PREDICTORS OF CALLER FEEDBACK EVALUATIONS FOLLOWING CRISIS AND SUICIDE HOTLINE CALLS

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ABSTRACT

This study investigates the relationship of caller follow-up evaluations to standardized measures of symptom reduction, caller characteristics, and interventions made during calls. Within a national multi-site evaluation of hotline centers, a sample of 710 adult crisis callers and 349 adult suicide callers completed a 21-item quantitative satisfaction measure through a structured phone interview. How callers evaluated their hotline experience two weeks after their call related significantly to standardized measures of their psychological state during and after the calls. The strongest relationships were found between callers' answers to a one-item self-evaluation of Overall Improvement and positive changes in psychological states between the beginning of the call and the two-week follow-up, and between the end of the call and the two week follow-up. For crisis callers, their two-week follow-up single-item evaluations of Overall Improvement related the most to improvements in their mood from the beginning of the call to the two-week follow-up, as measured by a modified version of McNair, Lorr, and Droppleman's (1992) shortened POMS. Secondly, their follow-up evaluation of Overall Improvement related inversely to their current state of Hopelessness, as measured by quantitative responses to two questions regarding "hope for improvement" and "ability to go on" at the time of follow-up. For suicide callers, their single-item follow-up evaluation of Overall Improvement related the most to degree of reduction in their Hopelessness from the end of the call to the two-week follow-up. Secondly, it also related to the degree of reduction in Psychological Pain (Shneidman, 1993) from the beginning of their call to the two-week follow-up. Smaller but also significant relationships were found between predictors and follow-up evaluations of factor-analyzed categories of Improved Problem-Solving

and Emotion Regulation. Thus, hotline client follow-up evaluations of Improvement showed some validity, in that they had relationships with pre- and post-psychological measures. The meaning and usefulness of follow-up caller feedback as an outcome measure are discussed.

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This dissertation is dedicated to John Kalafat. Dr. Kalafat was far more to me than a boss, a teacher, or even a mentor in that he took on the role of a friend, was a constant cheerleader, and a huge source of strength. After his death, Dr. Monica Indart invited me to help teach his Crisis Intervention course. One of the students in the course identified how intimidating the topic is for many people, and both the approach and avoidance we feel around taking on and looking at these aspects of human experience: loss of control, suicide, death. John never pulled away, never retreated from this important work, not when the conversations became difficult, not in reaction to the vast systemic issues involved in program evaluation with crisis hotlines, not in the face of the messiness of such large-scale and ground-breaking research. John took on projects that harnessed entire communities and their resources, challenging existing beliefs, norms, and biases. He waded through endless bureaucratic nightmares. He taught, trained, and investigated within environments and with individuals who were sometimes seeking and sometimes rejecting what he had to say. He was an incredibly patient man who saw himself within a very big picture. His vision was tremendous.

I loved having John as my friend. In an often understated way, he was always ready to be there for the people he cared about. He knew how to listen and how to *show* that he was listening. I think of a description that I read in a novel, by Yann Martel. “I was filled with a sense of peace. What arrested me was my intuitive understanding that he was there-open, patient-in case someone, anyone, should want to talk to him; a problem of the soul, a heaviness of the heart, a darkness of the conscience, he would listen with

love. He was a man whose profession it was to love, and he would offer comfort and guidance to the best of his ability."

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CHAPTER I

INTRODUCTION

Crisis Intervention and Suicide Prevention by Telephone

As the 11th ranking cause of death in the United States alone, resulting in a national rate of 11 deaths per 100,000, suicide is a global problem (American Association of Suicidology, 2008). Claiming almost 1 million lives annually world-wide in 2000, suicide rates have increased by 60% in the last 45 years (World Health Organization, 2009). 32,439 lives were lost through suicide in the United States in 2005. Another way of looking at this is that on average one person completes suicide every 16.1 minutes in the United States. Suicide greatly exceeded the rate of homicide, which has ranked 15th in the U.S.A. for the last 100 years (Bureau of Justice Statistics, 2001; Bureau of the Census, 1976; Hoyert et al., 2001; Minino & Smith, 2001; NCHS, 2001; NCIPC, 2000). Suicide ranks 3rd as a cause of death for ages 15 to 24 (American Association of Suicidology, 2008; McIntosh, 2003). The suicide rate is highest for the elderly (65+) than for any other age group. Four times more men than women complete suicide, however three times more women than men attempt suicide. Suicide occurs across all ethnic, economic, social, and age boundaries. Surviving loved ones not only suffer the loss of a family member or friend, but are also themselves at a significantly higher risk for suicide and emotional problems.

Suicide is often viewed as a solution to a crisis that is causing an individual unmanageable distress. A crisis refers to "an acute emotional upset arising from situational, developmental, or sociocultural sources and resulting in a temporary inability to cope by means of one's usual problem-solving devices" (Hoff, p.4, 1995). Telephone Crisis Services (TCS) were founded in the 1960's as a way to provide free, confidential, immediately accessible help to people in crisis, including people who were contemplating or planning suicide. In particular, their goal was to interrupt the trajectory toward suicide by decreasing the severity of the crisis state and developing alternate coping strategies and plans as well as referrals to relevant services.

The conceptual bases for the crisis intervention model include the following: a) Crises are time limited and present an opportunity for positive or negative outcomes, depending on the application of effective or maladaptive coping strategies, respectively; b) Many behaviors such as alcohol/drugs, interpersonal aggression, or self-harm/suicidal behavior involve maladaptive responses to crises; c) Crises are characterized by increases in anxiety, which produce cognitive constriction and limit problem solving ability; and d) Due to the failure of usual adaptive coping mechanisms and heightened vigilance, individuals are more open to intervention (Caplan, 1964; Kalafat, 2002; Rapoport, 1965). Based on these concepts, implications for intervention include: a) Interventions must be readily accessible so as to provide adaptive responses to crises and attenuate or prevent maladaptive outcomes; b) Due to reduction in defenses, a relatively brief intervention has the potential to have a significant impact; c) A collaborative intervention that includes active problem solving and mobilization of internal and external resources is necessary to

take advantage of the opportunity for growth presented by crises (Brockopp, 1973; Kalafat, 2002).

The high prevalence of such telephone crisis services and their high usage warrants research so that the most effective services can be provided. For example, there are over 350 Befrienders International Centers, associated with The Samaritans, across 40 countries (Scott, 2000), and there are over 1000 teen suicide hotlines alone in the United States as of 1992 (CDC, 1992). Hotlines and crisis intervention services include an array of services ranging from anonymous or non-anonymous phone counseling for suicidal individuals and/or their family and friends, face-to-face counseling, and referrals by professionals, paraprofessionals, and/or volunteers with various training. These services can intervene during an acute suicidal crisis and connect individuals to mental health services that they might not otherwise seek (Goldsmith, 2002). Certification is available through the American Association of Suicidology for North American phone help lines, and from the Samaritans for membership in Befrienders International, based in London, England. Yet accreditation or membership does not require formal and standardized evaluation of services, nor is monitoring of services provided (Mishara & Daigle, 2001). Mishara and Daigle (1997) state that one of the most important challenges facing researchers of telephone crisis interventions is the development of better outcome measures. Stein and Lambert (1984) concluded that callers' and telephone workers' reported outcomes of effectiveness were supportive of telephone interventions, and some limited evidence existed that the presence of telephone crisis services may be associated with decreased incidence of suicide. However, as will be discussed further in the literature review, effectiveness of telephone crisis services remains equivocal.

Purpose of the Study

Understanding effectiveness first includes callers' perspectives on their experiences and encounters with services. Thus, a focus on effectiveness requires the analysis of customer satisfaction (Moore & Kelly, 1996). Criticism of satisfaction with services research in general has identified an absence of empirical data linking satisfaction to other psychological assessments of clients, thus limiting its value as an indicator of the success of helplines. In particular, research has not been done examining the relationship between initial distress, end of call distress, and satisfaction with hotline services, an investigation pursued in this study that will allow for a richer understanding of the meaning and value of satisfaction feedback in evaluating hotlines. In addition, the meaning of the construct of satisfaction can be clarified by addressing the relative relationship of end-point adjustment versus degree of improvement (pre- to posttreatment changes) to satisfaction, and the use of multiple outcome measures. The purpose of this study is to investigate satisfaction feedback by studying the relationship of satisfaction to different initial, end of call, and follow-up outcome measures, and to do so in a hotline setting. Calls will also be analyzed according to whether they were general crisis intervention or suicide calls.

CHAPTER II

LITTERATURE REVIEW

Consumer Satisfaction and Feedback

Despite a multitude of telephone crisis services, there exists limited systematic research to understand the nature and outcomes of crisis interventions (King, Nurcombe, Bickman, Hides, & Reid, 2003; Mishara & Daigle, 1997). The following are several reasons for the scarcity in research (Apsler & Hoople, 1976): 1) Evaluation methods are difficult to implement when the callers are anonymous; 2) Evaluation techniques are often too expensive for individual hotline services; and 3) Volunteers of crisis telephone services often refrain from systematic data collection because they perceive the process as unnecessary or impinging on callers' well-being. Stein and Lambert (1984) stated the following recommendations for future evaluation research: (a) Evaluations should sample multiple hotline services instead of the more common single service site evaluation; (b) The use of multiple assessment approaches should be incorporated into evaluation research; (c) Caller feedback should be gathered through less biased assessments than previously used in research; for instance, crisis telephone workers should avoid asking callers to rate their helpfulness during the initial phone intervention.

Also, limitations in the research have included assessments that are indirect and narrow in scope. It has been determined that clients can often make more reliable judgments about themselves than clinicians (Joiner, Walker, Rudd, & Jobes, 1999).

Joiner, Walker, Rudd, and Jobes (1999) found that clinicians took a conservative, "better-safe-than-sorry," approach and viewed patients as more suicidal than patients viewed themselves (p. 451). However, at follow up several months later, patients' self reports were better than clinicians' views at predicting suicidality. Young (1989) provided the rationale for obtaining caller self report as the most direct and reliable evidence of the caller's own experience. Also, it has been proposed that caller follow up is crucial to the development of evaluation in telephone counseling (Young, 1989). Understanding effectiveness from the participant's perspective is particularly important for outcome research, given the lack of agreement, in previous research, among clients, therapists, and trained judges (Hill & Lambert, 2004).

The National Institute of Mental Health (NIMH) developed guidelines for meeting the evaluation requirements for federally funded mental health agencies and suggested that assessment of client satisfaction be one index used to measure program effectiveness (Edwards, Yarvis, Mueller, & Langsley, 1978). Pascoe (1983), acknowledging the varying definitions of this concept, defined client satisfaction as "the recipient's reaction to the context, process, and result of his service experience" (p. 189). Previous research on the effectiveness of hotlines and crisis intervention has assessed changes in the rate of suicide in communities served by hotlines. Goldsmith (2002) criticizes this research through the identification of at least two methodological problems. First, suicide is a low-base rate behavior and studies typically include those who both did and did not have contact with the services in the community. Second, suicide prevention accounts for only 5–20 percent of the services provided by many such organizations (Eastwood et al., 1976; France, 1982; Knickerbocker & McGee, 1973; Lester, 1972).

Hence, the noted changes in mental health status of the community may be attributable to other aspects of the hotlines' work. In addition, hotline evaluations that focus on outcome measures alone have been shown to be biased towards the researchers' preconceived ideas of what is or is not important (Lee, 1999).

The use of client satisfaction feedback in the evaluation of hotline services is supported by Simington, Cargill, and Hill (1996). Their research found that qualitative and quantitative measures of satisfaction produced important and unique data regarding effectiveness of suicide prevention, crisis interventions, service delivery, referral information and follow-up care. This method of program evaluation demonstrated the effectiveness of utilizing patient satisfaction in assessing outcome and process variables in crisis intervention. However, their study was limited by a small number of subjects.

There has been published research evaluating hotline services through the use of satisfaction feedback. Typically, users of hotline services tend to report high satisfaction (Goldsmith, 2002). A number of studies have found that between 60% and 80% of individuals report positive experiences with the hotlines (e.g., King, 1977; Motto, 1971; Reese, Conoley, & Bossart, 2002; Stein & Lambert, 1984; Tekavcic-Grad & Zavasnik, 1987). It is hypothesized that these findings may be inflated due to reporting bias, since response rates to these previous inquiries range from 40–80 percent and may disproportionately include those who found the intervention helpful. Lee (1999) conducted a program evaluation of a crisis and information center. The study attempted to identify callers' experiences of the intervention and assess aspects of satisfaction, including the degree to which their needs were met, their overall sense of satisfaction, and their willingness to utilize services again. Through a semi-structured interview and

satisfaction survey at follow up, 50 suicidal men and women demonstrated high levels of satisfaction with telephone services. The small size of the sample in this study limited the power of the quantitative measure. Slem and Cotler (1973) found that 68% of high school students rated their local hotline services as helpful and meeting their expectations. In another study, King (1977) sampled college students who had used telephone crisis counseling and found that 82% of females and 67% of males rated the service as somewhat to extremely effective.

Possible confounding variables with satisfaction surveys in program evaluations include length of treatment, the therapeutic relationship, client and therapist demographics, social desirability, and mental illness. Length of treatment has not been found to consistently impact satisfaction feedback (Warner, 1996). The client-therapist relationship is regularly correlated to satisfaction, where clients are more satisfied when the therapist is warm, active, empathetic (Tanner, 1981). In addition, greater therapist communication skills (Kenny, 1995; Sheppard, 1992) and the presence of a stronger therapeutic working alliance (Bieschke, Bowman, Hopkins, & Levine, 1995) are related to greater client satisfaction. Client and therapist demographics are not consistently found to affect client satisfaction (Frank et al., 1977; Kenny, 1995; Tanner, 1981). However, Bjorngaard, Ruud, and Friis (2007) found that greater satisfaction was associated with being female and being of older age. Social desirability failed to significantly influence the level of clients' satisfaction with services (Gaston & Sabourin, 1992; Hendriks, Smets, Vrielink, Van Es, & De Haes, 2006). However, the relationship between client satisfaction and mental illness remains unclear, where satisfaction is sometimes significantly higher (Damkot, Pardiani, & Gordon, 1983; Hueston, Mainous, & Schilling,

1996) and sometimes significantly lower (Perreault, Rogers, Leichner, & Sabourin, 1996) for clients with mental health diagnoses compared to controls. Lee (1999) found no significant difference between satisfaction and individuals' levels of suicide risk.

Lebow (1982) summarizes the principal problems in consumer satisfaction research as a lack of validity, restricted range of responses and a tendency toward halo responses, distortion within clients' evaluation, and a lack of demonstrated relationship between satisfaction and treatment success. However, Lebow (1982) goes on to argue that validation problems are correctable. Satisfaction data have intermittently been found to discriminate between services and aspects of treatment. This collaborative approach can foster stronger relationships between facilities and communities and initiate further program evaluation, and the client's unique point of view remains essential and should not be presumed distorted. The client's view remains important because it exerts a profound influence on the course of treatment, especially to the extent that it determines use, reuse, and premature termination and is thus a necessary condition for treatment success. Consumer satisfaction is also regarded as an important goal of treatment in and of itself (Morrison, 1978; Windle & Paschall, 1981).

The investigation of consumer satisfaction is particularly interesting because it provides information about the acceptability of different psychosocial interventions, providing quality assurance and social validity data, as well possessing a moderate relationship to the client's view of treatment outcome (Sabourin et al., 1989). Lebow (1982) compiled the following relevant suggestions for future research using consumer satisfaction: consider satisfaction in conjunction with other indices, study in sites other than community mental health centers, use multitrait-multimethod designs (Campbell &

Fiske, 1959) assessing relationships between aspects of satisfaction and between satisfaction and other treatment outcomes, focus on dissatisfactions underlying a general view of satisfaction, and give attention to the views of dissatisfied clients (Larsen et al., 1979) or early terminators, which should prove useful in attempts to improve treatment. Larsen et al. (1979) determined several strategies for improving the usefulness of satisfaction data and also recommended that within-program comparisons be made. Suggestions for such comparisons have included: a) focusing on dissatisfaction data between subgroups within a program or aspects of the program with which patients are less satisfied; b) relating satisfaction with expectations; and c) utilizing behavioral measures of satisfaction in addition to questionnaires, such as measuring actual patient recommendation of the program to others. In addition, direct measures of patient satisfaction (measuring more specific aspects of care that the individual received) should be utilized when evaluating specific aspects of a program's interventions (Lee, 1999).

As previously mentioned, one of the weaknesses of satisfaction measures thus far is that there has been little systematic investigation of their relationship to other outcome measures (Greenfield & Attkisson, 1989), although their use as a quality-assurance measure has presumed a high relationship with other, more traditional, measures of outcome. Research mostly on psychotherapy treatment has indicated that the correlations between satisfaction and other outcome measures are low to modest, with correlations generally ranging from approximately zero to 0.40 (Attkisson & Zwick, 1982; Carscaddon, George, & Wells, 1990; Edwards, Yarvis, Mueller, & Langsley, 1978; Fiester, 1979; Garfield, Prager, & Bergin, 1971; Greenfield & Atkisson, 1989; Nguyen, Attkisson, & Stegner, 1983). However, Lambert, Salzer, and Bickman (1998) found non-

significant correlations between symptom change and satisfaction, suggesting that the measures are distinct and unrelated for their adolescent sample and that satisfaction could be equally high regardless of whether symptoms got better or worse in their sample. Lunnen, Ogles, Pappas's (2008) results indicated that satisfaction was not significantly related to symptomatic change. Symptomatic change did not explain either a significant proportion of variance in client satisfaction or significant other–rated satisfaction in their sample. Lunnen, Ogles, and Pappas (2008) did find that satisfaction and perceived change were significantly related from all 3 rater perspectives. Satisfaction was also significantly related to end-point functioning from the client and significant other perspectives. Neither Lunnen and Ogles, (1998) nor Pekarik and Wolff (1996), found a relationship between the Reliable Clinical Index (RCI) statistic (Jacobson & Truax, 1991) and client satisfaction.

The following recent studies have found modest relationships between satisfaction feedback and symptom change. Deane (1993) examined client satisfaction and outcome by surveying 93 subjects using the Client Satisfaction Questionnaire-8 and found a positive correlation between satisfaction and improvement of symptoms for both client and therapist rated outcome measures. Wise (2003) used the RCI statistic and the Client Satisfaction Questionnaire-8 to evaluate an Intensive Outpatient Program and found that the "Improved group" was significantly more satisfied than either the "Indeterminant" or the "Deteriorated" groups. Multiple other studies showed significant positive correlations between improvement of symptoms and increased psychological functioning with greater treatment satisfaction (Ankuta & Abeles, 1993; Bieschke et al., 1995; Bjorngaard, Ruud, & Friis, 2007; Holcomb, Parker, Leong, Thiele, & Higdon,

1998; LaSala, 1997; Pekarik & Wolff, 1996; Pickett, Lyons, Polonus, & Seymour, 1995). Previous research has included several methods for conceptualizing outcome, including measures of symptomatic change, perceived change, and end-point functioning. Measurement of symptomatic change generally involves within-group comparisons of pre-treatment and post-treatment psychopathology on some established instrument. Measures of perceived change require a retrospective judgment (usually global) of the amount of change experienced as a function of treatment. Instruments measuring end-point functioning assess the client's present functioning—typically at the conclusion of therapy or some defined follow-up date. Collectively, the literature on satisfaction provides a somewhat mixed and inconclusive picture of the relationship between satisfaction and symptomatic improvement.

Relationship between Process and Outcome

Minimal literature exists indicating what types of intervention and what style/approach is most effective in telephone counseling services (Mishara & Daigle, 1997). Most prior research that looks at particular interventions (process variables) implements indirect measures of tasks accomplished during the intervention instead of 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 for callers to actually reach a volunteer helper on the phone (McGee, Richard, & Bercun, 1972). Fowler and McGee (1973) studied if helpers incorporated 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 safety 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.

Rarely has the research tested whether or not certain practices were actually related to more positive outcomes for hotline users. Similarly, several researchers who examined the process of telephone interventions employed 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). More specifically, these evaluations focused upon measuring what was believed to be facilitative of therapeutic relationships according to the "Rogerian" model of treatment 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. Previous researchers *assumed* that certain techniques are better than others because they fit a certain theoretical model, but they did not test their assumptions by assessing the relationship between process variables and outcome (Hirsch, 1981; Lester, 1970).

Several studies have tried to use more operational clinical constructs borrowed from psychotherapy research. D'Augelli et al. (1978) categorized helper responses into broad categories in their evaluation: 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-giving), amount of talking time, levels of comprehension, acceptance, and problem solving. Again, these studies were all based upon an a priori model of which qualities are best for *all* interventions, and the researchers assumed that the desired qualities in crisis intervention are the same qualities previously suggested for nonsuicidal therapy patients.

It is important to 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 theoretical model of psychotherapy. Rigorous designs investigating the active ingredients of a treatment require that three statistical relationships be established. The first is between the therapist actions and outcome, the second between the client process and outcome, the third between the therapist actions and the client process. Greenberg claims that only when all three above links are established can a path to outcome become established (Stiles et al., 2006).

In regards to theory about the goals and effective interventions used within telephone crisis services, the helping model (Kalafat, 2002) identifies critical aspects of “emergency therapy” by telephone. The helping model highlights the need to reduce maladaptive cognitive and affective components of the crisis state, to reduce maladaptive coping, and to help the caller find a plan for coping with the situation that precipitated the crisis and/or another helping agency that can provide further assistance. In order to accomplish those goals, Kalafat (2002) emphasizes the value of establishing a relationship, maintaining contact, and obtaining information; the identification and focus on the caller’s central problem; evaluation of the lethality of the threat; assessment and

mobilization of the caller's resources; and formulation and initiation of the therapeutic or rehabilitative plans.

Qualitative satisfaction data also gathered from Gould, Kalafat, Munfakh, and Kleinman (2007), as well as Kalafat, Gould, Munfakh, and Kleinman's study (2007), allows for the generation of helpful and unhelpful interventions in Telephone Crisis Services that are not influenced by a priori theoretical assumptions related to a preconceived treatment model. Their study, which will be described in greater detail in the methods section of this paper, gathered qualitative data during follow up calls with a very large sample of crisis and suicide callers. They asked two open-ended questions: "Thinking back to the call you placed to the crisis line, can you tell me how the call was helpful to you?" and "Can you tell me what was not helpful about the call?" Many categories developed from the positive ratings accounted for a small percent of the responses. However, the top six categories of responses for both suicide and crisis calls (>6% of responses) support the logic of telephone crisis services. The most frequent comments by callers describe empathic helpers who listened and allowed the callers to talk about their concerns, helped them to calm down and think more clearly, and provided options for dealing with their concerns. The services were described as readily available and the helpers willing to stay on the line as long as needed. In addition, 14% of suicide callers said that the call prevented them from harming or killing themselves (note that calls that involved rescue procedures were excluded from the study and counselors tended to not request consent for follow up with higher risk suicide callers).

In addition, qualitative feedback was gathered regarding what was not helpful to crisis callers (Gould et al., 2007; Kalafat et al., 2007). The most common problem

identified was with the referrals provided by crisis staff (23.2% of responses; 5.6% of callers). Some of the referrals were not appropriate for the caller's problem, but primarily the difficulties with referrals were due to the agencies to which callers were referred. The nature of these difficulties included cost, waiting lists, and unhelpful responses. The next most frequent concerns were about inadequate solutions to problems. The callers raised concerns that they were not given any help on how to solve their problem: "they just comforted me" (10.8%; 2.6%) or were given unproductive suggestions/solutions (10.3%; 2.5%) (e.g., "He said things I already know"). Callers also indicated that crisis staff asked too many questions (10.8%; 2.6%); yet the "calls were too short" (8.3%; 2.0%). Callers also identified unhelpful characteristics of some counselor demeanor (e.g., condescending, not concerned, abrupt) (8.8%; 2.1%). For suicide callers, the most frequent negative feedback also concerned problems with the referral (10.8% of responses; 23.7% of callers). Other concerns were raised about unhelpful interventions (e.g., condescending, not concerned, abrupt) (16.9% of responses; 3.7% of callers), unhelpful solutions/suggestions (12.1%; 2.6%), and counselors not adequately identifying the problem (8.4%; 1.8%). Six respondents stated that the call was too short (7.2%; 1.6%) and six stated that the helper asked too many questions (7.2%; 1.6%). Five of these most frequently raised concerns were also among the most frequent negative feedback responses for crisis callers.

Mishara and Daigle (1997) conducted a study in which they related quantitative process measures to assessment of outcomes. They found that within the context of relatively directive interventions, a greater proportion of "Rogerian" nondirective responses was related to significantly more decreases in depression. A greater use of

Rogerian response categories were also related to reducing urgency and reaching a contract, but only with non-chronic callers. With the goal of further linking the process of intervention to positive change outcomes in callers, Mishara et al. (2007) monitored 2,611 calls to 14 helplines and found that empathy and respect, as well as factor-analytically derived scales of supportive approach (validation of emotions, giving moral support, good contact, reframing, talking about own experience, and offers to call back) and collaborative problem solving were significantly related to positive outcomes. But active listening (reformulation, reflecting of feelings, questions on emotions, empowering towards resources, empowering to develop a plan of action) was not related to positive call outcomes. Collaborative problem solving, one of the factors found to be related to positive outcomes, involves asking fact questions on the problem, questioning about resources, suggesting ways to solve the problem, questions on precipitating events, proposing a no-harm contract, suggesting a plan of action, and offering referrals. Traditionally viewed as unhelpful, behaviors of telling the caller what to do, reading information, challenging the caller, making value judgments, and moralizing, were not significantly related to positive or negative outcomes according to their results.

Research Purpose and Design

In summary, there is an important need for studies on crisis/suicide hotline client feedback that samples multiple hotline services, uses multiple assessment approaches, and accomplishes this through less biased assessments than previously used in research (Joiner, Walker, Rudd, & Jobes, 1999; Stein & Lambert, 1984; Young, 1989). Research using consumer satisfaction should consider satisfaction in conjunction with other indices, study in sites other than community mental health centers, and use multitrait-

multimethod designs (Campbell & Fiske, 1959) assessing relationships between aspects of satisfaction and between satisfaction and other treatment outcomes (Larsen et al., 1979).

This study will provide new analyses to a data set that is already collected. The previously conducted study addresses past limitations in the research literature in the following ways. The study involved a national multisite evaluation, increased sample size and involved multiple hotline services, and thus provided a sample that allows greater generalizability. Multiple assessment approaches were used in evaluating interventions, including outcome measures collected from callers' self reports near the beginning and the end of calls, and at a follow up call, as well as caller feedback not elicited during the phone intervention itself and using research interviewers. These independent evaluators conducted the follow up interviews to reduce bias concerning service effectiveness and self report outcome measures. Response rate was increased from past studies (e.g., Widener & Becker, 1997) because independent evaluators contacted callers, as opposed to having the callers contact the service for a follow up.

Outcome measures were gathered in the previous study in the form of quantitative satisfaction data addressing the recommendations in previous research that callers' evaluation of their own experience be used in the study of crisis hotlines. The quantitative results will provide a picture of the satisfaction for the average client, and address specific components of the intervention as opposed to overall satisfaction, allowing for comparisons of satisfaction across these aspects of intervention within TCS.

And in order to evaluate the meaning and importance of client feedback, satisfaction outcomes will be linked to caller characteristics and to process variables in

order to determine whether certain caller characteristics and process variables predict level of satisfaction. Satisfaction data will be associated with other outcome measures such as immediate, intermediate, and post call reductions in suicidality or crisis states and hopelessness, as the research literature emphasizes the importance of clarifying the relationship between satisfaction and treatment goals/outcomes such as symptom reduction (Pekarik & Wolff, 1996).

CHAPTER III

METHOD

Participants

Telephone Crisis Services

As previously reported in Gould et al. (2007) and Kalafat et al. (2007), eight telephone crisis services were selected for this study, the main criteria being: organizational stability (determined by the center being in operation for at least five years), call volume, quality assurance processes, use of internal call monitoring, and willingness to adopt agreed upon standardization of call record keeping and evaluation procedures. The eight participating centers were located in six states (2 Midwest, 4 Northeast, 1 South, and 1 West). Seven of the centers were members of a national 1-800-suicide network. The annual call volume in the eight centers ranged from 7993 to 85,000 calls per year. Telephone counselors in the centers were either all paid (4), all volunteer (3), or a mixture of both paid and volunteer (1). Crisis centers required all of their counselors either to participate (3), participate on a volunteer basis (2), or used specific criteria to select only a portion of their counselors (3). For the centers selecting only a portion of their counselors, the criteria for participation included: requiring all but the overnight staff to participate (1); selecting only paid staff to participate (1); or selecting only those with extensive crisis counseling experience (1). A total of 240 counselors in the 8 centers conducted the baseline assessment with callers, with participation in each

center ranging from 9 to 70 counselors, and the average number of baseline assessments conducted per counselor in each center ranging from 2 to 33 assessments.

Baseline Cohort-crisis callers

The targeted population for this study was adult non-suicidal individuals who were experiencing a crisis (Gould et al., 2007; Kalafat et al., 2007). A crisis was defined as an upset state precipitated by events with which an individual currently felt unable to cope. Between March 2003 and July 2004, counselors conducted 2702 baseline assessments of 5168 eligible callers (52.3% participation rate). Of these, 1613 were crisis callers (25.9% male and 74.1% female; 4 crisis callers not coded at baseline). 1357 of the crisis callers (90.1%) called the center's local crisis hotline telephone number and 149 (9.9%) called a national 1 800 network that connected callers to local crisis lines**.**

Of the 5168 eligible callers, 2466 (47.7%) callers were not assessed: 788 because call volume was too high; 654 because callers' suicide risk status was too high; 648 callers refused or hung up, 226 because counselor thought not appropriate to assess, and 150 because of phone problems. 87,459 calls were received by the participating counselors. 82,291 (94.1%) callers met exclusion criteria and were not assessed because they were only calling for information and referral but were not in crisis (31,862 (38.7%)), were third-party callers also not in crisis (16,664 (20.3%)), were intoxicated and/or belligerent callers (13,986 (17.0%)), were frequent chronic callers (12,619 (15.3%)), were minors (2,732 (3.3%)), were non-English speaking (2,381 (2.9%)), or were not in a mental state fit to complete the assessment (2,167 (2.6%)).

Follow-Up Cohort-crisis callers

Between April 2003 and August 2004, 801 (49.5%) follow-up assessments were conducted from the 1617 crisis callers who completed the baseline assessment (23.6% male and 76.4% female; age range: 18 - 85 (mean 37.6 years); ethnic distribution: 57.3% White, 26.0% African American, 13.1% Hispanic, 1.4% other, 1.3% Native American, and 1.0% Asian (ethnicity not coded for one caller)), between 1 and 52 days from the baseline assessment date, with the average being 13.5 days (Gould et al., 2007; Kalafat et al., 2007). Follow-up assessments were not conducted for 816 (50.5%) because either callers refused at baseline (470 (57.6%)), callers gave the crisis counselors invalid contact information (124 (15.2%)), callers were not asked if they wanted to receive a follow-up call (often because the caller had to quickly terminate the call or hung up) (69 (8.5%)), or callers gave consent for follow-up contact but the follow-up interviewers received passive or active refusals at follow-up (153 (18.7%)). Crisis callers who participated in the follow-up assessment were significantly more overwhelmed and received significantly more referrals from counselors than crisis callers who were not followed, though were similar with regard to crisis state at the beginning of the call and to changes in their crisis state from the beginning to the end of the call.

Baseline Cohort-suicide callers

The other targeted population for this study was adult suicidal individuals who were calling one of the eight participating centers/hotlines (Gould et al., 2007; Kalafat et al., 2007). Between March 2003 and July 2004, counselors conducted 1085 assessments of suicidal callers (39.4% male and 60.6% female). If individuals called a center more than once during the data collection period they were only assessed during their first

contact with the center. 72% of assessed suicide callers called the center's local crisis hotline telephone number, the remaining called 1-800-SUICIDE. 277 of the 426 calls received on the 1-800-SUICIDE line (65%) were suicide calls. 654 nonparticipants were not assessed because crisis counselors (using their own clinical criteria) considered the callers' to be in an acute suicidal state, so efforts to moderate their suicidality and/or initiate rescue procedures took precedence over the administration of our standard risk assessment (described below). Other callers were not assessed because call volume was too high, the caller refused/hung up, the counselor determined the caller not appropriate to assess, or because of phone problems. We could not differentiate suicidal from non-suicidal crisis callers among the non-assessed callers, resulting in us not having a precise estimate of the total number of suicidal callers; the lower bound of the estimate is 1739 (1085 + 654), yielding a 62.4% participation rate (upper bound).

Follow-up Cohort-suicide callers

Between April 2003 and August 2004, 380 (35.3%) follow-up assessments were conducted from the 1085 suicide callers who completed the baseline assessment (30.3% male and 69.7% female; age range: 18 - 72 (mean 36.1 years); ethnic distribution: 66.3% White, 15.2% African American, 10.2% Hispanic, 3.5% Native American, 3.2% Asian, and 1.6% Other (ethnicity not coded for six callers)). Follow up calls were conducted between 1 and 52 days from the baseline assessment date, with the average being 13.5 days (Gould et al., 2007; Kalafat et al., 2007). 705 suicidal callers had no follow-up assessment because either: callers at baseline refused re-contact (311 (44.1%)); callers at baseline were not asked by the counselors if they wanted to receive a follow-up call (often because the caller had to quickly terminate the call or hung up) (273 (38.7%));

callers gave consent at baseline for follow-up contact but the follow-up interviewers received passive or active refusals at follow up (63 (9.0%)); or callers gave the crisis counselors invalid contact information (58 (8.2%)). Significantly more suicidal callers (38.7%) compared to crisis callers (8.5%) were not asked for consent at baseline. Comparing suicide callers who participated in the follow-up assessment to those who did not, there were no significant differences in suicide state (intent to die, hopelessness, and psychological pain) from the beginning to the end of the baseline call. However, suicide callers who did not participate in a follow-up assessment were significantly more intent on dying ($F=15.3$, $p<.001$), more hopeless ($F=14.2$, $p<.001$), more likely to be rescued ($P^2 = 19.9$, $p<.001$), and less likely to be given a referral ($P^2 = 24.9$, $p<.001$) at baseline.

Measures

See Appendix A for the script of the baseline assessment, Appendix B for the follow-up assessment, and Appendix C for the telephone consent.

Profile of Mood States: Modified (POMS-M)

The POMS-M was adapted and used to assess callers' crisis state or level of distress (Gould et al., 2007; Kalafat et al., 2007). The POMS has been used in hundreds of investigations to measure transient mood states (McNair et al., 1992) using a "RIGHT NOW" time frame. The POMS-A (24 items) is a shortened version suitable for use with adolescents as well as adults (Terry et al., 1999). "Tension-anxiety," "depression-dejection," "anger-hostility," "fatigue-inertia," "confusion-bewilderment" and one positive state, "vigor-activity" are the factors that have been derived for the POMS based on factor analytic studies (McNair et al., 1992; Norcross et al., 1984; Rhoades et al.,1993; Usala & Hertzog, 1989). "Fatigue-inertia," and "vigor-activity" were excluded for this

study to facilitate the use of this assessment during a crisis call. The lowest loading item for each of the domains to be administered was also eliminated. Two items were added to the assessment: "helpless" and "overwhelmed," to capture the words most commonly expressed by crisis callers to describe how they are feeling. A total score on the POMS-M was the sum of all 14 items. Callers were asked to rate their feelings on a scale (Not at all, A little, Moderately, Quite a bit, Extremely) near the beginning of the call, again at the end of the call, and at the follow-up interview.

In our sample of crisis callers who received follow up calls, Cronbach's alpha for POMS-M was 0.852 at the beginning of the call, 0.921 at the end of the call, and 0.940 at the follow-up call, indicating that the items form a scale that has good internal consistency reliability.

Hopelessness

To assess feelings of hopelessness callers were asked two questions. Responses to the first question, "To what degree do you feel that there is no hope for improvement in your situation in the future? As you look into the future, do you see things getting better in your life?," were rated from 1 = Nothing will change, things will stay bad, to 5 = Sure that the future will be better (then subsequently recoded so that higher scores indicated more hopelessness). Responses to the second question, "To what extent does the following belief, which I am about to say, describe how you are feeling right now? I don't think I can go on," were rated from "not at all" to "extremely." The scores on the two questions were averaged for a score of "Hopelessness." These questions were asked near the beginning of the call, again at the end of the call, and at the follow-up interview.

Suicide Risk Status

The suicide risk assessment consisted of questions assessing callers' suicidal ideation and behavior, intent to die, hopelessness, and psychological pain (Gould et al., 2007; Kalafat et al., 2007). The assessment was shaped by Chiles and Strosahl's (1995) book on the assessment, treatment and case management of suicidal patients and the chapter on psychiatric and psychological factors in a report by the Institute of Medicine (Goldsmith et al., 2002), both showing evidence supporting Shneidman's (1993) concept of psychological pain as a contributing factor to suicidal behavior. The empirical risk factors reviewed by Joiner et al. (1999) and the factor-analytic study of the Modified Scale for Suicidal Ideation (Joiner et al., 1997) also influenced the assessment. The crisis center directors on an Advisory Board and crisis center counselors who piloted the assessments provided input on practical considerations as to the feasibility of conducting a risk assessment within the context of a telephone intervention.

To assess suicidal ideation and behavior, callers were asked about: any thoughts of suicide, the persistence of those thoughts, and the control over thoughts (three questions); whether the callers considered suicide the only possible option to solve problems (one question); about current plans (one question plus narrative of "how," "when," and "where"); whether the callers had taken any action or preparations to kill or harm him/herself immediately prior to the call (one question); and three questions assessing past attempts (lifetime occurrence, number of attempts, and whether treatment was required). These questions were asked at the beginning of the call and reassessed at the follow-up assessment.

To assess intent to die, hopelessness, and psychological pain, callers were given three a priori scales which were asked at the beginning of the call to the center and repeated at the end of the call and at the follow-up (Gould et al., 2007; Kalafat et al., 2007). These measures were chosen in collaboration with an Advisory Board with particular input from the crisis center directors, and constituted the three major outcomes of the study (for suicide callers) because they were considered to be appropriate targets for an intervention plan and because their attenuation during a crisis call was deemed to be critical. The items within the intent to die, hopelessness, and psychological pain domains were each rated on a 5-point scale, and averaged to derive each scale score. Higher scores indicated greater severity of the particular domain. Intent to die was assessed by asking callers, "How much do you really want to die?" and "How likely are you to carry out your thoughts/plans to kill yourself?" (correlation of the items = 0.43). Hopelessness was assessed by asking callers how hopeful they felt about the future and whether they felt they could go on (correlation = 0.32). Psychological pain was determined by assessing current hurt, anguish and misery (not physical pain) and whether callers could tolerate the way they felt if their current situation did not change (correlation = 0.47). The correlations of the scales at the beginning of the call were 0.52 (intent to die and hopelessness), 0.38 (intent to die and psychological pain), and 0.43 (hopelessness and psychological pain).

In our sample of suicide callers who received follow up calls, Cronbach's alpha for psychological pain was 0.552 at the beginning of the call, 0.639 at the end of the call, and 0.622 at the follow-up call, indicating that the items form a scale with less than minimally adequate reliability and inconsistent reliability levels.

As well, in our sample of suicide callers who received follow up calls, Cronbach's alpha for intent to die was 0.600 at the beginning of the call, 0.619 at the end of the call, and 0.635 at the follow-up call, indicating that the items form a scale with minimally adequate reliability.

Lastly, in our sample of crisis callers who received follow up calls, Cronbach's alpha for hopelessness was 0.424 at the beginning of the call, 0.354 at the end of the call, and 0.444 at the follow-up call, indicating that the items form a scale with less than minimally adequate reliability. In our sample of suicide callers who received follow up calls, Cronbach's alpha for hopelessness was 0.444 at the beginning of the call, 0.500 at the end of the call, and 0.703 at the follow-up call, indicating that the items form a scale with less than minimally adequate reliability (aside from the follow-up call time point) and variable reliability levels.

Follow-up Interview

The following measures were employed only during the follow-up interview:

Plan of Action Compliance

Plan of Action Compliance was determined by asking a set of questions assessing whether callers remembered, agreed with, and followed through with action plans developed by the crisis counselor and caller at baseline. Action plans ranged from "looking for a new job" to "taking a walk to calm down." Verbal responses as to why they did not agree or completely follow through were recorded as text responses if applicable.

Service Utilization and Compliance

Service Utilization and Compliance was determined by asking a set of questions assessing whether callers agreed with and followed through with referrals given to them by the crisis counselors at baseline. Questions to callers consisted of whether they remembered receiving referrals, the type of referral(s) received (emergency services, mental health services, social services, and information and referral services), the extent of agreement with the referral(s), and the extent of follow through. Verbal responses from the callers as to why they did not agree or follow through with the referral were recorded (as text responses) if applicable. Two independent raters recoded these narrative responses (examples of codes were, "services too far away", and "unable to pay for service").

Client Feedback on Call

Client feedback about the baseline call consisted of two open-ended questions followed by 21 close-ended questions. The two open-ended questions about what was helpful or not helpful about the original call were asked first: "Thinking back to the call you placed to the crisis line, can you tell me how the call was helpful to you?" and "Can you tell me what was not helpful about the call?" Follow-up interviewers made verbatim notes of callers' responses. These questions were asked at the beginning of the follow-up call to create the opportunity for an unbiased report of what was helpful and unhelpful that was not influenced by the subsequent twenty-one close-ended questions (Gould et al., 2007; Kalafat et al., 2007). The close-ended questions involved 21 separate items. The first item asked "Overall, did the crisis line help you deal more effectively with your problems?" and had a 5-point rating scale ranging from "no, it made things a lot worse"

to “yes, it helped me a lot.” Then there were 17 items that asked about specific helper interventions, emotion regulation, and relationship with counselor, all using a 4-point rating scale reversed for analyses to 1=not at all, 2=a little, 3=moderately, 4=a lot. There was also an item asking “if a friend were in need of similar help, would you recommend the crisis line to him or her?” with a 4-point rating scale ranging from “definitely not” to “definitely yes.” There was an item asking “in general, how satisfied were you with the crisis line?” answered with a 4-point rating scale ranging from “very dissatisfied” to “very much satisfied.” Finally, there was an item asking “overall, since the call you made to the center, are you worse, about the same, or better?”

A principal components analysis was performed on 13 of the 21 quantitative feedback items to examine their intercorrelations and also to reduce the number of dependent variables for analysis (Table 1). Feedback items were removed from the factor analysis if their kurtosis value in the sample of suicide or crisis calls exceeded +/- 3 or if their skewness value in the sample of suicide or crisis calls exceeded +/- 2. The analysis, with varimax and Kaiser normalization, yielded two principal components with 57% of the variance accounted for by the first 2 factors. The skree plot showed that after the first two components (eigenvalues of 6.379 and 1.067), differences between the eigenvalues decline (the curve flattens), and they are less than 1. Within the tests of assumptions, the test of Kaiser-Meyer-Olkin Measure of Sampling Adequacy was greater than 0.70 (0.941) indicating sufficient items for each factor. The Bartlett’s Test of Sphericity was significant (less than 0.05), indicating that the correlation matrix is significantly different from an identity matrix, in which correlations between variables are all zero.

Table 1
Principal Components Analysis

	Factor Loading	
	Factor 1: *Improved Problem-Solving*	Factor 2: *Improved Emotion Regulation*
Helped you think more clearly?	0.54	
Provided you with accurate information?	0.80	
Provided you with a new perspective?	0.54	
Helped you identify options for dealing with your concerns?	0.71	
Helped you consider the consequences of your actions?	0.68	
To what extent did you feel the counselor helped you to calm down?	0.60	
" " did you feel relieved?		0.74
" " did you feel comforted?		0.69
" " did you feel more hopeful?		0.77
" " did you feel less anxious?		0.77
" " did you feel more confident and in control?		0.79
" " did you feel the caller gave you some hope?		0.61

The items cluster into two groups defined by their highest loadings, only items with loadings over .50 were chosen in the interpretation of the factors. The first factor represents Improved Problem-Solving, and includes the following 6 items: “helped you think more clearly?”, “provided you with accurate information?”, “provided you with a new perspective?”, “helped you identify options for dealing with your concerns?”, “helped you consider the consequences of your actions?”, and “helped you to calm down?” The first factor accounted for 31.936 % of the variance in the sample. The second factor represents Improved Emotion Regulation, and includes the following 6

items: “to what extent did you feel relieved?”, “to what extent did you feel comforted?”, “to what extent did you feel more hopeful?”, “to what extent did you feel less anxious?”, “to what extent did you feel more confident and in control?”, and “to what extent did you feel the counselor gave you some hope?” The second factor accounted for 24.950 % of the variance in the sample. One item, “overall, since the call you made to the center, are you better/about the same/worse?” was not included within the two factors because loadings less than 0.5 were omitted. That item will be considered separately in analyses as Overall Improvement. Table 1 displays the items and factor loadings for the rotated factors, with loadings less than .50 omitted to improve clarity. The study participants’ scores on these three components, Improved Problem-Solving, Improved Emotion Regulation, and Overall Improvement, were computed for use in subsequent analyses.

Cronbach’s alpha for the 6 items of the Improved Problem-Solving scale was 0.829 in our crisis calls sample and 0.823 in our suicide calls sample, indicating that the items form a new scale with very good internal consistency reliability. Cronbach’s alpha for the 6 items of the Improved Emotion Regulation scale was 0.874 in our crisis calls sample and 0.892 in our suicide calls sample, indicating that the items form a new scale with very good internal consistency reliability.

Procedure

Design Overview

Training

Center staff.

The research team trained the crisis centers' staff on the baseline administration protocols by either directly training the counselors (in five of the centers) or by training

one or more of the crisis center members, who then trained the centers' counselors (in the remaining three centers). Criteria for excluding calls from the assessment were developed in collaboration with center directors from the Advisory Board and included: individuals who called only for information and referral but were not in crisis; third-party callers; intoxicated and/or belligerent callers; frequent chronic callers; minors; non-English speaking callers; and callers who were not in a mental state fit to complete the assessment.

For all non-suicide crisis calls, counselors were instructed to conduct the POMS-M and hopelessness assessments; no other changes in the centers' usual crisis procedures or interventions were promoted. To ensure that the call would flow smoothly and not feel like a structured interview, counselors were trained to ask questions by incorporating them into their own centers' standard assessment and intervention procedures and helping styles. Counselors were encouraged to use their own language and style to ask questions, and encouraged to use common crisis intervention language such as, "it sounds as if", or "I'm wondering." If a caller spontaneously provided answers to questions, counselors were trained to go ahead and code the responses (and not ask the questions). The training also included role-playing and subsequent discussions about what was or was not working after each role-play.

For suicide crisis calls, center counselors conducted baseline assessments (Time 1) near the beginning of calls, prior to providing intervention services to callers. If callers had any thoughts about killing themselves, the suicide risk assessment was conducted. Because the researchers tried to minimize interference with the usual interactions between the counselors and the callers, and not all counselors felt comfortable initiating a

suicide risk assessment without some clinical indicator (such as depression, or some veiled threat), centers' counselors were not required to routinely initiate the risk assessment. The suicidal crisis was either identified by the crisis worker after an assessment of risk, or self-defined by the caller. Counselors conducted another assessment at the end of the call (Time 2) upon completing the intervention. This assessment included a subset of the initial questions to determine whether the intervention reduced callers' suicidal status. To ensure all eligible callers were being assessed, local data coordinators reviewed the centers' call records on an ongoing basis and compared them to completed assessments. If potentially eligible callers were not assessed, the coordinators reviewed the call records for these callers with the crisis counselors. Immediately preceding the end of the calls, counselors asked callers (using a standardized script) if the research team could contact them in one to two weeks to see if they were interested in participating in the follow-up assessment. For suicide callers, safety procedures included asking suicide callers if they had done anything, including preparatory behavior, to hurt or kill themselves before they called the crisis center, stopping the interview if a caller was in imminent danger, and initiating the crisis centers' standard rescue procedures (the assessment only continuing if it was helpful to keep the caller engaged while waiting for emergency rescue services to arrive).

Follow-up interviewers.

Follow-up interviewers were paid members of the project evaluation staff, not crisis center staff (to ensure independent follow-up assessments), and they had either telephone crisis counseling experience or equivalent clinical training and experience. Follow-up interviewers were trained on how to: maintain client confidentiality during

follow-up contact, obtain informed consent, retain control of the interview while administering the assessment in a compassionate manner, and conference callers back to the crisis center when they met criteria for the required conference call as described in the Safety Procedures section. As previously mentioned, training consisted of instruction and role-playing.

Interviewers for follow-up assessment of suicide crisis callers were also trained on criteria to determine whether callers needed intervention at follow-up. Crisis callers were determined to need intervention if they had a past plan or actual attempt at self-injury since speaking with the center, or had a serious intent to die at the time of the follow-up interview. The intervention consisted of follow-up interviewers re-connecting callers back to the center they had initially phoned, either by having callers call back the center immediately after completing their interviews, or by obtaining callers' consent for the center to contact the callers and then contacting the center and giving them the callers' contact information and details as to why the caller needed intervention.

A confidentiality certificate was obtained from SAMHSA's Department of Health and Human Service. The project's protocol was approved by Rutgers Graduate School of Applied and Professional Psychology and the New York State Psychiatric Institute/Columbia University's Institutional Review Boards.

CHAPTER IV

RESULTS

The statistical analyses were conducted with SPSS statistical software, version 14.0. Given the number of comparisons, results will be considered significant at $\alpha < .001$, but results at $\alpha < .01$ will also be presented.

The data were analyzed for missing data and any variables with over 15% of data missing were excluded from the study.

Descriptive Statistics

In both crisis and suicide call samples, means for the 21 quantitative satisfaction feedback items typically fall between 3- "moderately" and 4- "a lot" on items with scales ranging from 1 ("not at all") and 4 ("a lot"). However, the suicide sample's means for the following three items are lower, between 2- "a little" and 3- "moderately": "To what extent did you feel more hopeful?," "To what extent did you feel less anxious?," and "To what extent did you feel more confident and in control?" On both the crisis and suicide call samples for the item: "Overall, did the crisis line help you deal more effectively with your problems?" the mean is mid-way between 4- "yes, helped a little" and 5- "yes, helped a lot." On both the crisis and suicide call samples for the item: "Overall, since the call you made to the center, are you worse, about the same, or better?" the mean falls between 2- "about the same" and 3- "better."

Table 2 provides a summary of the scale directionalities, valences, and descriptive statistics for the study's dependent and independent variables. The three dependent variables consist of the two scales and the single item developed from the principal components analysis of the 21 satisfaction feedback items.

Group Differences

The mean for the Improved Problem-Solving scale is 3.36 (standard deviation 0.65) for the sample of crisis calls, and 3.37 (standard deviation 0.64) for the sample of suicide calls, with no significant difference found between the two groups ($p=0.818$). The mean for the Improved Emotion Regulation scale is 3.21 (standard deviation 0.75) for the sample of crisis calls, and 3.05 (standard deviation 0.80) for the sample of suicide calls. Table 3 shows that crisis callers are significantly different from suicide callers on the Improved Emotion Regulation scale ($p< 0.01$). Inspection of the two group means indicates that the average Improved Emotion Regulation scale score for crisis callers is significantly higher than the score for suicide callers. The difference between the means is 0.16 on a 4-point scale. The effect size *d* is 0.209, a smaller than typical relationship strength. Lastly, the mean for the Overall Improvement item is 2.70 (standard deviation 0.53) for the sample of crisis calls, and 2.67 (standard deviation 0.53) for the sample of suicide calls, with no significant difference found between the two groups ($p=0.44$). Within the group of independent variables, the crisis callers had significantly higher scores than suicide callers on the variable for Total Referrals ($p<0.01$), indicating that crisis callers received a greater number of referrals from counselors than suicide callers. The difference between the means for Total Referrals is 0.19 points on a 4-point

Table 2
Descriptives for Study Variables

Variables	Directionality	Crisis calls		Suicide calls	
		Range	*M (SD)*	Range	*M (SD)*
Improved Problem-Solving scale	greater value indicates greater satisfaction 1 to 4	3	3.36 (0.65)	3	3.37 (0.64)
Improved Emotion Regulation scale	1 to 4	3	3.21 (0.75)	3	3.05 (0.80)
Overall Improvement	1 to 3	2	2.70 (0.53)	2	2.67 (0.53)
Age		67	37.64 (12.29)	54	36.11 (11.69)
Gender	1=male, 2=female	1	1.76 (0.42)	1	1.70 (0.46)
Race	1=White, 2=Not White	1	1.42 (0.49)	1	1.33 (0.47)
Socioeconomic Status	0=no insurance, 1=has insurance	1	0.65 (0.48)	1	0.56 (0.50)
Mental Health Problems	0=no, 1=yes	1	0.54 (0.50)	1	0.63 (0.48)
Physical Health Problems	0=no, 1=yes	1	0.15 (0.36)	1	0.18 (0.38)
Addiction Problems	0=no, 1=yes	1	0.14 (0.34)	1	0.19 (0.39)
Number of days between baseline and follow-up assessments		51	13.03 (8.33)	47	14.52 (8.68)
POMS-M T1	greater value indicates greater distress (not at all to extremely) 0 to 56	53	33.33 (11.12)		
POMS-M T2		56	24.04 (12.72)		
POMS-M T3		56	17.24 (13.80)		

Table 2 – continued

Variables	Directionality	Crisis calls		Suicide calls	
		Range	*M (SD)*	Range	*M (SD)*
Hopelessness T1	greater value indicates	4	2.55 (1.03)	4	3.28 (0.94)
Hopelessness T2	greater hopelessness	4	2.10 (0.89)	4	2.71 (0.87)
Hopelessness T3	1 to 5	4	1.76 (0.85)	4	2.25 (1.10)
Psychological Pain T1	greater value indicates			4	4.08 (0.88)
Psychological Pain T2	greater psychological pain			4	3.42 (1.06)
Psychological Pain T3	1 to 5	4	2.61 (1.20)	4	2.87 (1.23)
Intent to Die T1	greater value indicates			4	2.66 (0.99)
Intent to Die T2	greater intent to die			4	2.14 (0.88)
Intent to Die T3	1 to 5	4	1.88 (0.86)	4	2.25 (0.94)
Positive Interventions	0=none completed, 1=action plan developed or referrals given, 2=both action plan developed and referrals given	2	1.25 (0.48)	2	1.32 (0.55)
Total Referrals	Number of referrals given	4	1.01 (0.90)	3	0.82 (0.83)
Service Utilization (re-contact of crisis line)	0 = no, 1 = yes	1	0.23 (0.42)	1	0.28 (0.45)
Immediate change in POMS-M (T1-T2)		51	9.36 (8.81)		
Post call change in POMS-M (T2-T3)		97	6.76 (15.22)		
Intermediate change in POMS-M (T1-T3)		82	16.18 (14.78)		
Immediate change in Hopelessness (T1-T2)		5.5	0.45 (0.72)	4.5	0.56 (0.80)
Post call change in Hopelessness (T2-T3)		7	0.35 (1.01)	7.5	0.48 (1.25)

Table 2 – continued

Variables	Crisis calls		Suicide calls	
	Range	*M (SD)*	Range	*M (SD)*
Intermediate change in Hopelessness (T1-T3)	7	0.79 (1.13)	7.5	1.03 (1.29)
Immediate change in Psychological Pain (T1-T2)			5.5	0.65 (0.88)
Post call change in Psychological Pain (T2-T3)			8	0.57 (1.53)
Intermediate change in Psychological Pain (T1-T3)			7.5	1.22 (1.47)
Immediate change in Intent to Die (T1-T2)			5	0.52 (0.82)
Post call change in Intent to Die (T2-T3)			6	0.10 (1.19)
Intermediate change in Intent to Die (T1-T3)			5	0.55 (1.17)

scale (a score of 4 represents 4 referrals given to a caller) with a small effect size (d=0.216). Within the group of independent variables, the suicide callers had significantly higher scores than crisis callers on the following variables: Mental Health Problems ($p<0.01$) with a small effect size (d=-0.182), Hopelessness at Time 1 ($p<0.001$) with a large effect size (d=-0.728), Hopelessness at Time 2 with a large effect size (d=-0.69), Hopelessness at Time 3 ($p<0.001$) with a medium effect size (d=-0.522), and Psychological Pain at Time 3 ($p<0.001$) with a small effect size (d=-0.215). There were no other significant group differences between any of the independent variables (process, outcome measures, and client characteristics).

Table 3

T-tests of Study Variables Between Suicide and Crisis Samples

Variables	*t*	*df*	*P*	*D*
Improved Problem-Solving scale	0.23	1173	0.818	
Improved Emotion Regulation scale	-3.31[a]	699[a]	0.001	0.209
Overall Improvement	-0.77	1173	0.44	
Age	-2.03	1174	0.043	
Gender	-2.38[a]	694[a]	0.017	
Race	-3.1[a]	750[a]	0.002	0.186
Socioeconomic Status	-2.64[a]	576[a]	0.009	0.185
Mental Health Problems	3.19[a]	770[a]	0.001	-0.182
Physical Health Problems	1.09[a]	706[a]	0.277	
Addiction Problems	2.28[a]	664[a]	0.023	
Number of days between baseline and follow-up assessments	2.83	1179	0.005	-0.176
Hopelessness T1	11.99[a]	810[a]	<0.001	-0.728
Hopelessness T2	10.92	1141	<0.001	-0.69
Hopelessness T3	7.68[a]	602[a]	<0.001	-0.522
Psychological Pain T3	3.5	1174	<0.001	-0.215
Positive Interventions	1.88[a]	659[a]	0.06	
Total Referrals	-3.41	1179	0.001	0.216
Service Utilization (re-contact of crisis line)	1.8[a]	702[a]	0.073	
Immediate change in Hopelessness (T1-T2)	2.25[a]	655[a]	0.025	
Post call change in Hopelessness (T2-T3)	1.71[a]	600[a]	0.088	
Intermediate change in Hopelessness (T1-T3)	3.1[a]	664[a]	0.002	-0.202

[a] The *t* and *df* were adjusted because variances were not equal

Correlations

Pearson correlations among all predictor and criterion variables for crisis calls are shown in Table 4 to examine the intercorrelations of the variables. Pearson correlations among all predictor and criterion variables for suicide calls are shown in Table 5. As expected, dependent variables are related to one another; however they are considered conceptually separate constructs. Correlations between predictor variables range from small to much larger than expected, and in particular included medium, large, and much larger than expected relationships between different outcome measures (e.g., POMS-M, Hopelessness, Psychological Pain, and Intent to Die), relationships between these measures at different time points, and changes (decreases or increases) in these outcome measures.

Regression Analyses

Multiple regression was used to explore the relative contribution of predictor variables with the dependent variables in the crisis and suicide samples. We investigated the significant correlations found between the predictors and the three dependent variables: the Improved Problem-Solving scale, Improved Emotion Regulation scale, and Overall Improvement while eliminating the predictor variables that were seen to have large correlations with each other, in order to reduce multi collinearity.

In order to identify the relationship between self-reported satisfaction and the effectiveness of the interventions, and therefore to reflect on the validity of self-reported satisfaction:

Regression analyses were conducted to examine the relationships between:

- The components of satisfaction for the quantitative satisfaction feedback

Table 4
Correlations Among Variables in Crisis Call Sample

	Variables	1	2	3	4	5	6
1	Improved Problem-Solving scale	----					
2	Improved Emotion Regulation scale	0.724 ***	----				
3	Overall Improvement	0.319 ***	0.351 ***	----			
4	Age	0.001	0.127 ***	-0.004	----		
5	Gender	0.103 **	0.127 ***	-0.006	0.041	----	
6	Race	0.095 **	0.040	0.039	-0.274 ***	0.055	----
7	Socioeconomic Status	0.082	0.064	0.003	0.161 ***	0.071	0.023
8	Mental Health Problems	0.018	0.012	-0.053	0.017	0.030	0.075
9	Physical Health Problems	0.009	0.036	-0.037	0.160 ***	0.061	0.037
10	Addiction Problems	0.013	0.016	0.060	-0.045	-0.177 ***	-0.086
11	Number of days between baseline and follow-up assessments	-0.072	-0.010	0.100 **	0.071	-0.029	-0.144 ***
12	POMS-M T1	0.072	-0.072	-0.017	-0.051	-0.011	-0.003
13	POMS-M T2	-0.003	-0.147 ***	-0.070	-0.036	-0.014	0.036
14	POMS-M T3	-0.197 ***	-0.331 ***	-0.475 ***	0.015	-0.043	-0.058

** $p < 0.01$; *** $p < 0.001$

Table 4 – continued

	Variables	1	2	3	4	5	6
15	Hopelessness T1	-0.022	-0.123 ***	-0.042	0.004	0.038	-0.024
16	Hopelessness T2	-0.091 **	-0.245 ***	-0.092 **	-0.022	-0.033	0.007
17	Hopelessness T3	-0.213 ***	-0.335 ***	-0.374 ***	0.053	-0.047	-0.044
18	Psychological Pain T3	-0.210 ***	-0.304 ***	-0.363 ***	-0.029	-0.025	-0.009
19	Intent to Die T3	-0.016	-0.227	-0.108	-0.157	0.233	0.105
20	Positive Interventions	0.081	0.041	0.022	-0.087	0.025	0.039
21	Total Referrals	0.074	0.050	-0.036	0.009	0.074	0.161 ***
22	Service Utilization (re-contact of crisis line)	0.030	0.025	-0.045	0.101 **	0.033	-0.040
23	Immediate change in POMS-M (T1-T2)	0.100 **	0.118 ***	0.079	-0.039	0.035	-0.058
24	Post call change in POMS-M (T2-T3)	0.169 ***	0.172 ***	0.376 ***	-0.041	-0.004	0.081
25	Intermediate change in POMS-M (T1-T3)	0.247 ***	0.271 ***	0.435 ***	-0.048	0.011	0.045
26	Immediate change in Hopelessness (T1-T2)	0.088	0.126 ***	0.046	0.032	0.093 **	-0.050
27	Post call change in Hopelessness (T2-T3)	0.089	0.056	0.238 ***	-0.064	0.005	0.047
28	Intermediate change in Hopelessness (T1-T3)	0.142 ***	0.138 ***	0.248 ***	-0.034	0.069	0.013

** $p < 0.01$; *** $p < 0.001$

Table 4 – continued

	Variables	7	8	9	10	11	12	13
1	Improved Problem-Solving scale							
2	Improved Emotion Regulation scale							
3	Overall Improvement							
4	Age							
5	Gender							
6	Race							
7	Socioeconomic Status	----						
8	Mental Health Problems	0.077	----					
9	Physical Health Problems	0.084	0.131 ***	----				
10	Addiction Problems	-0.071	-0.052	-0.044	----			
11	Number of days between baseline and follow-up assessments	-0.055	-0.099 **	-0.014	0.059	----		
12	POMS-M T1	-0.035	0.080	0.034	0.068	-0.005	----	
13	POMS-M T2	-0.045	0.150 ***	0.073	0.082	-0.016	0.732 ***	----
14	POMS-M T3	-0.022	0.091	-0.004	-0.009	-0.083	0.315 ***	0.346 ***

** $p < 0.01$; *** $p < 0.001$

Table 4 – continued

	Variables	7	8	9	10	11	12	13
15	Hopelessness T1	-0.012	0.044	0.108 **	-0.013	0.032	0.380 ***	0.347 ***
16	Hopelessness T2	-0.015	0.114 ***	0.094 **	0.004	-0.009	0.365 ***	0.477 ***
17	Hopelessness T3	0.035	0.056	0.055	-0.059	-0.034	0.156 ***	0.166 ***
18	Psychological Pain T3	-0.008	0.100 **	0.012	0.023	-0.059	0.292 ***	0.310 ***
19	Intent to Die T3	-0.082	-0.018	0.128	-0.144	0.170	0.240	0.054
20	Positive Interventions	0.002	-0.071	-0.006	-0.005	-0.057	0.084	0.006
21	Total Referrals	-0.053	0.178 ***	0.088	0.051	-0.117 ***	0.113 **	0.149 ***
22	Service Utilization (re-contact of crisis line)	0.063	0.000	0.057	0.023	0.112 ***	-0.018	0.000
23	Immediate change in POMS-M (T1-T2)	0.018	-0.128 ***	-0.066	-0.019	-0.003	0.203 ***	-0.519 ***
24	Post call change in POMS-M (T2-T3)	-0.019	0.049	0.048	0.094	0.065	0.328 ***	0.521 ***
25	Intermediate change in POMS-M (T1-T3)	-0.001	-0.017	0.016	0.079	0.074	0.458 ***	0.211 ***
26	Immediate change in Hopelessness (T1-T2)	0.000	-0.078	0.053	-0.014	0.068	0.098 **	-0.082
27	Post call change in Hopelessness (T2-T3)	-0.042	0.047	0.041	0.049	0.036	0.194 ***	0.280 ***
28	Intermediate change in Hopelessness (T1-T3)	-0.036	-0.009	0.061	0.032	0.059	0.232 ***	0.197 ***

** $p < 0.01$; *** $p < 0.001$

Table 4 – continued

	Variables	14	15	16	17	18	19
14	POMS-M T3	----					
15	Hopelessness T1	0.204 ***	----				
16	Hopelessness T2	0.249 ***	0.726 ***	----			
17	Hopelessness T3	0.532 ***	0.292 ***	0.322 ***	----		
18	Psychological Pain T3	0.705 ***	0.241 ***	0.241 ***	0.478 ***	----	
19	Intent to Die T3	0.254	0.425 ***	0.21	0.421 ***	0.246	----
20	Positive Interventions	-0.01	-0.029	-0.027	-0.007	0.03	0.138
21	Total Referrals	0.075	-0.011	0.054	-0.018	0.082	0.065
22	Service Utilization (re-contact of crisis line)	0.108 **	0.02	0.008	0.121 ***	0.072	-0.074
23	Immediate change in POMS-M (T1-T2)	-0.124 ***	-0.028	-0.219 ***	-0.043	-0.082	0.114
24	Post call change in POMS-M (T2-T3)	-0.62 ***	0.098 **	0.168 ***	-0.362 ***	-0.379 ***	-0.203
25	Intermediate change in POMS-M (T1-T3)	-0.699 ***	0.091	0.029	-0.39 ***	-0.435 ***	-0.114
26	Immediate change in Hopelessness (T1-T2)	-0.005	0.542 ***	-0.184 ***	0.012	0.058	0.216
27	Post call change in Hopelessness (T2-T3)	-0.234 ***	0.396 ***	0.605 ***	-0.559 ***	-0.194 ***	-0.119
28	Intermediate change in Hopelessness (T1-T3)	-0.217 ***	0.691 ***	0.418 ***	-0.49 ***	-0.144 ***	0.017

** $p < 0.01$; *** $p < 0.001$

Table 4 – continued

Variables	20	21	22	23	24	25	26	27
20 Positive Interventions	----							
21 Total Referrals	0.301 ***	----						
22 Service Utilization (re-contact of crisis line)	-0.029	-0.105 **	----					
23 Immediate change in POMS-M (T1-T2)	0.114 **	-0.078	-0.033	----				
24 Post call change in POMS-M (T2-T3)	0.017	0.067	-0.111 **	-0.323 ***	----			
25 Intermediate change in POMS-M (T1-T3)	0.058	0.020	-0.114 **	0.269 ***	0.825 ***	----		
26 Immediate change in Hopelessness (T1-T2)	-0.015	-0.080	0.008	0.225 ***	-0.068	0.089	----	
27 Post call change in Hopelessness (T2-T3)	-0.020	0.065	-0.092	-0.161 ***	0.458 ***	0.361 ***	-0.169 ***	----
28 Intermediate change in Hopelessness (T1-T3)	-0.021	0.004	-0.071	0.003	0.368 ***	0.382 ***	0.485 ***	0.780 ***

** $p < 0.01$; *** $p < 0.001$

Table 5
Correlations Among Variables in Suicide Call Sample

	Variables	1	2	3	4	5	6
1	Improved Problem-Solving scale	----					
2	Improved Emotion Regulation scale	0.720 ***	----				
3	Overall Improvement	0.406 ***	0.339 ***	----			
4	Age	-0.137 **	-0.032	-0.119	----		
5	Gender	0.064	0.028	0.046	-0.090	----	
6	Race	0.081	0.068	0.050	-0.297 ***	0.049	----
7	Socioeconomic Status	-0.021	0.048	-0.019	0.066	0.121	-0.092
8	Mental Health Problems	-0.032	-0.075	-0.046	0.063	0.071	-0.032
9	Physical Health Problems	-0.096	-0.062	-0.061	0.236 ***	0.079	-0.083
10	Addiction Problems	0.060	0.040	0.120	0.039	-0.164 ***	-0.052
11	Number of days between baseline and follow-up assessments	0.073	0.005	0.066	0.065	0.002	-0.100
12	Hopelessness T1	-0.099	-0.188 ***	-0.064	0.048	-0.030	-0.070
13	Hopelessness T2	-0.140 **	-0.204 ***	-0.092	0.027	-0.054	0.031
14	Hopelessness T3	-0.425 ***	-0.428 ***	-0.587 ***	0.185 ***	-0.018	-0.154 **
15	Psychological Pain T1	-0.003	-0.075	0.052	-0.035	0.019	-0.022
16	Psychological Pain T2	-0.089	-0.198 ***	0.001	-0.011	-0.008	0.050
17	Psychological Pain T3	-0.370 ***	-0.363 ***	-0.490 ***	0.118	0.046	-0.006
18	Intent to Die T1	-0.077	-0.107	-0.052	-0.048	-0.026	0.002
19	Intent to Die T2	-0.217 ***	-0.279 ***	-0.133	0.011	-0.049	0.030

** $p < 0.01$; *** $p < 0.001$

Table 5 – continued

	Variables	7	8	9	10	11	12	13
1	Improved Problem-Solving scale							
2	Improved Emotion Regulation scale							
3	Overall Improvement							
4	Age							
5	Gender							
6	Race							
7	Socioeconomic Status	----						
8	Mental Health Problems	0.059	----					
9	Physical Health Problems	0.062	0.007	----				
10	Addiction Problems	0.020	0.033	-0.012	----			
11	Number of days between baseline and follow-up assessments	0.076	-0.043	0.055	0.087	----		
12	Hopelessness T1	-0.026	0.034	0.030	0.171 ***	0.032	----	
13	Hopelessness T2	-0.028	0.050	-0.056	0.092	0.030	0.605 ***	----
14	Hopelessness T3	-0.125	0.097	0.096	-0.066	-0.069	0.212 ***	0.194 ***
15	Psychological Pain T1	-0.008	-0.051	0.084	0.070	0.096	0.429 ***	0.329 ***
16	Psychological Pain T2	-0.051	-0.029	-0.009	-0.033	0.031	0.275 ***	0.498 ***
17	Psychological Pain T3	-0.114	0.011	0.132 **	-0.010	-0.119	0.121	0.134 **
18	Intent to Die T1	0.029	-0.003	-0.020	0.094	0.074	0.522 ***	0.408 ***
19	Intent to Die T2	-0.006	0.036	0.017	0.037	0.014	0.406 ***	0.540 ***

** $p < 0.01$; *** $p < 0.001$

Table 5 – continued

	Variables	1	2	3	4	5	6
20	Intent to Die T3	-0.158	-0.171	-0.300 ***	0.007	-0.030	-0.047
21	Positive Interventions	0.090	0.059	0.088	-0.080	-0.027	0.100
22	Total Referrals	0.017	-0.017	-0.028	-0.137 **	-0.004	0.238 ***
23	Service Utilization (re-contact of crisis line)	0.031	-0.052	-0.075	0.014	0.031	-0.005
24	Immediate change in Hopelessness (T1-T2)	0.043	0.016	0.036	0.013	0.047	-0.090
25	Post call change in Hopelessness (T2-T3)	0.270 ***	0.228 ***	0.448 ***	-0.125	-0.031	0.145 **
26	Intermediate change in Hopelessness (T1-T3)	0.289 ***	0.227 ***	0.459 ***	-0.124	-0.005	0.080
27	Immediate change in Psychological Pain (T1-T2)	0.109	0.172 ***	0.061	-0.029	0.032	-0.076
28	Post call change in Psychological Pain (T2-T3)	0.233 ***	0.150 **	0.385 ***	-0.090	-0.057	0.042
29	Intermediate change in Psychological Pain (T1-T3)	0.304 ***	0.255 ***	0.441 ***	-0.120	-0.035	-0.003
30	Immediate change in Intent to Die (T1-T2)	0.167 ***	0.184 ***	0.070	-0.058	0.025	-0.030
31	Post call change in Intent to Die (T2-T3)	0.019	-0.014	0.202	-0.038	0.013	0.083
32	Intermediate change in Intent to Die (T1-T3)	0.085	0.139	0.246 **	-0.076	-0.036	0.023

** $p < 0.01$; *** $p < 0.001$

Table 5 – continued

	Variables	7	8	9	10	11	12	13
20	Intent to Die T3	-0.063	-0.044	-0.003	-0.008	-0.057	0.078	0.089
21	Positive Interventions	-0.113	-0.033	0.023	0.088	0.004	-0.044	-0.080
22	Total Referrals	-0.067	-0.032	0.025	0.048	-0.051	-0.046	-0.007
23	Service Utilization (re-contact of crisis line)	-0.139	0.015	0.001	0.040	0.069	0.109	0.015
24	Immediate change in Hopelessness (T1-T2)	-0.014	-0.016	0.102	0.088	0.009	0.504 ***	-0.383 ***
25	Post call change in Hopelessness (T2-T3)	0.096	-0.048	-0.121	0.135 **	0.072	0.255 ***	0.527 ***
26	Intermediate change in Hopelessness (T1-T3)	0.097	-0.056	-0.064	0.179 ***	0.087	0.546 ***	0.273 ***
27	Immediate change in Psychological Pain (T1-T2)	0.055	-0.017	0.094	0.101	0.061	0.098	-0.269 ***
28	Post call change in Psychological Pain (T2-T3)	0.055	-0.039	-0.115	-0.013	0.112	0.095	0.239 ***
29	Intermediate change in Psychological Pain (T1-T3)	0.095	-0.046	-0.073	0.051	0.162 **	0.145 **	0.085
30	Immediate change in Intent to Die (T1-T2)	0.052	-0.055	-0.038	0.084	0.085	0.217 ***	-0.087
31	Post call change in Intent to Die (T2-T3)	0.093	0.076	0.038	0.031	0.117	0.223 **	0.313 ***
32	Intermediate change in Intent to Die (T1-T3)	0.127	0.016	-0.048	0.100	0.109	0.354 ***	0.265 ***

** $p < 0.01$; *** $p < 0.001$

Table 5 – continued

	Variables	14	15	16	17	18
14	Hopelessness T3	----				
15	Psychological Pain T1	0.032	----			
16	Psychological Pain T2	0.067	0.602 ***	----		
17	Psychological Pain T3	0.617 ***	0.053	0.104	----	
18	Intent to Die T1	0.159 **	0.380 ***	0.219 ***	0.091	----
19	Intent to Die T2	0.232 ***	0.263 ***	0.408 ***	0.162 **	0.616 ***
20	Intent to Die T3	0.370 ***	0.046	-0.014	0.334 ***	0.208 ***
21	Positive Interventions	-0.109	0.027	-0.039	0.010	-0.023
22	Total Referrals	-0.064	0.057	0.094	0.063	-0.010
23	Service Utilization (re-contact of crisis line)	0.064	-0.015	-0.019	0.091	0.028
24	Immediate change in Hopelessness (T1-T2)	0.010	0.137 ***	-0.221 ***	-0.002	0.188 ***
25	Post call change in Hopelessness (T2-T3)	-0.732 ***	0.209 ***	0.286 ***	-0.446 ***	0.153 **
26	Intermediate change in Hopelessness (T1-T3)	-0.703 ***	0.283 ***	0.142 ***	-0.443 ***	0.247 ***
27	Immediate change in Psychological Pain (T1-T2)	-0.059	0.284 ***	-0.594 ***	-0.085	0.129
28	Post call change in Psychological Pain (T2-T3)	-0.450 ***	0.385 ***	0.608 ***	-0.727 ***	0.082
29	Intermediate change in Psychological Pain (T1-T3)	-0.503 ***	0.555 ***	0.275 ***	-0.801 ***	0.158 **
30	Immediate change in Intent to Die (T1-T2)	-0.063	0.188 ***	-0.172 ***	-0.072	0.540 ***
31	Post call change in Intent to Die (T2-T3)	-0.187	0.184	0.320 ***	-0.238 ***	0.281 ***
32	Intermediate change in Intent to Die (T1-T3)	-0.183	0.260 ***	0.178	-0.224 ***	0.610 ***

** $p < 0.01$; *** $p < 0.001$

Table 5 – continued

	Variables	19		20		21		22	23	24	
19	Intent to Die T2	----									
20	Intent to Die T3	0.169		----							
21	Positive Interventions	-0.132		0.021		----					
22	Total Referrals	-0.042		0.045		0.505	***	----			
23	Service Utilization (re-contact of crisis line)	-0.073		-0.089		-0.010		-0.043	----		
24	Immediate change in Hopelessness (T1-T2)	-0.119		-0.015		0.060		-0.026	0.087	----	
25	Post call change in Hopelessness (T2-T3)	0.179	***	-0.253	***	0.027		0.041	-0.024	-0.275	***
26	Intermediate change in Hopelessness (T1-T3)	0.097		-0.275	***	0.059		0.018	0.022	0.355	***
27	Immediate change in Psychological Pain (T1-T2)	-0.231	***	0.063		0.078		-0.049	0.007	0.404	***
28	Post call change in Psychological Pain (T2-T3)	0.156	**	-0.245	***	-0.046		0.009	-0.077	-0.148	**
29	Intermediate change in Psychological Pain (T1-T3)	0.012		-0.226	***	0.019		-0.008	-0.078	0.085	
30	Immediate change in Intent to Die (T1-T2)	-0.330	***	0.067		0.123		0.034	0.104	0.351	***
31	Post call change in Intent to Die (T2-T3)	0.623	***	-0.665	***	-0.046		0.001	-0.008	-0.075	
32	Intermediate change in Intent to Die (T1-T3)	0.339	***	-0.648	***	0.007		0.031	0.071	0.118	

** $p < 0.01$; *** $p < 0.001$

Table 5 – continued

	Variables	25	26	27	28	29	30	31	32
25	Post call change in Hopelessness (T2-T3)	----							
26	Intermediate change in Hopelessness (T1-T3)	0.801 ***	----						
27	Immediate change in Psychological Pain (T1-T2)	-0.133	0.121	----					
28	Post call change in Psychological Pain (T2-T3)	0.554 ***	0.447 ***	-0.344 ***	----				
29	Intermediate change in Psychological Pain (T1-T3)	0.491 ***	0.535 ***	0.241 ***	0.829 ***	----			
30	Immediate change in Intent to Die (T1-T2)	-0.007	0.211 ***	0.404 ***	-0.067	0.184 ***	----		
31	Post call change in Intent to Die (T2-T3)	0.362 ***	0.314 ***	-0.217 ***	0.411 ***	0.286 ***	-0.391 ***	----	
32	Intermediate change in Intent to Die (T1-T3)	0.339 ***	0.408 ***	0.062	0.278 ***	0.347 ***	0.287 ***	0.770 ***	----

** $p < 0.01$; *** $p < 0.001$

- AND other *outcome measures* (immediate, intermediate, and post call decrease in suicidality (psychological pain and intent to die), in crisis state (POMS), and in Hopelessness

For the purpose of identifying whether certain aspects of satisfaction are mediated by caller characteristics, and so as to hypothesize what interventions are useful for which callers:

Regression analyses were conducted to examine the relationships between:

- The components of satisfaction for the quantitative satisfaction feedback
- AND *client characteristics* (level of hopelessness, suicidality or crisis state at baseline, at end of call, and at follow-up; race (white/not white); gender; age; socioeconomic status (with/without insurance); presenting problems of mental health, physical health, and/or addiction)

In order to identify whether certain aspects of satisfaction are related to certain process variables, and therefore hypothesize which interventions/processes cause greater satisfaction:

Regression analyses were conducted to look at the relationships between:

- The components of satisfaction for the quantitative satisfaction feedback
- AND *process variables* (number of positive interventions completed during call, including whether an action plan was made and/or referrals given; how many referrals were given).

In order to account for any impact on results by the variability of length of time between the initial crisis/suicide call and the follow-up call, a variable for the *number of days before follow-up* was included in the regression.

Predicting the Three Components of Quantitative Satisfaction Feedback: Crisis Calls:

1. *Prediction of the Improved Problem-Solving scale.*

Results of the simultaneous multivariate analysis that examines if the Improved Problem-Solving scale is predicted by any of 10 predictors are summarized in Table 6. The model as a whole accounted for 9.0% of the variance in the Improved Problem-Solving scale (*Adj.* R^2 =0.090, F = 8.01, 10/697 *df,* $p < .001$). Results indicated that the Intermediate change in POMS-M (T1-T3) emerged as a significant predictor of the Improved Problem-Solving scale (β =.205, t =5.123, p <.001) and accounted for 3.4% of the unique variance. In addition, the Number of days between baseline and follow-up assessments was a significant predictor of the Improved Problem-Solving scale (β = -0.095, t =-2.579, p =.01) and accounted for 0.8% of the unique variance. The test for interaction effects of Number of days between baseline and follow-up assessments did not yield significant changes in *Adj.* R^2 and, therefore, are not reported.

2. *Prediction of the Improved Emotion Regulation scale.*

Results of the simultaneous multivariate analysis that examines if the Improved Emotion Regulation scale is predicted by any of 10 predictors are also summarized in Table 6. The model as a whole accounted for 18.3% of the variance in the Improved Emotion Regulation scale (*Adj.* R^2 =0.183, F = 16.87, 10/696 *df,* $p < .001$). Results indicated that the Intermediate change in POMS-M (T1-T3) again emerged as a significant predictor (β =0.199, t =5.243, p <.001) and accounted for 3.2% of the unique variance. In addition, Hopelessness T3 was a significant predictor of the Improved Emotion Regulation scale (β = -0.189, t =4.704, $p < .001$) and accounted for 2.6% of the

Table 6
Regressions for Crisis Calls

Predictors of Overall Improvement (N=710)	B	*SE*	*β*	*Part Correlations Squared*	*t* value	Significance
Intermediate change in POMS-M (T1-T3)*	0.012	0.001	0.335	0.090	9.178	< 0.001
Hopelessness T3*	-0.155	0.024	-0.248	0.044	-6.447	< 0.001
Age	0.001	0.001	0.031	< 0.001	0.910	0.363
Gender	-0.039	0.041	-0.031	< 0.001	-0.950	0.342
Number of days between baseline and follow-up assessments	0.003	0.002	0.049	0.002	1.475	0.141
Positive Interventions	0.025	0.039	0.022	< 0.001	0.631	0.528
Hopelessness T2	-0.012	0.021	-0.020	< 0.001	-0.572	0.567
Total Referrals	-0.021	0.021	-0.036	0.001	-1.004	0.316
Race	0.049	0.038	0.045	0.002	1.287	0.199
Mental Health Problems	-0.014	0.037	-0.013	< 0.001	-0.384	0.701
Model : $R = 0.503$		*Adjusted* $R^2 = 0.243$	$F = 23.72$	*df* (10, 699)	$p < 0.001$	

*main findings

Table 6 – continued

Predictors of Improved Problem-Solving Scale (N=708)	B	*SE*	*β*	*Part Correlations Squared*	*t* value	Significance
Intermediate change in POMS-M (T1-T3)*	0.009	0.002	0.205	0.034	5.123	< 0.001
Number of days between baseline and follow-up assessments*	-0.008	0.003	-0.095	0.008	-2.579	0.010
Hopelessness T3	-0.073	0.032	-0.096	0.007	-2.274	0.023
Age	0.002	0.002	0.035	0.001	0.911	0.363
Gender	0.089	0.055	0.058	0.003	1.610	0.108
Positive Interventions	0.102	0.052	0.075	0.005	1.949	0.052
Hopelessness T2	-0.040	0.029	-0.055	0.002	-1.406	0.160
Total Referrals	0.030	0.029	0.042	0.001	1.066	0.287
Race	0.072	0.051	0.055	0.003	1.417	0.157
Mental Health Problems	0.012	0.049	0.009	< 0.001	0.248	0.804
Model : $R = 0.321$		*Adjusted* $R^2 =$ 0.090	$F = 8.01$	df (10, 697)	$p < 0.001$	

*main findings

Table 6 – continued

Predictors of Improved Emotion Regulation Scale (N=707)	B	*SE*	*β*	*Part Correlations Squared*	*t* value	Significance
Intermediate change in POMS-M (T1-T3)*	0.010	0.002	0.199	0.032	5.243	< 0.001
Hopelessness T2*	-0.151	0.031	-0.181	0.028	-4.898	< 0.001
Hopelessness T3*	-0.163	0.035	-0.189	0.026	-4.704	< 0.001
Age*	0.009	0.002	0.156	0.022	4.329	< 0.001
Gender	0.141	0.059	0.081	0.006	2.374	0.018
Number of days between baseline and follow-up assessments	-0.003	0.003	-0.037	0.001	-1.071	0.284
Positive Interventions	0.071	0.057	0.046	0.002	1.261	0.208
Total Referrals	0.033	0.031	0.040	0.001	1.079	0.281
Race	0.058	0.054	0.039	0.001	1.059	0.290
Mental Health Problems	0.045	0.053	0.030	< 0.001	0.852	0.395
Model : $R = 0.441$		*Adjusted* $R^2 =$ 0.183	$F = 16.87$	*df* (10, 696)	$p < 0.001$	

*main findings

unique variance. Hopelessness T2 was a significant predictor (β = -0.181, t =-4.898, p < .001) and accounted for 2.8% of the unique variance. Finally, Age was a significant predictor (β = 0.156, t =4.329, p < .001) and accounted for 2.2% of the unique variance. The test for interaction effects of Age did not yield significant changes in *Adj.* R^2 and, therefore, are not reported.

3. *Prediction of the Overall Improvement.*

Results of the simultaneous multivariate analysis that examines if the Overall Improvement is predicted by any of 10 predictors are also summarized in Table 6. The model as a whole accounted for 24.3% of the variance in the Overall Improvement (*Adj.* R^2 =0.243, F = 23.72, 10/699 *df,* p < .001). This was the strongest result among the three dependent variables. Results indicated that the Intermediate change in POMS-M (T1-T3) emerged again as a significant predictor (β =0.335, t =9.178, p <.001) and accounted for 9.0% of the unique variance. In addition, Hopelessness T3 was again a significant predictor (β = -0.248, t =-6.447, p < .001) and accounted for 4.4% of the unique variance.

Suicide Calls:

1. *Prediction of the Improved Problem-Solving scale.*

Results of the simultaneous multivariate analysis that examines if the Improved Problem-Solving scale is predicted by any of 11 predictors are summarized in Table 7. The model as a whole accounted for 19.4% of the variance in the Improved Problem-Solving scale (*Adj.* R^2 =0.194, F = 8.62, 11/337 *df,* p < .001). Results indicated that the Post call change in Hopelessness (T2-T3) emerged as a significant predictor of the Improved Problem-Solving scale (β =0.236, t =4.103, p <.001) and accounted for 3.9% of the unique variance. In addition, Intent to Die T2 was a significant predictor of the

Table 7
Regressions for Suicide Calls

Predictors of Overall Improvement (N=348)	B	*SE*	*β*	*Part Correlations Squared*	*t* value	Significance
Post call change in Hopelessness (T2-T3)*	0.148	0.023	0.353	0.087	6.512	< 0.001
Intermediate change in Psychological Pain (T1-T3)*	0.097	0.019	0.274	0.052	5.032	< 0.001
Intent to Die T2*	-0.092	0.031	-0.152	0.018	-2.968	0.003
Psychological Pain T2	-0.052	0.026	-0.105	0.008	-1.978	0.049
gender	0.056	0.053	0.049	0.002	1.058	0.291
Number of days between baseline and follow-up assessments	-0.001	0.003	-0.014	< 0.001	-0.300	0.764
Positive Interventions	0.074	0.051	0.076	0.004	1.460	0.145
Age	-0.002	0.002	-0.035	0.001	-0.716	0.474
Total Referrals	-0.066	0.034	-0.104	0.008	-1.944	0.053
Race	0.020	0.055	0.018	< 0.001	0.361	0.718
Mental Health Problems	-0.050	0.050	-0.045	0.002	-0.994	0.321
Model : $R = 0.556$		*Adjusted* $R^2 =$ 0.287	*F = 13.70*	*df* (11, 336)	$p < 0.001$	

*main findings

Table 7 – continued

Predictors of Improved Problem-Solving Scale (N=349)	B	*SE*	*β*	*Part Correlations Squared*	*t* value	Significance
Post call change in Hopelessness (T2-T3)*	0.119	0.029	0.236	0.039	4.103	< 0.001
Intermediate change in Psychological Pain (T1-T3)*	0.097	0.025	0.228	0.036	3.935	< 0.001
Intent to Die T2*	-0.145	0.039	-0.200	0.031	-3.679	< 0.001
Psychological Pain T2	-0.074	0.034	-0.125	0.011	-2.206	0.028
gender	0.092	0.067	0.067	0.004	1.375	0.170
Number of days between baseline and follow-up assessments	0.002	0.004	0.024	< 0.001	0.490	0.625
Positive Interventions	0.053	0.065	0.046	0.001	0.820	0.413
Age	-0.005	0.003	-0.087	0.006	-1.680	0.094
Total Referrals	-0.030	0.043	-0.040	0.001	-0.695	0.487
Race	0.052	0.070	0.039	0.001	0.750	0.454
Mental Health Problems	0.012	0.064	0.009	< 0.001	0.187	0.852
Model : $R = 0.469$		*Adjusted* $R^2 =$ 0.194	$F = 8.62$	df (11, 337)	$p < 0.001$	

*main findings

Table 7 – continued

Predictors of Improved Emotion Regulation Scale (N=349)	B	*SE*	*β*	*Part Correlations Squared*	*t* value	Significance
Post call change in Hopelessness (T2-T3)*	0.151	0.036	0.239	0.040	4.183	< 0.001
Intent to Die T2*	-0.206	0.049	-0.226	0.040	-4.191	< 0.001
Psychological Pain T2*	-0.169	0.042	-0.226	0.037	-4.029	< 0.001
Intermediate change in Psychological Pain (T1-T3)*	0.117	0.031	0.220	0.033	3.831	< 0.001
gender	0.064	0.084	0.037	0.001	0.764	0.445
Number of days between baseline and follow-up assessments	-0.004	0.005	-0.047	0.002	-0.963	0.336
Positive Interventions	0.046	0.081	0.031	< 0.001	0.565	0.572
age	0.003	0.004	0.046	0.002	0.903	0.367
Total Referrals	-0.041	0.054	-0.043	0.001	-0.764	0.445
Race	0.092	0.087	0.055	0.002	1.056	0.292
Mental Health Problems	-0.088	0.079	-0.054	0.003	-1.112	0.267
Model : $R = 0.481$		*Adjusted* $R^2 =$ 0.206	$F = 9.22$	df (11, 337)	$p < 0.001$	

*main findings

Improved Problem-Solving scale (β = -0.200, t =-3.679, p <.001) and accounted for 3.1% of the unique variance. Lastly, Intermediate change in Psychological Pain (T1-T3) was a significant predictor of the Improved Problem-Solving scale (β = 0.228, t =3.935, p <.001) and accounted for 3.6% of the unique variance.

2. *Prediction of Improved Emotion Regulation scale.*

Results of the simultaneous multivariate analysis that examines if the Improved Emotion Regulation scale is predicted by any of 11 predictors are also summarized in Table 7. The model as a whole accounted for 20.6% of the variance in the Improved Emotion Regulation scale (*Adj.* R^2 =0.206, F = 9.22, 11/337 *df,* p < .001). Results indicated that the Post call change in Hopelessness (T2-T3) again emerged as a significant predictor (β =0.239, t =4.183, p <.001) and accounted for 4.0% of the unique variance. Psychological Pain T2 was a significant predictor (β =-0.226, t =4.029, p <.001) and accounted for 3.7% of the unique variance. In addition, Intent to Die T2 was again a significant predictor (β = -0.226, t =-4.191, p < .001) and accounted for 4.0% of the unique variance. Finally, Intermediate change in Psychological Pain (T1-T3) was again a significant predictor (β = 0.220, t =3.831, p < .001) and accounted for 3.3% of the unique variance.

3. *Prediction of Overall Improvement.*

Results of the simultaneous multivariate analysis that examines if the Overall Improvement is predicted by any of 11 predictors are summarized in Table 7. The model as a whole accounted for 28.7% of the variance in the Overall Improvement (*Adj.* R^2 =0.287, F = 13.70, 11/336 *df,* p < .001). Results indicated that the Post call change in Hopelessness (T2-T3) again emerged as a significant predictor (β =0.353, t =6.512, p

<.001) and accounted for 8.7% of the unique variance. In addition, Intent to Die T2 was again a significant predictor (β = -0.152, t =2.968, p < .001) and accounted for 1.8% of the unique variance. Finally, Intermediate change in Psychological Pain (T1-T3) again emerged as a significant predictor (β = 0.274, t =5.032, p < .001) and accounted for 5.2% of the unique variance.

CHAPTER V

DISCUSSION

Relationship Between Client Satisfaction and Outcome Measure

The current study was conducted in an effort to extend current understanding of satisfaction feedback as a tool for evaluating hotline services. Specifically, the results of this study suggest that there was a relationship between client measures of symptom change (changes in POMS-M, Hopelessness, and Psychological Pain) and the three measures of client satisfaction developed in this study. The current study found that those changes helped account for satisfaction feedback in a context where other possible predictors were also considered.

Change in symptoms accounted for a small (between 3% to 9%) but significant amount of the variance in satisfaction feedback. This is consistent with the small correlations (typically ranging from zero to 0.40) found in the literature (Ankuta & Abeles, 1993; Attkisson & Zwick, 1982; Bieschke et al., 1995; Bjorngaard, Ruud, & Friis, 2007; Carscaddon, George, & Wells, 1990; Deane, 1993; Edwards, Yarvis, Mueller, & Langsley, 1978; Fiester, 1979; Garfield, Prager, & Bergin, 1971; Greenfield & Atkisson, 1989; Holcomb, Parker, Leong, Thiele, & Higdon, 1998; LaSala, 1997; Nguyen, Attkisson, & Stegner, 1983; Pekarik & Wolff, 1996; Pickett, Lyons, Polonus, & Seymour, 1995; Wise, 2003). However, this study found relationships where some other researchers did not (Lambert, Salzer, & Bickman, 1998; Lunnen & Ogles, 1998; Lunnen,

Ogles, & Pappas, 2008; Pekarik & Wolff, 1996) by showing a small but significant relationship between desired symptom change and satisfaction feedback in crisis and suicide hotline callers.

More specifically, the strongest relationships were found between callers' answers to a one-item self-evaluation of Overall Improvement and positive changes in psychological states between the beginning of the call and the two-week follow-up, and between the end of the call and the two week follow-up. For crisis callers, their two-week follow-up single-item evaluations of Overall Improvement related the most to improvements in their mood from the beginning of the call to the two-week follow-up, as measured by a modified version of McNair, Lorr, and Droppleman's (1992) shortened POMS. Secondly, their follow-up evaluation of Overall Improvement related inversely to their current state of Hopelessness, as measured by quantitative responses to two questions regarding "hope for improvement" and "ability to go on" at the time of follow-up. For suicide callers, their single-item follow-up evaluation of Overall Improvement related the most to degree of reduction in their Hopelessness from the end of the call to the two-week follow-up. Secondly, it also related to the degree of reduction in Psychological Pain (Shneidman, 1993) from the beginning of their call to the two-week follow-up. Smaller but also significant relationships were found between predictors and follow-up evaluations of factor-analyzed categories of Improved Problem-Solving and Emotion Regulation.

According to this study, symptom relief appears to be associated with client satisfaction in the case of all three satisfaction scores: Improved Problem-Solving, Improved Emotion Regulation, and Overall Improvement. It is important to note that

intermediate and post call symptom change (either symptom change from the beginning of the initial call to the follow up call or from the end of initial call to the follow up call) were identified as significant contributors to the variance of satisfaction measures. We did not find evidence that *immediate* symptom change (between the beginning and the end of the initial call) contributed to the variance in the crisis and suicide samples' satisfaction. Immediate symptom change variables were not included in the multivariate analyses because of their extremely small and nonsignificant correlations with the dependent variables. This distinction highlights the importance of the callers' functioning at the time of the follow up call in forming their impressions of satisfaction, though callers did reflect on their current functioning in relationship to earlier functioning during the initial crisis/suicide call. In addition, we did not find evidence that change in Intent to Die contributed to the variance in suicide calls as did Hopelessness and Psychological Pain. The variable Intent to Die had a lot of missing data at the follow up call, in addition to having poor reliability overall; these properties of its measurement in this study probably limited its value during the analyses.

These results strongly suggest that satisfaction is meaningfully related to client satisfaction measures of symptoms. There are many possible reasons for the significant results found in this study in contrast to the nonsignificant results found at times in the literature. Such as, it is possible that the limited time lapse between the initial crisis/suicide call and the follow up call (a mean of 13 days) somewhat minimized distortions in retrospection (Conway & Ross, 1984; Lunnen & Ogles, 1998; Mohr, 1995; Seligman, 1995). As well, in order to decrease social desirability bias, the research design involved independent evaluators conducting the follow up interviews at a time outside of

the initial call/intervention. Cognitive dissonance has been used to account for "rosier" satisfaction feedback, but it is possible that telephone hotline services, which are free and of a time-limited nature, invoke less pressure to justify an investment in their services. Further strengths and limitations of this study will be mentioned later in this discussion.

Though the client satisfaction measure has a high level of face validity, this study provides evidence that for hotlines, satisfaction reported by crisis and suicide callers is related in part to symptom relief. The study participants whose distress changed only moderately or less reported less satisfaction with the degree to which their problem-solving abilities improved, their emotion-regulation improved, and less overall improvement. The results suggest that symptom relief is an important factor in the client evaluation of hotlines and satisfaction with outcome. This contributes significantly to the much-needed and frequently called-for investigation of the construct validity of satisfaction data for hotline program evaluation (Lebow, 1982; Salzer, 1997; Williams, 1994).

To reiterate, there are many benefits to the use of satisfaction feedback in program evaluation. It has been determined that clients can often make more reliable judgments about themselves than clinicians (Joiner, Walker, Rudd, & Jobes, 1999). Young (1989) presented caller self report as the most direct and reliable evidence of the caller's own experience and proposed that caller follow up was crucial to the development of methods of evaluation in telephone counseling (Young, 1989). Lebow (1982) argues that validation problems in consumer feedback are correctable, that this collaborative approach can foster stronger relationships between facilities and communities and initiate further program evaluation, and that the client's unique point of view remains essential

and should not be presumed distorted. From a more pragmatic perspective, satisfaction measures are inexpensive and simple to administer (e.g., they take little time to complete and are administered only once), they possess high face validity, and have appeal as indices of treatment acceptability (Berger, 1983; Lambert, Salzer, & Bickman, 1998; Lebow, 1982).

Lebow (1982) also identifies that satisfaction data have intermittently been found to discriminate between different services and aspects of treatment. Through factor analysis of the specific and operationalized satisfaction items/questions administered to the follow up sample, this study developed two scales that evaluate two different aspects of hotline intervention treatment: problem-solving and emotion regulation. The two different satisfaction scales, developed from a principal components analysis, confirm the conceptual model of crisis intervention as elaborated by Kalafat (2002). The helping model highlights the importance of a need to reduce both maladaptive cognitive (limited problem-solving abilities) and affective (poor emotion regulation) components of the crisis state, thus attenuating maladaptive coping and helping the caller develop a plan for resolving the crisis precipitants. It must also be acknowledged that there is significant overlap between the 2 satisfaction scales and the item for Overall Improvement, as the three dependent variables were moderately to highly correlated in both the crisis and suicide samples. An important strength is that the satisfaction scales each had very high reliabilities and overall make an exciting contribution towards the development of a new, reliable, and valid hotline satisfaction questionnaire.

It is important to make note of the potential clinical implications of this study, pertaining to effective hotline interventions and the development of more comprehensive

and insightful suicide risk assessment. Although it is not the focus of this study, the high levels of caller distress reported during follow up calls highlights the need for conducting follow up interventions with at-risk callers after the initial crisis or suicide call. In addition, the elaboration of two somewhat distinct satisfaction factors, Improved Emotion Regulation and Improved Problem Solving, provides areas of focus in the assessment of callers' risk for suicide. Much more research is needed in order to create better guidelines for suicide risk assessment, in hotline services as well as other treatment settings.

Simington, Cargill, and Hill (1996) found that their qualitative and quantitative measures of satisfaction produced important but distinct findings regarding aspects of treatment, such as effectiveness of suicide prevention, crisis interventions, service delivery, referral information and follow-up care. Given that symptom improvement was found to account for only 3% to 9% of the satisfaction feedback in the current study highlights the likelihood that satisfaction feedback is indeed a somewhat unique construct as compared to symptom outcomes. The contribution of client characteristics and process variables will be discussed in the following section. However, there are additional possible contributors/predictors of satisfaction feedback. It is conceivable that clients have rated their degree of satisfaction based upon different and unmeasured aspects of the intervention, possible confounds being their impressions of the general likability of the therapist or perceived sincere efforts of the therapist or agency. The client-therapist relationship is consistently found to impact satisfaction, where clients are more satisfied when the therapist is warm, active, empathetic (Tanner, 1981), and has greater communication skills (Kenny, 1995; Sheppard, 1992), as well as the presence of a stronger therapeutic working alliance (Bieschke, Bowman, Hopkins, & Levine, 1995). It

is possible that even the simple availability of services is another of the many reasons why clients may rate their hotline experience as satisfactory independent of degree of symptom change. These possible confounds highlight the attitudinal quality of satisfaction feedback and again draws attention to its different, yet no less important, meaning when compared to symptom outcome measures.

Overall Results of Client Satisfaction Measures

Though the primary goal of this study is an investigation of the validity of satisfaction data in hotline program evaluation, it is important to take note of the levels of satisfaction obtained from our crisis and suicide samples. The mean score for the *Improved Problem-Solving* scale in both the crisis and suicide samples indicates "moderate" to "a lot" of improvement through the hotline counselor's interventions. The mean score for the *Improved Emotion Regulation* scale in both the crisis and suicide samples indicate an overall "moderate" level of improvement through the hotline counselor's interventions. The mean score for the *Overall Improvement* item was the highest of all three satisfaction scores, where both the crisis and suicide samples indicated "a lot" of overall improvement. It is evident that the more specific items of satisfaction, through the two satisfaction scales, allowed for greater amounts of dissatisfaction to be identified than in the general "overall improvement" item. However, overall these results indicate that callers in both crisis and suicide samples were satisfied with the services and support they received by the hotlines.

It has been suggested that consumer satisfaction research should focus on within-program comparisons of aspects of the program with which consumers are less satisfied or dissatisfied (Larsen et al., 1979). Between the two satisfaction scales, callers reported

somewhat higher satisfaction with their degree of improved problem-solving than the degree to which their emotions became more regulated. This result implies that improving affective regulation is a target of hotline interventions that needs to be further developed. This result also suggests that reflection on improved emotion regulation, such as the extent to which the caller felt relieved, comforted, more hopeful, less anxious, more confident and in control, and given hope, allows for more differentiated feedback than other satisfaction items. Callers were able to reflect and identify more dissatisfaction/less satisfaction through those questions, which might provide a more accurate picture of their "true" level of satisfaction.

When looking at individual satisfaction feedback items administered during the follow up calls, some of which comprise the three dependent satisfaction scores, means in both the crisis and suicide call samples typically fell within the highly satisfied range, between 3- "moderately" and 4- "a lot" of improvement (for items with a scale between 1 to 4). On both the crisis and suicide call samples for the item "Overall, did the crisis line help you deal more effectively with your problems?," the mean was mid-way between 4- "yes, helped a little" and 5- "yes, helped a lot." In both the crisis and suicide call samples for the item: "Overall, since the call you made to the center, are you worse, about the same, or better?" the mean falls between 2- "about the same" and 3- "better."

However, the suicide sample's means for the following three items are lower, between 2- "a little" and 3- "moderately": "To what extent did you feel more hopeful?," "To what extent did you feel less anxious?," and "To what extent did you feel more confident and in control?" Those scores identify relative areas of dissatisfaction for suicide callers, though we must be conservative in our interpretation of their meaning.

The high satisfaction scores with this hotline evaluation are consistent with the literature indicating that users of hotline services report high satisfaction with them and often use these services again (Goldsmith, 2002). Numerous studies have found that between 60% and 80% of individuals report having positive experiences with hotlines (e.g., King, 1977; Motto, 1971; Reese, Conoley, & Bossart, 2002; Slem & Cotler, 1973; Stein & Lambert, 1984; Tekavcic-Grad & Zavasnik, 1987). Hypotheses about these consistently high levels of satisfaction have targeted the low validity of the instrument and client response (clients may be unwilling or unable to identify dissatisfaction) as problematic. This prospect is contraindicated by extensive research on the satisfaction questions used in other studies (Nguyen et al., 1983). And social desirability failed to significantly influence the level of clients' satisfaction with services in multiple studies (Gaston & Sabourin, 1992; Hendriks, Smets, Vrielink, Van Es, & De Haes, 2006).

However, the satisfaction items used in our study have not been validated or replicated in other studies, nor were there measures incorporated to identify the presence of social desirability influencing the results. Thus, it is possible that callers were more comfortable, and therefore likely, to report "negatives" about themselves on symptom measures rather than to disparage the counselor or agency on a satisfaction survey (Lunnen & Ogles, 1998), despite our research design developed to minimize such a tendency. If so, a caller's level of distress may increase or decrease while reported overall satisfaction with services remains constant. Another possibility is that crisis and suicide callers may recognize that symptom change can be unrelated to the efforts of the treatment provider. This raises a much broader issue: symptom change that occurs through the course of the crisis/suicide call and preceding the follow up call may be

somewhat or entirely unrelated to the services provided. For example, the simple passage of time, with accompanying resolution of specific life stressors, has resulted in many positive outcomes. The lack of a control condition makes it difficult to definitively attribute the improvements in crisis state or suicidality to the crisis intervention, thus making it even more difficult to account for the high levels of satisfaction reported by callers. Finally, there exists the possibility of systematic distortions in recall (Conway & Ross, 1984; Mohr, 1995; Seligman, 1995), where individuals forced to make such retrospective judgments tend to be overly optimistic in their appraisals of treatment effects (Lunnen & Ogles, 1998; Pekarik & Guidry, 1999). In order to account for any impact on results by the variability of length of time between the initial crisis/suicide call and the follow-up call, a variable for the *number of days before follow-up* was included in the multivariate regression. The number of days prior to the follow up call was only found to be significant once, accounting for approximately 1% of the variance of the Improved Problem-Solving scale in the crisis sample, with no interaction effects. There was therefore only evidence of an influence of length of time prior to the follow up call for the Problem-Solving Scale of the crisis calls sample, where greater time gap was related to higher satisfaction reported.

Relationship Between Client Satisfaction and Caller Characteristics

Variables of age, gender, race, socioeconomic status, mental health problems, physical health problems, addiction problems, and initial levels of distress (POMS-M, Hopelessness, Psychological Pain, Intent to Die) were included in the correlational matrix as possible predictors of satisfaction feedback variables. In the crisis sample, older callers and female callers reported significantly greater improvement in emotion regulation. In

both the crisis and suicide sample, callers with lower levels of Hopelessness reported significantly greater improvement in emotion regulation, a small but significant relationship. Correlations between caller characteristics and feedback were small and when included simultaneously in the multivariate regression, only Age contributed significantly to the variance in the Improved Emotion Regulation scale for crisis calls, with a small contribution and no significant interaction effects. This study's results were consistent with the literature indicating that client and therapist demographics are not consistently found to affect client satisfaction (Frank et al., 1977; Kenny, 1995; Tanner, 1981), though Bjorngaard, Ruud, and Friis (2007) also found that satisfaction was associated with being female and being of older age. In the literature, the relationship between client satisfaction and mental illness remains unclear, where satisfaction is sometimes significantly higher (Damkot, Pardiani, & Gordon, 1983; Hueston, Mainous, & Schilling, 1996) and sometimes lower (Perreault, Rogers, Leichner, & Sabourin, 1996) for clients with mental health diagnoses compared to controls. Lee (1999), however, found no significant difference between satisfaction and individuals' levels of suicide risk. The current study also found no evidence of an impact of initial symptom level, or mental health/ addiction/physical health issues on reported satisfaction when measured in the context of other variables.

End point functioning was also found to relate to satisfaction feedback. The level of Hopelessness during follow-up call accounted for a significant amount of the variance of both the Improved Emotion Regulation scale and the Overall Improvement item. The level of Hopelessness at the end of the initial call also accounted for a significant amount of the variance of the Improved Emotion Regulation scale in the crisis calls sample. In

the suicide calls sample, Intent to Die at the end of the initial call contributed significantly to the variance of all three satisfaction scores, and Psychological Pain at the end of the initial call contributed significantly to the Improved Emotion Regulation scale. The small but significant relationships indicated that lower levels of Hopelessness, Intent to Die, or Psychological Pain, at the end of the initial call or during the follow up call, were related to greater reported satisfaction feedback. Thus, this study on hotlines supports speculations by Lambert et al. (1986), Lambert and Ogles (2004), and Lunnen et al. (2008) that satisfaction is highly related to end-point (post-treatment) outcome/ absolute functioning scores, independent of symptomatic change/improvement. However, the current results contradict those of Pekarik and Wolff (1996) and Pekarik and Guidry (1999), who found that client-rated end-point functioning was unrelated to satisfaction.

Finally, this study also investigated for differences in reported satisfaction between the suicide and crisis samples. Evidence was found for only one significant difference in satisfaction levels between the two samples. Crisis callers reported significantly greater satisfaction than suicide callers on the Improved Emotion Regulation scale. Though the difference between the means showed only a small effect size, from that result we can hypothesize that suicide callers experience less improvement in emotion regulation than do crisis callers. Conversely, we cannot infer causality from this difference and it is possible that other characteristics of the suicidal callers caused them to report less satisfaction with regards to improved emotion regulation than crisis callers. Regardless, this result differs from the research by identifying a relationship between a caller characteristic, in this case the presence of suicidality, and reported satisfaction by callers.

The differences in satisfaction levels between suicide and crisis samples are particularly meaningful because satisfaction feedback was obtained under the same research conditions, though the distress measures implemented during the calls by the counselors varied depending on whether the calls were suicide or crisis calls. It is important to note (as mentioned in the results section) that the sample of crisis calls differed from the sample of suicide calls in other important respects. A significantly greater number of suicide callers, compared to crisis callers, presented with mental health problems, re-contacted the hotline following the initial call, were racially "White" (versus "Not White"), were of lower socioeconomic status, and sustained a longer period of time between their initial call to the hotline and the follow up call. Suicide callers also evidenced greater levels of Hopelessness as measured at the three different time points, greater Psychological Pain during the follow up call, and greater Intermediate change in Hopelessness (T1-T3) when compared with crisis callers. Crisis callers received more referrals from crisis workers during their initial call to the hotline when compared to suicide callers. Those differences might be related to each other and/or reflect important differences in the two sample populations. Bonferonni was used to correct for the multiple t-tests conducted and Levene's test of the homogeneity of variance corrected for differences related to sample sizes of the two groups.

Relationship Between Client Satisfaction and Process Variables

There was a hope that process variables would account for a significant and meaningful amount of the satisfaction feedback. This would have contributed to an understanding of the construct validity of the satisfaction measure for hotlines and provide evidence regarding the benefit of certain interventions used by counselors. The

research design only included the measurement of (through presence or absence of) a small number of general process interventions. The number of Positive Interventions was measured for each call and indicated whether or not either an action plan was developed, a referral/s given, or both. In addition, counselors during the call indicated the number of referrals (if any) that were provided to callers. There was no significant correlation found between the two process variables and the three satisfaction scores in the suicide and crisis samples. And though the two process variables were included in the multiple regression analysis, they were not shown to contribute significantly to the variance of any of the satisfaction scores for either sample. Thus, for our samples, there is no evidence that certain interventions were related to satisfaction outcomes. It would, however, be very interesting to measure the presence of certain other interventions and intervention styles and their relationship to satisfaction feedback. Possible predictor variables could, for example, include directive interventions versus "Rogerian" nondirective responses, assessing risk of suicide, and reaching a suicide contract when necessary (Mishara et al., 2007).

Overall Strengths of the Research Study

In contrast with most of the earlier studies, a national multi-site methodology was employed, which may increase the generalizability of the findings. While not a representative sample of U.S. crisis centers, the study included a geographically diverse set of centers with varied counselor characteristics (e.g., lay and professional; volunteer or paid) and yielded the largest sample of callers in non-suicidal or suicidal crises studies to date. The large study sample ensured statistical tests with strong power.

The follow up sample used in this study was representative across demographics of age, gender, and ethnicity. Follow-up studies have often been criticized for low response rates leading to a lack of representativeness to the original sample, and thus the population as a whole. In order to address past limitations in such research, response rate was increased from previous studies (e.g., Widener & Becker, 1997) because independent evaluators contacted callers for follow up calls, as opposed to depending on the callers to contact the service for a follow up. Crisis callers who participated in the follow-up assessment were similar to nonparticipants with regard to crisis state at the beginning of the call and to changes in their crisis state from the beginning to the end of the call. However, differences between the two groups were found in that crisis callers who were followed were significantly more overwhelmed and received significantly more referrals from counselors than crisis callers who were not followed (Kalafat et al., 2007). And in regards to the suicide sample, callers who did not complete a follow-up assessment were significantly more intent on dying, more hopeless, more likely to be rescued, and less likely to be given a referral at baseline compared to callers who completed the follow up. However, changes in suicide state (intent to die, hopelessness, and psychological pain) from the beginning to the end of the baseline call did not vary as a function of follow-up participation status (Kalafat et al., 2007).

Independent evaluators conducting the follow up interviews in separate calls were also valuable so as to reduce bias concerning service effectiveness and self-report outcome measures, as well as to minimize the presence of social desirability bias. The use of multiple assessment approaches was central to this evaluation, through assessments that uniquely captured the symptoms present in crisis and suicidal callers, at multiple

time points, and these measures were correlated and yielded converging results (Campbell & Fiske, 1959). Satisfaction was measured in conjunction with these other indices, assessing relationships between aspects of satisfaction and between satisfaction and other treatment outcomes. Research design and analysis focused on dissatisfactions underlying the overall positive level of satisfaction and attempted to harness the views of dissatisfied clients (Larsen et al., 1979), which should prove valuable in using satisfaction feedback to improve hotline services. And rather than simply asking about general satisfaction, items assessed specific aspects of the treatment theorized to be of importance (Pekarik & Wolff, 1996). Satisfaction items were only included in the construction of the satisfaction scales if they had a good range of values (were not positively skewed), improving on research using data lacking variability in callers' responses to satisfaction measures. Multiple regression was conducted in order to consider the impact of independent variables within the context of other possible predictors, and inter-correlations were controlled in regression.

Overall Limitations of the Research Study:

First of all, for purposes of consent callers under the age of 18 were not included in this sample, thus findings can only generalize to adults aged 18 or older. In addition, callers at such high risk of suicide that they required very active emergency interventions because of imminent danger of self-harm (e.g., emergency services intervened) were not included in the crisis or suicide samples and their satisfaction with hotline services was therefore not obtained. The crisis center stopped the interview and initiated their standard rescue procedures when a high degree of risk was evident.

In addition, the sample of callers with whom follow-up was conducted is limited to those callers for whom consent was obtained. Previous research highlights that consent is more often given by callers experiencing greater satisfaction. Though selection biases may exist with regard to the callers who were followed, for the sample of crisis callers the concern about possible positive selection bias among those who consented is attenuated by the finding that there were almost no differences between the baseline sample that was not followed up and the follow up sample (e.g., in levels of distress at the beginning of their calls nor in changes from the beginning to end of the calls). The single exception was that followed callers were significantly more overwhelmed at the start of their calls than non-followed callers.

As well, the research protocol was that consent should be requested from all eligible callers. Only 69 (8.9%) of baseline crisis callers were not asked for consent for follow up, mostly because the caller had to quickly terminate the call or hung up. Otherwise, follow-up assessments were not conducted for 816 (50.5%) of the 1613 baseline crisis callers because either callers refused at baseline (470 (57.6%)), callers gave the crisis counselors invalid contact information (124 (15.2%)), or callers gave consent for follow-up contact but the follow-up interviewers received passive or active refusals at follow-up (153 (18.7%)). 273 (38.7%) of baseline suicide callers were not asked by the counselors if they wanted to receive a follow-up call (often because the caller had to quickly terminate the call or hung up). Otherwise, 705 baseline suicidal callers, out of 1085, had no follow-up assessment because either: callers at baseline refused re-contact (311 (44.1%)); callers gave consent at baseline for follow-up contact

but the follow-up interviewers received passive or active refusals at follow up (63 (9.0%)); or callers gave the crisis counselors invalid contact information (58 (8.2%)).

Significantly more suicidal callers (38.7%) compared to crisis callers (8.5%) were not asked for consent at baseline. Some differences between follow up and non-follow up suicide callers existed (e.g., suicide callers who did not complete a follow-up assessment were significantly more intent on dying). However, changes in suicide state (intent to die, hopelessness, and psychological pain) from the beginning to the end of the baseline call did not vary as a function of follow-up participation status. It is possible that when a call was going "badly," crisis workers were less likely to ask for consent for follow up, even when assessments had been conducted. It is important to note that anecdotal reports from crisis staff were mixed in that some found the questions to be somewhat intrusive, while others indicated that it facilitated their assessment of the caller's state, helped the callers to clarify their feelings, and helped the callers and crisis workers to see the progress achieved during the call. It is also possible that callers provided consent for follow up calls based on a degree of self-selection (such as callers who were more satisfied with the intervention or callers who were more agreeable). It is likely that the sample is limited in its generalizability because the most severely suicidal callers are not included in the sample and because for the reasons listed above, it is likely that the less satisfied callers are not included in the follow-up.

This research study has other important limitations. The study was uncontrolled because of ethical concerns about limiting clinical services from persons in crisis. Second, selection biases exist with regard to the hotline centers and counselors who participated in the study. As part of the research design, the participating centers and

counselors had to be amenable to implementing a series of questions about the callers' current emotional state, which was not compatible with some centers' or counselors' helping model. In addition, the implementation of the research protocol itself influenced the nature of the interaction between the helper and the caller, creating a confounding variable. Crisis workers incorporated the research measures of the POMS, Hopelessness, Suicide Risk Status, and consent for follow-up into the calls that were used for this study. These assessments are not typically administered in calls and their impact on outcome must be taken into consideration when analyzing the data and identifying implications and their generalizability. The results can only be generalized to an intervention model that incorporates some direct assessments of callers' mental state. In addition, callers in the crisis and suicide samples received different assessments during their calls, creating another likely confound for the differences found between the two groups.

Although the present results provide preliminary answers to several questions regarding satisfaction, they should be interpreted with caution given several other characteristics of the sample that are problematic. The symptom outcome measures calculated from the immediate, intermediate, and post call changes in POMS-M, Hopelessness, Psychological Pain, and Intent to Die are not validated through pre-existing research though there is literature validating their use for the measurement of current functioning for individuals. In addition, there was a large amount of missing data within certain variables: Intent to Die measured during the follow up call in both the crisis and suicide samples and socioeconomic status for both the crisis and suicide samples. Reliabilities for the symptom scales measuring suicidality (Intent to Die, Hopelessness, Psychological Pain) were lower than standard expected levels. Another

limitation of this study is the absence of multiple perspectives, as it includes only caller self-report outcome measures as opposed to measurements from counselors and independent observers' perspectives, which would help identify the cross-validity of the findings. Future researchers would be well served by more frequently considering such varied sources.

One should exercise caution when drawing conclusions from the multivariate model due to colinearity between independent variables, though this was reduced through the selection of variables with low levels of colinearity. It should also be noted that this study does not demonstrate causal relationship between predictors and client satisfaction. Our present study had no control group, nor did it manipulate any variables in an effort to effect change on other variables and, therefore, cannot make any statements of causality. As well, it is primarily exploratory in nature and interprets small, though significant, effects as meaningful.

Conclusions

This study is an attempt to address Lebow's (1982) principal concerns about consumer satisfaction research and apply them to hotline evaluation. Client satisfaction has been criticized as lacking in validity, providing a restricted range of responses, and having a tendency toward halo responses, thus limiting their actual value. Research using consumer satisfaction data are frequently labeled as failing to identify issues of concern, presenting distortion within the client's evaluation, and lacking a demonstrated relationship between satisfaction and treatment success (Pekarik & Guidry, 1999).

As previously discussed, this study suggests the presence of two somewhat distinct and important satisfaction outcomes, Improved Emotion Regulation and

Improved Problem Solving. Not only did this study identify potentially important issues of efficacy for future evaluation of telephone hotline services, these two factors of satisfaction might have implications for the development of more comprehensive suicide risk assessment. The present results indicate, in accordance with many previous studies, that there is room for improvement in satisfaction assessment. Instruments are needed that more specifically address issues salient to the treatment process itself and allow for greater latitude in reporting dissatisfaction and deterioration. Though satisfaction results used in scale development were not positively skewed as in previous research (Hill & Lambert, 2004; Lunnen & Ogles, 1998; Pekarik & Guidry, 1999), satisfaction across the samples and scores were positive on average. Future researchers should address these limitations by developing instruments that provide an even more robust range of possible responses. In addition, further studies would provide replication data about this new satisfaction feedback questionnaire.

Results indicate that satisfaction measures were related to desired symptom change and end-point functioning, but were also related to other unidentified factors, making it a meaningful and unique outcome measure (Simington, Cargill, & Hill, 1996). Process variables and client characteristics were not found to account for client satisfaction feedback, consistent with the previous literature. The strengths and limitations of satisfaction feedback in evaluation hotline services merits further empirical attention, in particular a replication of this study's design while casting a wider net around possible predictors of satisfaction feedback. In addition, program evaluation of hotline services should clearly include studies on the effectiveness of in-service training, counselor experience, suicide risk assessment, and symptom reduction in caller samples.

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APPENDIX A

Baseline Assessment

Caller's ID#:_____
Counselor's Name:_____
Counselor's ID#:_____

SUICIDE RISK ASSESSMENT
(Complete if caller mentions suicide or gives cues that prompt the need to ask about suicide)

IMMEDIATE RISK AND IDEATION

BSU1q1) Do you have ANY thoughts about killing yourself?
1 = Yes
0 = No

IF YES:

BSU1q2) How much of each day do you think about suicide?
1 = Fleeting thoughts/Once in a while
2 = Persistent thoughts/A lot of the time
99 = Missing

BSU1q3) Can you control your thoughts about killing yourself?
1 = Yes
0 = No
99 = Missing

BSU1q4) Have you done anything to hurt yourself before you called us, or right now?
1 = Yes
0 = No (If "No", skip to Plans/Means/Availability)
99 = Missing

IF YES:
BSU1q5) What have you done to hurt yourself?

BSU1q6) ***If did something to hurt self, START RESCUE PROTOCOL AND CHECK HERE*** 1 = yes
0 = no
88 = N/A

(continue assessment if it is useful to keep the caller on the line during rescue procedures)

Caller's ID#:_____
Counselor's Name:_____
Counselor's ID#:_____

SUICIDE RISK ASSESSMENT

PLANS/MEANS/AVAILABILITY

BSU1q7) Have you made any specific plans to hurt or kill yourself?
1 = Yes
0 = No (if no plans, skip to Previous Attempts)
99 = Missing

IF YES: BSU1q8) HOW? WHEN? WHERE?

If they haven't already mentioned guns as part of their plan, ask:

BSU1q9) Are there any guns available where you are now?
1 = Yes
0 = No
99 = Missing

PREVIOUS ATTEMPTS

BSU1q10) Have you ever, in your whole life tried to kill yourself?
1 = Yes
0 = No
99 = Missing

IF YES:
BSU1q11) How many times in your whole life have you tried to kill yourself?
1 = Once
2 = Multiple
88 = N/A
99 = Missing

BSU1q12) Did you ever go to a doctor, emergency room or other health facility for the resulting illness or injury after you tried to kill yourself?
1 = Yes
0 = No
88 = N/A
99 = Missing

Caller's ID#:_____
Counselor's Name:_____
Counselor's ID#:_____

SUICIDE RISK ASSESSMENT

INTENT TO DIE

BSU1q13) When you think about killing yourself, how much do you really want to die?

5 = Definitely want to die
4 = Want to die more than live
3 = About equal
2 = A part of me wants to live more than die
1 = Definitely want to live
99 = Missing

BSU1q14) Do you think you have any other ways to solve your problems, other than suicide?

2 = Suicide is the only possible option
1 = Other possible options exist
99 = Missing

BSU1q15) Narrative:

BSU1q16) Earlier you said you thought about (or made plans for) killing yourself (plan details). How likely are you to carry out your thoughts (or plans)?

On a scale of 1 to 5 where 1 is "not at all likely" , 3 is "somewhat likely" and 5 is "extremely likely"

1 = Not at all likely
2
3 = Somewhat likely
4
5 = Extremely likely
99 = Missing

Caller's ID#:_____
Counselor's Name:_____
Counselor's ID#:_____

SUICIDE RISK ASSESSMENT

PSYCHOLOGICAL PAIN

BPsy1q1) On a scale of 1 to 5, how much hurt, anguish or misery are you feeling right now?
(not stress, not physical pain)
With 1 being low pain/anguish/misery and 5 being high pain/anguish/misery

1 = Low pain
2
3
4
5 = High pain
99 = Missing

BPsy1q2) If your current situation didn't change, could you tolerate the way you feel?
On a scale of 1 to 5 could you tolerate it?
With 1 being can tolerate it and 5 being can't tolerate it

1 = Could tolerate it
2
3
4
5 = Couldn't tolerate it
99 = Missing

HOPELESSNESS

BHop1q1) To what degree do you feel that there is no hope for improvement in your situation in the future? As you look into the future, do you see things getting better in your life?

5 = Nothing will change, things will stay bad
4
3
2
1 = Sure that the future will be better
99 = Missing
(If caller can't answer this question because he/she can't see a future (which means we code yes to question BHOP1q2), then does this question (BHOP1q1) get coded as "88"? I think yes, because if caller is able to see future and is able to answer question BHOP1q1, then we coded BHOP1q2 as "88".)

BHop1q2) If in response to question, caller says "I can't even see a future" then check here
1 = Yes 88 = N/A

BHop1q3) To what extent does the following belief, which I am about to say, describe how you are feeling right now?

	1	2	3	4	5	99
I don't think I can go on	Not at all	A little	Moderately	Quite a bit	Extremely	Missing

CRISIS ASSESSMENT (Complete only with nonsuicide crisis calls) Caller's ID#:_____

PROFILE OF MOOD STATES (Initial POMS) .....

It sounds like you are having quite a response to this* It think it would be helpful to both of us if we got a better sense of how are you feeling right now. To help us understand what you are feeling, I'd like to go through some words with you that describe feelings people have. Then you tell me how much you are feeling any of these feelings right now. All right?* Use any bridging or active listening statements to introduce this.

CURRENT FEELING	0	1	2	3	4	99
BPOM1q1) Confused	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM1q2) Depressed	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM1q3) Annoyed	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM1q4) Mixed up	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM1q5) Bitter	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM1q6) Unhappy	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM1q7) Anxious	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM1q8) Worried	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM1q9) Miserable	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM1q10) Nervous	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM1q11) Angry	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM1q12) Uncertain	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM1q13) Helpless	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM1q14) Overwhelmed	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing

HOPELESSNESS

.....

BHop1q1) To what degree do you feel that there is no hope for improvement in your situation in the future? As you look into the future, do you see things getting better in your life?

5 = Nothing will change, things will stay bad 1 = Sure that the future will be better

☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ 99 = missing

BHop1q2) If in response to question, caller says "I can't even see a future" then check here

1 = Yes 88 = N/A 99=Missing

BHop1q3) To what extent does the following belief, which I am about to say, describe how you are feeling right now?

	1	2	3	4	5	99
I don't think I can go on	Not at all	A little	Moderately	Quite a bit	Extremely	Missing

Counselor's Name:_____
Caller's ID#:_____
Counselor's Name:_____
Counselor's #:_____

CALL RESOLUTION (suicide calls)

FINAL INTENT TO DIE

BSU2q13) When you think about killing yourself, how much do you really want to die?

5 = Definitely want to die
4 = Want to die more than live
3 = About equal
2 = A part of me wants to live more than die
1 = Definitely want to live
99 = Missing

BSU2q14) Do you think you have any other ways to solve your problems, other than suicide?

2 = Suicide is the only possible option
1 = Other possible options exist
99 = Missing

BSU2q15) Narrative:

BSU2q16) Earlier you said you thought about (or made plans for) killing yourself (plan details). How likely are you to carry out your thoughts (or plans)?
On a scale of 1 to 5 where 1 is "not at all likely" , 3 is "somewhat likely" and 5 is "extremely likely"

☐ 1 = Not at all likely
☐ 2
☐ 3 = Somewhat likely
☐ 4
☐ 5 = Extremely likely
☐ 99 = Missing

Caller's ID#:_____
Counselor's Name:_____
Counselor's ID#:_____

FINAL PSYCHOLOGICAL PAIN (Suicide Calls)

BPsy2q1) On a scale of 1 to 5, how much hurt, anguish or misery are you currently feeling right now?
(not stress, not physical pain) With 1 being low pain/anguish/misery and 5 being high pain/anguish/misery

- ☐ 1= Low pain
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5= High pain
- ☐ 99 = Missing

BPsy2q2) If your current situation didn't change, could you tolerate the way you feel ?
On a scale of 1 to 5 could you tolerate it? With 1 being can tolerate it and 5 being can't tolerate it

- ☐ 1= Could tolerate it
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5= Couldn't tolerate it
- ☐ 99 = Missing

FINAL HOPELESSNESS

BHop2q1) To what degree do you feel that there is no hope for improvement in your situation in the future? As you look into the future, do you see things getting better in your life?

- ☐ 5 = Nothing will change, things will stay bad
- ☐ 4
- ☐ 3
- ☐ 2
- ☐ 1 = Sure that the future will be better
- ☐ 99 = Missing

BHop2q2) If in response to question, caller says "I can't even see a future" then check here
1 = Yes
88 = N/A
99 = Missing

BHop2q3) To what extent does the following belief, which I am about to say, describe how you are feeling now?

	1	2	3	4	5	6
I don't think I can go on	Not at all	A little	Moderately	Quite a bit	Extremely	Missing

CALL RESOLUTION (Complete only with nonsuicide crisis calls) Caller's ID#:_____

FINAL POMS .....

I'd like to check back in with you to see how you are feeling right now. I'm going to ask you the same questions I asked you earlier just to see how you're feeling now. OK? How do you feel now? Do you feel...?

CURRENT FEELING	0	1	2	3	4	99
BPOM2q1) Confused	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM2q2) Depressed	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM2q3) Annoyed	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM2q4) Mixed up	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM2q5) Bitter	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM2q6) Unhappy	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM2q7) Anxious	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM2q8) Worried	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM2q9) Miserable	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM2q10) Nervous	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM2q11) Angry	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM2q12) Uncertain	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM2q13) Helpless	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing
BPOM2q14) Overwhelmed	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely	☐ Missing

FINAL HOPELESSNESS

.....

BHop2q1) To what degree do you feel that there is no hope for improvement in your situation in the future? As you look into the future, do you see things getting better in your life?

- ☐ 5 = Nothing will change, things will stay bad
- ☐ 4
- ☐ 3
- ☐ 2
- ☐ 1 = Sure that the future will be better
- ☐ 99 = missing

BHop2q2) If in response to question, caller says "I can't even see a future" then check here
1 = Yes 88 = N/A 99 = Missing

BHop2q3) To what extent does the following belief, which I am about to say, describe how you are feeling right now?

	1	2	3	4	5	99
I don't think I can go on	Not at all	A little	Moderately	Quite a bit	Extremely	Missing

Caller's ID#:_____
Counselor's Name:_____
Counselor's ID#:_____

CONSENT FOR FOLLOW-UP CALL

Before we hang up, I'd like to describe a follow-up telephone survey that is being conducted with people who call our crisis line. The reason for doing the follow-up is to find out how people are doing in the weeks after we talked with them. (Crisis center name) is working with researchers at Rutgers and Columbia University to do this follow-up telephone assessment. For purposes of consent, the study has to be limited to people who are 18 years of age or older.

Are you 18 years of age or older? ☐ **Yes (18 yrs or older)** ☐ **No (younger than 18 years)**

Right now, we would like to just find out whether it is okay for the research/evaluation team from Rutgers and Columbia University to call you in a week or so. Do you think it would be okay for someone from Rutgers to Columbia University to call you to see if you might be interested in participating in the follow-up telephone research survey? When they call you they will give you all the details about the telephone survey. While they need your name to call you back, your name will not be connected to any of your answers on the survey or any reports that come out of the evaluation. The survey will take about 15 to 30 minutes and you will be paid $15 for helping with this evaluation.

☐ Agreed ☐ Refused Date agreed or refused __ __/__ __/__ __ __ __

Caller's first and last name _____

Counselor's name who obtained consent _____

Follow-Up Contact Details:

1) Telephone number for follow-up call (__ __ __) __ __ __ - __ __ __ __
2) Best days & time to call_____
3) "The telephone number you gave me, is it for a cell phone?" ☐ Yes ☐ No
4) Alternate telephone number for follow-up call (__ __ __) __ __ __ - __ __ __ __
5) Best days & time to call_____
6) Does the caller have caller ID? ☐ Yes ☐ No
7) If Yes, "should they block their identity when they call you?" ? ☐ Yes ☐ No
8) Answering machine? ☐ Yes ☐ No

If you're not home when they call:

9) Is it okay to leave a message on your answering machine?..... ☐ Yes ☐ No
10) Is it okay for them to leave a message with someone else if they answer? ☐ Yes ☐ No

IF YES: 11) Could the message be: "This is Rutgers/Columbia University calling to see if you'd be interested in participating in a telephone survey? ☐ Yes ☐ No

IF NO: 12) Write down exact message that caller wants them to leave:

Caller's ID#:_____
Counselor's Name:_____
Counselor's ID#:_____

POST-CALL RESOLUTION (completed after the call)

Problems presented: (check all that apply)

(Response codes: 1 = Yes 0 = No 99 = Missing)

BCRq101 ☐ Abuse or Violence (including crime victim)

Addictions:
- **BCRq102** ☐ Alcohol
- **BCRq103** ☐ Drugs
- **BCRq104** ☐ Other **BCRq105**) If "Other Addiction", specify:

BCRq106 ☐ Base Needs/Financial

Interpersonal Problems
- **BCRq107** ☐ Family
- **BCRq108** ☐ Non-Family
- **BCRq109** ☐ Spouse/Significant Others

BCRq110 ☐ Mental Health **BCRq111**) If "Mental Health", specify:

BCRq112 ☐ Physical Health

BCRq113 ☐ Problems at Work

BCRq114 ☐ Suicide

BCRq115 ☐ Other **BCRq116**) If "Other", specify:

BCRq117) Problem Comments:

Caller's ID#:_____
Counselor's Name:_____
Counselor's ID#:_____

POST-CALL RESOLUTION - Continued (completed after the call)

Helper Intervention Summary (check all that apply)

During this call my interventions included:

BCRq201 ☐ Identified a specific action plan **(1 = Yes 0 = No 88 = Missing)**
IF YES: **BCRq202**) Plan Details:

BCRq203 ☐ Initiated trace for rescue emergency **(1 = Yes 0 = No)**
IF YES: 2b) Involving: (Check all that apply)
BCRq204 ☐ Medical (1 = Yes ; 0 = No; 88= N/A; 99= Missing)
BCRq205 ☐ Mobile Response (1 = Yes ; 0 = No; 88= N/A; 99= Missing)
BCRq206 ☐ Police (1 = Yes ; 0 = No; 88= N/A; 99= Missing)

BCRq207 ☐ Provided a referral **(1 = Yes 0 = No 88 = Missing)**
IF YES: **BCRq208**) Type of referral made:)

BCRq2 ADDITIONAL COMMENTS:

CALL SUMMARY/LOG OUT (completed after the call) Caller's ID#:_____

BCSLOq1) Telephone line that the call came in on: 1 = **Center's Regular Line(s)** 2 = **1-800-SUICIDE** 99 = **Missing**	**BCSLOq2) Caller's Gender:** 1 = **Male** 2 = **Female** 99 = **Missing** **BCSLOq3) Date call came in: __ __ /__ __ /__ __ __** **BCSLOq4) Time call came in:____:____ AM=1 PM=2**

BCSLOq8) Assessment status:
1 = Fully completed (all required questions answered)
2 = Partially completed (not all required answered)
99 = Missing

BCSLOq9) If partial assessment, reason for partial assessment?

BCSLOq11) Consent Status: Did you ask caller for consent for Rutgers/Columbia to call him/her?
1 = Yes
0 = No
99 = Missing

BCSLOq13) IF NO: Reason for not asking:

APPENDIX B

Follow Up Assessment

Originating Number: 27 **INTERMEDIATE CALL OUTCOME** Page 1

Caller's ID#:

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CLIENT FOLLOW UP WITH PLAN OR REFERRAL

Crisis Center's Name: Date of original Call to center:

Follow Up Interviewer's Name Date of follow-up assessment:

(1) Have you had any more contact with (name of crisis center) since you called them on (date)?

☐ Yes ☐ No

IF YES: (2) How many times have you had contact with (name of center)?

(3) Do you recall the plan of action that you and the counselor came up with during your call to the center?

☐ Yes

☐ No

IF YES: (4) How much of the plan do you recall?

☐ All details

☐ Most details

☐ Some details

(5) To what extent do you still agree with that plan?

☐ Completely agree

☐ Mostly agree

☐ Somewhat agree

☐ Don't agree at all

If not complete agreement with plan:

(6) Describe caller's reasons for disagreement:

(7) To what extent have you been able to follow through with that plan?

☐ All

☐ Most

☐ Some

☐ None

☐ In process

(8) Describe how caller has followed through with the plan, including reason for no or incomplete follow through.

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Caller's ID#:

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CLIENT FOLLOW UP WITH PLAN OR REFERRAL - Pg 2

(Interviewer Note - If caller was given a referral, ask the following questions about the 1st referral):

(9) Do you recall the referral that was given to you during your call to the center?

☐ Yes ☐ No ☐ Not Applicable (no referral given to caller)

If YES: (Interviewer Note - Code the type of referral given, and the ask the following questions):

(9a) Type of referral:

(10) To what extent do you still agree with the referral?

☐ Completely agree ☐ Somewhat agree

☐ Mostly agree ☐ Don't agree at all

If not complete agreement with referral:

(11) Reasons for disagreement:

(12) Have you been able to follow through with the referral?

☐ Yes ☐ No ☐ Unsuccessful attempt ☐ In process

(13) ***Describe how caller has followed through with the referral, including reason for no or incomplete follow through:***

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Caller's ID#:

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CLIENT FOLLOW UP WITH PLAN OR REFERRAL- Pg 3

(Interviewer Note - If a second referral was given, ask the following questions):

(16) Do you recall the referral that was given to you? ☐ Yes ☐ No ☐ Not Applicable

IF YES: (Interviewer Note - Complete the following for the 2nd referral given):

(17) To what extent do you still agree with the referral?

☐ Completely agree ☐ Somewhat agree

☐ Mostly agree ☐ Don't agree at all

(Interviewer: code type of referral)

(17a)

If not complete agreement with referral:

(18) Reasons for disagreement:

(19) Have you been able to follow through with the referral?

☐ Yes ☐ No ☐ Unsuccessful attempt ☐ In process

(20) Describe how caller has followed through with the referral, including reason for no or incomplete follow through:

Originating Number: 25
Caller's ID#:

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CLIENT FEEDBACK ON CALL

(1) Thinking back to the call you placed to the crisis line, can you tell me how the call was helpful to you?

(2) Can you tell me what was not helpful about the call?

(3) Overall, did the crisis line help you deal more effectively with your problems?

- ☐ Yes, it helped me a lot
- ☐ Yes, it helped me a little
- ☐ It didn't really help or hurt
- ☐ No, it made things a little worse
- ☐ No, it made things a lot worse

(4) Thinking about what happened during the call, to what extend did the counselor:

(4a) Listen to you and let you talk?.....	☐ a lot	☐ moderately	☐ a little	☐ not at all	
(4b) Let you vent your emotions?.....	☐ a lot	☐ moderately	☐ a little	☐ not at all	
(4c) Helped you think more clearly?.....	☐ a lot	☐ moderately	☐ a little	☐ not at all	
(4d) Provided you with accurate information?	☐ a lot	☐ moderately	☐ a little	☐ not at all	
(4e) Provided you with a new perspective?...	☐ a lot	☐ moderately	☐ a little	☐ not at all	
(4f) Helped you identify options for dealing with your concerns?.....	☐ a lot	☐ moderately	☐ a little	☐ not at all	
(4g) Helped you consider the cosequences of your actions?.....	☐ a lot	☐ moderately	☐ a little	☐ not at all	☐ n/a

(5) To what extent did you feel?

(5a) Relieved?.....	☐ a lot	☐ moderately	☐ a little	☐ not at all
(5b) Comforted?.....	☐ a lot	☐ moderately	☐ a little	☐ not at all
(5c) More hopeful?.....	☐ a lot	☐ moderately	☐ a little	☐ not at all
(5d) Less anxious?.....	☐ a lot	☐ moderately	☐ a little	☐ not at all
(5e) More confident and in control?.....	☐ a lot	☐ moderately	☐ a little	☐ not at all

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Caller's ID#:

CLIENT FEEDBACK ON CALL - Pg 2

(6) To what extent do you feel the counselor:

(6a) Was concerned about your problem?...	☐ a lot	☐ moderately	☐ a little	☐ not at all
(6b) Was understanding?.....	☐ a lot	☐ moderately	☐ a little	☐ not at all
(6c) Was nonjudgmental - didn't put you down?.....	☐ a lot	☐ moderately	☐ a little	☐ not at all
(6d) Helped you to calm down?.....	☐ a lot	☐ moderately	☐ a little	☐ not at all
(6e) Gave you some hope?.....	☐ a lot	☐ moderately	☐ a little	☐ not at all

(7) If a friend were in need of similar help, would you recommend the crisis line to him or her?

☐ Definitely yes ☐ Probably yes ☐ Probably not ☐ Definitely not

(8) In general, how satisfied were you with the crisis line?

☐ Very much satisfied ☐ Somewhat satisfied ☐ Somewhat dissatisfied ☐ Very dissatisfied

(9) Overall, since the call you made to the center, are you?

☐ Better ☐ About the same ☐ Worse

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Caller's ID#:

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PROFILE OF MOOD STATES

I'd like to get a better sense of how you're feeling right now. To help me do this, I'm going to read off a list of words that describe feelings that people have. As I read off each one, please let me know if you're feeling that way, "not at all" "a little" "moderately" "quite a bit" or "extremely." HOW DO YOU FEEL RIGHT NOW? DO YOU FEEL ... ?

CURRENT BEHAVIOR	BEHAVIOR LEVEL				
Confused.....	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely
Depressed.....	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely
Annoyed.....	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely
Mixed Up.....	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely
Bitter.....	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely
Unhappy.....	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely
Anxious.....	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely
Worried.....	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely
Miserable.....	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely
Nervous.....	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely
Angry.....	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely
Uncertain.....	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely
Helpless.....	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely
Overwhelmed.....	☐ Not at all	☐ A little	☐ Moderately	☐ Quite a bit	☐ Extremely

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HOPELESSNESS

(4) To what degree do you feel that there is no hope for improvement in your situation in the future?

As you look into the future, do you see things getting better in your life?

1 = Nothing will change, things will stay bad ☐1 ☐2 ☐3 ☐4 ☐5 5 = Sure that the future will be better

If in response to question, caller says "I can't even see a future", then check here ☐

(5) To what extent does the following belief, which I'm about to say, describe how you're feeling right now?

BELIEF	BELIEF LEVEL
I don't think I can go on.....	☐ Not at all ☐ A little ☐ Moderately ☐ Quite a bit ☐ Extremely

PSYCHOLOGICAL PAIN

(6) On a scale of 1 to 5, how much hurt, anguish or misery are you currently feeling right now?

(not stress, not physical pain) 1 being low pain/anguish/misery and 5 being high pain/anguish/misery

1 = Low pain ☐ 2 ☐ 3 ☐ 4 ☐ 5 = High pain ☐

(7) If your current situation didn't change, could you tolerate the way you feel?

On a scale of 1 to 5, how much could you tolerate it? 1 being can tolerate it to 5 being can't tolerate it at all

1 = Can tolerate it ☐ 2 ☐ 3 ☐ 4 ☐ 5 = Can't tolerate it at all ☐

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Caller's ID#:

SUICIDE RISK ASSESSMENT

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IMMEDIATE RISK AND IDEATION

(1) I need to ask you whether you have had any thoughts about killing yourself since you called the crisis line?

☐ Yes ☐ No (if no thoughts skip to Address/Age/Ethnicity Form)

IF YES: (2) Since you called the crisis line, how much of each day do you think about suicide?

☐ Fleeting thoughts/Once in a while

☐ Persistent thoughts/A lot of the time

(3) Have you been able to control your thoughts about suicide?

☐ Yes

☐ No

IF YES: (4) Tell me what you do to control them?

IF NO: (5) What's that like? Tell me more about that:

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SUICIDE RISK ASSESSMENT - Pg 2

PLANS/MEANS/AVAILABILITY

(1) Since you called the crisis center, have you made any specific plans to hurt or kill yourself?

☐ Yes ☐ No (If no plans, skip to Previous Attempts) Then after assessment complete, initiate conference call

IF YES: (2) What did you plan to do to hurt yourself?

(3) Is this means available to you?

☐ Not available/Has not been obtained
☐ Close by/Obtained, but not readily available
☐ Has on hand/ready to use/Immediately available

(4) Are you still planning to do it? ☐ Yes ☐ No

IF YES: (5) When?

☐ **Immediately** ☐ Within a week
☐ **Within a few hours** ☐ Within the month
☐ Within a few days ☐ Some indefinite time in the future

(6) Are you alone now? ☐ Yes ☐ No

IF YES: (7) Is anyone nearby? ☐ Yes ☐ No

(8) Have you been drinking or taking drugs today? ☐ Yes ☐ No

IF YES: (9) How much/what kind?

IF THEY HAVEN'T ALREADY MENTIONED FIREARMS AS PART OF THEIR PLAN, ASK:

(10) Are there any firearms available where you are now? ☐ Yes ☐ No

Interviewer Note:

- **If the caller has current suicidal thoughts and a plan for harm to self immediately or within the next hours, immediately cease the assessment and initiate a conference call between yourself, the caller and the crisis center.**

- **If the caller has current or has had suicidal thoughts since the crisis call (even if not current thoughts), but no plan, complete the assessment and then encourage the caller to recontact the center.**

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Caller's ID#:

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SUICIDE RISK ASSESSMENT - Pg 3

PREVIOUS ATTEMPTS

(1) **Since you called the crisis center (date of initial call) have you tried to kill yourself?** ☐ Yes * ☐ No

IF YES: (2) Was that more than one time? ☐ Once ☐ Multiple

(3) Did you go to a doctor, emergency room or other health facility for the resulting illness or injury, after you tried to kill yourself? ☐ Yes ☐ No

(4) What did you do to try to kill yourself?

INTENT TO DIE

(1) **When you think about killing yourself, how much do you really want to die?**

☐ **Definitely want to die*** ☐ A part of me wants to live more than die
☐ **Want to die more than live*** ☐ Definitely want to live
☐ About equal

(2) **Do you think you have any other ways to solve your problems, other than suicide?**

☐ Suicide is the only possible option
☐ Other possible options exist

Narrative:

(3) **Earlier you said you thought about (or made plans for) killing yourself (plan details) since you called the crisis line. How likely are you to carry out your thoughts (or plans)?**

☐ 1 = Not at all likely
☐ 2
☐ **3* = Somewhat likely**
☐ **4***
☐ **5* = Extremely likely**

(If the center assessed this caller as a crisis caller at baseline, but at follow up the caller has endorsed suicide, then please ask the following questions):

(4) **Thinking back to the time you called the crisis center on (date), were you having feelings (about suicide) like this at that time?**

☐ Yes ☐ No

(5) **IF YES: When you spoke with the crisis center on (date of call to center) did you mention these feelings to the counselor?**

☐ Yes ☐ No

SUICIDE RISK ASSESSMENT - Pg 4

INTERVIEWER NOTE:

***If "Yes" responses to any of these items, initiate the conference call protocol (call caller back, using your regular telephone service, and upon reconnecting, obtain the caller's mailing address/ethnicity/gender). Then initiate a conference with the caller and the crisis center he/she initially called. If you encounter a busy signal, you can either work with the caller a few minutes more and then try again, or conference call with the caller to 1-800-Suicide (800-784-2433). Suggested wording:**

"During our call today, you've told me some things that I'm really concerned about. You said "(list starred suicide items), "and that you're feeling" (words from POMS that caller rated as Quite a bit or Extremely). (If personal problems mentioned by the caller, add: "You also said you're still having a/some problem(s) with _____). So, before we end our call today, it's important that I connect you back to the crisis center so they can talk with you further about your thoughts about suicide, and the things you've been going through. What would happen is that I would conference call with you back to the center. While you, the crisis counselor and I are on the phone together, I'd tell the counselor what you and I spoke about today, and give the counselor enough information so he or she can help you. Then I'd get off of the line so you and the counselor can talk together."

If the caller agrees to the conference call, keep the caller informed of exactly what you are doing. Tell them:
"Okay, I'm going to set up the conference call now. To be able to do this, What I have to do is to put you on hold while I dial the center's telephone number. While I'm doing this, you won't hear anything, but I'm still connected with you. After the center answers my call to them, then I will take you off of hold, and the three of us will then be on the phone at the same time."

If the caller refuses the conference call, then tell the caller:

"Given your responses, I'm obligated to call the center back to have them contact you to try to help you with this.

It's not a good idea to be sitting alone with these feelings all by yourself."

If the caller does not meet the criteria for a mandatory conference call, but might benefit from a crisis intervention call with the crisis center, then discuss this with the caller. Some suggested wording:

"During our call today, you told me that you are (list mood problems they are experiencing) and that (list any other problems they mentioned) I am wondering if you might like to talk to a telephone counselor at (name of crisis center they called last time) to help you with these things that you've been going through. I could place a conference call to the crisis center and stay on the line until you make the connection with the counselor. Would you like me to set up a conference call?"

If the caller reports no mood or other problems, then some suggested wording for closure to the assessment is:
"From what you have told me today, you seem to be doing well since you called the crisis center. However, if you ever want some help with a problem in the future, feel free to call (specific crisis center's name).
If caller has a positive response to this offer, then ask the caller if he/she wants you to give him/her the crisis center's telephone number.

Thank caller for his/her participation.

Conference call required? ☐ Yes ☐ No

IF YES: Caller agreed to conference call? ☐ Yes ☐ No

IF YES: Established call with caller and center? ☐ Yes ☐ No

IF NO: Caller agreed to receiving call from the center? ☐ Yes ☐ No

Interviewer contacted center by self, with caller's information? ☐ Yes ☐ No

Interviewer Notes

Originating number: 27

Caller's ID#:

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ADDRESS/AGE/ETHNICITY

Interviewer - After completing this page, go back to previous page for instructions and script for conferencing or terminating the call.

Information Needed for Mailing $15 Money Order for Participation

First Name:

Middle Initial:

Last Name:

Street and Apt:

City:

State:

Zip Code:

Assessment completed ☐

Date assessment completed:

Demographics Information:

Age:

Gender: ☐ Male ☐ Female

Ethnicity: *(code all that apply)*

☐ White
☐ Black
☐ Hispanic
☐ Asian
☐ Other

If"Other" specify:

Do you mind telling me if you have insurance that would pay for mental health counseling. The reason we are asking everyone this question is because we're trying to find out if crisis centers are providing a service that might not otherwise be available to people who do not have this type of insurance.

Do you have insurance that would pay for mental health counseling?

☐ Yes ☐ No ☐ Don't Know

APPENDIX C

Telephone Consent Script

Telephone Consent Script for Follow-Up Telephone Assessment

Briefly introduce yourself and explain the purpose of your call. Remind the caller that when he/she called (name of crisis center) a week ago that he/she said it would be okay for us to call him/her to see if he/she might be interested in participating in a research study involving a follow-up telephone assessment: Ask them if they feel well enough to talk at this time.

Read the following to the client:
I would like to explain what this research survey is about. You can interrupt with questions at any time. The reason we are conducting follow-up telephone research surveys with people who called (name of crisis center) is to find out how they have been doing since they talked to the telephone counselor. _____(Name of crisis center) is working with researchers at Rutgers and Columbia University on a research study to do this follow-up telephone assessment because it will help us find out whether crisis centers provide effective services to the people who call them.

A lot of the questions we will ask you are the same questions you were asked last week when you called (name of crisis center). Your answers will let us know how you have been doing since you called _____ (name of crisis center) a week ago. We will ask you about what plan of action that you and the counselor might have come up with and whether you followed any of the recommendations. Also, we will ask you about any health services you have used since you called _____(name of crisis center) last week, and what you think about those services. We will also ask your permission to contact one of the health service providers who you may have gone to see. . We would also like to look at the responses you gave to the counselor last week in order to find out whether callers are receiving immediate help when they call a hotline.

The only foreseeable discomfort you might experience while answering the survey questions, is that you may think about the concern that prompted you to call the crisis line, and you may feel the need to talk about your concern some more. The person who will be asking the questions is not an employee of the crisis service, but he (she) is a trained crisis worker and can suspend the questions and discuss your concern with you. After this, you may decide to continue the interview, postpone it to another time, or decide not to complete it.

The benefits of participating in the follow up call may include the opportunity for you to discuss how you have been doing since your call, or to clarify the plan that you and the counselor came up with and ask further questions about possible referrals. Your responses can help improve the quality of services offered by the crisis service because client or customer feedback is very important for improving services.

Taking part in the study is voluntary. In other words, it is up to you. You can refuse to answer any or all of the questions. You can stop at any time. You would not be penalized in any way if you did not want to answer any questions or decided to stop participating in the survey.

If you participate in the telephone research assessment, we will schedule the survey at a time that is good for you. We can do it right now, if this is a convenient time for you. The assessment will take approximately 15 to 30 minutes. We will send you $15 to thank you for taking the time to talk with us. We will mail you a check soon after you finished the survey. It will take about two to three weeks for you to receive the check.

Before I discuss confidentiality, do you have any questions about what I have said so far?
We are very concerned about keeping your answers private. We will not put your name on the survey. It will refer to you only by a study number. Data in our computers will contain only this number, not your name. Be assured that neither your name, nor anyone else taking part in the study will be identified in any publication or report of the

This informed consent form was approved
by the Rutgers Review Board for the Protection
of Human Subjects on 9/10/2003; approval for
this form expires on 10/09/2004

findings. All our project staff have signed a confidentiality statement saying that they will keep your answers private. They will be the only people who can link your study number with your name. All papers that link your name with your study number will be kept in locked files. We will destroy them at the end of the project.

This study has obtained a confidentiality certificate from the federal government, which means that we cannot be forced to identify any information about you in any civil, criminal, administrative, legislative, or other proceedings, whether State, Federal, or local, unless you provide written consent to disclose the information. However, if we learn about serious harm to you or someone else, as in cases of abuse, we would have to take whatever measures are needed to protect the individuals involved, including reporting to appropriate protective services. Other kinds of problems are thoughts about killing yourself or doing things to cause serious harm to yourself on purpose. In these kinds of situations, we would be obligated to refer you back to the hotline for intervention. This would involve our contacting the hotline to immediately implement their routine procedures for handling emergencies. Another exception to our promise of privacy is if our project is audited or evaluated by authorized personnel from the Department of Health and Human Services.

If you have any questions or concerns about any aspect of the project, you may call (Principal Investigator Dr. John Kalafat or the Co-Principal Investigator Dr. Madelyn S. Gould, or the Field Data Coordinator Ms. Jimmie Lou Harris) at (732-445-5803, 212-543-5329 and 212-543-5482 respectively). If you have any questions about your rights as a research subject or any complaints, you may call our Institutional Review Boards (IRB) at (732-932-0150 ext 2104 or 212-543-5758).

Do you have any questions? Are you willing to take part in the telephone research survey? I will be turning on a tape recorder to record your answer about agreeing to participate.

_____(Subject's name), do you agree to take part in the follow-up telephone research assessment for the Hotline Service Evaluation Study and to have us access the information you gave to the hotline operator last week?

I will be turning on a tape recorder to record your answer now.

Agreed_____ Refused_____ Date_____

(Note to Interviewer: If this interview was selected for taping, please also obtain the consent for taping):

In order to keep track of the quality of the survey, we would like to tape record the survey with you. No information that can identify you will be on the tapes. The tapes will be erased at the end of the project on 9/30/04. Do you agree to let me tape this survey?

Agreed_____ Refused_____ Date_____

_____
Signature of Person Obtaining Consent

_____
Printed Name of Person Obtaining Consent

This informed consent form was approved by the Rutgers Review Board for the Protection of Human Subjects on 9/10/2003; approval for this form expires on 10/09/2004