07	0.03	0.20
Information about helper	957	2.03	3.53	0.88	2.43	1.83	3.39

[a]Because of the variations in the length of calls, we report the mean of the proportion of use of each category in the 617 calls.

ated by the telephone helpers themselves. Furthermore, volunteers all received extensive supervision and training on how to make ratings in a standardized manner.

Contract with the Client. Telephone helpers at both centers are trained to make a contract with the caller that involves not attempting suicide and engaging in follow-up activities aimed at developing a long-term resolution of the suicidal crisis. Thus, one indication of the effectiveness of interventions may be the extent to which such contracts were made and whether or not the callers upheld the contract. At the Montreal center clients are asked to call back the center for follow-up on the contract and at the Sherbrooke center volunteers initiate calls to follow-up with callers. Several researchers have emphasized the importance of the rate of follow-up as an indication of effectiveness (e.g., Lester, 1970; Slaikeu, 1984). From the data obtained during the call and subsequent follow-up calls, we were able to identify if a contract was made during the call and if the caller upheld the contract in terms of not attempting suicide and in following through with other aspects of the contract. We categorized the contract results into broad categories: contract made and upheld, contract made but not upheld, no contract and caller hang-ups before completing the intervention.

Procedure

The five observers were graduate students either in psychology or social work and they initially received 3 hours of formal training on the research methodology. Extensive posttraining by listening to actual calls and comparing results was continued until they had reached a sufficient level of interrater reliability (see the following section for reliability data).

The data collection was conducted at two different periods: in 1988 and 1990 at the Montreal suicide prevention center and in 1990 at the Sherbrooke center. Each observer listened to all interventions on the first line to ring during a 4-hour shift. Observers listened to as many different shifts as possible, taking into account the schedule and the necessity to include as many participating volunteers as possible but also to cover all the times of day and days of the week (i.e., 24 hours, 7 days a week at the Montreal center). The observations were made without notifying the volunteer. The ethics committees of the Psychology Department of the University of Quebec at Montreal, the University Ethics committee, and the Ethics committees of the centers approved of our listening to calls, but forbade recording calls. According to the Ethical Guidelines of the centers, confidentiality of calls is guaranteed to all callers, but the calls are not anonymous. The centers ask callers to identify themselves and keep infor-

mation on callers for use in helping callers with follow-up. The centers have occasional confidential listening to calls by supervisors as part of their regular practice and the fact that others may confidentially listen to calls is not hidden from callers. All volunteers and researchers signed an agreement to maintain complete confidentiality and no research records were kept in which callers are identified. After the study was completed, the researchers provided educational activities for the centers to share the results and discuss the implications of the findings. They also offered workshops on the results for center staff and volunteers at provincial and national meetings.

The observer listened to all the calls within a chosen shift, rejecting only the rare calls that were wrong numbers, redirected to the administration of the center (e.g., a call to reach a staff member), or were not related to suicide. For every call, each response by the volunteer was immediately coded sequentially, using the Helper's Response List, into one of the 20 predefined categories. The statements by the suicidal callers, on the other hand, were not analyzed in this study of the process of intervention—this was practically impossible.

Our unit of analysis, the helper's "response," was "all practitioner communication that occurs between two client communications," as defined by Reid (1978, p. 322). In the telephone context, almost all practitioner communications were short and matched only one of our predefined categories. On the rare occasions where two types of techniques seemed to be used within the same unit of measurement, one could reliably be identified as dominating. The chosen category on the instrument could not be changed at a later time, considering the fast pace of the interventions, but also the impossibility to listen to calls again.

Interrater Reliability and Description of Telephone Interventions

Interrater reliability for the Helper's Response List and the description of telephone interventions were reported previously by Daigle and Mishara (1995) and Mishara and Daigle (1992). These previous articles reported on the frequency of occurrence of different intervention categories and described client and helper characteristics at the two centers. The Helper's Response List was shown to be a reliable instrument for rating the target verbal behaviors. Of the 617 calls observed in this study, 117 (19%) were coded by more than one observer to establish the interrater reliability. These 117 calls represented 11,195 ratings on which two independent observers reached a mean agreement of .86 ($\kappa = .80$). Of these

calls, 45 (3,707 ratings) were coded by a third independent observer who reached a mean agreement of .79 (κ = .71). The disagreements occurred mainly within five less utilized categories representing only 1% of the total classification.

Interrater reliability between two independent observers on 117 calls using the Brasington Depression Scale was .81 and, of the 45 calls coded by a third independent observer, there was a mean agreement of .61. With this scale, the reliability corresponds to a correlation (Pearson's *r*) between the observers' ratings, which leaves open the possibility of one of them consistently over- or underestimating. Hollenbeck (1978) suggested that when one of two observers tends to over- or underestimate, they tend to do so in a consistent manner. Since our objective is to compare changes from the beginning to the end of the telephone intervention, such consistent tendencies for over- or underestimation would not affect the reliability of the scale for this purpose, even though interrater agreement would be lessened (Hollenbeck, 1978). We therefore conclude that the level of reliability on the Brasington Scale is acceptable for this type of research. For the 117 calls used to test the reliability of measures, the mean of the two and three raters was retained for analyses.

The suicidal urgency ratings could not be tested for reliability since they are conducted by the individual telephone helpers themselves. However, they have a certain level of face validity, at least as an indication of the volunteer's evaluation of changes from the beginning to the end of the intervention. Information on the completion of a contract and follow-up is based upon written records in the dossier of each caller. These data were unambiguous in the written records and were taken as recorded without interpretation and thus were not tested for reliability.

The 617 calls observed generated 66,953 ratings on the 20-category Helper's Response list. Table I shows the total number of responses for each category. Considering the fact that phone calls lasted from 1 to 110 minutes (M=15, SD=17) these totals could bias a cumulative description of the intervention styles because of the greater influence of the longer calls. Thus, the percentage of utilization of each category was computed separately for each of the 617 calls in order to give each call the same weight. Table I shows the calculated percentages based on the mean utilization per call. Acceptance is, by far, the most utilized category (34%). Orientation/investigation and Information/suggestion/advice follow with 26 and 15% of the total utilization, respectively. Other response categories are used much less frequently.

RESULTS

Outcome Measures

The mean ratings for the three outcome measures are first presented for the chronic and nonchronic callers. Then, these three variables are related to the intervention styles of the helpers and more specifically to their level of use of Rogerian techniques.

The level of depressive mood as observed on the 5-point Brasington scale had a mean decrease from the beginning to the end of the call of .16 (SD=.45) which was significant $t(613) = 8.65$, $p < .001$, paired t test. Nevertheless, the level of depression decreased in only 85 of the 613 calls (14%) and remained the same for the majority of calls (85%) and only increased in 3 calls (1%). The level of depression decreased in 12% of the calls from chronic (repeated) callers and 17% of nonchronic callers, but this difference was not significant.

The mean decrease in the 9-point Suicide Urgency Scale from the beginning to the end of the call was .40 (SD=.78), which was significant, $t(507) = 11.74$, $p < .001$, paired t test. The urgency decreased from the beginning to the end in 138 calls (27%) and increased in only 2 calls (1%); the majority of calls did not indicate a decrease in the urgency rating. The level of urgency decreased significantly, $t(505) = 21$, $p < .05$, two-tailed, more frequently among nonchronic callers (mean decrease .51, SD=.85 in nonchronic callers compared to M=.35, SD=.73 in chronic callers), 24% of chronic callers had decreased urgency compared to 35% of nonchronic callers and this difference was significant ($\chi^2(2) = 11.97$, $p < .01$).

A contract was made with the callers in 68% of the calls. Contracts were more frequently made with chronic callers (79%) compared to nonchronic callers (49%), $\chi^2(1) = 62.86$, $p < .001$. The contracts included having a follow-up contact with the center (those who did not have a follow-up contact with the center were classified as not respecting the contract since no information was provided on other aspects of the contract). Using this conservative classification of respecting contracts, 54% of contracts were considered upheld as indicated in follow-up contacts, however the Sherbrooke center had a higher rate (72%) compared to the Montreal center (50%). This may be due to the fact that the Sherbrooke center systematically calls back each client whereas the Montreal center never calls clients but waits for clients to call them. Because the Sherbrooke center calls back all clients, they were perhaps more able to determine if contracts were upheld or not. It is possible that callers who did not call back the Montreal center upheld other aspects of the contract in terms of, for example, getting help or contacting other agencies but failed to

contact the center to confirm this. No contract was made in 17% of the cases and 14% of calls terminated prematurely by the caller hanging up. In 54% of the calls the contract was upheld and in 14% a contract was made but not upheld. Three of the callers (1%) attempted suicide after contact with the center.

Intervention Process Measures

The 617 response profiles of the calls were analyzed with the cluster analysis method in SPSS (Quick Cluster procedure), using the values of the 20 response categories. This kind of statistical analysis, through a long process of assignment and reassignment, is used to extract a few constellations or patterns out of more complex sets of data. Our analysis of the mean response rates for the 617 calls was able to extract two clusters of intervention styles. This means that these 617 profiles of response could be assigned to one or the other of the styles. The styles were significantly different on 9 response categories. On the basis of differences in response categories we labeled them "Rogerian Style" and "Directive Style" since the responses were generally consistent with previous descriptions of these styles of intervention. Although the fit was not always perfect between our results and the classical styles of face-to-face psychotherapy, these results were similar and thus considered relevant in this context of investigating another form of intervention: volunteer crisis intervention. The same cluster analysis was repeated without the 18% of calls observed at the Sherbrooke center and the analysis generated the same two styles, including the same 9 significant differences. We were concerned that there may be a bias in classification of calls due to the presence of very brief calls. Thus, we repeated the cluster analysis including only calls lasting more than 1 minute. This analysis generated basically the same results.

The cluster analysis classified 391 calls in the category we labeled "Rogerian." These calls had significantly higher mean utilization of three categories: Acceptance, Approval, and Incomplete thought. Although incomplete thought (e.g., "You felt . . .") is not necessarily a component of the classical Rogerian approach, this response occurred infrequently and the overall portrait of callers seemed consistent with Rogerian theory. Six categories were more often used in the Directive style: Orientation/Investigation, Information/Suggestion/Advice, Reflection, Information/Suggestion/Advice (S), Information about helper, Rejection. This style was characterized by significantly more directive responses, with the exception of the category of Reflection. Because of the presence of more directivity in responses, we labeled this a "Directive" style. Although analyses show that only these 9 cate-

gories (out of 20) can discriminate between the two intervention styles, these 9 categories represent 90% of all interventions observed.

Relationships Between Process and Outcome Measures

The two intervention styles we identified were then related to our three outcome measures. Table II shows differences in the effects of intervention for the two styles identified by the cluster analysis. Volunteer helpers using a more Rogerian style had significantly more decreases in depression and were more likely to make a contract with the caller before the end of the call.

We then proceeded to explore intervention styles and outcomes in relation to whether callers could be considered chronic or nonchronic (acute). All 617 calls were classified in three equal groups according to their low, moderate, or high degree of utilization of those response categories that are characteristic of the Rogerian style. When analyses of variance were conducted comparing the three levels of utilization of Rogerian categories and changes in depression with chronic and nonchronic callers, there were no interactions or effects for type of caller but only a main

Table II. Effects of Telephone Interventions with Suicidal Callers: Comparison Between Two Intervention Styles.

	Style of intervention			
	Rogerian	Directive	df	χ^2
Depressive mood[a]	−.20 (.49)	−.08 (.36)		
Decrease	64 (16%)	21 (10%)		
No change	326 (84%)	200 (89%)		
Increase	0 (0%)	3 (1%)	2	10.85*
Urgency[b]	−.44 (.83)	−.33 (.64)		
Decrease	96 (28%)	42 (25%)		
No change	243 (71%)	125 (75%)		
Increase	2 (1%)	0 (0%)	2	1.55
Contract established	281 (72%)	137 (61%)	1	8.57*
Upheld	221 (57%)	111 (49%)		
Not upheld	60 (15%)	26 (12%)		
No contract	62 (16%)	43 (19%)		
Caller hang up	44 (11%)	46 (20%)		
Attempted suicide	3 (1%)	0 (0%)	4	13.68*

[a]Mean changes from beginning to end of call (SD in parentheses). Difference between Rogerian and Directive styles, $t = 3.24$, df = 612, $p < .001$, two-tailed test.

[b]Mean changes in urgency from beginning to end of call (SD in parentheses). Difference between Rogerian and Directive styles nonsignificant.

*$p < .01$.

effect, $F(2) = 7.91, p < .001$. Post hoc analyses showed that the moderate and high levels of use resulted in significantly more reduction in depression from the beginning to the end of the calls (see Figure 1 and Table III).

Analyses of variance for changes in urgency indicated a significant interaction between level of utilization of Rogerian categories and type of caller, $F(2) = 3.69, p < .05$. As shown in Figure 2, and indicated in post hoc analyses (Table III), there was no significant relationship between use of Rogerian categories and changes in urgency among chronic callers; however a high level of use of Rogerian categories was related to significantly greater reductions in urgency among nonchronic callers.

Comparison of the three levels of use of Rogerian categories and whether or not a contract was made showed significant overall differences between high levels of utilization of Rogerian categories and low and moderate levels, $F(2) = 7.32, p < .001$. These differences are illustrated in Figure 3 and show that the significant overall differences are not paralleled among the chronic callers, for whom there are no significant differences in reaching a contract in relation to utilization of Rogerian categories. However in nonchronic callers, greater utilization of Rogerian categories is significantly related to the likelihood of making a contract with the caller before the end of the call. These results are confirmed by chi-square analysis.

Supplementary Analyses

Although there was no empirical basis to predict a relationship between outcomes and certain caller and helper characteristics for which we

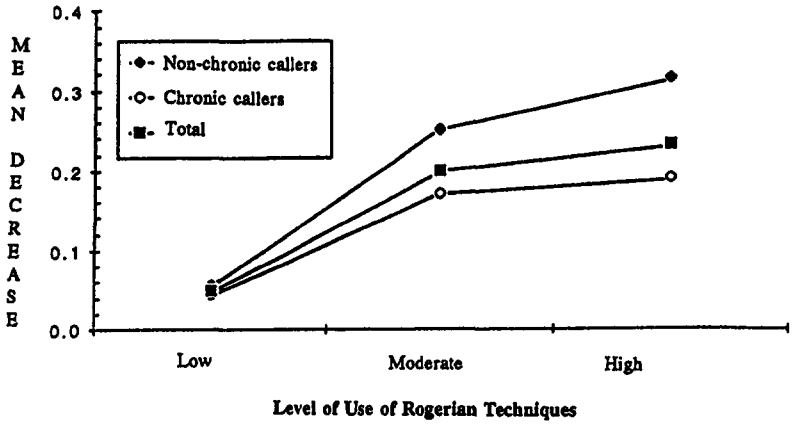

Fig. 1. Changes in depression during telephone interventions according to level of use of Rogerian techniques for chronic and nonchronic callers.

Table III. Effects of Telephone Interventions with Chronic and Nonchronic Suicidal Callers According to Level of Use of Rogerian Techniques[a]

Variable	Use of Rogerian techniques			*df*	*F*	Post hoc tests[b]
	Low	Moderate	High			
Depression						
Chronic	−.04 (0.36)	−.17 (0.48)	−.19 (0.43)	2, 383	4.77[c]	L<M,H
Nonchronic	−.05 (0.23)	−.25 (0.49)	−.31 (0.66)	2, 222	5.47[c]	L<M,H
Total	−.05 (0.32)	−.21 (0.48)	−.23 (0.52)	2, 608	10.13[e]	L<M,H
Urgency						
Chronic	−.34 (0.66)	−.38 (0.75)	−.35 (0.78)	2, 341	0.08	
Nonchronic	−.20 (0.41)	−.54 (0.89)	−.73 (1.00)	2, 160	4.76[c]	L<H
Total	−.30 (0.60)	−.45 (0.81)	−.46 (0.86)	2, 504	2.10	
Contracts upheld (%)						
Chronic	74.6	79.3	84.8	2, 384	2.20	
Nonchronic	33.8	51.1	62.5	2, 223	6.08[c]	L<H
Total	60.4	66.8	77.7	2, 610	7.44	L,M<H

[a]For depression and urgency, the results are mean decreases (SD in parentheses); for contracts, the percentage of calls with contracts established.
[b]Post Hoc Tests (Tukey-HSD procedure) $p < .05$.
[c]$p < .05$, two-tailed.
[d]$p < .01$, two-tailed.
[e]$p < .001$, two-tailed.

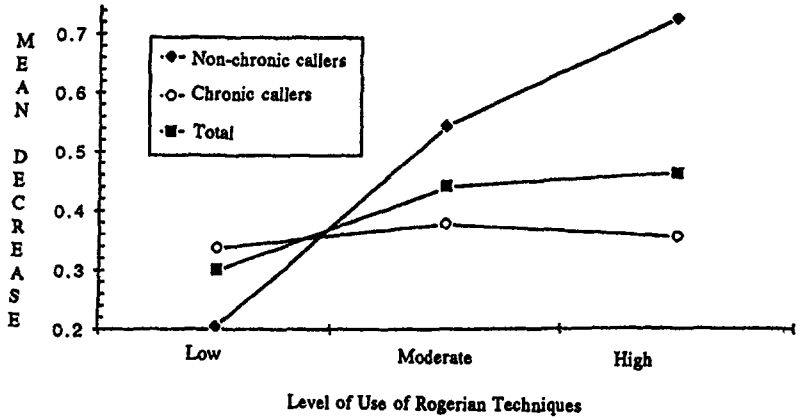

Fig. 2. Changes in urgency during telephone interventions according to level of use of Rogerian techniques for chronic and nonchronic callers.

had data available, we conducted a number of exploratory analyses to study possible relationships that may merit further investigations. We examined the *helper* characteristics of age, number of hours of experience in telephone intervention, and sex. We also explored the *caller* variables of age, sex, previous suicide attempt, indication of presence of mental illness, and current psychiatric follow-up. The only significant relationships we found were (a) a small (r=−.13) negative correlation between the age of the volunteer helper and improvements in depressive mood and decreases in urgency (r=.11); (b) a small but significant tendency for female callers to respect contracts more often than male callers; (c) a small but significant tendency for persons without a current psychiatric follow-up to respect contracts more often than those with current psychiatric follow-up. Since these differences, although statistically significant, accounted for only a small percentage of the variance and were not consistently related to the three outcome measures, these variables were not included in our main analyses.

DISCUSSION

Effects of the Telephone Interventions

The results of this study indicate that the telephone interventions with suicidal clients observed in two suicide prevention centers appear to help a significant number of callers, at least in terms of reducing the urgency of the crisis situation in about one fourth of the calls. Nevertheless, one

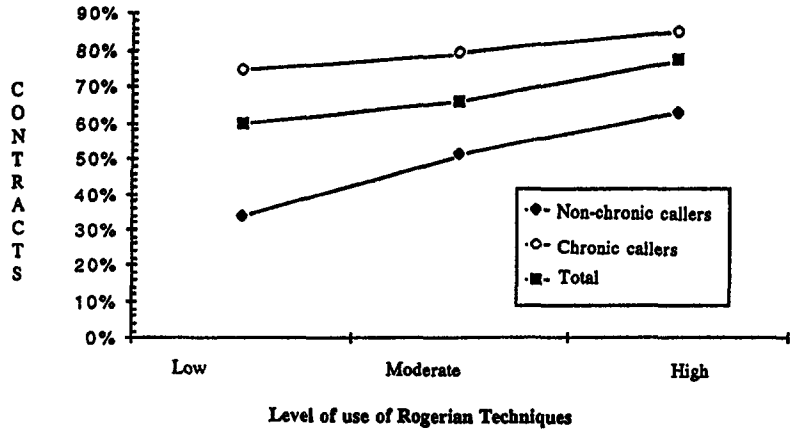

Fig. 3. Percentage of telephone interventions resulting in a contract with chronic and nonchronic callers according to level of use of Rogerian techniques.

must keep in mind that ratings of urgency were made by the helpers themselves and their expectancies could have biased this measure. However, the other measures were taken by "blind" independent researchers and were shown to be sufficiently reliable. Observations of changes in the level of depressive mood from the beginning to the end of the call showed a decrease in 14% of the calls and a majority of the callers had a continued contact with the center and upheld a contract or agreement involving seeking long-term resolution of their problems. Calls rarely had negative effects: In this study only 3 of the 617 calls were rated as increasing in depression from the beginning to the end, and only 2 had increased urgency ratings. Although all 617 callers were suicidal to some extent, with the majority having at least considered how they would end their lives, only 3 individuals were known to have attempted suicide following their contact with the center.

Although a majority of callers could be considered to be on the road to resolving their problems by respecting contracts made with the volunteer helpers, the majority of telephone interventions were not rated as resulting in a decreased level of depression or urgency. This is understandable since serious long-term problems that lead to contemplating suicide should take more than just one telephone contact to resolve. Furthermore, 60% of callers had previous contacts with mental health professionals, indicating the possible presence of serious psychiatric disorders. One may conclude that the telephone interventions were helpful, particularly by initiating a process of resolving the caller's problems, and that the telephone interventions ob-

served in this study showed very little negative effects. It is possible that the low number of attempts following calls indicates that the telephone interventions avoided possible deterioration of crisis situations which may have resulted in a suicide attempt, but this preventive effect is impossible to confirm on the basis of available data.

The Process of Intervention and Its Relationship to Outcome Variables

The method developed in this study for classifying lay telephone interventions was proven to yield a reliable measure of intervention responses. Furthermore, evaluation of response patterns of telephone helpers shows that the classification of calls in terms of their directivity appears to be useful, even though our classification was not strictly the same used in traditional psychotherapy. No specific intervention styles are taught at these suicide prevention centers other than the methods for evaluating suicidal risk and urgency at the beginning and end of the call and developing a contract with the caller (which includes an agreement not to attempt suicide and to have further contact with the center). Under these circumstances in which styles of intervention were not taught, volunteers used their personal styles which varied in terms of the amount of directivity. However, because of the practice of always evaluating risk and urgency and developing a contract with callers, even the most Rogerian calls involved an important element of directive questioning, investigating, and directive suggesting that a contract be made.

Within this context, in which all calls involved directive questioning and suggestions to make a contract, the more the calls used Rogerian nondirective techniques, the more likely that there would be decreases in depression and the establishment of a contract. However, results varied depending upon whether or not the suicidal person was a chronic or repeated caller to the center. High levels of use of Rogerian techniques were more likely to result in a decrease in depression among both chronic and non chronic callers. However, a decrease in the urgency of calls was significantly related to higher levels of Rogerian techniques only among nonchronic callers. This may be due to the fact that chronic callers may have a more long-standing need for help and be less likely to obtain any resolution of their long-term difficulties in one telephone conversation.

Possible Implications

This study constitutes a preliminary attempt at using empirical data on telephone interventions to determine which techniques may be more

effective. Since intervention styles were not specifically taught, they can be seen as characteristics which may be sought out during recruitment and selection of potential volunteers. It is also possible that the training of helpers should include more practice of certain techniques, for example, Rogerian active listening skills, and that the teaching of such techniques would lead to more effective telephone interventions. This information was provided to the centers and inspired a reevaluation of existing training practices for volunteers. However, this study should not be interpreted to advocate using only a Rogerian style without directive questioning to evaluate risk and urgency and to establish a contract with callers. Furthermore, helpers at suicide prevention centers are usually told to be very directive with callers who are at high risk; they are taught to say "Put down the gun" or "Throw away the pills and talk with me." In this context, Rogerian active listening skills are seen as a complement to existing techniques rather than a panacea.

Telephone interventions are different from face-to-face contacts and crisis interventions with suicidal persons are very different from short- or long-term therapy situations. Whenever a caller returns a call to the center they speak with whoever answers the phone; they do not establish a long-term relationship with one individual helper. Because of the specific nature of these calls, one may not be able to generalize from outcome research on psychotherapy to volunteer telephone interventions nor is it possible to use the same evaluation and classification methods in this community context. This study is a preliminary attempt at an empirical investigation of the nature of volunteer telephone interventions and an examination of their effectiveness. The results suggest that chronic or repeated callers may benefit from different types of intervention than non-chronic callers. This fact has been recognized by staff and volunteers at suicide prevention centers, who often experience frustration at dealing with chronic callers. This aspect of the results proved very useful to the agencies when the findings from this study were presented and discussed with the organizations involved.

In this study the outcome measures were limited by the availability of data on callers. We relied upon measures of urgency which are systematically gathered by the telephone volunteers and we included an assessment of depressive mood by the experimenter at the beginning and end of the call. These techniques are rather primitive compared to the more sophisticated and more psychometrically sound methods which may be used in assessing psychotherapy outcomes. However, this was a study of community organizations in their natural context. In this specific context, with confidential calls and tape-recording prohibited, additional information for research purposes cannot be gathered, and available data are generally lim-

ited. Also, it is difficult to imagine how to compare these results to a control group with similar characteristics or in similar crisis situations. All callers are offered the best help available and there are ethical concerns in varying the nature of interventions for experimental purposes or including a non-intervention control group. Since the outcome is the possible death of the caller by suicide, extreme care must be taken to respect the rights of callers when conducting empirical research. Nevertheless, the development of better outcome measures is one of the most important challenges facing researchers interested in studying the effects of volunteer community telephone interventions and the relative effectiveness of different styles of intervention.

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