INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps. Each original is also photographed in one exposure and is included in reduced form at the back of the book.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

UMI®

Bell & Howell Information and Learning
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
800-521-0600

SEXUAL-ASSAULT CRISIS-LINE VOLUNTEERS: A STUDY OF STRESS AND COPING PROCESSES

by

Kristine Ann Belanger

A thesis
presented to the University of Waterloo
in fulfilment of the thesis requirement for the degree of
Doctor of Philosophy
in
Psychology

Waterloo, Ontario, Canada, 1999

© Kristine Belanger 1999

National Library of Canada
Acquisitions and Bibliographic Services
395 Wellington Street
Ottawa ON K1A 0N4
Canada

Bibliothèque nationale du Canada
Acquisitions et services bibliographiques
395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file Votre référence

Our file Notre référence

The author has granted a non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of this thesis in microform, paper or electronic formats.

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de cette thèse sous la forme de microfiche/film, de reproduction sur papier ou sur format électronique.

The author retains ownership of the copyright in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

L'auteur conserve la propriété du droit d'auteur qui protège cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

0-612-38219-2

Canada

The University of Waterloo requires the signatures of all persons using or photocopying this thesis. Please sign below, and give address and date.

Abstract

The purpose of this study was to investigate the four core hypotheses of the three theories explaining the marked variability in distress experienced by helpers who assist individuals who have been traumatized. The vulnerability hypothesis states that helpers who have experienced a trauma of their own will become more distressed when providing assistance to others, as compared with their peers. The prior trauma hypothesis predicts that those helpers who have been personally traumatized will demonstrate additional baseline elevations in their levels of distress. The exposure hypothesis indicates that helpers will become increasingly distressed, as they are exposed to greater degrees of traumatic material. The coping hypothesis states that coping efforts moderate the relationship between distress and the degree of exposure. Notably, this investigation considered these highly interdependent questions simultaneously. Fifty-six female sexual assault crisis-line volunteers were studied cross-sectionally, and 29 of these participants were followed longitudinally to test the core hypotheses. Both the cross-sectional and the longitudinal results indicated that the relationship between a helper's distress and her level of exposure to traumatic material is often qualified by her personal history of trauma and her coping efforts. As such, the findings provided conditional support for the core hypotheses. In addition, given the predicted moderating effects of a helper's coping efforts, a new narrative-based tool to assess the outcome of situation-specific coping strategies was developed and evaluated. The implications for future research, as well as for preventative interventions promoting psychological adjustment, are discussed.

Acknowledgements

This project would not have been possible without the support of the volunteers and the staff members at the various sexual-assault support centers that participated in this research. I thank each of them for their time, their commitment, their flexibility, their wisdom and their inspiration.

I would like to thank my advisor, Dr. Meichenbaum, for his encouragement, his direction and for granting me the autonomy to pursue this project. Also, I thank Dr. Fong and Dr. McCabe for their very helpful comments on earlier drafts of this thesis. As well, Dr. Woody has influenced my development as a researcher and as a critical thinker – he taught me many of the concepts that provide the foundation for this work. Special thanks is extended to Mira Drugovic for sharing an interest in narrative research and informed discussion.

This project grew from a genuine desire to learn and a belief that each of us has a responsibility to build and strengthen our communities. I thank my parents, Donna and Bill Belanger, for imparting these values and my friends for supporting the expression of these beliefs.

Dedication

This project is dedicated to the women who give their time to support and strengthen their communities.

Table of Contents

Introduction 1

Method 18

Results 35

Discussion 89

Appendices 107

Endnotes 133

References 135

List of Tables

Table 1: Distribution of the Sample of Volunteers 20

Table 2: Description of the Volunteers Across Settings 22

Table 3: Retention Data for the Components of the Longitudinal Study 23

Table 4: Summary of Measures 25

Table 5 Sequence of the Administration of Measures 32

Table 6: Distribution of Volunteers with a Personal History of Sexual Victimization Across Sites 39

Table 7: Descriptive Statistics for Exposure Measures and Properties of Crisis Line Calls 42

Table 8: Descriptive Statistics for Distress Measures 43

Table 9: Analyses of Exposure and Prior Trauma Hypotheses Using Length of Crisis-Line Experience as the Exposure Variable 47

Table 10: Attrition Data: Number of Participants Completing Components of the Study and their History of Prior Victimization 51

Table 11: Analyses of Exposure and Prior Trauma Hypotheses Using the Number of Crisis Calls Answered over Four Months as the Exposure Variable 54

Table 12: Avoidant Coping: Analyses of Exposure, Prior Trauma and Coping Hypotheses using Length of Crisis-Line Experience as the Exposure Variable 60

Table 13: Avoidant Coping: Analyses of Exposure, Prior Trauma and Coping Hypotheses using the Number of Calls Answered over Four Months as the Exposure Variable . 64

Table 14: Emotional Social Support Seeking: Analyses of Exposure, Prior Trauma and Coping Hypotheses using Length of Crisis-Line Experience 66

Table 15: Avoidant Coping: Analyses of Exposure, Prior Trauma and Coping Hypotheses using the Number of Calls Answered over Four Months 69

Table 16: Means (Standard Deviations) of the Number of Goals Described by Volunteers With and Without Prior History of Sexual Victimization 77

Table 17: Correlations Among Narrative-based Measures 79

Table 18: Correlations Between Narrative-based Measures and Coping 80

Table 19: Correlations Between Narrative Measures and Impact of Event 81

Table 20: Correlations between Narrative Measures and Impact of Event in an Expanded Sample 82

Table 21: Coping Outcomes Measured as Explicit Successes: the Relationship between Coping, Prior Trauma and Distress 84

Table 22: Coping Outcomes Measured as Implied Successes: the Relationship between Coping, Prior Trauma and Distress 85

List of Figures

Figure 1: Disruptions in Self-Intimacy as Related to Length of Service and Prior Trauma . 46

Figure 2: The Relationship between Compassion Fatigue and the Number of Calls Answered between Administrations of the Compassion Fatigue Measure 55

Figure 3: Example of the Typical Findings of the Interaction between Prior Trauma and Avoidant Coping 62

Figure 4: Example of the Typical Findings of The Interaction between Prior Trauma and Emotional Social Support Seeking 67

Figure 5: Representative Graph of Three-way Interactions at Different Frequencies of Emotional Social Support Seeking: Self-Safety Beliefs 71

Figure 6: Three-way Interaction at Different Frequencies of Emotional Social Support Seeking for Self-Trust Beliefs 87

Introduction

As publicly funded agencies struggle to meet the demands of clients, a need is created for volunteers to work directly with individuals who are seeking mental health services. In their economic analysis, Day and Devlin (1996) found that as government decreases spending for social services, the level of volunteering has increased in Canada. Although Day and Devlin (1996) do not outline the roles performed by volunteers in the social services, volunteers work directly with clients when they answer crisis lines or participate in peer support programs. To illustrate, of the 27 sexual assault or rape crisis centers found in Ontario, all offer crisis line services staffed by volunteers, and all allow volunteers to participate in face-to-face peer-support programs (Belanger, 1999). These numbers suggest that volunteers are involved directly in the provision of mental health services.

The research examining the experiences of direct providers of mental health services suggests the act of helping can become a source of strain affecting both the helper and the quality of services provided. Those mental health workers who experience higher levels of stress report emotional depletion (Hellman, Morrison, & Abramowitz, 1986), depression (Jayartne & Chess, 1983), reduced satisfaction with their lives and with their selves (Justice, Gold, & Klein, 1981), reduced job satisfaction (Koeske & Kelly, 1995), lower levels of perceived support in personal and work relationships (Kahill, 1986; Koeske & Kelly, 1995; Pines, 1983), physical exhaustion (Maslach & Jackson, 1981), and a greater incidence of psychosomatic complaints (Jayartne & Chess, 1983). Helpers in the mental health domain who experience greater levels of stress in their work also tend to quit or be absent from their positions (Soto and Jones, 1981, cited in Jones, 1981; Maslach & Jackson, 1981); to perform their jobs more poorly (Quattrochi-Tubin et al., 1982; Soto & Jones, 1981, cited in Jones, 1981); and to engage in anti-therapeutic behaviors, such as refusing to answer or hanging up on callers to a crisis line (Soto & Jones, 1981, cited in Jones, 1981). Clearly, the compromised availability and the quality of services can be linked to the distress of the service provider. A similar picture of the relationship between stress on the job and functioning is evident for other helping professionals such as teachers, police officers and lawyers. (See

Kahill (1988) and Shirom (1989) for reviews, and Lee and Ashforth (1996) for a meta-analytic study of the multidisciplinary literature).

Historically, the distress of service providers has been conceptualized as being the result of "burnout," but this concept has been criticized for being too broad in scope. Some of the ambiguity concerning burnout stems from the many definitions of this construct that appear in the literature (see Maslach & Schafeli, 1993, and Shirom, 1989, for reviews). The most widely adopted definition describes the defensive reactions of a helper when he or she struggles with feelings of emotional exhaustion and of reduced personal accomplishment (Leiter, 1993; Maslach, 1978). Even this definition has been stretched in ways that have modified its meaning, for it has been applied to a variety of contexts, from athletes to secretaries (for reviews, see Maslach and Schafeli, 1993 and Shirom, 1989). Further, both Kahill (1988) and Burisch (1993) draw attention to the number of symptoms (i.e., as many as 130) that are thought to indicate burnout, suggesting that the utility of this concept may be compromised by its over-inclusiveness. Other research (e.g., Meier, 1984) suggests that burnout is too similar to the construct of depression. Although investigations of burnout have substantiated relationships that have important implications for both the caregiver and the client, burnout appears to have become an unwieldy construct.

In contrast to the expanding scope of the burnout literature, a new literature focuses narrowly on the experiences of direct service providers who help individuals who have been traumatized. Historically, trauma workers have been combined with dissimilar service providers in investigations of burnout. Although older studies have recognized that greater burnout or higher stress levels may be associated with helping populations that have more severe mental health issues (Deutsch, 1984; Farber, 1983; Hellman & Morrison, 1987; Hellman, Morrison & Abromowitz, 1986; Pines & Maslach, 1978; Raquepaw & Miller, 1989), newer concepts propose that working with trauma survivors is qualitatively different.

By focusing on the subset of direct service providers who work with trauma survivors, a distinctive profile of symptoms of distress has been isolated. Helpers experience strong emotional reactions when they are exposed to stories about horrific images, the enormity of events and intense suffering (Danieli, 1981; Haley, 1974; McCann & Pearlman, 1990). In

addition, they may begin to question their personal safety or their ability to provide assistance (Pearlman & Saakvitne, 1995). Helpers may become overwhelmed by the intensity of the trauma story, developing symptoms that are similar to those required for a diagnosis of Posttraumatic Stress Disorder (Figley, 1995; McCann & Pearlman, 1990; Pearlman & Saakvitne, 1995; Wilson & Lindy, 1994). That is, the helper may experience intense affect, intrusive ideation (e.g., nightmares and flashbacks of the trauma story), hyperarousal, and increased vigilance in addition to other symptoms that are typically associated with working in the mental health field, such as sub-clinical depression. Clearly, the acceptance of the diagnosis of Post-Traumatic Stress Disorder (PTSD) has provided the conceptual framework for characterizing the unique symptoms of these helpers.

Of the various traumatic populations, those individuals who have been sexually abused constitute a particular challenge (Foa & Rothbaum, 1998). For these helpers (either professionals or volunteers), the chronic and serious nature of the victims' reactions can have an effect on those who want to provide support and assistance. This notion is illustrated in a series of studies that compare the experiences of health care providers who work with sexual assault victims versus the impact in helpers who provide service to other clinically needy populations. For example, some investigators have compared the experiences of mental health workers who specialize in working with sexually traumatized populations with the experiences of helpers who do not, to determine if working with sexually traumatized clients makes a difference in symptom expression. In 1997, Johnson and Hunter compared the experiences of 41 sexual assault counselors to the experiences of counselors with a more diversified caseload. They reported that the sexual assault counselors were more emotionally exhausted – a construct similar to sub-clinical depression–than their counseling counterparts who did not specialize in treating sexual trauma. Similarly, Cunningham (1997) examined and compared the beliefs of mental health workers who work almost exclusively with cancer patients with the beliefs of clinicians specializing in sexual trauma. Those helpers working with victims of sexual trauma were found to endorse beliefs that indicated greater safety concerns, a more general mistrust of others, and a tendency to see others as more malevolent than the clinicians working almost exclusively with cancer patients.

For the most part, the new literature concerning the distress of helpers who provide direct mental health services to those who have been traumatized is descriptive. Several terms have been used to describe the collective effects of working with individuals who have been traumatized: "Vicarious traumatization" (McCann & Pearlman, 1990; Pearlman & Saakvitne, 1996); "Contact victimization" (Courtois, 1988); "Compassion fatigue" (Figley, 1995); "Traumatic countertransference" (Herman, 1992); "Secondary Traumatic Stress Disorder" (Figley, 1995); "Co-victimization" (Hartsough & Myers, 1985, cited in Figley, 1995); "Secondary survivor" (Remer & Elliot, 1988a, 1988b, cited in Figely, 1995); and "Countertransference in the treatment of PTSD" (Wilson & Lindy, 1994). Each of these descriptive concepts are consistent with the diagnostic observation offered in DSM-IV (APA, 1994), that traumatic events can be vicariously experienced (according to Criterion A). Although, these accounts raise awareness of the phenomenon, most of these accounts do not attempt to explain how helpers develop trauma symptoms comparable to those of the individuals they assist.

There are three major theoretical models that account for the distress associated with helping others who have been traumatized: Vicarious Traumatization (McCann & Coletti, 1994; McCann & Pearlman, 1990; Pearlman & Saakvitne, 1995; Saakvitne & Pearlman, 1996), Compassion Fatigue (Figley, 1995), and Countertransference in the treatment of PTSD (Wilson & Lindy, 1994). Respectively, these various theoretical perspectives each highlight the vicarious nature of PTSD.

Vicarious Traumatization theory as proposed by Pearlman, McCann and their colleagues highlight the disruptions in fundamental beliefs that helpers experience when listening to trauma stories. In the process of understanding and integrating the traumatic material, the helper experiences strong affect and intrusive ideation. In addition, the fundamental beliefs of the helper (e.g., beliefs about the safety or the trustworthiness of others) are altered. These effects of exposure are thought to be cumulative across helping situations. This traumatic material is proposed to more easily integrated by those helpers who have a previous history of personal trauma, resulting in greater disruptions in fundamental beliefs in this group of helpers (i.e., a vulnerability to distress). As well, those helpers who

have experienced a prior personal trauma are more likely to be struggling with unanalyzed counter-transference reactions, increasing their vulnerability to vicarious trauma.

Compassion Fatigue Theory, as espoused by Figley, highlights that efforts to serve those who are traumatized can result in reactions that are similar to PTSD symptomatology. Figley (1995) explains that a helper experiences stress when hearing and struggling to understand the trauma stories of others. Their stress reaction manifests as symptoms, such as strong affect and intrusive ideation. If this stress is prolonged or accumulates, then the helper experiences Compassion Fatigue, a state of exhaustion and dysfunction. Figley (1995) indicates that helpers with a personal history of trauma are more vulnerable to experiencing Compassion Fatigue because the helpers may overgeneralized from their experience or they may have unresolved trauma that is activated by a client's trauma story, exacerbating the stress reaction. In addition, he suggests that the helper's sense of personal accomplishment may buffer the helper against Compassion Fatigue.

Countertransference Theory derives from a psychotherpeutic and psychodynamic framework and highlights the degree to which the health care provider's own history shapes his/her reactions to the traumatic material presented by others in therapy. According to these theorists, a single feature of a given trauma story (e.g., a particularly vivid image described by the client) is sufficient to produce a reaction in the helper, such as intrusive ideation. Although these theorists discuss the reactions that are elicited in a particular therapy session, they suggest that the strongest reactions may combine to produce a cumulative effect. The helpers with a prior history of trauma are theorized to demonstrate a more personalized reaction to the traumatic material presented by others. This reaction is activated by any unresolved aspects of their traumatic experience that resonate with the experiences of the client. Wilson and Lindy (1994) propose that these helpers with a prior history of trauma will display more extreme avoidance reactions than their peers who have not had a similar history. These exaggerated responses may co-occur with more normative responses to other aspects of the trauma story.

Although these models emphasize different time frames and different facets of the helper's distress, they share four basic hypotheses: the exposure hypothesis, the prior trauma hypothesis, the vulnerability hypothesis, and the coping hypothesis. Thus, by evaluating these four common hypotheses, the basic premises of all three theories can be tested simultaneously. The small body of existing research will be presented and critically reviewed for each hypothesis.

The Exposure Hypothesis

The exposure hypothesis states that the act of helping exposes the helper to traumatic material that impacts his/her psychological adjustment. All theories agree that the helper encounters traumatic material when listening empathically to the client's trauma story. As discussed, certain cardinal features of these stories (e.g., vivid images) may be particularly disturbing to the helper. Again, the three theories agree that such distress manifests as disruptions in psychological adjustment including sub-clinical depression and symptoms of PTSD. In addition, Pearlman and her colleagues (e.g., Pearlman & MacIan, 1995) also assess disruptions in the helper's fundamental belief systems (e.g., beliefs about personal safety).

Across studies, exposure and disturbances in adjustment have been assessed in a variety of ways. For example, exposure has been equated with: 1) the length of job experience (Chrestman, 1996; Cunningham, 1997; Pearlman & MacIan, 1995; Simonds, 1996; Slover, 1998); 2) the percentage of trauma clients seen over a therapist's career (Kassam-Adams, 1995); 3) the number of hours of trauma-specific client contact occurring in a fixed time-frame, such as hours per week (Chrestman, 1996; Munroe, 1991; Slover, 1998); and 4) the percentage of trauma clients in one's current caseload (Chrestman, 1996; Cunningham, 1997; Folette et al., 1994; Kassam-Adams, 1995; Pearlman & MacIan, 1995; Schauben & Frazier, 1995; Simonds, 1996; Van de Water, 1996).

The impact of exposure on adjustment has been assessed using indices such as: 1) the disruptions in core beliefs, as measured by the Traumatic Stress Institute Belief Scale (TSI Belief Scale) (Cunningham, 1997; Pearlman & MacIan, 1995; Slover, 1998) and the Trauma Work Impact Scale (Van de Water, 1996); 2) the presence of PTSD symptoms in the health

care provider, such as the presence of intrusive ideation (Chrestman, 1996; Cunningham, 1997; Everett, 1996; Munroe, 1991; Simonds, 1996), 3) the level of self-reported distress and symptoms, such as i) the emotional exhaustion sub-scale of the Maslach Burnout Inventory, a measure assessing construct similar to sub-clinical depression (Capner & Caltabiano, 1993; Kahill, 1986; Pines & Maslach, 1978; Raquepaw & Miller, 1989; Schauben & Frazier, 1995; Slover, 1998; Thornton, 1992;) and ii) self-reported stress (Deutsch, 1984; Farber, 1983; Faber & Heifetz, 1981; Hellman, Morrison, & Abramowitz, 1987; Mishara & Giroux, 1993).

Investigations of the exposure hypothesis-- that relates the amount and length of exposure and the degree of psychological distress in mental-health care providers-- have yielded mixed support. Given that findings may be related to differences in the assessment of exposure, the investigations addressing the exposure hypothesis are grouped by the measure of exposure employed. Thus, study findings related to the following indices of exposure will be considered as to whether they lend support to the exposure hypothesis: 1) the length of service as a helper; 2) the degree of contact in a fixed time frame; and 3) the percentage of traumatized clients in a caseload (indices of both the current and the career caseload are presented).

Investigations of the amount of time spent with clients who had been victimized, within a given time frame, tend to support the exposure hypothesis. For example, Munroe (1991) found support for the exposure hypothesis in 138 VA hospital therapists. He measured exposure by the number of hours of trauma-specific client contact provided per week and found it to be positively correlated with the incidence of thought intrusions. Similarly, Chrestman (1996) found, in a survey of therapists, that increased time allotted to trauma-related clinical activities (on a weekly basis) was related to increases in avoidant behaviours. As well, Slover (1998) studied participants with a minimum of ten trauma-related client contacts, longitudinally, over six months and found them to exhibit increases in avoidant ideation and disruptions in beliefs regarding their self-esteem, as measured by the TSI Belief Scale.

Some investigations implemented a measure of exposure that assessed the helper's caseload in term of the percentage of clients who had been traumatized. For the most part,

this measure assessed the helper's current caseload, but in one instance, it provided an estimate of the helper's caseload over the span of his/her career. Studies examining how the percentage of trauma clients in a current caseload relates to the disruption in core beliefs found evidence in support of the exposure hypothesis (Schauben & Frazier, 1995, Van de Water, 1996). Also, support for the exposure hypothesis was found when the percentage of trauma clients in current caseload was related to PTSD symptoms (Chrestman, 1996; Follette et al., 1994; Kassam-Adams, 1995; Schauben & Frazier, 1995; Simonds, 1996). Similarly, Kassam-Adams (1995) supported the exposure hypothesis with her survey of 100 psychotherapists when exposure was measured as the percentage of trauma clients seen over a therapist's career and when measures of intrusive ideation were gathered to assess disruptions in adjustment.

In contrast, the exposure hypothesis was not supported by Pearlman and MacIan (1995) who surveyed 188 self-identified trauma therapists regarding the percentage of trauma clients in their caseloads and their psychological adjustment, as measured by the level of disrupted beliefs on the TSI Belief Scale. Further, evidence countering the exposure hypothesis was revealed when Cunningham (1996) found that a higher percentage of clients who had been sexually traumatized in a therapist's caseload was associated with lower levels of PTSD symptoms, as measured by intrusive and avoidant thoughts.

When exposure has been measured in terms of length of helping experience, cross-sectional findings contradict the exposure hypothesis. Specifically, greater experience, as measured by years of service, has been associated with: 1) lower disruptions in beliefs, as measured by the TSI Belief Scale (Cunningham, 1997; Pearlman & MacIan, 1995); and 2) a lower incidence of self-reported PTSD symptoms (Chrestman, 1996; Simonds, 1996). In contrast, Slover (1998) studied changes in beliefs and the incidence of PTSD symptoms, longitudinally, in a group of 32 victim advocate volunteers. Over the course of six months of service, changes observed included a greater incidence of avoidant thoughts and increased disruptions to self-worth beliefs, as measured by a subscale of the TSI Belief Scale. In contrast to the cross-sectional studies cited above, Slover's (1998) longitudinal findings provide support for the exposure hypothesis.

Clearly, the strength of the evidence gathered to support the exposure hypothesis varies depending on the exposure measure employed. It appears that estimates of the time spent helping traumatized clients within a fixed period of time produce consistent support for the exposure hypothesis. Other measures, such as the percentage of caseload, provide mixed support whether psychological adjustment is evaluated by disruptions in core beliefs or expressions of PTSD symptoms. Also, the findings concerning the degree of exposure, as assessed by length of service, differ depending on whether the studies are cross-sectional or longitudinal.

Although theories emphasize the importance of exposure, they provide little direction in how to operationalize the measurement of exposure, and this limitation may account for some of the inconsistencies in research findings. The three theories seem to agree that a specific incident may be sufficient to disrupt adjustment. Unfortunately, the best way to measure this basic unit of exposure is unclear. The theories imply several possibilities including: exposure to a client, exposure to an incident (one client may recount several incidents), or the amount of time exposed (e.g., number of minutes exploring a trauma story). The lack of a basic unit to measure exposure becomes increasingly troublesome when the theorists propose cumulative models of exposure (Figley, 1995; McCann & Pearlman, 1990).

Without solid theoretical direction, researchers have employed exposure variables that may not be conceptually sound. For example, the percentage of trauma clients in one's caseload identifies the client as the base unit of exposure. Unfortunately, the score on this measure varies as a function of the total number of clients in one's caseload as well as the number of trauma clients in one's caseload. For example, a 50% trauma caseload would equally describe the following therapists: a clinician who sees a total of 100 clients, half of whom present with a trauma history, and a therapist who assists a single trauma survivor, but has an overall caseload of two clients. As such, the percentage may not reflect differences in exposure to trauma per se. Further, the service-based measures of increased exposure, such as the length of experience, may bias sampling. For example, differential attrition may mask the findings supporting the exposure hypothesis (i.e., the helpers who cannot cope in a particular manner drop-out). Thus, if measures assessing length of service are employed in

cross-sectional studies, they may contribute to misleading results.

The Prior Trauma Hypothesis

The three theories recognize that mental health professionals may have been exposed to prior personal trauma. As such, professionals with such a history would be expected to demonstrate greater baseline levels of disruptions in adjustment and psychological distress. These elevations are not directly attributable to the work they do, but rather they reflect the sequelae of primary trauma. Indeed, investigators have found that the helpers who work with traumatized clients and who have a personal history of prior trauma demonstrate elevations on indices of PTSD symptoms and on measures of disrupted beliefs (Cunningham, 1997), as compared with their peers who do not report a history of personal trauma. Consideration of this hypothesis is especially important given that Cunningham (1997) reported an association between personal history of sexual trauma and an increasing tendency to work with clients who have been sexually traumatized.

The Vulnerability Hypothesis

The three theories also propose that helpers who have experienced a prior trauma will experience greater levels of distress when helping others who have been traumatized, as compared with helpers who do not share this history. All three theories indicate that unresolved traumatic experiences of the helper become activated when he or she is processing the traumatic material of others. This activation elicits distressing emotions, thoughts, and images. Because all three theories recognize that baseline levels of distress may be elevated for those helpers who have experienced primary trauma (the prior trauma hypothesis), the vulnerability hypothesis states that the trauma history of the helper interacts with exposure to elicit significantly more distress in those helpers with a trauma history.

Studies evaluating the vulnerability hypothesis are difficult to compare because of important conceptual differences. First, despite the agreement that "unresolved" trauma is a key variable in understanding helper distress, the measures do not assess this more specific construct. Instead, the more general construct of a helper's trauma history is evaluated. For

example, Pearlman and MacIan's (1995) survey included the question, "Do you have a trauma history?". Other researchers tend to assess the incidence of specific historical events that are thought to be traumatic, such as rape, physical assault, or suicide attempts (Cunningham, 1997; Schauben & Frazier, 1995; Follette et al., 1994; Mishara & Giroux, 1993).

Second, the statistical analyses employed do not always account for increased levels of baseline distress expected in those participants who had experienced a prior trauma. That is, most studies do not apply a statistical test that assesses the relative increase in distress between groups of helpers with and without a trauma history as a function of exposure (i.e., an interactive statistical test, requiring the measurement of trauma history, distress and exposure) (Cunningham, 1997; Follette et al., 1994; Johnson & Hunter, 1997; Kassam-Adams, 1995; Pearlman & MacIan, 1995; Truman, 1996).

The notable exceptions to the lack of interactive analyses addressing these issues are Schauben and Frazier (1995) and Slover (1998) whose studies provided mixed support for the vulnerability hypothesis. Slover's (1998) longitudinal study of 32 victim advocate volunteers found some support for the vulnerability hypothesis. Specifically, the group of volunteers who had a history of prior trauma experienced greater increases in emotional exhaustion – a kind of sub-clinical depression–than those volunteers who did not have a trauma history when evaluated over a six-month period. However, Slover (1998) also produced findings that contradicted the vulnerability hypothesis. More specifically, the group of volunteers who did not have a trauma history reported greater disruptions in beliefs around a sense of self, over six months, whereas the group with a trauma history did not demonstrate any change in these beliefs over six months of service. Unfortunately, Slover's (1998) findings may be limited as gradations of exposure were not considered in her repeated measures design. Specifically, Slover (1998) equated exposure amongst volunteers by setting inclusion criteria (e.g., a minimum of ten calls over a minimum of six months) instead of measuring the number of calls addressed over a six-month time frame. Similarly, Schauben and Frazier's (1995) investigation did not support the vulnerability hypothesis when both disrupted beliefs and PTSD symptoms were examined by means a moderated multiple regression that tested for this interaction. However, it is unclear whether Schauben and Frazier's (1995) test of the

vulnerability hypothesis failed because of the way in which prior trauma is assessed (i.e., using the historical events and not perceived trauma) or because of the questionable exposure measure used (i.e., the percentage of trauma clients in one's caseload). Currently, there is little empirical support for the vulnerability hypothesis; however, few adequate tests are reported in the literature to date.

The Coping Hypothesis

The coping hypothesis states that those individuals who cope successfully with their helping roles will be less distressed. That is, the relationship between greater distress and greater degree of exposure will be strongest for helpers who are not coping effectively. All theories agree that helpers tend to use particular coping strategies when exposed to traumatic material. The coping efforts may be intra or interpersonal in nature. For example, social support allows the helper to talk to others about their reactions and this outlet is thought to ease distress (Pennebaker, 1998). Coping strategies that involve denial and distancing are thought to be used by helpers when they are overwhelmed. These latter coping strategies may disrupt the helping relationship (Figley, 1995; Wilson & Lindy, 1994). Each theorist indicates that coping outcomes may foster a sense of accomplishment in the helper that serves to offset distress (Figley, 1995; McCann & Pearlman, 1990; Saakvitne & Pearlman, 1996; Wilson & Lindy, 1994).

Although the theories seem to agree that helpers may adopt these support-seeking or avoidant strategies to cope, the Countertransference theory (Wilson & Lindy, 1994) suggests that the specific coping strategies employed by helpers may interact with their histories of prior trauma. For example, helpers with a prior history of trauma are theorized to react in a personalized manner and engage in more extreme forms of avoidant behaviour when presented with another's trauma story. That is, the relationship between the use of avoidant coping strategies and the exposure to the traumatic material of others is proposed to be stronger in those helpers who have a prior history of trauma, as compared to those who do not. Similarly, the notion that such coping efforts and supports may interact with exposure to traumatic material also was suggested by Pearlman and MacIan (1995). Despite agreeing on the type of strategies employed, the theorists differ in the way they incorporate coping

strategies into their specific explanatory models of helper distress

When investigating the coping hypothesis, researchers typically administer an inventory to determine which coping strategies correlate with self-reported distress. Most studies agree that the more frequent use of active coping strategies, such as seeking social support, correlates with lower levels of distress (Schauben & Frazier, 1995), whereas greater use of avoidant strategies correlates with greater distress (Follette et. al., 1994; Schauben & Frazier, 1995). However, when the use of avoidant strategies are measured concurrently with a particular situation, such as a stressful suicide prevention call, then increased use of detachment, an avoidant strategy, was related to lower levels of self-rated stress (Mishara & Giroux, 1993). Further, in a group of mental-health workers, investigations of burnout -- a concept which overlaps with sub-clinical depression -- yielded similar results. Greater levels of distress were related to more frequent use of avoidant strategies (Etzion & Pines, 1986; Rohman, 1987/88; Thornton, 1992) and to less frequent use of active coping strategies (Etzion & Pines, 1986; Koeske, Kirk & Koeske, 1993).

The findings pertaining to the evaluation of the coping hypothesis must be qualified in several ways by the exclusive reliance on self-report coping inventories. First, coping inventories assess coping in terms of the frequency with which strategies are used and not necessarily the perceived effectiveness of these strategies (Thornton, 1992; Aldwin & Revenson, 1987; Oakland, 1996). This limitation may be especially important given that perceived rewards or personal accomplishments are raised by all theorists when they discuss coping. Second, the use of coping inventories limit the flexibility of the respondent for the items presented may not provide a comprehensive list of all possible coping strategies. Third, coping inventories are typically administered once, and as such are not sensitive to the changes that may occur in the coping process over time (see Carver & Scheier, 1994, for a review). Fourth, scores obtained from coping inventories are typically used in simple correlational analyses which are not sensitive to the interactions proposed by Wilson and Lindy (1994). Fifth, many of the inventories require respondents to have experienced a particular event, and as such may not be the best indicator of the individual's coping style in subsequent situations.

The status of the four hypotheses

The exposure, prior trauma, vulnerability, and coping hypotheses require further testing in order to assess their validity . For example, tests of the exposure hypothesis have yielded mixed results, in part, because the literature provides no clear direction as to how exposure variables are best measured. Further, the existence of the vulnerability hypothesis suggests that the exposure hypothesis should not be tested on its own, but rather should determine if there is an interaction between exposure and prior trauma. When researchers collapse across the two groups of helpers with and without a trauma history, they may obscure findings because they are blending relationships theorized to be different (West, Aiken, & Krull, 1996; Pedhazur, 1982). Thus, the vulnerability hypothesis requires further testing that uses a combination of well-defined measures and data analysis evaluating interactions. Similarly, the test of the coping hypothesis must evaluate whether a helper's coping efforts moderate the relationship between exposure and distress without neglecting the theoretical prediction that a helper's trauma history may also moderate this relationship (i.e., the vulnerability hypothesis). As well, the possibility that coping interacts with a helper's history of prior trauma has not been evaluated. Finally, as described in the literature, the inventories used in the investigations of coping do not align with the theoretical emphasis on rewards or outcomes of coping efforts. To date, research has not adequately evaluated the various hypotheses explaining why helpers may become distressed while assisting trauma survivors.

The present study attempts to address the limitations of prior research by evaluating the four hypotheses in a manner that is consistent with the theories explaining the distress of helpers who assist trauma survivors. This study examines the experiences of volunteers answering sexual assault crisis lines. This population was chosen for several reasons. First, victims of sexual assault such as rape, are most likely to experience PTSD and are most distressed. Thus, providing a greater likelihood for volunteer helpers to experience vicarious PTSD. Second, there are similar crisis services being made available to victims, often manned by volunteers (Foa & Rothbaum, 1998). Third, volunteers of sexual assault crisis centers

represent a sample of convenience, as other volunteer caretakers were less available in the Ontario setting in which this research was conducted.

In addition given the high incidence of sexual assault in our society, this population increased the likelihood of helpers having had personal trauma in the same domain (i.e., sexual assault) as those they assist. Thus, the probability of sampling helpers with a prior history of sexual assault was high enough to allow the subdivision of the research sample into prior trauma and no-trauma groups. As compared to an assessment technique that evaluates whether an individual perceives that she has been traumatized, evaluating a helpers prior history of sexual assault is less influenced by individual characteristics of the participant, such as the resources she had to cope with this traumatic event.

In order to test the exposure, prior trauma, and vulnerability hypotheses, the present investigation used analytic procedures that examined these relationships simultaneously, using both cross-sectional and longitudinal data. These analyses employed a moderated multiple regression procedure that tested for the interaction proposed by the vulnerability hypothesis, as well as the main effects corresponding to the prior trauma and the exposure hypotheses. The information for the cross-sectional analyses of helpers who answer crisis telephone calls at sexual assault support centers was gathered by questionnaire, completed before a semi-structured interview that assessed the participant's personal history of sexual trauma. With the exception of Slover (1998), all studies investigating the experiences of direct service providers in the trauma field have been cross-sectional. In the present study, in order to ensure that findings reflected changes in distress within individuals, the questionnaires were re-administered at four and six months after study participants had completed their initial questionnaires. Using the change in distress over four months, both the prior trauma and exposure hypotheses are reevaluated in a manner consistent with the interactive nature of the theories.

The coping hypothesis was evaluated by focusing solely on the two coping strategies that were discussed by all theories: social support seeking and avoidant coping strategies. Given that some theories suggested that the strength of the relationship between exposure and distress depends on the coping efforts of the helper, the possibility of an interactive

relationship was explored. As well, the role of a helper's prior trauma history in determining the strength of the relationship between the level of the helper's distress and the frequency with which coping stratgies were employed was examined.

To address the limitations of evaluating the coping hypothesis by administering an inventory, a new measure of coping that evaluates coping outcomes was explored. The measure of coping employed is based on the work of Folkman and Stein (1995), who collected narrative accounts from people who were caring for their partners who were dying of AIDS. They quantified these verbal accounts using a goal-oriented analysis. This measure of coping addresses many of the limitations of prior research because: 1) it does not restrict responses of the participants; 2) it is sensitive to changes in the coping process over time; and 3) it assesses the outcomes of the coping efforts by evaluating whether the narrator was able to successfully meet his or her goals. In the present study, narrative accounts of the participants' most stressful crisis line calls were collected during the initial semi-structured interview. To control for the length of time elapsed between receiving and reporting crisis calls, additional narratives were collected by conducting four telephone interviews one week after a participant had answered a crisis line call. As part of the exploratory analyses, the validity of the narrative-based evaluation of coping outcomes was investigated. The specific hypotheses pertaining to these evaluations are presented in more detail in the results section.

In summary, the present research was designed to assess the role that the helpers' prior history of trauma, current exposure levels of stress and coping strategies each play, both individually and in combination, to predict the helpers' level of psychological adjustment. This study explored the relationships involving the helpers' coping efforts, in addition to testing the following specific predictions:

1) The exposure hypothesis. A main effect predicting that greater levels of exposure will be related to greater levels of distress.
2) The prior trauma hypothesis. A main effect predicting that those helpers with a personal history of trauma will be more distressed than their helping counterparts who have not been sexually assaulted.
3) The vulnerability hypothesis. An interaction between level of exposure and prior

history of sexual assault that predicts that the relationship between greater amounts of exposure and greater distress will be stronger in the prior trauma group, as compared to the relationship demonstrated by those helpers who have not experienced sexual assault personally.

4) The coping hypothesis. A three-way interaction between level of exposure, prior trauma and coping to predict levels of distress. The relationship between greater degrees of exposure and greater distress will be stronger for those helpers who are not coping well, particularly if they have a history of prior trauma, as this group is proposed to demonstrate stronger avoidant reactions when exposed to traumatic material. The coping hypothesis is most clearly articulated for the use of avoidant coping strategies, but will be examined for social-support seeking on a more exploratory basis.

In addition, a new method of assessing the outcomes associated with coping efforts was explored by examining its relationships to the helpers' mood states and level of psychological adjustment. To clarify the interpretation of the results, this study employed a longitudinal design in addition to the cross-sectional investigation.

Method

Participants

The present study invited female telephone intervention volunteers and staff from a number of Rape Crisis Centers and Sexual Assault Support Centers in Ontario to participate in a research project designed to better understand how women cope when helping others who have been traumatized. Recruitment was restricted to women who were actively working on 24-hour crisis lines because these volunteers would have a greater likelihood of assisting callers who had been traumatized. Research indicates that individuals who have been sexually abused tend to experience Post Traumatic Stress Disorder (Kilpatrick, Edmonds, & Seymour, 1992; Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993).

Recruitment. The recruitment strategy for the present study was based on a pilot study conducted at a local Sexual Assault Support Center. The volunteer co-ordinator at the center was contacted by telephone and given a brief description of the study. A written summary of the study and a "Questions and Answers" sheet were sent to the volunteer co-ordinator (see Appendix A), and a follow-up face-to-face meeting was arranged, if requested. The volunteer co-ordinator then presented the study to the Board of Directors at the center, and the board members were invited to contact the researcher if they had any additional questions or concerns. Upon approval from the Board of Directors, volunteers and staff were informed of the project. Although the method of informing volunteers was tailored to each center, all volunteers received an information letter with a consent form and self-addressed stamped envelope attached (see Appendix B). All recruiting notices and procedures were approved by the Office of Human Research at the University of Waterloo. Participants in the study were those women who returned the consent form, permitting the researcher to contact them directly. This recruitment process took about three months from the time the volunteer coordinators were approached to the time that consent forms were received from the participants.

Participants for the study were recruited in three phases from eight centers in Ontario. Initially, a single recruitment phase had been planned, but participation rates in some centers were lower than the 50% expected, and other centers dropped out altogether. To secure a

sufficient number of participants, additional centers were approached once the initial study had begun. The history of the recruitment process is documented in Table 1 below. The London center was added to compensate for the participation rate which was lower than projected, and the Peel, Niagara, and Brantford centers were added when the Hamilton and Kitchener centers did not continue with the study, because of staffing layoffs and difficulties adjusting to the economic cutbacks in January of 1997.

As noted in Table 1, the manner in which volunteers were informed of the study was tailored to respect the input from each center. Although some of the volunteers received information about the study through the mail, others were informed at a group meeting where a staff member introduced the study. At some centers, the researcher was invited to attend these meetings and give a presentation.

The centers are similar in many respects. All centers attempt to recruit volunteers who are non-judgmental and empathic. These volunteers must attend several training sessions preparing them for crisis line work. For example, volunteers learn the mandate and procedures of the crisis line, active listening skills and how to handle common scenarios presented by callers, such as suicidal threats, the report of a recent assault and talking to callers with Dissociative Identity Disorder. For the most part, their volunteer work involves answering a sexual assault crisis line and talking to women who are struggling with issues related to sexual assault. Although the line operates 24-hours a day, each volunteer answers the crisis line only during pre-assigned shifts, usually consisting of 4 to 8 hours a day for at least one day per month; most volunteers committed to weekly shifts. The number of calls received per shift varies; at times, there are no calls, and at other times, backup volunteers are called upon to meet the demand. Although most of their work is conducted over the phone, occasionally, volunteers at all centers meet personally with a caller in order to accompany her to a hospital in the event of a recent sexual assault.

Despite their similarities in general philosophy and training procedures, some important differences exist between the centers. Although most volunteers answer calls in their own homes, volunteers at the Guelph-Wellington Center answer a crisis line housed in a

Table 1.

Distribution of the Sample of Volunteers

Center	No. of vol.	No. of participants	Response Rate	Tailored Recruitment
Pilot (Kitchener)	31	14	45%	introduced by staff
Guelph	22	12	55%	introduced by researcher
- staff	20	10	50%	introduced by staff
Ottawa	80	7	9%	mail out
Hamilton	30	0	-	volunteers never informed
Kitchener	25	0	0%	introduced by staff (3 times)
London	70	11	16%	mail out
Peel	20	2	10%	introduced by researcher
Niagara	25	9	36%	introduced by staff
Brantford	20	7	35%	introduced by researcher
Overall	**342**	**71**	**21%**	

Note. No. of vol.=Number of volunteers; No. of participants = Number of Study Participants

women's shelter and are often taking calls when other volunteers or staff are present. The volunteers at the center only work days and evenings because late night calls are answered by staff. Further, this particular crisis line has a broader mandate, for volunteers answer calls relating to physical assault, as well as sexual assault.

Demographics. Fifty-eight women who worked or volunteered at six Sexual Assault Support Centers and Rape Crisis Centers across Ontario participated in the present study. An overall participation rate of 21% was obtained across centers, with participation in the individual centers ranging from 0% to 55%.

In terms of demographics, the centers are similar, as Table 2 indicates. The study participants ranged in age from 20 to 65 years, with an average of 35.5 years (SD= 11.43). There was no difference in age across centers, as assessed by overlapping confidence intervals. The participants varied in terms of their marital status, their occupation, their level of education, and whether they had children. Among these variables, only the level of education appeared to distinguish the centers, insofar as the distributions suggested that the volunteers at the Niagara and Brantford centers appeared to be less educated relative to other centers. This difference may be problematic given that lower levels of education have been found to correlate with higher levels of distress (Pearlman & MacIan, 1995).

Retention. In order to evaluate whether exposure to traumatic material interacts with a helper's personal history of trauma to produce changes in distress, the experiences of crisis line volunteers were examined over time. Some of the participants agreed to participate in a longitudinal study, involving an additional two major waves of data collection and four telephone interviews. Although the retention rate for participants was almost 60% up to and including the first follow-up at four months, these participation levels did not persist until the end of data collection at six months, as noted in Table 3.

Table 2.

Description of the Volunteers Across Settings

	Guelph		Ottawa	London	Peel	Niagara	Brant.
	Staff	Vol.					
Participants	10	12	7	11	2	9	7
Ave. Age	35.00	37.75	30.29	35.60	28.50	37.00	37.86
(SD)	(10.81)	(11.08)	(12.45)	(12.08)	(3.5)	(14.03)	(11.20)
Edu. Level[a]							
>Grade 13	0	0	0	0	0	2	3
College	0	1	0	1	1	4	1
University	0	1	3	0	0	2	1
Bachelors	9	8	3	4	1	1	2
Master's	1	1	1	5	0	0	0
PhD	0	1	0	1	0	0	0
Occupation[a]							
Student	0	4	3	2	0	3	0
Employed	10	8	3	7	2	5	4
At home	0	0	0	1	0	0	2
Self-employed	0	0	1	1	0	1	1

Note. Ave.=Average; Edu. Level=Highest Level of Education Attained; Brant =Brantford; Vol = Volunteer

[a] Expressed as counts

Table 3.

Retention Data for the Components of the Longitudinal Study

	Guelph		Ott.	Lond.	Peel	Niag.	Brant.	Total	%
	Vol.	Staff							
Participants	12	10	7	11	2	9	7	58	100
Agree to Long.	11	6	7	10	2	8	7	51	87
Telephone i/v									
First Tele i/v	7	5	6	8	1	4	4	35	67
Second Tele i/v	5	2	6	5	1	3	2	24	47
Third Tele i/v	4	0	3	3	1	1	3	15	29
Fourth Tele i/v	3	0	1	1	1	0	2	8	16
Follow-up									
Four Months	9	3	6	6	2	4	3	33	65
Six Months	4	0	2	2	1	0	1	10	20

Note. Ott.=Ottawa; Lond.= London; Niag.= Niagara; Brant.= Brantford; %= percentage of participants retained; Vol. = Volunteers; i/v = interview

Materials and Semi-structured Interview Protocols

Measures were selected to assess the overall impact of crisis line work on participants, as well as their reactions to specific events. The following variables were assessed with respect to both global impressions and specific events: crisis line exposure, psychological adjustment, and coping, as summarized in Table 4.

More global assessments of the volunteers' exposure to the crisis line were tapped by two self-report questions that required volunteers to estimate their exposure retrospectively. The questions concerned the length of time the participants had been working on the crisis line. More specific accounts of exposure to crisis line work were collected when volunteers completed the "report log sheet" form, that was designed to measure the incidence and duration of calls received on each crisis line shift (see Appendix C). Given the ongoing nature of this diary log measure, reports of the number and length of crisis line calls are less susceptible to retrospective bias and errors in memory.

Measures of Psychological Adjustment

Three global self-report measures of psychological adjustment were included to tap a broad spectrum of disruptions. The first scale assessed the disruptions in basic core beliefs about the self and other people. (See the TSI (Traumatic Stress Institute) Belief Scale in Appendix D that also lists the number of items in each subscale). This 80-item scale is comprised of ten subscales assessing disruptions in areas of safety, trust, intimacy, esteem and control as these beliefs relate to both the self and others. It uses a 6-point Likert format, which indexes the degree to which respondents endorse a variety of statements such as "I generally feel safe from danger" and "Sometimes when I'm with people, I feel disconnected." The ten subscales of the TSI Belief Scale have adequate reliabilities: the values for Cronbach's alpha range from .73 to .87 (Pearlman, MacIan, Johnson, & Mas, 1992). The reliability values for the current study are reported in Appendix E. Currently, this measure is one of the few instruments that has been used to investigate disruptions in adjustment as a result of helping others who have been traumatized (Pearlman & MacIan, 1995; Schauben & Frazier, 1995).

Table 4.

Summary of Measures

Category of Measure	Specific Measures
Measures of Psychological Adjustment	TSI Belief Scale
	Compassion Fatigue Self Test for Psychotherapists
	Impact of Event Scale (IES)
Measures of Mood States	Beck Depression Inventory (BDI)
	Positive and Negative Affect Schedule (PANAS)
Measures of Coping	CISS-Adult
	COPE
	Interview measure of goal statements

A second instrument taps more general disruptions by assessing the extent to which respondents experience PTSD-type symptoms, such as flashbacks or hyperarousal. When completing the Compassion Fatigue Self Test for Psychotherapists (Figley, 1995) respondents rate, on a 5-point Likert scale, how frequently they experience each symptom or thought (See Appendix F). The resulting scale is an adequately reliable single-factor measure of compassion fatigue, normed on a group of psychotherapists. Although the scale is in a developmental stage, alpha reliabilities were reported above .86 when this instrument was normed on a group of 142 psychotherapists (Figley, Stamm & Bieber, 1995).

Using a third measure, disruptions of psychological adjustment that are specific to a particular incident were assessed using two self-report scales. The Impact of Event Scale (Horowitz et al., 1979; Zilberg, Weiss, and Horowitz, 1982) measures the incidence of avoidant and intrusive ideation experienced in response to a particular event. In this study the event specified was a stressful crisis-line call received by participants. This15-item scale comprises two factors, measuring avoidant (8 items) and intrusive (7 items) ideation. Internal consistency for these scales as indexed by Cronbach's alpha are reported to be .82 and .78, respectively (Horowitz et al., 1979). Subscale scores were derived from Likert ratings indicating the frequency with which respondents experienced certain thoughts or feelings, in the past week.

Assessment of Mood States

Two instruments were used to evaluate the helpers' mood states. The Beck Depression Inventory (BDI) was included to assess the depressive symptoms that have also been linked to helping others who have been traumatized. This 21-item measure was administered to assess the affective, cognitive, and somatic symptoms of depression. The validity and reliability of the BDI as a measure of depression has been well-documented (e.g., Beck, Steer, & Garbin, 1988). In addition, the Positive and Negative Affect Schedule (PANAS) (Watson et al., 1988) was administered to assess the self-reported mood of the participants. A list of 20 adjectives describing positive and negative mood states was presented, and respondents rated the extent to which they were described by each adjective,

using a 5-point Likert rating scale. The ratings for the ten positive and negative descriptors were collapsed to form the positive and negative affect factors, respectively. This brief measure is internally consistent (alphas exceeding .83) and valid (Watson et al., 1988). In addition, participants were asked to report the amount of stress they experienced by using a six-point Likert scale, which ranged from "very little or not at all" to "most intense experience ever on the crisis line."

Coping Measures

Coping measures were chosen to survey both general coping styles and particular strategies that may be used while working on the crisis line. The general use of avoidant coping strategies was assessed by the avoidant coping subscale of the CISS - Adult (Endler & James, 1990). The respondents endorse the degree to which they engage in different coping behaviours, using a 5-point Likert rating scale, which ranges from "not at all" to "very much." This measure assesses the degree to which distraction and social diversion strategies are used to alleviate distress.[1] To determine the coping strategies that are generally used in crisis line work, the situational version of the COPE (Carver, Scheier, & Weintraub, 1989) was administered to the participants by tailoring the final instructions to read "Indicate what YOU usually do when YOU experience a stressful event in your work on the crisis line." Although the 60-item COPE can be divided to reflect problem-focused or emotion-focused coping, it is typically analyzed into its 13 subscales, which have adequate reliability (Cronbach's alpha above .6) with the exception of the mental disengagement scale. Notably, Carver, Scheier and Weintraub (1989) indicated that the reliability of the sub-scales tend to increase when a situational version of the COPE is administered. In particular, this scale was chosen because it distinguishes between seeking social support for emotional and instrumental reasons, and it has been used to investigate the coping strategies used by helpers (Schauben & Frazier, 1995). Although the entire COPE was administered, only the sub-scale of interest (i.e., emotional social support seeking) was used in the analyses; the information concerning the other sub-scales was collected for subsequent exploratory analyses that are not reported in this thesis.

In order to assess the process and outcome of coping efforts, an additional situation-specific measure of coping was derived by collecting, analyzing, and coding narratives gathered from participants. These narratives are verbal accounts of stressful crisis calls, gathered from participants through interviews structured by the protocol outlined by Folkman and Stein (1995) (See Appendix G). Following their strategy, the interview protocol asks participants to recall a stressful event. The interviewer did not inquire directly about goals (e.g., what did the helper want to accomplish) but asked the participants to express emotions and, subsequently, to explain the perceived cause of these emotions. When the narrator mentions an emotion, the interviewer asks "What made you feel (the emotion)". If an emotion is not mentioned by the narrator, the interviewer asks "What kinds of emotions were you feeling". An examination of the volunteers' emotional experiences provided the basis to elicit the goals as described in Appendix H. These narratives are then coded to identify the specific goals articulated by an individual and to determine whether her goals met with success. The variable of interest is the number of successfully articulated goals in the narrative. The procedure for coding the narratives is described in more detail at the end of this method section. The portion of the coding scheme that evaluates the success of the goal was determined to be acceptably reliable, with an inter-rater reliability Kappa of .83. (Unfortunately, Folkman & Stein, 1995, do not report any reliability estimates to use as a comparison).

A semi-structured interview was also used to determine if the participant had personally experienced events that are typically linked to psychological trauma. In accordance with the methodology used by Schauben and Frazier (1995), only those women who reported a history of rape or incest were identified as belonging to the historical event group. The interviewing strategy consisted of describing various aspects of sexual assault and asking the participant if she had similar experiences. This protocol is consistent with those employed in epidemiology studies (e.g., Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993).

Procedure

All participants completed the cross-sectional phase of the study, which involved completing a questionnaire package and meeting with the researcher and then followed a

longitudinal phase, as enumerated in Table 5. Once consent forms were returned by participants, questionnaires were mailed out to each individual to be completed at their convenience in their own homes. The questionnaire package was completed in about an hour and a half, and it consisted of a demographic questionnaire and scales assessing the general impact of crisis line work. The scales were administered to all participants in the following order: the TSI Belief Scale, the Compassion Fatigue Self-Test for Psychotherapists, the CISS-A, the COPE, and the Beck Depression Inventory. The scales were presented in a fixed order in order to ensure that the key measures of distress (TSI Belief Scale and the Compassion Fatigue Self-Test for Psychotherapists) were not unduly influenced by the completion of the Beck Depression Inventory. An attempt was made to standardize the time between mailing the questionnaire and contacting participants. Typically, participants were asked to complete the questionnaire within three weeks and deliver it to the researcher during a face-to-face interview, which was conducted approximately three weeks after questionnaires were mailed.

Initial interviews were conducted to collect information in a way that did not overly restrict the responses of the volunteers. Participants were contacted by telephone to arrange a time for this face-to-face interview. Whenever possible, interviews were arranged a week later, at the volunteer's convenience, and were either conducted at the center, the local University, or the home of the volunteer. This semi-structured interview consisted of two portions (See Appendix G) and was audio-recorded with the participant's permission. The first part followed the protocol of Folkman and Stein (1995), inquiring about the most stressful event that the participant had experienced while working on the crisis line. After recounting her most stressful event, the participant was asked to complete a brief one-page questionnaire which assessed her current mood reactions (PANAS) and the degree of intrusive and avoidant ideation experienced since she answered the described call (Impact of Events Schedule). In addition to these two scales presented in fixed order, she completed a single item 6-point Likert scale rating of the stressfulness of the crisis call. In the second phase of the interview, information about the participant's personal reasons for joining the crisis line and her personal history of sexual assault was obtained. The interviews took about 45 minutes, on average. At the end of the interview, a list of the participant's upcoming crisis

line shifts were gathered and she was given a package of materials (i.e., questionnaire forms and pre-addressed stamped envelopes) to be used in the longitudinal portion of the study, if she agreed to continue her participation.

The longitudinal phase began immediately after the face-to-face interview. Participants were instructed to complete the "report log sheet" after each shift, keeping a record of all crisis calls they had answered by noting the length of each call (in minutes) and providing a rating assessing the stressfulness of that call, relative to previous crisis calls (see Appendix C). Based on the participant's schedule of crisis-line shifts provided during the initial interview, the participant was contacted by telephone approximately one week after she had taken a shift. This one-week delay allowed the researcher to assess the impact of a stressful crisis call while controlling for the amount of time elapsed between answering and reporting the crisis call. Telephone interviews were conducted if the participant had received a crisis call seven days prior to the interview and had not received another call in the interim.

The purpose of these telephone interviews was to assess how volunteers coped with the impact of a specific incident during which they assisted a trauma survivor. The telephone interviews followed the Folkman and Stein (1995) protocol and took an average of ten minutes. At the end of the phone call, the participant was asked to complete a brief one-page questionnaire composed of the following scales in fixed order: PANAS, Impact of Event Scale, and a single-item rating of the stressfulness of the call. The participant was instructed to return this questionnaire form, along with any report log sheets, in one of the self-addressed stamped envelopes provided in her package. If questionnaires were not received within two weeks, the researcher followed up with a telephone call. In total, four telephone interviews were planned for each participant, over the course of six months.

Key scales were readministered to determine if individuals change over time as a function of additional exposure to the traumatic material encountered on the crisis line. Approximately four months after the date that a participant had completed her initial questionnaire, she was contacted to complete a longer questionnaire consisting of the following scales: the TSI Belief Scale; the Compassion Fatigue Self-Test for Psychotherapists; the COPE; and the Beck Depression Inventory. On occasion, the request to complete the

follow-up questionnaire coincided with the second telephone interview. The participant was instructed to complete the questionnaire over the next two weeks and return it to the researcher by sending it back in one of the self-addressed stamped envelopes in her package. Questionnaires that were not received within a month were followed-up with a telephone call. Two months later, the participant was contacted and the battery of scales were readministered (i.e., the TSI Belief Scale, the Compassion Fatigue Self-Test for Psychotherapists, the COPE, and the Beck Depression Inventory). This six-month follow-up was conducted only if the third and fourth telephone interviews had taken place.

Table 5 provides a summary of the sequence of the administration of the measures.

Narrative Coding Procedure

Narrative accounts of crisis line calls were audio-taped during both the initial interview and the longitudinal telephone interviews, with the participants' permission. In preparation for coding, the narrative accounts were transcribed verbatim from audio-recordings.

Quantification of these narrative data was limited to the coding of goal processes. The goal-process approach to analyzing narrative data was proposed by Folkman and Stein (1995). This technique is designed to identify specific goals articulated by an individual and to determine whether these goals are achieved successfully. Goal-process also describes the way in which an articulated, but frustrated, goal may be redefined to ensure a successful outcome. According to Folkman and Stein (1995), goals refer to "...a desire to go from one state to another or a desire to maintain a current state" (p. 17). Their coding system identifies goals and their outcomes, by means of key words or phrases. For example, the following statement would be coded as a successful goal: "I wanted to calm her down, I did it!". The goal is identified by the key word "wanted" (a desire), and its successful outcome is flagged by the phrase "I did it!" (evaluation of outcome). (See the Coding Manual in Appendix H for a more detailed explanation of the original Folkman and Stein (1995) scheme.)

While applying the Folkman and Stein (1995) coding scheme, it seemed that goals

Table 5.

Sequence of the Administration of Measures

Time 1	Time 2	Time 3	Time 4	Time 5	Time A,B,C,D[a]
Initial Q.	Initial I/V	Contact Log	Follow-up	Follow-up	Tele. I/V
	(3 weeks after mail-out of Initial Q.)	(on-going from Time 2 to Time 6)	(4 months since Time 1)	(6 months since Time 1)	(1 week after crisis call)
	Narrative i/v	Maintain record of crisis calls:			Narrative i/v of week-old crisis call
TSI Belief	PANAS	1) # of calls	TSI Belief	TSI Belief	PANAS
Comp. F.	IES	2) Duration	Comp. F.	Comp. F.	IES
CISS-A COPE	Stress Rating	3) Stress Rating	COPE	COPE	Stress Rating
BDI	Per. His. i/v		BDI	BDI	

Note. Initial Q = Initial Questionnaire; Initial I/V = Initial Interview; Tele. I/V = Telephone Interview; TSI Belief = Traumatic Stress Institute Belief Scale; Comp. F. = Compassion Fatigue Self-Test for Psychotherapists; BDI = Beck Depression Inventory; Narrative i/v = Narrative Interview; PANAS = Positive and Negative Affect Schedule; IES = Impact of Events Scale; Stress Rating = rating of the stressfulness of the crisis call; Per. His. i/v = Personal History Interview;

[a] Time A and B occurred between Times 1 and 4; Time C and D occurred between and Times 4 and 5.

stated as failures or unanswered questions were not captured by this coding scheme. That is, the scheme did not capture those goals that could easily be inferred from direct statements of "not being able to" achieve a certain state or "wondering"about the proper course of action. The Folkman and Stein (1995) coding scheme (henceforth referred to as the Explicit coding scheme) was expanded to code these inferred goals (henceforth referred to as the Implied scheme). For the most part, these goals appear in the narratives as statements of failure from which a more desirable outcome (i.e., goal) can be inferred. For example, the statement "I couldn't think straight", suggests that the speaker would have preferred to "think straight". According to the Explicit scheme, this inferred goal would not be identified and coded as a failure if the volunteer did not alter this state.

The Implied coding scheme supplements the Folkman and Stein (1995) coding scheme by identifying additional goals. It is important to identify all goals because their outcomes may be redefined later in the unfolding narrative. For example, the failed goal (i.e., "I couldn't think straight") may be redefined as a success by the end of the narrative account (e.g., "My head must have been together, because she was calm by the end of the call"). If the goal is not identified, its redefinition cannot be tracked, and information is lost. Thus, the Implied coding scheme supplements the Explicit coding scheme, by virtue of identifying goals falling outside of the keywords prescribed by the Explicit coding scheme. As with the Explicit coding scheme, the Implied coding scheme identifies goals through the use of keywords. Since the keywords of both schemes do not overlap, the combination of the Explicit and the Implied coding schemes provides the most sensitive assessment of goal-process. The Coding Manual used to identify and code each of the goals appears in Appendix H.

The reliability of these coding schemes was established using a two-step process. During the first step, two senior clinical psychology graduate students, independently read a transcript, then immediately reread the narrative signaling the presence of goals in that transcript. For reliability purposes this process was repeated for 25% of the narratives (15 accounts, stratified by center and prior trauma history). The goals identified in each narrative were cross-referenced and inter-judge ratings were highly and significantly correlated (r=.95, p<.001). However, it was important to determine whether the same goals had been identified

from the volunteer's narrative accounts. Using the number of clauses in the narrative as a base unit, inter-rater reliability for identifying goal statements in a narrative was acceptable (Kappa=.78). In addition to yielding information about the consistency with which goals can be detected, this step served to generate a common pool of goals which were then coded more specifically according to the coding manual. Additional indices were calculated to demonstrate the reliability of the coding system once a common pool of goals had been identified. For each coding category, inter-rater reliability was found to be acceptable as assessed by Cohen's Kappa. Specifically, the raters were able to reliably distinguish: 1) the explicit from the implied coding schemes (Kappa=.78); and 2) the determination of whether a final outcome was successful for each goal (Kappa=.83). The reliability of the narrative-based measures are discussed more fully in the Results section of this paper. In short, a highly sensitive and reliable coding system of goals and goal fulfillment was developed.

Results

This study examined the relationships between helpers' vicarious exposure to traumatic material, their personal history of sexual assault, and their self-reported levels of distress. These relationships were examined by means of both cross-sectional and longitudinal analyses. Specifically, four core questions were addressed:

1) To what degree does a helper's prior trauma history moderate the relationship between exposure and distress? (The vulnerability hypothesis)

2) Do helpers with a history of personal trauma report more distress, as compared to those who do not share this history? (The prior trauma hypothesis)

3) Does the amount of exposure experienced by helpers relate to their self-reported distress? (The exposure hypothesis)

4) To what degree is the relationship between exposure and self-reported distress moderated by coping efforts? (The coping hypothesis)

Previous research has primarily addressed these questions independently using separate statistical analyses. This study recognized the interdependence of these questions and analytic procedures were selected accordingly. Before the analytic questions will be addressed, a description of the data analytic procedures and the preliminary data analyses will be presented. Then, the nature of the volunteers' work on the crisis line will be described, followed by the reporting of the concurrent tests of the first three core hypotheses listed above. Subsequently, these tests will be revisited alongside the simultaneous evaluation of the coping hypothesis. Finally, the findings concerning the development and implementation of an outcome-sensitive narrative-based coping measure will be presented.

Preliminary Analyses

Chosen Data Analytic Procedure.

The analysis evaluated the exposure, prior trauma, and vulnerability hypotheses concurrently. The interactive nature of these hypotheses can be tested using a moderated multiple regression procedure (Baron & Kenny, 1986; West, Aiken, & Krull, 1996). Specifically, the variance in the dependent variable can be explained by the interaction of two independent variables, once the variance attributable to both main effects have already been removed. Applied to the present hypotheses, the predicted interaction indicates that with increasing levels of exposure, the group of helpers with a trauma history would become more distressed than those helpers without a trauma history (i.e., the slope of the regression line would be significantly more positive for those individuals in the trauma history group).

The procedure for conducting a moderated multiple regression follows the logic of this analysis. The testing of the hypotheses are conducted by use of a hierarchical analysis where the combination of variables determining lower order effects are entered first. For example, to predict levels of distress, the dependent variable (i.e., level of distress) is regressed on an exposure variable and on a prior trauma variable. Once these main-effect variables are in the equation, their product term (i.e., Exposure X Prior Trauma) is entered into the equation on the next step. If the t-test associated with the regression coefficient for this product term (i.e., the interaction term) is significant, then the interaction is significant. Notably, the variables were centered prior to conducting the regression analyses.

Overview of Preliminary Analyses.

Before analytic questions are addressed, issues concerning the sample of helpers who participated in the study must be considered. The participants differed in two important ways: 1) they were recruited from six different settings, and 2) in one of the six sites (Guelph), the subjects consisted of volunteers or staff members. Two sets of comparative analyses were conducted. First, for the Guelph site, staff members and volunteers were compared. Then, all participants were compared across the six settings. For these comparisons, differences between samples were assessed along the following dimensions: degree of exposure, level of

distress, and history of personal prior trauma. Also, the comparability of the relationships among these variables were computed and compared. These analyses were conducted to determine if the data from the various types of participants could be combined. After the data from the participants from the different sites were pooled, the overall sample was explored to detect if the responses of any of the participants were extreme, as compared to the larger sample.

Assessing Compatibility of Guelph Participants.

The similarity of the responses from the current volunteers and from the staff members (who were former volunteers) were evaluated for the study participants recruited from the Guelph site. The staff members and the volunteers were compared to determine if these groups differed in terms of their exposure, distress, or coping efforts. The results indicated that the volunteers and the staff at the Guelph site did not differ significantly in terms of their self-reported levels of distress nor in terms of their coping efforts, as assessed by independent t-tests. Although the staff and the volunteers differed in terms of the number of months they had served on the crisis line, $t(21)=2.71$, $p=.01$, at least two volunteers had answered the crisis line longer than most staff members. However, given this difference in their length of service, it was important to determine if the staff and the volunteers displayed comparable relationships between the distress variables and this exposure variable. Moderated multiple regressions were computed to determine if staff membership moderated these relationships. Again, no significant differences were found between groups formed of staff members and volunteers and all interactions (indicating moderator effects) were not found to be significant. Notably, these findings must be interpreted cautiously because of the low power of these analyses. However, the pattern of relationships did not differ between groups, the relationships were not unduly affected by the greater average length of service of the Guelph site staff. Thus, all participants for the Guelph site were combined in further analyses.

Assessing Comparability Across Sites.

The second set of comparisons were designed to determine if the participants from the various sites were similar with respect to the amounts of distress, the degree of exposure, and

the frequency of coping efforts reported by their helpers. To test this assumption -- that the mean differences do not significantly distinguish centers -- 95% confidence intervals for each variable were computed for each site. To determine if confidence intervals overlapped as predicted, they were displayed graphically as boxplots (Tukey, 1968). Given that the hinges of the boxplots (indicating the 95% confidence interval) overlapped across sites, there were no significant mean differences across sites on variables measured by the following scales or their corresponding subscales: Traumatic Stress Institute Belief Scale (full scale and subscales), Compassion Fatigue Self-Test for Psychotherapists, Coping Inventory subscales (i.e., COPE), Beck Depression Inventory, and the sub-scales of the Impact of Events Scale. In addition, the helpers from the six centers did not differ significantly in terms of their length of experience answering crisis telephone lines (i.e., months of service). These findings indicated that there were no differences between the settings in terms of the levels of distress, the length of crisis line service, or the frequency of coping efforts.

The ratio of helpers with and without a history of personal trauma was examined for each site. The number of participants reporting a personal history of sexual trauma are tabulated in Table 6. With the exception of the Peel site, both helpers with and without a history of personal trauma were represented in each center. Notably, the proportion of volunteers with a victimization history was somewhat lower in the Guelph sample.

The most important test of comparability concerns whether each center displays the same relationship between the variables of interest. Unfortunately, this procedure of testing the comparability of relationships was limited by the low number of individuals in some centers. To address these limitations, scatter plots of the relationships between cross-sectional measures of exposure and distress for each of the sites were visually inspected. In addition to depicting the nature of the relationship between variables, these plots also distinguished those individuals who had a personal history of trauma from those who did not. Given the many similarities between centers and the limitations of performing a definitive test of the compatibility of relationships between centers, it was assumed that the data could be collapsed across centers.

Table 6.

Distribution of Volunteers with a Personal History of Sexual Victimization Across Sites

	Guelph		Ott.	Lond.	Peel	Niag.	Brant	Total
	Vol.	Staff						
Number of Participants	12	10	7	10	2	8	7	56
Number reporting personal history of sexual trauma	2	3	3	4	2	6	5	25
Percentage of participants with a history of sexual trauma	17	30	43	40	100	75	71	45

Note. Ott. = Ottawa; Lond. = London; Niag.= Niagara; Brant. = Brantford; % = percentage of participants with a history of rape or incest; Vol. = Volunteers

Detecting Extreme Values: Outlier Analysis.

Once the participants from all sites were combined, it was important to determine whether the responses of individuals were characteristic of their site and characteristic of the entire sample. In particular, this analysis concerned the detection of extreme scores which the literature has characterized as "outliers." Because the retention of outliers can influence results, they were omitted from all analyses. However, these outliers may actually represent the phenomenon under study (i.e., extreme levels of distress). Thus, the analyses were also conducted with all data, and the deviations in the results are noted when these outliers were retained.[2] A total of 56 female sexual-assault crisis-line respondents were included in cross-sectional analyses. However, the number of helpers included in each analysis varied depending on the number of outlying data points that needed to be omitted. As to be discussed below, the low power of these analyses limits the interpretation of study findings.

The Nature of the Work: Helping Others on the Crisis Line

In the course of their work on Crisis Telephone Lines, the 56 helpers participating in this study vicariously witnessed the distress of others and were frequently exposed to traumatic material relayed by callers. The information presented below is included to give a flavor of the experiences of these crisis line respondents. The helpers' experience was explored in terms of the various measures of exposure, self-reported distress, and coping efforts.

The degree to which crisis line helpers were exposed to traumatic material was assessed in several ways. These measures included: 1) their length of service, in months, as a crisis line helper, 2) the number of crisis calls they received over a four month time frame, and 3) the characteristics of the calls that were received. Overall, the helpers had about two years of experience, but some volunteers had been working as little as one month or as long as eight years. Information regarding the nature of the calls received was gathered longitudinally and reflects the experiences of only half the sample (n=29) who continued in the longitudinal phase of the study. Over the four months, helpers answered an average of 16 calls. However, the number of calls received in a single shift were reported to range from 0 to 14, with the helpers

receiving an average of about 3 to 4 calls per shift. A call could last as short as one minute or as long as several hours. Approximately, one-half the calls (52%) received by helpers concerned a caller that they had personally spoken to before. A helper's length of service was not significantly related to the number of calls they received over a four-month period (r=-.31, n.s.), but a trend indicated that more experienced volunteers tended to answer fewer calls over a four-month period. Table 7 below presents descriptive information for these variables.

As outlined in the introduction, exposure to traumatic material is hypothesized to disrupt the psychological adjustment of the helper. Subjective measures of distress were gathered from helpers to assess the different kinds of disturbances. These assessments include: depression (using the Beck Depression Inventory), Post-Traumatic-Stress-Disorder-like symptoms (using Compassion Fatigue and Impact of Events Scale), and fundamental beliefs reflecting basic needs in such areas as safety, trust and intimacy (Traumatic Stress Institute Belief Scale).[3] In addition, subjective ratings of distress were gathered longitudinally, reflecting the average degree of distress experienced by helpers answering crisis calls (see Table 8).

An examination of Table 8 indicates the marked variability in the amount of distress helpers report. Although the helpers did not report extreme levels of distress on average, some volunteers in the sample indicated that they were experiencing high levels of distress. Indeed, some of the maximum values listed in Table 8 are on par with clinical samples. More specifically, study participants reported levels of intrusive and avoidant ideation that were similar to a sample of 35 individuals seeking treatment for parental bereavement (M=21.2, SD=7.9 and M=20.8, SD=10.2, respectively) (Zilberg, Weiss, & Horowitz, 1982). Other indices do not suggest a level of distress falling in the clinical range (e.g., a BDI score of 14 for depression.) In addition, the helpers were found to be at moderate risk for developing Compassion Fatigue, as their average raw score fell in the 31-35 range. However, the responses of some volunteers placed them at an extremely high risk for Compassion Fatigue (i.e., raw scores exceeding 41), as assessed against the norms provided by Figley (1995). Although the average volunteer did not report the same level of disruptions in fundamental beliefs as a group of 115 practicing psychologists (i.e., a group studied to provide norms for

Table 7.

Descriptive Statistics for Exposure Measures and Properties of Crisis Line Calls

	Values			
Exposure Variable	Minimum	Maximum	Mean	Standard Deviation
Cross-sectional (N=56)				
Length of Service in months	1	90	27.9	22.88
Longitudinal (N=29)				
Number of calls answered in 4 months	1	98	15.8	20.83
Number of calls received in a single shift	0	14	3.8	2.87
Average length of time talking to callers in a single shift in minutes	0	60	19.8	15.47
Length of single call in minutes	0	300	19.9	31.08
Apparent distress of caller[a]	1	6	3.4	1.25

Note. N= number of participants

[a]Using a 6-point Likert-scale with 1 as "no distress" and 6 as the "most distressed caller in helper's experience of answering crisis calls"

Table 8.

Descriptive Statistics for Distress Measures

	Values			
Distress Measure	Minimum	Maximum	Mean	Standard Deviation
Cross-sectional Questionnaire (n=56)				
Beck Depression Inv.	0	13	4.9	3.67
TSI Belief Scale	9	212	85.1	38.06
Compassion Fatigue	24	58	34.8	7.54
Cross-sectional Initial Interview (n=56)				
Intrusive Ideation	7	22	12.1	3.35
Avoidant Ideation	8	17	10.9	2.52
Longitudinal (n=29)				
Average Stress rating during crisis calls	1	6	2.6	1.39

Note. Beck Depression Inv.=Beck Depression Inventory

the TSI Belief Scale, demonstrating M=177, SD=34.88), some crisis-line respondents demonstrated disruptions in beliefs that did parallel those of psychologists (Pearlman, MacIan, Johnson, & Mas, 1992).

These results indicated that the level of distress reported by crisis line workers varies from almost none to clinical levels. Could coping efforts be influencing their appraisals of distress? In this study, we examined two types of coping, as assessed through questionnaire data: avoidant coping and the tendency to seek emotional social support. Indeed, the helpers in this sample reported engaging in both avoidant coping (M=46.07, SD = 8.07) and emotional social seeking behaviour (M=12.44, SD= 2.92). The frequency with which these strategies were used, placed this sample in the average range, as compared to the norms provided by the authors of CISS-A (M=47, SD=10) and the COPE (M=11.08, SD=3.60 when reporting on the most stressful life event in the past 2 months). As part of the present study, the core hypotheses were examined at different levels of coping; thus, it was important to understand how avoidant coping efforts were associated with emotional social support seeking. To ensure that this relationship did not differ for those helpers with and without a trauma history, a moderated multiple regression was computed to determine the similarity of the two groups; they were comparable (b(55)=1.41, p=.50). In this study, a helper's use of avoidant coping strategies was related to emotional social support seeking (r= .41, p<.01).

A review of the above information may lead one to question, what accounts for the wide range of self-reported distress experienced by sexual assault crisis line workers? Why did some helpers report experiencing little distress, while others reported greater disruptions in psychological adjustment that were on par with clinical samples? Guided by the emerging literature on the helper's reactions to traumatic material encountered while assisting others, the research questions addressed in the following sections were formulated.

Concurrent Tests of the Vulnerability, the Prior Trauma and the Exposure Hypotheses

To facilitate the comparison with existing literature, the vulnerability, prior trauma,

and exposure hypotheses were examined with cross-sectional data. In addition, to address some of the limitations of previous research, these questions also were investigated longitudinally. As previously mentioned, historically these questions have been addressed by separate analyses. Using a moderated multiple regression procedure, the following three questions were addressed concurrently: 1) Does the prior trauma history (PH) group appear more vulnerable to distress following exposure to traumatic material(i.e., detection of an incremental slope in predicted direction)?; 2) Is the PH group more distressed than the non-trauma history (NH) group overall?; 3) Is there a relationship between increasing exposure and increasing distress? The tests of these hypotheses will be reported for the cross-sectional data, and then the longitudinal results will be presented. Following the presentation of the simultaneous evaluation of these three hypotheses, a new series of investigations concerning the coping hypothesis will be presented.

Cross-sectional Results: exposure measured as months of crisis-line service

The cross-sectional examination of the three hypotheses employed a proxy variable of exposure: the number of months of crisis line experience. This exposure variable was gathered by self-report. As noted earlier, on average, the participants had answered crisis calls for about two years, with the bulk of service spanning one to four years. In preparation for analyses, all variables were centered and dummy coding was used to categorize the "Prior Trauma" variable with zero (0) representing the NH group. The analyses were computed using a moderated multiple regression procedure for the interaction of continuous and categorical variables (West, Aiken, & Krull, 1996).

The findings were presented separately for each distress measure in Table 8. The standardized regression coefficients for the interaction term reflect the incremental slopes of the PH group relative to the NH group. According to the vulnerability hypothesis, the coefficients for the interaction terms should be positive, indicating that the helpers with a prior history of trauma would show greater levels of distress, as compared to those helpers who did not have a trauma history. The coefficients for the main effect of Prior Trauma were expected to be positive because the PH group was predicted to demonstrate greater levels of distress,

as compared to their peers who did not have a history of trauma. Similarly, the exposure hypothesis predicted that the coefficients for the main effect of exposure would be positive, indicating an association between greater levels of distress and longer service (i.e., exposure).

Examination of Table 9 revealed a single significant interaction effect regarding the Self-Intimacy beliefs of the helpers. The beliefs tapped by this Self-Intimacy scale concern the ability to have a sense of self when others are not present and the belief that one is able to connect with and soothe this "internalized" self. According to the vulnerability hypothesis, a positive moderating effect was predicted. However, the regression coefficient for the ExposureXPrior Trauma interaction indicated a significant negative moderating effect. More specifically, in the PH group, greater crisis-line experience was related to fewer disruptions in their self-intimacy beliefs. In contrast, for members of the NH group, their length of service appeared unrelated to their self-intimacy beliefs. Below, Figure 1 illustrates the relationship between the disruptions in the helpers' self-intimacy beliefs and their length of crisis-line service, plotted at mean levels (i.e., 24 months) and at one standard deviation above and below the mean (i.e., 2 and 46 months, respectively). Higher scores on the Self-Intimacy measure reflect greater levels of disruption and distress.

Figure1.

Disruptions in Self-Intimacy as Related to Length of Service and Prior Trauma

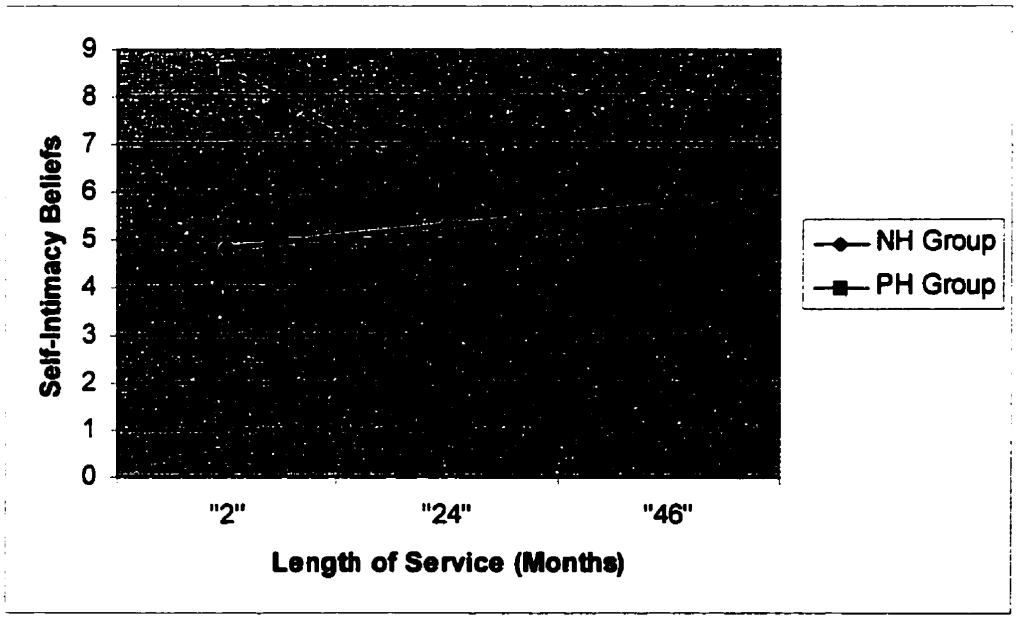


Table 9.

Analyses of Exposure and Prior Trauma Hypotheses Using Length of Crisis-Line Experience as the Exposure Variable

DistressVariables	n	Standardized Regression Coefficients for:		
		Main Effects		2-way Interaction
		Prior Trauma	Exposure	Exposure X Prior Trauma
C. FATIGUE	49	**0.34***	-0.19	0.20
BDI	52	0.26[a]	0.01	0.21
TSI BELIEF SCALE				
Full Scale	48	0.19	**-0.33***	0.02
Self-Safety	51	0.06	**-0.39****	0.03
Other-Safety	51	0.14	-0.20	0.24
Self-Trust	50	0.18	**-0.37****	-0.06
Other-Trust	51	0.30	-0.25[a]	-0.15
Self-Esteem	50	0.16	-0.82	0.01
Other-Esteem	50	**0.28***	-0.27	0.13
Self-Intimacy	52	-0.11	-0.10	**-0.40***
Other-Intimacy	50	**0.28***	**-0.30***	-0.21
Self-Control	48	0.26	-0.17	0.10
Other-Control	52	0.21	-0.23	0.13

Note. C.Fatigue=Compassion Fatigue Self-Test for Psychotherapists; BDI=Beck Depression Inventory
a - significant prior to removal of outliers
*p<.05; **p<.01; ***p<.001

The results provide some support for the prior trauma hypothesis, as the PH group demonstrated higher levels of distress relative to the NH group. As indicated by the significant positive coefficients for Prior Trauma in Table 9, these findings were restricted to an increase in PTSD symptoms (Compassion Fatigue) and disruptions in beliefs concerning helpers' esteem for others (Other-Esteem) and their ability to feel connected with others (Other-Intimacy). However, prior to the removal of the outliers, the PH group also demonstrated some elevations, relative to the NH group, on the indices of depression. The degree of support for the prior trauma hypothesis was consistent, but it was not widespread amongst measures of distress.

Indeed, as presented in Table 9, other results contradicted the predictions of the exposure hypothesis. More specifically, increasing length of service on the crisis line was related to: 1) fewer disruptions in global fundamental beliefs (TSI Belief Scale - Full Scale); 2) greater confidence in the soundness of one's decisions (Self-Trust); 3) fewer concerns about one's personal safety (Self-Safety); 3) a sense of increased connectedness with other people (Other-Intimacy); and 4) a greater tendency to trust others (Other-Trust, but only when outliers were retained in the analyses). These findings were consistent with the literature that studied exposure as a function of a helper's length of experience (Chrestman, 1996; Cunningham, 1997; Pearlman & MacIan, 1995; Simonds; 1996).

Overall, the cross-sectional findings offer little evidence in support of the core hypotheses that the combination of exposure (as measured by length of service) and prior trauma will be related to the amount of distress experienced by the helper. With respect to the vulnerability hypothesis, the individuals with a history of prior trauma did not exhibit the greater incremental slope as predicted, suggesting that they were not more vulnerable to distress than the other helpers. Indeed, the direction of the only significant interaction contradicted the vulnerability hypothesis, as the PH group demonstrated an association between fewer disrupted self-intimacy beliefs and a greater length of service. This finding is consistent with the results reported in the literature (Pearlman & MacIan, 1995; Slover, 1998). Although the present study supported the prior trauma hypothesis, this effect was not found for all measures of distress. The results provided consistent evidence contrary to the

exposure hypothesis, as a decrease in the distress of helpers was related to a greater length of crisis-line service. Other studies have reported findings contradicting the exposure hypothesis (Chrestman, 1996; Cunningham, 1997; Pearlman & MacIan, 1995; Simonds; 1996).

Several explanations may account for the consistent contradictions of the exposure and the vulnerability hypotheses. For example, these contradictory results may be an artifact created by the differential attrition of volunteers who were experiencing greater levels of distress. That is, over time, the helpers who become distressed may stop volunteering; thus, the mean levels of distress for those helpers with a greater length of service would be artificially deflated. Another possible interpretation of the contradictory findings concerned a parallel process that may serve to reduce distress or to selectively promote greater psychological adjustment in those helpers with a prior history of trauma.

To better assess these possible interpretations a sub-group of crisis-line helpers were studied longitudinally. This investigation addressed the possibility that the contradictory findings may be related to the differential attrition of the more distressed helpers. The possible interpretations of the above results will be more fully discussed after the presentation of the longitudinal results. First, it was important to examine whether the helpers who stayed in the study were different from those who did not continue their participation. The longitudinal findings will be reported. Then, the question of a possible parallel process will be revisited.

Longitudinal Results

Exposure measured as the number of crisis calls received over a four-month interval

An important contribution of this study was the analysis of the exposure, vulnerability, and prior trauma hypotheses using longitudinal data. Before proceeding with the analytic questions, it was important to determine if the sample of participants who chose to continue with the longitudinal portions of the study differed from those who discontinued their participation. As well, the longitudinal tests of the hypotheses required methodological and instrumentation changes in order to examine these questions more fully. A new measure of exposure was introduced that indexed the number of crisis line calls that a helper answered

over a four-month period. This measure was implemented to investigate how the degree of exposure relates to a helper's change in distress over time. Following an explanation of how the analytic procedures were adjusted to examine the changes within individuals, the longitudinal results will be presented for the concurrent analyses of the vulnerability, prior trauma, and exposure hypotheses.

Assessing the impact of attrition: Were those who continued in the study different from those who dropped out? The participants who completed the initial phase of the study were invited to participate in four and six-month follow-up assessments. To evaluate whether the decision to continue their participation was systematically related to the variables of interest, the data from helpers who were retained in the study were compared to those of participants who did not continue. The representativeness of helpers with prior trauma histories was explored in both groups. Other comparisons concerned the level and the inter-relationships of key variables, which included measures of exposure, distress, and coping efforts.

The number of individuals who completed the second and third waves of the study are tabulated below, indicating whether they had a history of sexual trauma. As presented in Table 10, the women with and without a history of prior trauma did not demonstrate a differential attrition rate. Given the low number of individuals completing the third wave of the study, only the data for the initial and second waves are used in the longitudinal analyses.

Since longitudinal findings are based on a subset of the original sample, it was important to determine if the group of helpers who continued to participate was systematically different than the group who did not. Information presented in the method section (see Table 3) suggested that there was not a differential attrition rate as a function of site. To determine if the relationships between the variables differed as a function of attrition, the cross-sectional data were examined using a moderated multiple regression procedure to determine if those participants who continued to participate demonstrated a different pattern of relationship than those participants who did not continue. More specifically, the categorical variable was created by sub-categorizing all cross-sectional participants as to whether they continued with

Table 10.

Attrition Data: Number of Participants Completing Components of the Study and their History of Prior Victimization

	Initial Wave	Second Wave (4 months)	Third Wave (6 months)
Prior Sexual Trauma	27	16 (59%)	5 (19%)
No Prior Sexual Trauma	29	17 (59%)	6 (21%)
Total	56	33[a] (59%)	11 (20%)

[a]Note. The longitudinal analyses involved only 30 participants because three participants did not keep a log of the number of crisis calls they had received over the four-month period.

the longitudinal portion of the study. This categorical variable was used to generate an interaction term as previously described (See page 36). The findings presented earlier in the cross-sectional portion of this Results section (see Table 9) were used to determine whether the variable of prior trauma history also needed to be included in the analyses as a moderator. As such, only the analyses concerning disruptions in self-intimacy beliefs included this history variable when testing the moderator effects of group membership for those who did and did not complete the longitudinal portion of the study. Again, the strength of relationships between variables were evaluated as being significantly different, if the interaction terms were found to be significant (see page 36).

Overall, the results revealed that those helpers who dropped out of the study were similar to those who continued. For the most part, the groups did not differ in terms of: 1) the levels of the variables endorsed; or, 2) the pattern of relationship between distress and exposure, when exposure was assessed by length of crisis line service. However, the association between less social support seeking and greater crisis-line service was stronger for the longitudinal group (b (55)=-.46, p=.02). Given that no other systematic differences were observed, it was assumed that the groups were comparable at the outset of the study. This finding argues against a systematic attrition that may have occurred when some subjects did

not participate in the longitudinal portion of the study. In addition, the cross-sectional results could be compared to the longitudinal results.

New Exposure Measure: the Number of Calls Answered Over a Four-Month Period.

The longitudinal investigations employed a new measure of exposure that captured the incidence of exposure to traumatic material. This exposure variable was measured by having participants log the number of calls that they had responded to on the crisis line. An additional control was introduced by having participants log these incidents over a four-month period of time. This measure of exposure appears to be a more precise assessment of exposure than the previous measure (i.e., the number of months of service). This improvement stems from the random nature of the number of calls received per shift. As such, the incidence of calls would seem less influenced by the characteristics of the helper which might include her coping styles or her motivations for being a crisis line worker. By tabulating these incidents, this measure was thought to better tap the exposure to traumatic material experienced by helpers who respond to the crisis-line callers.

Changes to Data Analytic Procedures and Implications for the Trauma Hypothesis.

The longitudinal design examined the changes in distress experienced by the helpers over time. This assessment was accomplished by partialling out the initial responses to the distress questionnaires from the questionnaires gathered in the subsequent wave of data collection (i.e., the initial scores were controlled for by forcing them into the equation as a covariate)(Cohen & Cohen, 1983).

An important implication of this change in the analytic procedures concerned the evaluation of the prior trauma hypothesis. The prior trauma hypothesis anticipated that those helpers with a prior history of trauma would demonstrate elevations on the distress measures: an elevated baseline attributable to their personal experience with primary trauma. Notably, this baseline difference was expected to disappear, as the initial differences (including baseline elevations) were partialled out when the responses to the initial questionnaire were controlled statistically. Thus, the absence of a main effect for History was predicted, as this contribution

would have been partialled out as a covariate.

In summary, the results of the longitudinal and the cross-sectional analyses can be compared because the members of the attrition group were found to be similar to those helpers who completed the longitudinal portion of the study. However, the longitudinal and the cross-sectional investigations differ in important ways: 1) the measurement of exposure (i.e., the length of crisis-line service versus the number of crisis calls received in a four-month period; 2) the analytic procedures which allowed for the examination of a helper's change in levels of distress in the longitudinal portion of the study; and 3) the use of a covariate in the longitudinal analysis which removed the variance required to test the prior trauma hypothesis. To facilitate the comparison of longitudinal and cross-sectional results, these analyses will be presented in the same format: the findings will be reported for the vulnerability, prior trauma, and exposure hypotheses, in that order.

Simultaneous Tests of the Hypotheses.

With the ability to assess a helper's change in distress and an improved measure of the exposure to traumatic material, the vulnerability, prior trauma, and exposure hypotheses were tested concurrently. Specifically, the longitudinal vulnerability hypothesis predicted that those helpers with a history of prior trauma should demonstrate a greater increase in distress when initial levels of distress are controlled, as compared to those helpers without a trauma history, given that they answered the same number of calls (i.e., the slope of the relationship should be more positive for the prior trauma group suggesting a greater vulnerability of this group to distress.) A positive coefficient for this Exposure X Prior Trauma interaction term was expected, if results were to support the vulnerability hypothesis. As described above, a main effect was not predicted for the prior trauma hypothesis as the relevant variance would have been removed by the analytic procedures used to examine distress longitudinally. In addition, the exposure hypothesis predicted that increased distress would be associated with increases in the number of calls answered over the four-month period; this main effect of exposure would be indicated by a positive regression coefficient.

Table 11 indicates that there were no significant longitudinal findings that supported

Table 11.

Analyses of Exposure and Prior Trauma Hypotheses Using the Number of Crisis Calls Answered over Four Months as the Exposure Variable

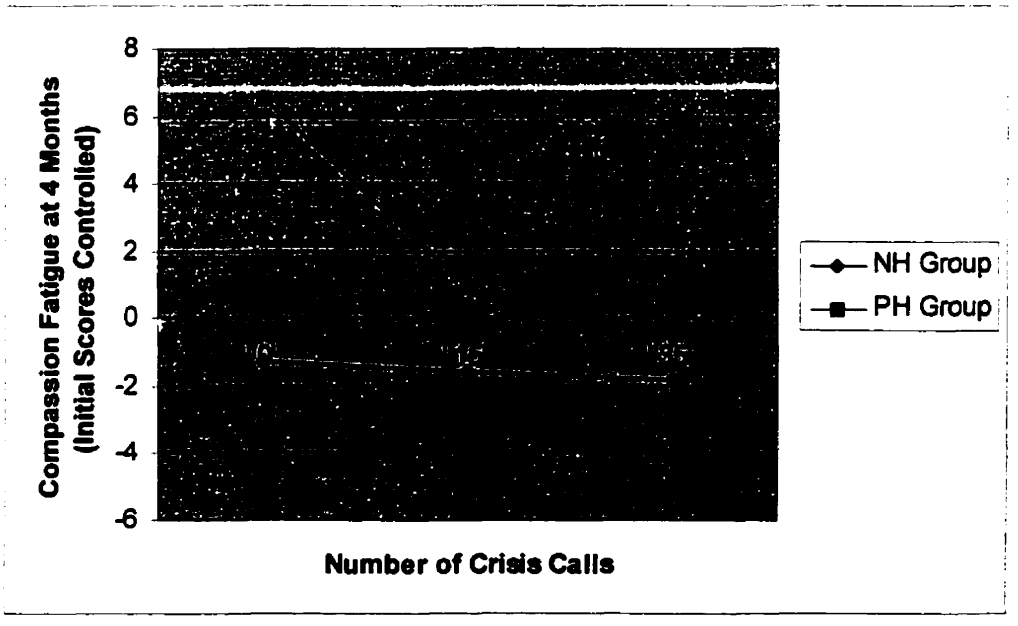
DistressVariables	n	Standardized Regression Coefficients for:			
		Main Effects			2-way Interaction
		Initial Distress	Prior Trauma	Exposure	Exposure X Prior Trauma
C. FATIGUE	24	.55**	-0.21	-0.05	**-0.44***
BDI	26	.53*	-0.11	-0.02	0.21
TSI BELIEF SCALE					
Full Scale	19	.73***	0.00	0.05	-0.16
Self-Safety	25	.86***	0.15	0.08	-0.20
Other-Safety	26	0.38	-0.16	**0.40***	**-0.62****
Self-Trust	25	.79***	-0.09	-0.08	-0.04
Other-Trust	26	.89***	0.05	-0.01	0.05
Self-Esteem	26	.76***	0.07	0.03	0.05
Other-Esteem	22	.87***	0.06	0.02	-0.01
Self-Intimacy	25	.59**	-0.16	0.09	0.03
Other-Intimacy	26	.79***	-0.07	0.06	0.06
Self-Control	24	.49*	0.11	0.10	-0.15
Other-Control	26	.54**	0.11	0.18	-0.12

Note. C.Fatigue=Compassion Fatigue Self-Test for Psychotherapists; BDI=Beck Depression Inventory
a - significant prior to removal of outliers
*p<.05; **p<.01; ***p<.001

the vulnerability hypothesis. Two significant Exposure X Prior Trauma interactions emerged, when the helpers' changes in distress were measured by the Compassion Fatigue Self-Test for Psychotherapists and by the Other-Safety scale of the TSI Belief Scale. According to the vulnerability hypothesis, both groups should have demonstrated increases in distress with an increasing number of crisis calls answered, with this relationship being stronger in the PH group. However, instead of the predicted positive moderating effect, both of the findings yielded significant negative coefficients, revealing a negative moderating effect. To illustrate, the findings relating to Compassion Fatigue were displayed graphically in Figure 2. The graph includes a range of the exposure variable (i.e., the number of crisis calls answered) that corresponded to one standard deviation around the mean (i.e., 15 crisis calls). Compassion Fatigue scores measured at four months, with initial distress scores controlled, are plotted on the other axis. A score of zero on this axis denotes the mean score of the sample at four months while initial Compassion Fatigue scores are controlled.[4]

Figure 2.

The Relationship between Compassion Figure and the Number of Calls Answered between Administrations of the Compassion Fatigue Measure



As depicted in Figure 2, the PH group demonstrated an association between declining levels of Compassion Fatigue (i.e., less PTSD symptomatology) and increasing exposure to crisis calls. In contrast, the changes in Compassion Fatigue and the number of incidents did not appear related in the NH group. The relationship was only illustrated for the Compassion Fatigue measure, but both variables yielded results which indicated decreasing symptoms with increasing exposure in the PH group and little change in the NH group.

There were no other significant findings for the longitudinal analyses. As such, there was no support for the prior trauma hypothesis (as predicted), nor for the exposure hypothesis.[5] The numerous null findings may be related to low power (i.e., the maximum $\underline{n}$=29) and to the restricted range of the exposure variable.[6] These issues will be addressed in more details in the general discussion section to follow.

Overall, this longitudinal investigation did not provide any support for the predictions. The PH group was not found to be more vulnerable to distress (i.e., the vulnerability hypothesis). Indeed, the significant results contradicted this prediction: the members of the PH group revealed an association between increasing exposure to crisis line work and declines in PTSD symptoms and in their worries concerning the safety of their loved ones. Although predicted, no significant findings supported the prior trauma hypothesis. As well, all of the tests concerning the exposure hypothesis yielded null findings.

These results were consistent with a cross-sectional finding that contradicted the vulnerability hypothesis. Although concerning a different measure of distress, a result indicated that the PH group demonstrated an association between fewer disruptions in self-intimacy beliefs and a greater degree of exposure, as measured by their length of crisis-line service. This consistency in results was particularly interesting given that: 1) the individuals in the longitudinal phase were studied over time, but they produced similar findings on other indices of distress; and 2) the group of helpers who did not continue with the study were comparable with those helpers who completed the longitudinal study. As such, it was unlikely that a differential attrition of distressed helpers accounted for the results that contradicted predictions. Perhaps the question of a parallel process that operates to offset the distress experienced by helpers needs to be revisited.

The possibility of a parallel process was first suggest by Pearlman and MacIan (1995). They suggested that some helpers with a prior history of trauma may find a sense of meaning in their work that helps them to resolve their disrupted beliefs. As well, the possible effects of a parallel process is consistent with their position that the mere exposure to traumatic material may not be sufficient to generate the expected increase in distress (McCann & Pearlman, 1990; Pearlman & MacIan, 1995). Indeed, it is the psychological interpretation of this exposure that may moderate a helper's distress. As such, the above investigations may have omitted the moderating effects of an important theoretical variable. To address this limitation, the coping efforts of the helpers were included in subsequent analyses as a moderator variable.

The Coping Hypothesis: Do Coping Efforts Moderate the Relationship between Distress and Exposure?

As previously discussed, the relationship between exposure and distress is likely moderated by a helper's coping efforts. The findings presented above suggest a process that may serve to reduce the distress of crisis-line helpers. The investigations presented in this section examine the moderator effects of a helper's coping efforts in order to determine whether a helper's coping efforts contribute to this process. The specific moderator effect predicted depended on the particular coping strategy employed by the helper. However, prior to describing the predictions tailored to specific coping strategies, the rationale for investigating the moderating effect of coping efforts using a three-way interaction will be introduced. After the specific predictions are reviewed, the results (both cross-sectional and longitudinal) will be presented for two different coping strategies: avoidant coping and emotional social support seeking.

The present study employed a three-way interaction to examine the moderating effects of the helpers' coping efforts. At first, the investigation of whether coping efforts moderate the relationship between distress and exposure would seem best addressed by a two-way interaction (i.e., ExposureXCoping). However, this approach would neglect the theoretical

position that the relationship between exposure and distress is moderated by a helper's history of prior trauma (i.e., the vulnerability hypothesis). Clearly, the examination of an ExposureXCoping interaction is most suited to a homogenous population (e.g., helpers who all have a history of prior trauma). However, the helpers in the present study were known to differ in terms of their histories of prior trauma. Thus, in order not to blend groups in which the relationship between exposure and distress are hypothesized to be different, the interaction of ExposureXPrior Trauma must be considered. Therefore, the specific question asked by the coping hypothesis is: does coping moderate the relationship between distress and exposure, as qualified by the ExposureXPrior Trauma interaction. This question is most appropriately investigated by a three-way interaction (i.e., ExposureXPriorTraumaXCoping). This analytic strategy recognized the interdependence of the research questions that have been addressed in isolation in the literature.

The coping hypothesis was streamlined by focusing on two coping strategies that have been described in the helping literature: avoidant coping and the seeking of emotional social support. The specific predictions regarding these coping efforts were described and investigated with both cross-sectional and longitudinal data. The longitudinal investigations were of particular interest, given that the measure of exposure used in these analyses appeared to have greater face-validity as a more pure measure of exposure. As such, it was expected that a coping variable would provide a greater independent contribution as a moderator. In the next section, the specific predictions and the tests of these predictions, for cross-sectional and longitudinal findings, will be reported for avoidant coping strategies, followed by the presentation of these results for emotional support seeking.

Tailored Predictions of the Coping Hypothesis.

The specific predictions regarding the use of avoidant coping strategies and of seeking of emotional social support were derived from the literature. To predict the three-way interactions, the conditions under which the PH group would be expected to demonstrate their highest levels of distress were identified, and the three-way coefficients were predicted to further contribute to these higher levels of distress. To illustrate, when the use of avoidant

coping strategies was investigated, it was predicted that the PH group would be the most distressed when using greater levels of avoidant coping at greater levels of exposure. Under these conditions, the regression coefficient for the three-way interaction would need to be positive to ensure that distress levels were maximized (i.e., once in the equation, the term for the three-way interaction would increase the level of the dependent variable: distress). The relationship for avoidant coping was described more explicitly by Wilson and Lindy (1994), as such the predictions for the use of social-support seeking are more exploratory. When using emotional social support seeking strategies, the crisis-line helpers would be expected to demonstrate the most distress at lower levels of coping. As such a negative coefficient for the three-way interaction term was predicted. Henceforth, the test of the three-way interaction (i.e., ExposureXPriorTraumaXCoping) will be referred to as the coping hypothesis.

Tests of the Coping Hypotheses

The coping hypothesis was tested with both cross-sectional and longitudinal data. The findings for the use of avoidant coping strategies will be presented first, followed by the data concerning emotional social support seeking. As discussed previously, the cross-sectional and the longitudinal results were found to be comparable, as the helpers who participated in both phases of the study did not differ significantly, on average. In the absence of findings supporting the coping hypothesis, the significant results concerning the coping variable will be discussed (i.e., two-way interactions and main effects for coping). To streamline reporting, the findings that replicated the results concerning tests of the vulnerability, prior trauma, and exposure hypotheses will not be reviewed in detail here. However, all new significant findings concerning these three hypotheses will be described, but the following sections emphasize the results relating to the helpers' coping efforts.

The use of avoidant coping strategies

Cross-sectional Data.

When the cross-sectional data presented in Table 12 were examined, no significant three-way interactions were demonstrated when a helper's use of avoidant coping strategies,

Table 12.

Avoidant Coping: Analyses of Exposure, Prior Trauma and Coping Hypotheses using Length of Crisis-Line Experience as the Exposure Variable

Distress Variable	n	Standardized Regression Coefficients						
		Main Effects			2-way Interactions			3-Way
		Prior T	Exposure	Cope	Exposure X PT	Exposure X Cope	Cope X PT	Exp. X PT X C.
C. F.	49	0.38	-0.18	0.09	0.24	0.05	0.25	0.15
BDI	52	**0.34***	0.01	**-0.41***	0.34	-0.20	**0.42***	-0.16
TSI B.S.								
F. Scale	48	0.11	**-0.30***	**-0.36****	0.16	0.13	0.03[a]	-0.03
S-Safety	51	-0.07	**-0.40****	-0.31	0.07	-0.07	**0.42***	0.01
O-Safety	51	0.13	-0.20	-0.12	0.21	0.14	0.27[a]	-0.15
S-Trust	50	0.17	**-0.35***	-0.06	0.02	-0.06	0.28[a]	-0.10
O-Trust	51	0.20	-0.25[a]	-0.15	-0.02	-0.18	0.35	-0.08
S-Est.	50	0.14	-0.09	**-0.37****	0.20	-0.24	0.38[a]	-0.22
O-Est.	50	**0.28***	**-0.27***	-0.11	0.09	0.13	0.05	0.16
S-Intim.	52	-0.11	0.01	-0.03	**-0.40***	0.01	0.27	-0.30
O-Intim.	50	**0.28***	**-0.31***	-0.19[a]	0.00	-0.01	0.11	-0.13
S-Cont.	48	0.21	-0.24	-0.13	0.23	-0.12	0.35[a]	-0.06
O-Cont.	52	0.22	-0.18[a]	-0.26	0.17	0.01	0.01	-0.37

Note. C. F. - Compassion Fatigue; BDI - Beck Depression Inventory; TSI B.S. - Traumatic Stress Institute Belief Scale; F.Scale - Full Scale; S-Safety - Self-Safety; O-Safety - Other-Safety; S-Trust - Self-Trust; O-Trust - Other-Trust; S-Est. - Self-Esteem; O-Est. - Other-Esteem; S-Intim. - Self-Intimacy; O-Intim. - Other-Intimacy; S-Cont. - Self-Control; O-Cont. - Other-Control; PT - Prior Trauma; Exp.X PT.X C. - Exposure X Prior Trauma X Cope.

a - significant prior to removal of outliers

*$p<.05$; **$p<.01$; ***$p<.001$

her prior history, and her exposure to traumatic material were considered. Thus, a helper's coping efforts did not appear to moderate the relationship between distress and exposure, as qualified by a helper's prior trauma history (i.e., coping did not moderate the ExposureXPrior Trauma interaction). Again, a positive regression coefficient for the three-way interaction was predicted by the coping hypothesis when coping was assessed by a helper's use of avoidant coping strategies.

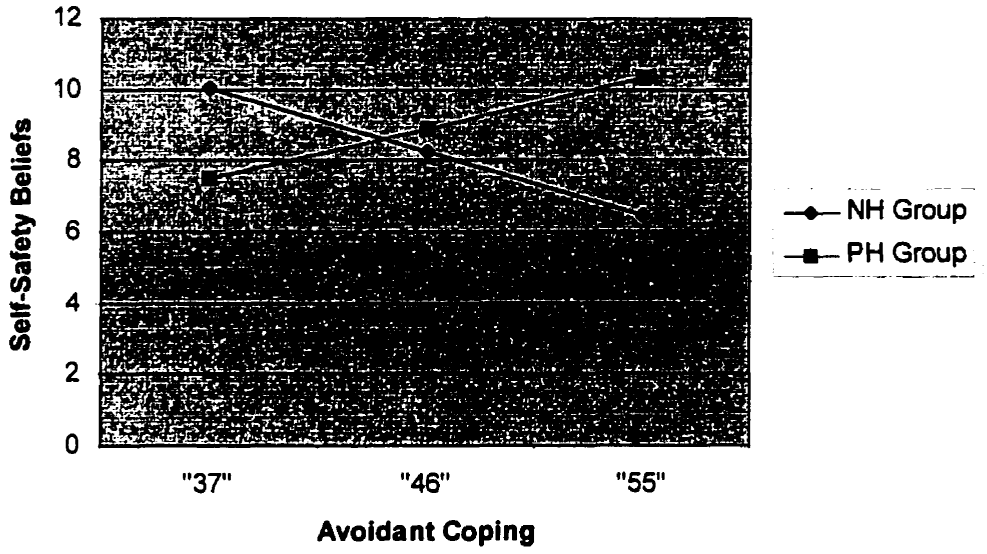
In contrast, the relationship between coping and distress was found to be consistently moderated by a helper's history of prior trauma. These results of the two-way CopingXPrior Trauma interaction which appear in Table 12 were graphed to determine the nature of the relationships. Specifically, the relationship between a helper's level of distress and her use of avoidant coping strategies was found to be moderated by her history of prior trauma, when her distress was measured as depression (BDI) or as concerns about her personal safety (Self-Safety). That is, the use of avoidant coping strategies was associated with lower level of distress, but only for those who had not experienced a previous personal trauma. For those who have a trauma history, the use of avoidant strategies appeared to be positively related to distress. Notably, this positive moderating effect was consistently replicated when the outliers were retained in the analyses. That is, as indicated by the table note in Table 12, additional interactions were found to be significant for the following scales: TSI Belief Scale - Full Scale, Other-Safety, Self-Trust, Self-Esteem and Self-Control.

A representative illustration of the findings appears below in Figure 3 where the disruptions in self-safety beliefs are plotted for a range of avoidant coping values (i.e., one standard deviation around the mean of 46). Higher numbers indicate more frequent use of avoidant coping strategies and greater disruption in self-safety beliefs.

The investigation of the coping hypothesis required the simultaneous analysis of the vulnerability, prior trauma, and exposure hypotheses. As noted, in Table 12, the inclusion of a coping variable in the analyses did not alter the significant findings of the tests of the three hypotheses presented in Table 9. However, the following new findings emerged when the frequency of avoidant coping was controlled for in the analyses: 1) support for the prior trauma hypothesis due to the elevations of depressive symptoms (BDI); and 2) two

Figure 3.

Example of Typical Findings of the Interaction between Prior Trauma and Avoidant Coping



contradictions of the exposure hypothesis, as longer crisis-line experience was related to greater esteem for others (Other-Esteem) and to an openness in taking direction from others(Other-Control).

In summary, the coping hypothesis was not supported by the cross-sectional data when coping was identified as the use of avoidant coping strategies. However, other significant findings indicated that the relationship between distress and coping was moderated by a helper's history of prior trauma. Specifically, those helpers without a prior trauma history demonstrated an association between lower levels of distress and a greater use of avoidant coping, while those with a personal history of trauma displayed the opposite pattern (i.e., higher levels of distress and greater use of avoidant coping strategies). In addition, lower levels of distress were related to greater use of avoidant coping strategies for several measures of distress. Notably, these main effects for avoidant coping do not support the bulk of research addressing the relationship between the use of avoidant coping and distress. This issue will be addressed more fully in the discussion to follow the investigation of the coping hypothesis.

Longitudinal Data.

As reported in Table 13, the longitudinal data failed to support the coping hypothesis. That is, the use of avoidant coping strategies did not appear to moderate the relationship between a helper's change in distress and exposure, as qualified by her history of prior trauma. As previously indicated, the regression coefficient for the three-way interaction term was expected to be positive in support of the coping hypothesis. In addition, no other findings related to the coping variable were found to be significant, including the two-way interactions involving coping or the main effects for coping. As well, the inclusion of a helper's avoidant coping efforts in the analyses did not alter or add to the findings presented in Table 11. These null findings must be interpreted cautiously given the low power of the analyses.

In summary, the coping hypothesis was not supported by either the cross-sectional or the longitudinal data when the use of avoidant coping was examined. However, significant findings involving the use of avoidant coping were found cross-sectionally. These consistent results revealed that: 1) the relationship between the use of avoidant coping strategies and distress is moderated by a helper's history of prior trauma (i.e., less distress was associated with greater coping efforts in the NH group, as compared to the PH group); and 2) a greater use of avoidant coping was related to lower levels of distress, as indicated by a main effect of avoidant coping for two indices of distress if all outliers were removed, and on seven indices if all outliers were retained.

Table 13.

Avoidant Coping: Analyses of Exposure, Prior Trauma and Coping Hypotheses using the Number of Calls Answered over Four Months as the Exposure Variable

Distress Variable	n	Standardized Regression Coefficients						
		Main Effects			2-way Interactions			3-Way
		Prior Trauma	Exposure	Cope	Exposure X PT	Exposure X Cope	Cope X PT	Exp. X PT X C.
C.F.	24	-0.18	-0.03	-0.14	**-0.47***	0.10	0.09	0.06
BDI	26	-0.07	0.03	0.31	0.02	0.13	-0.15	0.51
TSI B. S.								
F. Scale	19	0.04	0.11	0.21	-0.24	0.01	-0.19	0.36
S-Safety	25	0.17	0.05	-0.01	-0.17	-0.12	-0.13	-0.05
O-Safety	26	-0.16	**0.62***	-0.02	**-0.74*****	0.02	0.48	-0.27
S-Trust	25	-0.09	-0.07	0.08	0.06	-0.31	0.28	0.14
O-Trust	26	0.05	0.00	0.07	0.06	-0.14	-0.19	0.08
S-Est.	26	0.06	0.05	0.14	0.07	0.16	-0.13	-0.28
O-Est.	22	0.06	0.01	-0.08	-0.02	0.09	-0.22	0.44
S-Intim.	25	-0.02	0.23	-0.14	0.06	0.17	0.01	0.02
O-Intim.	26	-0.07	0.09	0.23	-0.09	0.10	0.03	0.23
S-Cont.	24	0.13	0.12	0.15	-0.22	-0.01	-0.24	0.41
O-Cont.	26	0.10	0.15	-0.18	-0.06	0.08	0.27	-0.04

Note. C. F. - Compassion Fatigue; BDI - Beck Depression Inventory; TSI B. S. - Traumatic Stress Institute Belief Scale; F.Scale - Full Scale; S-Safety - Self-Safety; O-Safety - Other-Safety; S-Trust - Self-Trust; O-Trust - Other-Trust; S-Esteem - Self-Est.; O-Est. - Other-Esteem; S-Intim. - Self-Intimacy; O-Intim. - Other-Intimacy; S-Cont. - Self-Control; O-Cont. - Other-Control; PT - Prior Trauma; Exp.X PT.X C. - Exposure X Prior Trauma X Cope.

a - significant prior to removal of outliers

*p<.05; ** p<.01; *** p<.001

Emotional Social Support Seeking

Cross-sectional data.

The coping hypothesis also was tested when a helper's coping efforts were assessed by her frequency of emotional social support seeking. As previously noted, the evidence in support of the coping hypothesis would be indicated by a negative regression coefficient for the three-way interaction (i.e., ExposureXPriorTraumaXCoping). This prediction was based on the literature describing the increased risk of distress for those helpers who have a trauma history and who tend to seek little emotional social support to offset their distress.

When a helper's coping efforts were assessed by frequency of emotional social support seeking, the cross-sectional data did not support the coping hypothesis. According to the results, presented in Table13, no significant three-way interactions were detected.

In the absence of significant support for the coping hypothesis, several findings reported in Table 14 revealed a significant moderating effect of prior trauma on the relationship between distress and coping. Specifically, the relationship between social-support seeking and distress was found to differ between helpers who did and did not have a history of prior trauma. When graphed, these findings revealed a helper's greater support-seeking efforts was associated with lower levels of distress, provided she had not experienced a trauma of her own. These relationships involved specific indices of beliefs concerning: 1) the trustworthiness of others (Other-Trust); 2)the degree of connection one feels with one's internalized sense of self (Self-Intimacy); and 3) one's ability to take direction from others (Other-Control). In support, prior to the removal of outliers, a helper's prior trauma was found to moderate additional relationships between social support seeking and distress, as measured by disruptions in global and specific beliefs of the TSI Belief Scale (e.g., Full-scale, Self-Safety, Other-Safety, Self-Trust, and Self-Control). In contrast, the level of distress reported by the PH group did not vary in relation to the frequency of social support seeking. Figure 4 illustrates the relationship between social support and distress which is representative of the findings of the present study.

Table 14.

Emotional Social Support Seeking: Analyses of Exposure, Prior Trauma and Coping Hypotheses using Length of Crisis-Line Experience as the Exposure Variable

Distress Variable	n	Standardized Regression Coefficients						
		Main Effects			2-way Interactions			3-Way
		Prior Trauma	Exposure	Cope	Exposure X PT	Exp. X Cope	Cope X PT	Exp. X PT X C.
C. F.	49	**0.38***	-0.18	0.09	0.24	0.05	0.25	0.15
BDI	52	0.28	0.01	0.06	0.21	-0.04	0.17	-0.20
TSI B.S.								
F. Scale	48	0.03	**-0.33***	**-0.33***	0.15	0.01	0.40[a]	0.10
S-Safety	51	0.04	**-0.39****	-0.05	0.06	0.03	0.37[a]	0.01
O-Safety	51	0.05	-0.22	-0.24	0.31	0.11	0.42[a]	-0.07
S-Trust	50	0.06	**-0.37****	**-0.31***	-0.03	-0.10	0.41[a]	0.05
O-Trust	51	-0.09	-0.27[a]	**-0.62****	-0.13	-0.06	**0.50***	-0.05
S-Est.	50	0.04	-0.11	**-0.33***	0.00	-0.07	0.17	-0.12
O-Est.	50	0.23[b]	**-0.28*[c]**	-0.16	0.17	0.08	0.24	0.25
S-Intim.	52	0.03	0.07	**-0.69****	**-0.41***	-0.17	**0.61****	-0.02
O-Intim.	50	0.27	**-0.30***	-0.04	-0.04	-0.03	0.06	0.16
S-Cont.	48	0.12	-0.19	**-0.36***	0.01	-0.13	0.44[a]	0.05
O-Cont.	52	0.16	-0.25[a]	-0.13	0.13	-0.14	**0.56***	-0.08

Note. C. F. - Compassion Fatigue; BDI - Beck Depression Inventory; TSI B. S. - Traumatic Stress Institute Belief Scale; F.Scale - Full Scale; S-Safety - Self-Safety; O-Safety - Other-Safety; S-Trust - Self-Trust; O-Trust - Other-Trust; S-Est. - Self-Esteem; O-Est. - Other-Esteem; S-Intim. - Self-Intimacy; O-Intim. - Other-Intimacy; S-Cont. - Self-Control; O-Cont. - Other-Control; PT - Prior Trauma; Exp. X Cope - Exposure X Cope; Exp.X PT.X C. - Exposure X Prior Trauma X Cope.

a - significant prior to removal of outliers

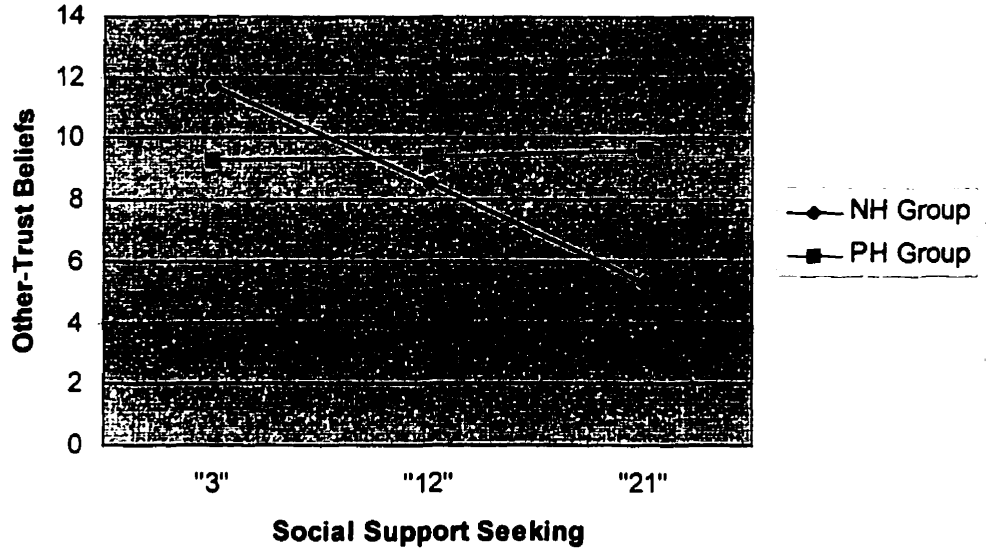
b-significant when coping not controlled

c- not significant when coping not controlled

*p<.05; **p<.01; ***p<.001

Figure 4.

Example of the Typical Findings of the Interaction between Prior Trauma and Emotional Social Support Seeking



In addition, a relation between greater emotional social support seeking and lower levels of distress was observed. These effects for coping are reported in Table 14 as negative regression coefficients. These results indicated that greater frequency of social support seeking was related to: 1) fewer global disruptions in fundamental beliefs (TSI Belief Scale - Full Scale); 2) greater confidence in the soundness of one's judgment (Self-Trust); 3) a lower tendency to perceive oneself as unworthy (Self-Esteem); and 4) fewer worries about maintaining control of one's emotions (Self-Control).

Further, a consequence of the investigation of the coping hypothesis was that the vulnerability, prior trauma, and exposure hypotheses were re-analyzed while controlling for the frequency of social support seeking. As noted, the simultaneous analyses of all four hypotheses influenced the findings regarding Other-Esteem beliefs (i.e., rendering the Prior Trauma main effect not significant, yet indicating a new contradiction of the exposure hypothesis, as compared to the findings reported in Table 9).

To summarize these cross-sectional findings, the coping hypothesis was not supported. No significant three-way interaction were found. However, a consistent pattern indicated that the relationship between a helper's coping efforts and her distress is often moderated by her history of prior trauma. Specifically, greater social support seeking was related to lower distress, but only for the group of helpers without a prior history of trauma. In addition, in the absence of higher order effects, the greater use of emotional social support seeking strategies was related to lower levels of distress, regardless of a helper's history of prior trauma.

Longitudinal Data.

The last set of analyses concerning the coping hypothesis examined the change in the helpers' distress over a four-month period, when coping was assessed as the frequency of emotional social support seeking. Again, a negative regression coefficient for the three-way interaction was required to support the coping hypothesis. The results of these analyses are reported in Table 15.

Four significant three-way interactions emerged describing the relationships between the number of crisis-line calls answered, her change in distress, the helper's trauma history, and her frequency of seeking emotional social support. These three-way interactions predicted the helpers' levels of distress, as assessed by the degree to which their fundamental beliefs had been disrupted. More specifically, these disruptions in beliefs concerned: 1) a less adjusted perception of self-worth (Self-Esteem); 2) an increasing lack of confidence in one's decision-making skills and one's personal judgment (Self-Control); 3) greater worries about one's personal safety (Self-Safety); and 4) an increasing tendency to decline direction from others (Other-Trust). These findings supported the coping hypothesis. As predicted, all the regression coefficients were negative lending support to the prediction that the greatest level of distress would be found in the group of helpers with a history of prior trauma, who had received many calls and who had sought little emotional social support.

The interactions involving the disrupted beliefs of Self-Safety, Self-Esteem, and Other Control all shared the same form when graphed. In contrast, the results for the disruptions in Self-Trust were slightly different and will be presented in another section. (See the results

Table 15.

Emotional-Social-Support-Seeking Coping: Analyses of Exposure, Prior Trauma and Coping Hypotheses using the Number of Calls Answered over Four Months as the Exposure Variable

Distress Variable		Standardized Regression Coefficients						
		Main Effects			2-way Interactions			3-Way
		Prior Trauma	Exposure	Cope	Exposure X PT	Exposure X Cope	Cope X PT	Exp. X PT X C.
C. F.	24	0.18	-0.17	-0.22	-0.38[a]	-0.01	-0.13	0.26
BDI	26	-0.10	-0.04	0.03	0.30	0.19	-0.21	0.02
TSI B. S.								
F. Scale	19	0.02	0.08	-0.06	-0.19	-0.08	0.08	-0.33
S-Safety	25	-0.26	-0.01	-0.28	-0.08	-0.17	-0.21	**-0.35***
O-Safety	26	-0.15	-0.42	0.27	**-0.63****	0.11	0.24	-0.11
S-Trust	25	-0.01	-0.05	-0.22	-0.14	**0.59***	-0.02	**-.53***
O-Trust	26	0.06	-0.04	0.06	0.01	-0.23	-0.09	0.18
S-Est.	26	-0.25	-0.23	-0.08	-0.21	-0.40	-0.07	**-0.54***
O-Est.	22	-0.36	-0.05	-0.46	-0.17	-0.15	**-0.63***	-0.05
S-Intim.	25	-0.04	0.28	-0.10	0.08	0.07	0.08	-0.24
O-Intim.	26	-0.06	0.03	0.07	-0.07	-0.10	0.38	-0.11
S-Cont.	24	0.09	0.20	-0.24	-0.06	0.34	0.00	0.04
O-Cont.	26	-0.25	-0.04	-0.22	-0.20	-0.38	-0.13	**-0.58***

Note. C. F. - Compassion Fatigue; BDI - Beck Depression Inventory; TSI B. S. - Traumatic Stress Institute Belief Scale; F.Scale - Full Scale; S-Safety - Self-Safety; O-Safety - Other-Safety; S-Trust - Self-Trust; O-Trust - Other-Trust; S-Est. - Self-Esteem; O-Est. - Other-Esteem; S-Intim. - Self-Intimacy; O-Intim. - Other-Intimacy; S-Cont. - Self-Control; O-Cont. - Other-Control; PT - Prior Trauma; Exp.X PT.X C. - Exposure X Prior Trauma X Cope.

a - significant prior to removal of outliers

*p<.05; **p<.01; ***p<.001

section entitled Narrative-based measures of coping outcomes: informing interpretations). A representative graph of the three three-way interactions appears in Figure 5. The figure depicts the relationship between distress and exposure as moderated by prior trauma, at three levels of emotional social support seeking: 1) Low (one standard deviation below the mean for the entire sample); 2) Medium (at the mean); and 3) High (one standard deviation above the mean). For each graph, greater scores reflect greater distress, as measured by disruptions in beliefs. These beliefs were measured at the end of the four months – the time during which the number of crisis calls were tabulated. The index of distress that appears on the Y-Axis, also controls for initial distress. For each graph, the number of crisis calls received over the four-month period are presented for a range defined by one standard deviation around the mean (i.e., 15 crisis calls).

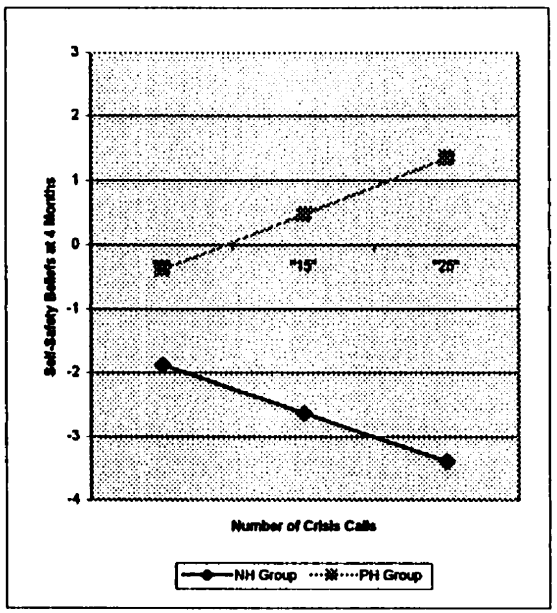
Figure 5 illustrates that the pattern of relationships between distress and exposure (for helper with and without a trauma history) differs when examined at various levels of emotional social support seeking. At lower levels of social support seeking, answering a greater number of crisis calls was associated with greater levels of distress for those helpers with a prior trauma history (i.e., the relationship described by the vulnerability hypothesis). Further, the distress levels of the PH group were elevated, as compared to those of the NH group (i.e., a main effect consistent with the Prior Trauma hypothesis.) However, at higher levels of social support seeking, a decline in disruptions was related to a greater number of crisis calls (i.e., a relationship that contradicts the vulnerability hypothesis).

In the absence of a significant three-way interaction, a new significant two-way interaction was indicated in Table 15. This finding revealed a moderating effect of a helper's history of prior trauma for the relationship between her distress and her frequency of seeking social support (i.e., a Coping X Prior Trauma interaction). Specifically, an increasing tendency to perceive others as malevolent was related to lower frequency of seeking social support, especially for helpers who had experienced a prior trauma. However, main effects that were not qualified by an interaction failed to emerge.

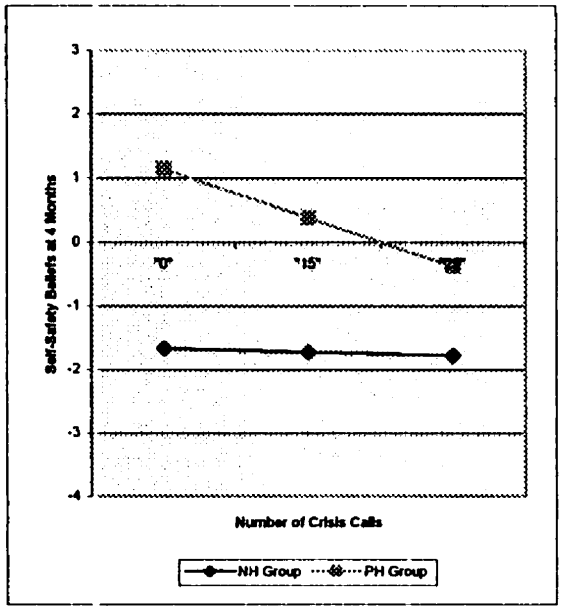
The analyses investigating the coping hypothesis also examined the other three hypotheses (i.e., the vulnerability, prior trauma, and exposure hypotheses). As noted in Table

Figure 5.

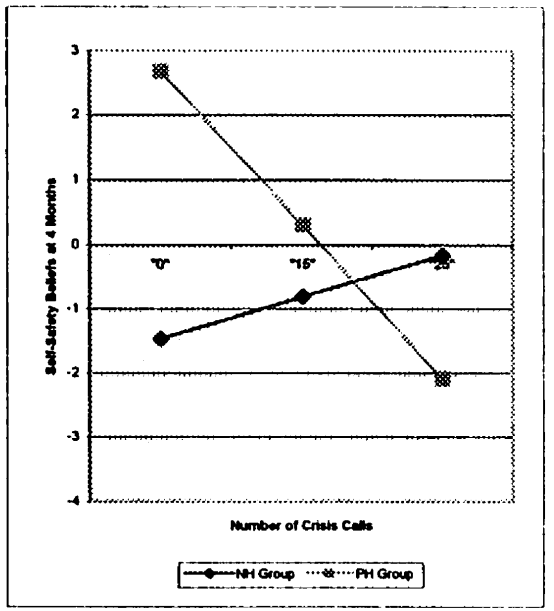
Representative Graph of Three-Way Interactions at Different Frequencies of Emotional Social Support Seeking: Self-Safety Beliefs



Low Social Support Seeking



Medium Social Support Seeking



High Social Support Seeking

15, the inclusion of emotional social support seeking appeared to reduce the statistical power of the tests associated with the ExposureXPrior Trauma interaction, especially influencing the Compassion Fatigue results.

In summary, this longitudinal investigation supported the coping hypothesis. Again, coping was assessed by the frequency with which helpers sought social emotional support. In addition, a helper's history of prior trauma was found to moderate the relationship between distress and her emotional social support-seeking efforts. Notably, when the tests of the coping hypothesis were graphically displayed, the relationship depicted at lower levels of coping were reminiscent of the vulnerability hypothesis. That is, a greater degree of exposure was related to greater distress in those helpers with a trauma history. However, this relationship was not observed at higher levels of social support seeking, as the PH group demonstrated an association between declining distress and increasing exposure at that level of coping.

Overall Summary and Comments Regarding the Investigation of the Coping Hypothesis

The coping hypothesis was tested for two specific coping strategies: avoidant coping and emotional support seeking. For each coping strategy, both cross-sectional and longitudinal data were used to evaluate the coping hypothesis. In this section, the similarities between the results concerning the different coping strategies will be reviewed, to more fully explore whether a helper's coping efforts offset the distress she may experience when helping others who have been traumatized. First, the results relating to the coping hypothesis will be reviewed, followed by a discussion of other consistent findings. Finally, the question of a possible parallel process was revisited.

The coping hypothesis received some consistent support when the helpers' coping efforts were assessed by their frequency of emotional social support seeking and their levels of distress were evaluated longitudinally. All the tests of the other possible three-way interactions yielded non-significant results. These tests included all the cross-sectional analyses and all of the analyses concerning the use of avoidant coping. All investigations were

likely compromised by low power due to the limited number of participants in the study.

In the course of these investigations, other consistent significant findings emerged for both coping strategies, and they involved a particular two-way interaction (i.e., CopingXPrior Trauma interaction) and a main effect for coping. The interaction is addressed first. More specifically, a pattern emerged indicating that the relationship between a helper's coping efforts and her distress is often moderated by her history of prior trauma (i.e., Coping XPrior Trauma interaction). Notably, the pattern of relationships yielded by both coping measures was surprisingly similar. The coping efforts of the NH group were related to decreases in distress whether the use of avoidant coping strategies or the frequency of emotional social support seeking was considered. In contrast, distress and coping efforts appeared to: 1) demonstrate an opposite relationship in the PH group when avoidant coping was considered, and 2) be unrelated in the PH group when emotional social support seeking was examined. This pattern suggested that the NH group may derive the most benefit from these coping strategies. This interpretation has important implications for the study of relationships between distress and exposure, especially when a heterogenous sample of helpers is studied (i.e., helpers with and without a trauma history). As previously stated, the pattern of relationships yielded by both coping measures was surprisingly similar. This similarity might be related to the social distraction component of the avoidant coping measure which also may tap social support. Indeed, the measures of avoidant coping and emotional support seeking were correlated ($r = .41$, $p < .01$).

The other consistency found across the examinations of the two coping strategies concerned a main effect for coping. Specifically, the declines in a helper's level of distress were associated with her tendency to use coping strategies. This relationship was consistent with theory, but only for the use of social support seeking. Indeed, the more frequent use of avoidant coping strategies should relate to greater levels of distress, according to the literature (Follette et.al., 1994; Schauben & Frazier, 1995; Wilson & Lindy, 1994). Only the PH group demonstrated this relationship in the present study. Again, these findings may be explained by the social diversion component of the avoidant coping measure which also may assess social support seeking (i.e., the Avoidant coping scale of the CISS-A includes a social diversion

subscale).

Further, the examination of the coping hypothesis required the tests of the three other hypotheses to be revisited. The analyses that included coping efforts as a moderator were compared with those that did not. The inclusion of the coping variable did not influence findings to a great extent. Rather some new findings that further contradicted the exposure hypothesis were observed when avoidant coping was controlled for in the analyses.

The investigation of the coping hypothesis was initiated, in part, to determine if a parallel salutatory process exists. As described, a helper's use of social support seeking strategies was found to moderate the relationship between exposure and longitudinal changes in distress, when the helper's history of prior trauma was also considered. This finding suggests that another factor might account for the cross-sectional findings. Specifically, as previously suggested, those helpers who experience less distress, may continue to volunteer, whereas others may quit. As such, the volunteers with a greater length of service are likely to represent a select group of volunteers who were able to cope with the distress associated with crisis-line work (Maslach & Jackson, 1981; Soto & Jones, 1981, cited in Jones). This interpretation may account for the cross-sectional findings that suggested lower levels of distress with greater exposure to traumatic material. However, this explanation does not account for the contradictory findings of the longitudinal results.[6] Further investigation of this process might include the examination of other coping strategies or the consideration of the effectiveness of coping, not merely the frequency with which coping strategies are applied (Aldwin & Revenson, 1987; Oakland, 1996; Thornton, 1992). To promote this line of investigation a narrative-based measure of coping was developed and evaluated; the results of this investigation are presented in the next section.

Exploration of Helping Narrative: Development of a new outcome-sensitive coping measure

In order to explicate the coping process that unfolds during a specific incident, helpers

were asked to provide narrative accounts of their experience of receiving a stressful call on the crisis line. Investigators have studied the ability of individuals to cope with specific traumatic events by using a narrative methodology (e.g., Folkman & Stein, 1995). As discussed in the introduction, after exploring several features of event-specific narratives, Folkman and Stein (1995) concluded that an important variable in the maintenance of psychological well-being was the ability of individuals to articulate goals that could be met successfully. Thus, the focus of the narrative investigation focused on the ability of the helper to articulate goals that she could achieve successfully.

Prior to implementing Folkman and Stein's (1995) coding scheme for quantifying the number of successfully-attained goals described in a narrative, the coding scheme was critically reviewed. As outlined in the introduction, a supplemental coding scheme was created to evaluate the implied goals that initially appeared as questions or appraisals of failure. Then, the narratives collected from the study participants regarding their most stressful crisis line experience were coded and quantified using both the Folkman and Stein (1995) scheme, henceforth referred to as the "Explicit" coding scheme, and the new supplement, henceforth referred to as the Implied coding scheme. The coding procedures are discussed in more detail elsewhere (See the Method and the Coding Manual in Appendix H).

The present study examined the feasibility of applying these narrative-based measures to assess the effectiveness of a helper's coping efforts. This investigation concerned the following questions: 1) are these measures reliable?; 2) what are the descriptive statistics for these measures?; and, 3) are these measures valid indicators of coping outcomes? The evaluation of the validity of narrative-based measures addressed: a) whether the number of successful goals represented a distinct feature when compared with other aspects of the same narrative; b) whether narrative-based measures of success were associated with existing indices of coping (i.e., social support seeking and avoidant coping strategies); and c) whether these indices perform as coping measures?

Given the consistent moderating effect of a helper's prior trauma history, preliminary analyses were conducted to assess whether the correlations involving the narrative-based measures were significantly different for the PH and NH groups. A moderated multiple

regression procedure was used to assess the comparability of the relationships between groups with and without a prior trauma history. In the event of a significant difference, the correlations will be presented separately for each group when the results addressing the questions enumerated above are reported.

Investigations of Reliability

Investigations of the reliability of the coding scheme involved two steps, conducted on 25% of the analyzed narratives. First, the reliability with which goals were identified in a given narrative were assessed. Narratives were parsed into phrase-units and two independent raters categorized the phrases as reflecting a goal statement or not. Cohen's Kappa was computed at 0.78 for goal identification. Any discrepancies in goal identification were settled through discussion, and this pool of goals was then evaluated by two independent raters . The raters determined the type of goal (Explicit vs. Implied) and the outcome of the goal (Success, Partial Success, Failure or Unknown). The Cohen's Kappa calculated for the type of goal was 0.78 and for the coding of goal outcome was 0.83, for successes only (Percent agreement between raters was 90.7% and 85.0%, respectively).

Descriptives

The descriptive data for a sample of 56 narratives describing the helpers' most stressful crisis line incidents are presented in Table 16. As previously described, the helpers' goals were identified by two coding systems (i.e., the Explicit and the Implied coding systems). Once identified, the outcomes of these goals were evaluated as successes or as failures. Thus, four possible categories were created, and these categories are presented below with illustrative examples of each type of goal:

1) Explicit Success (e.g., " I wanted to make her feel safe; I did, she told me so.")
2) Implied Success (e.g., "I couldn't connect with her..Finally, I felt that I reached her.")
3) Explicit Failure (e.g., "I wanted to save her, but I couldn't.")
4) Implied Failure (e.g.,"I didn't know what to say...I froze, I remained speechless.")

Although the thrust of this section concerned the examination of the goals appraised as successes, for the purposes of comparison, the data were presented for the goals that were evaluated as successes and failures for each coding scheme. The descriptive information presented below reflects the incidence of each type of goal appearing in the helpers' narrative of their most stressful crisis line experience.

Table 16.

Means (Standard Deviations) of the Number of Goals Described by Volunteers With and Without Prior History of Sexual Victimization

Coding Scheme	Total Group (n=56)	No History (n=29)	Positive History (n=27)
Explicit Success	10.2 (7.85)	8.7 (7.16)	11.6 (8.41)
Implied Success	2.0 (1.79)	1.8 (1.68)	2.1 (1.90)
Explicit Failure[a]	11.5 (8.98)	11.0 (7.82)	13.0 (9.93)
Implied Failure[a]	4.7 (4.50)	4.6 (4.85)	4.9 (4.15)

[a] Kappa for Coding Failures was .82

Assessment of Convergent and Divergent Validity

Although the narrative-based measures were found to be reliable, it was important to determine if they provided valid measures of the construct of the successful attainment of articulated goals. The validity of these indices will be evaluated in three ways: a) comparisons will be made with other features of the narrative; b) the relationships with existing coping measures will be explored; and c) since the attainment of goals was thought to correspond to a coping process, this measure was expected to demonstrate negative correlations with measures of distress (negative affect, and intrusive and avoidant ideation) and positive correlations with a measure of positive affect. As noted, prior to these investigations, the

analyses were conducted to ensure that the information gathered from the helpers could be combined regardless of the history of prior trauma. The analyses are presented separately by trauma group only when the relationships were significantly different as determined by a moderated multiple regression.

How do the number of successful goals differ from other features of the same narrative? The number of successful goals (i.e., the narrative-based measures of coping outcomes) was purported to tap a construct that differed from other features of the narrative, such as the length of the narrative or the number of failed goals described in the narrative. The following analyses addressed whether the number of goals articulated in a narrative was systematically related to the verbosity of the narrator or to the number of failed goals articulated.

The relationship between the number of successful goals and the length of the narrative was examined. The number of words comprising each narrative was computed. The relationship between the number of words in each narrative and the number of successful goals described was evaluated. The preliminary analyses indicated that the responses of helpers who had a prior trauma history could be combined with the responses of those who did not have this history because the moderated multiple regression addressing this question did not yield a significant interaction term. The length of a helper's narrative, as measured by word count, was found to be unrelated to the number of successfully articulated goals, as assessed by the Explicit Coding Scheme (r=.20, p=.14) and by the Implied Coding Scheme (r=.21, p=.12).

In addition, the coded variables derived from the same narrative did not correlate significantly (see Table 17). These findings lend support to the notion that coding procedures may be tapping different constructs. Notably, the relationship between the number of implied successes and explicit failures was significantly different for the PH and NH groups. As indicated in Table 17, all the inter-correlations were not significant, suggesting that the different variables coded from the same narrative were unrelated. However, the evaluation of the relationship between implied successes and explicit failures was limited by a small sample

size which likely contributed to these null findings. The trend towards a positive relationship between more explicit failures and more implied successes in the PH group (r=.34) might lead one to question the validity of these measures. However, this relationship is not surprising given the procedure for identifying implied successes (i.e., one method concerns the redefinition of an implied failed goal as a success, as described more fully in Appendix H). In support of this interpretation, the measures of failure are positively correlated (r=.30, p=.02), as noted in Table 17.

Table 17.

Correlations Among Narrative-based Measures

Narrative-Measure	Implied Success	Implied Failure	Explicit Failure	
			NH Group	PH Group
	(n=56)	(n=56)	(n=29)	(n=27)
Explicit Successes	.19	-.18	-.10	-.20
Implied Successes	-	.15	-.26	.34
Implied Failure	-	-	.30*	.30*

* p <.05

How do narrative-based measures compare with the existing coping measures?

The narrative-based measures of perceived success were anticipated to provide different information from the self-report questionnaires. Indeed, with the exception of a significant negative correlation between narrative-based measures and Emotional Support Seeking in the PH group, these measures of coping were not found to be significantly associated. The results are presented in Table 18. Due to the significant difference of the relationship between social support seeking and narrative measures in the NH and PH groups, the results are presented separately for each group (b(55)=-.55, p=.02).

As indicated below, the PH group demonstrated a significant association between lower frequency of emotional support seeking and higher frequencies of meeting both Explicit

and Implied goals successfully. These findings were significantly different from the relationship observed in the NH group that showed a trend towards greater attainment of goals and greater social support seeking. The findings presented above indicated that the narrative measures do not correspond well to established coping indices that assess the frequency with which coping efforts are used. Although there is a frequency component to the narrative measure (i.e., the number of successful goals are counted), this measure was designed to evaluate the effectiveness of coping efforts (i.e., success). As such these narrative measures were not expected to correlate strongly with the other indices of coping.

In addition, the relationship between emotional social support seeking and the narrative-based measures was consistently moderated by the helpers' histories of prior trauma, as assessed by the moderated multiple regressions conducted as part of the preliminary analyses. Rather than interpreting this finding as evidence to question the validity of narrative measures, this result may highlight: 1) the important difference between purely frequency-based and outcome-based assessments of coping efforts; or 2) the interdependence of coping strategies (i.e., differences in the strengths of the relationships may reflect the complementary use of a different strategy -- the frequency with which helpers use a particularly strategy may depend on the frequency with which they are employing other strategies). This issue will be revisited in the last discussion presented in this results section.

Table 18.

Correlations Between Narrative-based Measures and Coping

Narrative-Measure	Avoidant Coping	Emotional Support Seeking	
		NH Group	PH Group
	(n=56)	(n=29)	(n=27)
Explicit Successes	-.03	.29	-.43*
Implied Successes	-.01	.30	-.40*

* $p < .05$

Do narrative-based indices of success perform as coping measures?

It was expected that the ability to successfully achieve a goal would be related to higher levels of positive affect, lower levels of negative affect, and lower levels of intrusive and avoidant ideation. The results presented in Table 19 indicate that none of the predicted relationships was found to be significant.

These validity investigations may have been compromised by low power. Indeed, when the responses of volunteers who participated in the pilot study for this project were pooled with the responses of study participants (N=70), some of the predicted relationships reached significance. In particular, the ability to articulate successful goals correlated in the predicted directions with negative and positive affect. However, the measures of disrupted ideation did not demonstrate the predicted effects. It is possible that these results may be related to the attenuation of these thoughts which occurred over a different period of time for each helper (i.e., the period of time between the event and the collection of the narrative was not controlled). A more complete reporting of these results appears in Table 20.

Table 19.

Correlations Between Narrative Measures and Impact of Event

	Affect		Ideation	
Narrative Measure	Positive (n=56)	Negative (n=56)	Intrusive (n=56)	Avoidant (n=56)
Explicit Successes	.23	-.10	.00	-.02
Implied Successes	.12	-.17	-.05	-.01

*p <.05

Table 20.

Correlations between Narrative Measures and Impact of Event in an Expanded Sample

Narrative Measure	Affect		Ideation	
	Positive (n=70)	Negative (n=70)	Intrusive (n=70)	Avoidant (n=70)
Explicit Successes	.27*	-.21 '	-.00	-.07[a]
Implied Successes	.13	-.22 '	-.05	-.05

[a] - significant prior to removal of outliers

' p <.10; *p<.05

Summary.

In summary, the investigation of narrative-based measures of coping indicated that these indices are: 1) reliable, 2) independent, and 3) valid measures of coping effectiveness.

Application of Narrative Coding Schemes as a Coping Measure

The narrative-based measures were used to assess how articulating and evaluating goals relates to the distress experienced by crisis line helpers. Given that coping patterns have been shown to differ depending on a woman's personal history of sexual trauma, prior trauma may also influence the way in which she articulates and evaluates her goals concerning her crisis line work. Thus, the analyses were computed by addressing the possible influence of prior trauma by including it as a moderating variable. This exploratory question was assessed with cross-sectional data to determine how managing specific incidents predict more global appraisals of distress.

The results presented in Table 21 and Table 22 indicated that narrative-based measures may assess the outcome of coping processes. The use of the Explicit coding measure revealed that lower levels of disrupted beliefs were associated with a greater number of successful

goals articulated in a helper's narrative account of her most stressful crisis-line experience. When the implied scheme was applied, the relationship between the helpers' disrupted beliefs and the narrative-based success evaluations differed significantly between groups of helpers with different trauma histories. Invariably, the group of helpers without a trauma history demonstrated a stronger association between fewer disrupted beliefs and a greater number of successes. In contrast, the PH group demonstrated an association between greater levels of disruptions and a greater number of successful goals. As previously discussed , this finding may be related to the association between increased failures and a greater number of implied successes.

Consistently, the ability to explicitly articulate goals that were successfully achieved was associated with higher levels of psychological adjustment, as documented in Table 21. Amongst these findings, lower levels of depressive symptoms (BDI) were reported by the helpers who explicitly articulated successfully achieved goals in their narrative accounts of their most stressful crisis-line experiences. This finding supported a robust effect in the burnout literature which associates higher levels of perceived personal accomplishment with lower levels of emotional exhaustion: a construct similar to sub-clinical depression (Leiter, 1993).

When the narrative-based measures of coping were included in the analyses, the results indicated additional support for the prior trauma hypothesis. The PH group reported higher levels of distress, on average, than the NH group, as assessed by PTSD symptoms (Compassion Fatigue), depressive symptoms (BDI) and disruptions in beliefs concerning a helper's esteem for others (Other-Esteem), her perceived connectedness with others (Other-Intimacy) and her willingness to take direction from others (Other-Control, but for Explicit successes only).

Table 21.

Coping Outcomes Measured as Explicit Successes: the Relationship between Coping, Prior Trauma and Distress

DistressVariables	n	Standardized Regression Coefficients for:		
		Main Effects		2-way Interaction
		Prior Trauma	Coping	Coping X Prior Trauma
C. FATIGUE	53	**0.36****	-0.16	-0.02
BDI	56	**0.33***	**-0.27***	-0.03
TSI BELIEF SCALE				
Full Scale	52	0.14	**-0.39****	0.01
Self-Safety	55	0.05	**-0.34***	-0.16
Other-Safety	55	0.12	-0.02	0.12
Self-Trust	54	0.19	-0.18	0.06
Other-Trust	55	0.22	**-0.37****	-0.03
Self-Esteem	54	0.13	-0.22	0.01
Other-Esteem	54	**0.28***	**-0.30***	-0.17
Self-Intimacy	56	**0.16***	-0.21	-0.18
Other-Intimacy	54	0.29	**-0.27***	-0.25
Self-Control	52	0.22	-0.13	0.05
Other-Control	56	**0.27***	**-0.49*****	.099[a]

Note. C.Fatigue=Compassion Fatigue Self-Test for Psychotherapists; BDI=Beck Depression Inventory
a - significant prior to removal of outliers
*p<.05; **p<.01; ***p<.001

Table 22.

Coping Outcomes Measured as Implied Successes: the Relationship between Coping, Prior Trauma and Distress

DistressVariables	n	Standardized Regression Coefficients for:		
		Main Effects		2-way Interaction
		Prior Trauma	Coping	Coping X Prior Trauma
C. FATIGUE	53	**0.35***	-0.20	0.08
BDI	56	**0.28***	-0.09	0.15
TSI BELIEF SCALE				
Full Scale	52	0.14	-0.20	0.25[a]
Self-Safety	55	0.03	-0.21	0.37[t]
Other-Safety	55	0.17	-0.40[t]	**0.41***
Self-Trust	54	0.21	-0.35	**0.47***
Other-Trust	55	0.21	**-0.29***	0.12
Self-Esteem	54	0.15	-0.21	0.17[a]
Other-Esteem	54	**0.28***	-0.25[t]	0.27[a]
Self-Intimacy	56	0.12	0.03	**0.44***
Other-Intimacy	54	**0.29***	-0.17	0.08
Self-Control	52	0.23[t]	-0.01	0.02
Other-Control	56	0.23	-0.11	0.23

Note. C.Fatigue=Compassion Fatigue Self-Test for Psychotherapists; BDI=Beck Depression Inventory
a - significant prior to removal of outliers
*p<.05; ** p<.01; *** p<.001; [t]p<.10

Narrative-based measures of coping outcomes: informing interpretations

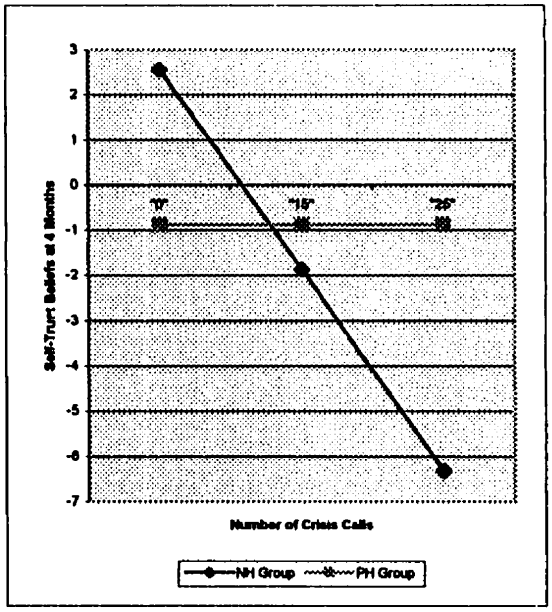
The following section is included to illustrate the possibility that coping efforts are interdependent. A greater understanding of the interrelationships of coping strategies and their complementary impact on distress may be informed by the integration of the "behaviour" of the individual coping strategies, especially if the outcomes of coping efforts are considered. While investigating the coping hypothesis by considering social support seeking efforts, a fourth three-way interaction was mentioned, but it was not described in detail. Thus, this three-way interaction concerning the disruptions in beliefs about the soundness of one's personal judgment and the confidence in decision-making skills will be presented and discussed. Notably, the interpretation of this finding was informed by the investigation of narrative-based coping measures. Specifically, the three results integrated in this interpretation include: 1) the three-way interaction predicting Self-Trust beliefs (i.e., CopingXExposureXPrior Trauma, as reported in Table 15); 2) the relationships between narrative-based measures and distress (i.e., Implied success interaction that favors the NH group, and the Explicit success findings that demonstrates a trend suggesting a main effect of coping); and 3) the relationship between narrative-based measures and coping outcomes that is significantly moderated by a helper's history of prior trauma.

Below, Figure 6 depicts the findings of the three-way interaction predicting Self-Trust Beliefs. Again, a greater score on the Self-Trust scale indicates greater disruption in these beliefs (i.e., a lack of confidence in decision-making abilities). These Self-Trust beliefs were measured at the end of the four months – the time during which the number of crisis calls were tabulated. The index of distress that appears on the Y-Axis, also controls for initial distress. Each graph in Figure 6 represents the relationships as evaluated at different levels of social support seeking: Low (one standard deviation below the mean), Medium (mean levels) and High (one standard deviation above the mean). For each graph, the number of crisis calls received over the four-month period are presented for a range defined by one standard deviation around the mean (i.e., 15 crisis calls).

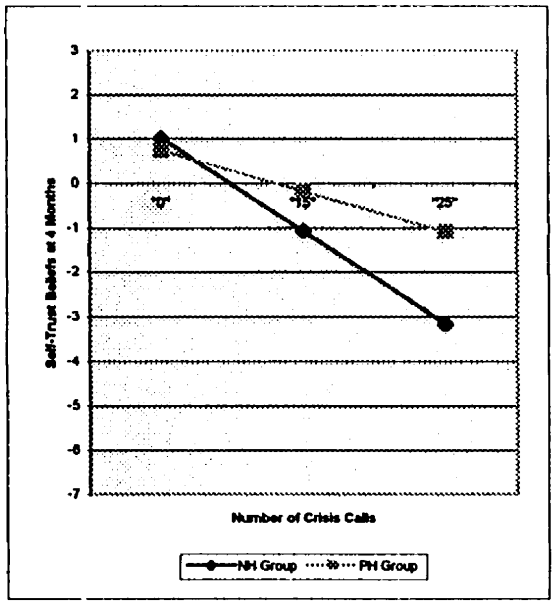
The interpretation of the three-way finding was especially informed by the relationship between outcome-sensitive narrative-based measures of coping and the frequency of social

Figure 6.

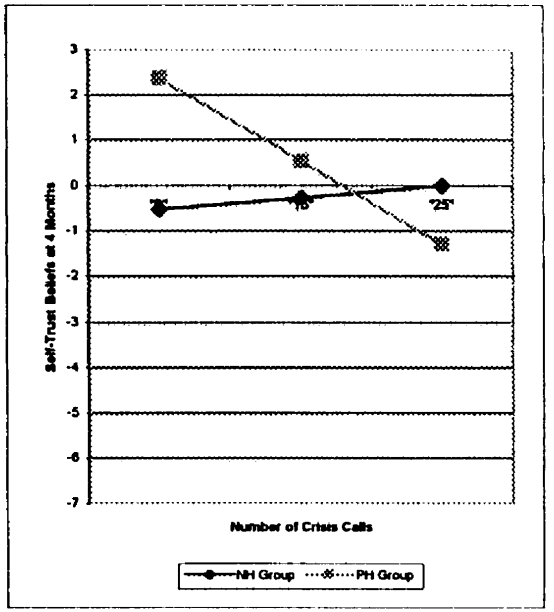
Three-Way Interaction at Different Frequencies of Emotional Social Support Seeking for Self-Trust Beliefs



Low Social Support Seeking



Medium Social Support Seeking



High Social Support Seeking

support seeking, which differed between groups of helpers depending on whether they had experienced a trauma of their own. Again, these relationships indicated that those helpers with a trauma history sought less social support in relation to the greater number of successful goals articulated in their narratives (See Table 18). In contrast, the other group of helpers sought more social support in relation to increasing success. As mentioned, this relationship supports Wilson and Lindy's (1994) position that helpers with a prior trauma history may feel more personally responsible for helping others and may, consequently, seek less social support.

The following interpretation integrated these relationships. First, changes over time in both groups, as a function of exposure, seem to suggest a practice effect. That is, greater experience on the crisis line, as measured by the number of calls, is related to greater confidence in one's personal judgment. However, this effect is not pervasive. At lower levels of social support seeking, the PH demonstrate little change in these beliefs related to the number of calls they answer. A similar pattern is observed in the NH group, but at higher levels of social support seeking. A causal, albeit speculative, interpretation is that if the helpers in the PH group feel confident about the soundness of their personal judgement, they take more personal responsibility for crisis calls and do not seek social support. However, as their confidence begins to wane they may seek out more support to ensure that they are offering proper support to callers. Under these condition their confidence in their decision-making skills may improve with support and practice. In contrast, in the absence of a personal experience with trauma, the other helpers may seek feedback and support from peers to reassure themselves of their ability to support others who have been traumatized. This external feedback, may complement the increases in confidence that result from direct crisis line experience (i.e., exposure as measured by the number of crisis calls received). Clearly, a multi-faceted approach to assessing coping efforts can inform interpretations and generate questions to be confirmed by future research.

Discussion

The purpose of this study was to investigate the marked variability in distress experienced by helpers who provide support to sexually victimized individuals. Current theories converge to provide four possible explanations: the exposure hypothesis, the prior trauma hypothesis, the vulnerability hypothesis, and the coping hypothesis. According to the vulnerability hypothesis, those helpers with a history of prior trauma are more vulnerable to experiencing distress, compared to their peers who have no trauma history and who have been exposed to the same degree of traumatic material. The prior trauma hypothesis concerns the elevated baseline in disruptions in psychological adjustment that would be expected in helpers if they had experienced a prior primary trauma. The exposure hypothesis posits that helpers will become increasingly distressed as they are exposed to greater amounts of traumatic material. The coping hypothesis suggests that the helpers' coping efforts influence the strength of the relationship between their distress levels and their level of exposure while considering that this relationship is also influenced by their personal history of sexual assault.

In addition to testing these hypotheses, this study also addressed how differences in methodology might influence the results. In particular, these methodological questions were driven by an inconsistency in the literature which produced mixed support for these various hypotheses. In particular, the ways in which the analyses were conducted and the ways in which the degree of exposure was measured appeared to have an impact on results. In the present study, the tests of the hypotheses were sensitive to interactions amongst the variables and were conducted with the same sample using both cross-sectional and longitudinal methodologies. The degree of exposure experienced by helpers was examined with different indices. The variety of measures of exposure in the literature may arise from the fact that the basic unit of the measurement of exposure is not described clearly by theorists. Finally, in order to explore a possible base-unit of exposure, the experiences of helpers were studied at the level of a single incident.

Also, this study attempted to demonstrate the value of considering the coping hypothesis

alongside the vulnerability, the prior trauma, and the exposure hypotheses. Prior investigations have largely neglected the role of coping efforts when studying the relationship between exposure and distress. To demonstrate the importance of considering a helper's coping efforts, the analyses were conducted first without this moderating variable, and the analyses were compared. Further, investigations examined the possibility that a helper's prior trauma history moderates the relationship between her distress and her coping efforts. In order to address the limitations of coping inventories and to determine if the coping process could be examined at a micro level, the use of an outcome-sensitive narrative-based measure of coping was explored.

Tests of Hypotheses

The present study recognized the interdependence of the vulnerability, prior trauma, and exposure hypotheses and, therefore, conducted concurrent analyses addressing these questions. The degree of support for hypotheses was found to vary as a function of the methods used to investigate these questions and whether the coping hypothesis was tested simultaneously. The results pertaining to the tests of the four hypotheses will be discussed separately.

Vulnerability Hypothesis

The present study provided little evidence to support the notion that, when exposed to traumatic material, the helpers with a personal history of trauma are more vulnerable to disruptions in psychological adjustment than their peers who do not have a trauma history. Indeed, the cross-sectional findings contradicted the vulnerability hypothesis, as the group of helpers without a trauma history experienced a significantly stronger association between increased exposure and disruptions in beliefs regarding the self. Indeed, the selective disruptions in self-intimacy beliefs of the volunteers without a prior history was consistent with the pattern of correlations reported by Pearlman and MacIan (1995) and Slover's (1998) longitudinal results.[7] Slover's (1998) longitudinal study revealed that significant disruptions in self-intimacy beliefs were reported, over a six-month interval, by those volunteers without a

prior trauma history, but not by those helpers with a trauma history.

Similarly, the longitudinal data of the present study suggested that the group with a prior trauma history demonstrated less distress over time when answering an increasing number of crisis calls. Specifically, the contradictory evidence indicated that helpers with a prior trauma history reported fewer PTSD symptoms (Compassion Fatigue) and fewer disrupted beliefs concerning the safety of loved ones (Other-Safety), as they answered more crisis calls.[8]

Prior Trauma Hypothesis

Of all the hypotheses tested, the prior trauma hypothesis received the most consistent support. That is, helpers with a history of primary sexual trauma were found to have elevated baselines of disrupted psychological adjustment, as compared to their helping peers who did not have a trauma history. Again, the prior trauma hypothesis is a main effect of a helper's prior trauma history, and this effect was predicted to emerge in addition to the interaction predicted by the vulnerability hypothesis (i.e., two separate but additive effects were predicted). Helpers with a prior trauma history were found to demonstrate more PTSD symptoms (Compassion Fatigue), and greater disruptions in fundamental beliefs regarding the degree to which they esteem (Other-Esteem) others or feel connected to others (Other-Intimacy). As such, these findings are not entirely consistent with Cunningham's (1997) results. She found that therapists with a history of prior trauma reported greater disruptions in beliefs concerning self-safety, self-esteem and other-esteem, as measured by the TSI Belief Scale. In addition, when outliers were retained in the analyses of the present study, helpers with a prior trauma history, on average, reported more depressive and PTSD symptoms. In the present study, the prior trauma hypothesis could only be tested with the cross-sectional data, as the longitudinal data analytic procedures would have partialled out the variability required to address this question. Although support of this hypothesis was consistent, in that no significant findings suggested the opposite relationship, the findings were not observed pervasively, as expected.

The way in which the prior trauma history group was defined may have introduced a limitation that worked against findings support for the prior trauma hypothesis. It is possible

that the inclusion criteria for the group was too narrow, as only those helpers with a personal history of rape or incest were included in this group. The use of an historical event variable has been criticized by Pearlman and her colleagues (McCann & Pearlman, 1990; Pearlman & MacIan, 1995) for not being sufficiently sensitive to the respondents' appraisals of trauma. To address this concern, measures of perceived trauma were included in the present study. These were individual items drawn from the Compassion Fatigue Self Test for Psychotherapists (Figely, 1995) which asked the respondents to indicate on a five-point scale (ranging from "Rarely/Never" to "Very Often") their answers to the following questions: "I have had first-hand experience with traumatic events in my adult life" and "I have had first-hand experience with traumatic events in my childhood" (See Appendix F for a copy of this scale). Unfortunately, using this index of prior trauma, only 8 of the 57 participants would have qualified for the group of helpers without a trauma history, as defined by these measures. Thus, the investigation of this variable was not pursued because of the poor representation in the no-trauma-history group. Other researchers have encountered similar difficulties when a broader assessment of prior personal trauma was employed (e.g., Truman, 1996).

This difference in distributions has important implications for the study of a helper's reaction to the traumatic material of others, as the helpers can be considered to form a homogeneous group or a heterogeneous group depending on the researcher's definition of a prior trauma history. In the present study, a helper's history of rape or incest consistently moderated the relationship between: 1) the amount of exposure to traumatic material and her level of distress; and 2) her coping efforts and her level of distress. Given these findings, other researchers investigating similar questions are encouraged to consider whether the traumatic events in the helper's personal history map onto the traumatic material that he or she may encounter in the helping relationship (e.g., do helpers who assist traumatized veterans have a combat-related trauma of their own).

Exposure Hypothesis

The question of whether the amount of exposure to traumatic material is related to disruptions in the psychological adjustment of helpers was addressed with both cross-sectional

and longitudinal data. When exposure was measured as the number of months that a crisis-line helper had been providing service, the study findings were consistent with those in the literature that measured length of experience (Cunningham, 1997; Pearlman & MacIan, 1995; Simmonds, 1996). Although consistent with other findings, these results do not support the exposure hypothesis, as longer service was associated with fewer disruptions in psychological adjustment. Notably, on average, all helpers demonstrated fewer disruptions in beliefs in relation to longer crisis-line service. In particular, the disrupted beliefs of helpers were found on measures of: 1) an overall assessment of disruptions in fundamental beliefs (TSI Belief Scale -Full Scale; 2) concerns about personal safety (Self-Safety); 3) the degree of confidence in one's personal judgment (Self-Trust); 4) increased feelings of being disconnected from others (Other-Intimacy); and 5) the tendency to view others as trustworthy (Other-Trust, but only if outliers were included in the analysis). These findings contradicted the exposure hypothesis.

When the crisis-line helpers were studied longitudinally, the support for the exposure hypothesis varied according to the data analytic techniques chosen. The findings did not support the exposure hypothesis. Indeed, the following significant findings contradicted predictions. In part, these results may have been influenced by the restricted range of the exposure variable. When outlying information was retained in the analyses, additional support for the exposure hypothesis was provided by the findings that a greater number of crisis calls received over a four-month period was related to increased disruptions in basic beliefs concerning self-worth (Self-Esteem), the trustworthiness of others (Other-Trust), and the safety of loved ones (Other-Safety). These findings are consistent with Slover (1998) who reported that volunteers experienced disruptions in self-worth beliefs (i.e., self-esteem beliefs) over time. Unfortunately, the corresponding results of the present study are highly suspect because the exposure variable (i.e., the number of crisis calls answered in a four-month period) violated the assumption of normal distribution (See Footnotes 2,5 and 6).

Coping Hypothesis

The findings related to the coping hypothesis will be reviewed and discussed, in turn.

Specifically, the tests of the coping hypothesis will be discussed first. Then, the other findings involving the two coping strategies will be presented by first considering the CopingXPrior Trauma interaction and, then, the main effects for coping. Finally, a discussion of the new findings revealed by the inclusion of coping variable in the analyses will be addressed.

The Coping Hypothesis.

The moderating effects of the use of two coping strategies were explored in two contexts. Although both social support seeking and avoidant coping strategies were examined, only a helper's emotional social support seeking was found to moderate the relationship between distress and exposure, when her history of prior trauma was also considered. However, these findings were found only when longitudinal data were examined. All the tests of the coping hypothesis were compromised by low power and the limitations of coping measures that assessed the frequency, instead of the effectiveness, of specific coping strategies.

Two questions emerged from the results that provided inconsistent support for the coping hypothesis. First, why did avoidant coping fail to demonstrate moderator effects in the longitudinal analyses? Perhaps this measure of coping was too closely associated with the indices of distress. For example, a cardinal feature of PTSD symptoms is the increase in avoidant thoughts. Thus, there may have been an overlap between the avoidant coping measure and measures of distress. Another possible explanation was that the avoidant coping measure was not as reliable as the measure of social-support seeking and did not meet the .80 cutoff proposed by Pedhazur (1982) as the minimum reliability index that a measure should have to be used in a moderated multiple regression analysis. A third possibility concerned the differences between the scope of the two indices of coping, as the avoidant coping measure tapped more general coping styles, whereas the index of social support seeking was tailored to assess the frequency of strategies used to cope specifically with crisis-line experiences.

The second question raised concerned why the evidence of a moderating relationship was restricted to the longitudinal investigations. Perhaps this finding supports the idea that the number of crisis calls received provides a "purer" measure of exposure, insofar as coping efforts can make a greater independent contribution to the results because they do not bias the

assessment of exposure (i.e., create conditions for the differential attrition of distressed volunteers). As well, the data analytic strategy may have also controlled other individual differences, and this reduction in variance may have allowed for the detection of the expected moderator effects.

Another issue introduced by the evaluation of the coping hypothesis was the importance of distinguishing the relative disruptions from the relative enhancements of psychological adjustment. That is, a differential rate of gain is conceptually different than the disruptive process proposed by the vulnerability hypothesis. This issue was raised by contrasting the significant coping hypothesis results for disruptions in self-trust beliefs with the other significant findings supporting the coping hypothesis. In some ways, this finding is consistent with Slover's (1998) report that volunteers' self-ratings of personal accomplishment increased, on average, after six months of service.

The CopingXTrauma Interaction.

When investigating the coping hypothesis, a helper's history of prior trauma was found to moderate the relationship between her coping efforts and her distress. This interactive relationship was suggested by Wilson and Lindy (1994), as they proposed that the frequency with which coping strategies were implemented, may differ between the two groups, likely affecting the relationship between coping efforts and distress. All of the coping variables, which included avoidant strategies, social support seeking, and the narrative-based measures, demonstrated relationships with distress that were moderated by a helper's prior trauma history. It is not clear whether this moderator effect can be explained by the differences in the frequencies of coping strategies used in these two groups; these differences may have restricted the range of one variable lowering the magnitude of the correlation. Or, perhaps, these differences may have reflected important differences in the choice and implementation of coping strategies between these two groups.

This last interpretation of the moderating effects was best illustrated by the discussion of the relationships between coping efforts, exposure, and the disruption in a helper's beliefs regarding the soundness of her personal judgement (Self-Trust). As discussed, a helper tends

to gain more confidence in her judgment with increased practice (i.e., her disruptions in self-trust beliefs decline as she answers more crisis calls). However, helpers with a history of prior trauma may only seek social support if they are not able to articulate goals that can be achieved successfully, in order to preserve their confidence in their decision-making abilities during this "practice" phase. In contrast, the group of helpers who do not have a prior history and who articulate goals that can be achieved successfully, also tend to seek more social support. This interpretation suggests that the two groups appear to "choose" their coping strategies differently. Again, this interpretation is consistent with the example provided by Wilson and Lindy (1994), describing helpers who have a history of prior trauma as feeling more responsible for helping and, consequently, seeking less social support.

These complex relationships raise an important question: what does a low frequency of coping really mean? An argument can be made for the interdependence of coping efforts and for the importance of research addressing this issue. In addition , the effectiveness of coping efforts and the causal pathways relating coping and distress require further investigation (e.g., is the increasing mistrust of taking direction from others a function of not seeking social support when necessary? Or, does that perception dissuade helpers from seeking social support?).

The Main Effects for Coping

Several main effects for coping were noted, but only for the cross-sectional analyses. When social support seeking efforts were considered, an increased frequency of coping was related to reductions in distress, as measured by disrupted beliefs (i.e., Full-Scale, Self-Trust, Other-Trust, Self-Esteem, Self-Intimacy, Self-Control). A similar pattern was observed when avoidant coping efforts were considered (i.e., TSI Belief Scale - Full Scale, Self-Esteem and, when outlying data was retained, Other-Intimacy). Given that this finding contradicts prior research (e.g., Follette et. al., 1994; Schauben & Frazier, 1995), these results may have been unduly influenced by the social diversion component of this measure of avoidant coping.

Test of the Other Hypotheses.

The inclusion of a coping variable had a slight impact on the results of the simultaneous analysis of the vulnerability, prior trauma, or exposure hypotheses when the cross-sectional data were considered. However, the inclusion of coping variables in the analyses allowed for the detection of significant effects that: 1) were reminiscent of the vulnerability hypothesis; 2) supported the prior trauma hypothesis, but 3) contradicted the exposure hypothesis. Specifically, the graphs depicting the significant tests of the coping hypothesis resembled the relationship proposed by the vulnerability hypothesis, when the findings were examined at lower levels of social support seeking. Under these conditions, the helpers with a prior trauma history demonstrated greater disruptions over time when answering an increasing number of telephone calls. In particular, their distress was related to: 1) lower appraisals of self-worth (Self-Esteem); 2) a greater concern about personal safety(Self-Safety); and 3) an increasing fearfulness and rigidity in accepting direction from others (Other-Control). Given that the theories addressing the risks of helping others who have been traumatized have largely neglected the coping efforts of these helpers, it is not surprising that the evidence supporting the vulnerability hypothesis was found at lower levels of coping.

Similarly, the exploratory examination of narrative-based coping measures yielded several findings in support of the prior trauma hypothesis. That is, the group of helpers with trauma history demonstrated elevations relative to the NH group across all three domains of distress (i.e., PTSD symptoms, depression and disrupted beliefs). In contrast, the new evidence concerning the exposure hypothesis consistently contradicted predictions.

Summary

Overall, the tests of the vulnerability, prior trauma, exposure, and the coping hypotheses yielded somewhat consistent findings over the various investigations. Both cross-sectional and longitudinal investigations produced findings that suggested that the psychological adjustment of helpers with a prior history of trauma may improve when they are exposed to the traumatic material of others. For example, the longitudinal investigation revealed that declines in Compassion Fatigue were related to answering more crisis line calls for those

helpers who had a similar history of trauma. This relationship was replicated when the helper's belief patterns were examined. Disruptions in the helpers' beliefs (i.e., self-safety, other-esteem and other-control beliefs) were found to decline in the group of helpers with a prior history of trauma when these relationships were evaluated for higher levels of social-support seeking.

Based on these results, future investigations of how the degree of exposure relates to changes in a helper's distress are apt to be misleading if the helper's history of prior trauma and her coping efforts are not considered simultaneously. That is, the relationship between exposure and distress was often qualified by a helper's history of prior trauma and her coping efforts. Future research should also consider: 1) whether the helpers' history of prior trauma maps onto the traumas of the clients they assist; 2) whether more frequent use of coping strategies correlate with greater effectiveness or the use of other coping strategies; and 3) whether a particular index of coping is best suited to the investigation of these theories (e.g., a measure of frequency versus effectiveness, or an assessment of coping styles versus strategies specific to certain situations).

Impressions of Methodology Changes: Did these Alterations Make a Difference?

The findings of the current study varied depending on whether data were examined in cross-sectional or longitudinal analyses. Although this study was able to replicate some of the cross-sectional counter-theoretical findings reported by other investigators (e.g., Pearlman & MacIan, 1995), it would appear that these hypotheses are best tested longitudinally. In addition to the conceptual reasons outlined in the introduction (e.g., the importance of studying how particular individuals change over time and ruling out the possible effects of attrition), some of the longitudinal results suggested complex relationships among variables. That is, the longitudinal results supported the idea that the independent contributions of prior trauma, exposure, and coping could be teased apart, with respect to their impact on distress. Indeed, these finer-grained analyses provided a greater understanding of how the theoretical predictions can be applied to a group of volunteers who are exposed to the traumatic material of crisis line callers. Importantly, the longitudinal investigation addressed the possible threat

of differential attrition yet revealed evidence that contradicted the vulnerability hypothesis. That is, the longitudinal findings suggested that helpers with a prior history of trauma become more psychologically adjusted when exposed to more trauma stories.

Narrative-based Measures: the Feasibility of Assessing Coping Outcomes

Since coping efforts were shown to elucidate the relationship between exposure and distress, the possibility of measuring the effectiveness of coping efforts at the level of an incident was explored. To address the limitations of evaluating coping through a general inventory, a narrative-based measure of incident-specific coping successes was examined. This investigation was conducted to determine if it was feasible to study the coping process using this narrative-based technique. These narrative-based measures were found to be reliable, to demonstrate an independent contribution, and to show promising validity.

These narrative measures were used to explore the relationship between coping outcomes and distress. An increasing number of explicitly articulated goals, which were successfully achieved, was associated with lower levels of distress, as measured by depressive symptoms (BDI) and disrupted beliefs (TSI Belief Scale). Then, the goals that were inferred from the narrative were evaluated to determine if they had been achieved successfully (i.e., an implied success). When these implied successes were examined, all helpers, on average, demonstrated an association between the number of successful goals and stronger beliefs about the trustworthiness of others (Other-Trust). However, the relationship between distress and the number of successes was significantly different (i.e., often opposite) in the trauma and no-trauma groups. Those helpers without a prior-trauma history demonstrated fewer disruptions. A greater number of implied successes was related to lower distress levels in the NH group and higher distress levels in the PH group. It is important to note that the counter-intuitive behaviour of the PH group may be influenced by a confounding tendency to describe more failures when experiencing a greater number of implied successes. To clarify, the measure of implied successes for the PH group showed a trend toward a positive correlation with both narrative-based indices of failure, as reported in Table 17.

These narrative measures of coping may relate to more global indices of coping or to a

helper's self-evaluation of personal accomplishment. Indeed, the examination of the relationship between coping efforts and distress at this micro-level replicated a consistent finding in the burnout literature that had been previously investigated solely with questionnaires. Further, this micro examination of goal process was integral to the speculative discussion, presented earlier. That is, the helpers with a prior history of trauma, who appraised their goals as successfully achieved, appeared to have more confidence in their personal judgment and sought less social support.

Possible Interpretations of the Counter-to-prediction Results: the Existence of a Parallel Process

Many of the significant results of the present study contradicted the basic postulates of the current theories explaining the distress experienced by helpers who assist traumatized individuals. These contradictory results suggested a parallel process that may selectively promote the psychological well-being of helpers with a history of prior trauma. These findings indicated that enhanced psychological adjustment may accompany increased exposure to traumatic material, especially when a helper with a prior history of trauma frequently seeks emotional social support. Although this relationship is consistent with the effects of a process that facilitates psychological well-being, it does not describe the mechanism that buffers helpers against distress nor that enhances their well-being. If the counter-theoretical findings of the present study are upheld by future research, it will be important for the explanatory theories (i.e., Vicarious Traumatization, Compassion Fatigue and Countertransference theories) to address the possibility of a buffering mechanism. That is, to fully account for the variability in helpers' reactions, the theories may need to specify and integrate a mechanism that explains the enhanced psychological adjustment that some helpers experience when exposed to the traumatic material of others.

Limitations of Study (Alternative Explanations for Findings)

Although this study was designed to address the limitations of previous research, interpretation of the findings must be qualified by several limitations. The main contributions

of this study were the use of a longitudinal methodology and the inclusion of coping efforts as a moderator variable in analyses. As such, the discussion of the limitations of the study concerning these points will be emphasized, over discussions of the limitations of cross-sectional research which have already been presented in the Introduction. First, the limitations regarding the measure of exposure employed in longitudinal analyses will be addressed with respect to the possible confounding variables and the restriction of range created by the omission of outliers. Then, issues relating to the size of the population sampled will be reviewed with consideration to the initial sampling and attrition rates during the longitudinal portion of the study. Finally, limitations in terms of the generalizability of the findings are discussed.

Measuring the number of crisis calls received over a four-month interval was anticipated to provide an improved measure of exposure, but it may represent one of this study's major limitations. Initially, this measure was chosen because it represented the amount of exposure over a given time frame, and this type of variable has been shown to yield consistent support of hypotheses in prior research (Chrestman, 1996; Munroe, 1991). In addition, since this measure was gathered longitudinally, it was assumed that this variable would be less susceptible to retrospective bias. Unfortunately, the act of gathering this information longitudinally may have introduced confounds and may have reduced the number of participants included in the analyses. These two confounds are discussed below, followed by a discussion of reductions in power directly related to the longitudinal exposure measure.

First, one confound may have been introduced by the need for participants to complete log sheets used to compute the number of calls received during a four-month interval. For example, those participants who were vigilant about completing the log sheets may have differed systematically in some way from those who did not. This difference may have influenced the way they responded to traumatic material. To illustrate, a possible confound might involve a personality trait such as Conscientiousness (Costa & McCrae, 1998). It is possible, that a conscientious participant may carefully log all calls, but she may also approach her crisis line work differently, such as feeling more personally responsible for soothing a caller in distress. Notably, the different settings were approached to determine if they kept a

record of calls received by each volunteer. All centers reported that they keep summary statistics only, and do not record information in a way that identifies the volunteer. Thus, third-party reporting was not an option for this study.

Another limitation of the longitudinal exposure measure concerns the relationship between the number of calls received and the number of shifts completed. These variables were found to be correlated. The implication for the exposure measure is that although the number of calls are randomly distributed over shifts, helpers controlled the number of shifts they completed. As such, some helpers may use a preventative coping strategy of limiting their shifts. Thus, these volunteers may systematically lower their exposure to traumatic material. Indeed, during the interview portion of the study, many helpers commented about the importance of drawing firm limits regarding crisis line commitments.

As well, the removal of outliers particularly influenced the findings related to any analyses concerning exposure as measured by the number of crisis calls received. When outliers were retained, the variable was not normally distributed (See Footnote 2). For example, when analyses were run with all participants, three new findings provided support for the exposure hypothesis. Clearly, the need to correct the distribution of this variable to meet assumptions of normality may have restricted the range and reduced power in a way that worked against finding support for hypotheses. Indeed, the present study reported results for which all outliers had been removed for all analyses. This procedure undoubtedly reduced power and restricted the range of variables in all analyses.

The issue of power was a pervasive concern in other aspects of this study because of the small sample size. Null findings may be related to low power. This power issue may be exacerbated by three factors: 1) a small effect size that may have resulted from too short a time-frame in the longitudinal study (e.g., Slover (1998) used a six-month time frame); 2) the attenuation of trauma symptoms over an uncontrolled period of time (an issue mainly for the examination of the validity of narrative-based measures); and 3) some measures which demonstrated low reliability when applied to this group of study participants (see Appendix E). The measures found to have limited reliability as measured by Cronbach's Alpha include: the Beck Depression Inventory and the sub-scales of the Traumatic Stress Institute's Belief

scale (i.e. Other-safety, Other-Esteem, Self-Control and Other-Control). The unreliability of these measures may be related to the fact that they were not normed on a population of volunteers. However, it must be noted that at times the lack of support for the hypotheses stemmed from findings that were significant, but not in the direction predicted by hypotheses, suggesting sufficient power for some analyses.

Attempts to increase the sample size introduced other study limitations. In particular, it was necessary to recruit participants from different settings and to pool the responses of staff and volunteers. Although findings from preliminary analyses suggested that the groups from different sites were comparable, these statistical tests were often limited, and in some cases prohibited, by the low sample sizes. Thus, the procedures used to evaluate differences may not have sufficient power to detect differences between settings. Indeed, a body of research suggests that the psychological adjustment of workers is related to the characteristics of their work setting and not to their specific job tasks (see Leiter, 1991, for a review). These job-related environmental variables were not assessed in this study. In addition, these settings may have been differentially effected by history variables, such as the 1996 cutbacks in provincial funding that occurred during the data collection phase of this study. The concerns expressed by helpers during the collection of narrative accounts suggested that the centers were being effected in different ways by these changes.

Another limitation concerned the further reduction in sample size from the shift from cross-sectional to the longitudinal phase of the study. Although attempts were made to ensure that the participants who chose to continue with the study were not systematically different from those who did not, these analyses were limited by sample size. Thus, it is possible that significant differences existed but were not detected because of low power. In addition, the variables examined to determine comparability were not exhaustive. As such, those who continued to participate may differ from those who did not in terms of different coping strategies, personality traits, or some other factor that was not tested explicitly.

Some of the limitations of this study restrict the degree to which findings can be generalized. Most importantly, it is unclear whether these results can be generalized to female helpers who work on sexual-assault crisis lines, as the initial participation rates in the centers

rarely exceeded 50%. The generalization of findings may be further reduced because of the concerns around possible limitations of the study created by attrition rates. Also, the study only explored the experiences of helping others who had been sexually traumatized, as such the results may not be applicable to the volunteers working with victims of other traumas. Similarly, the criteria for inclusion in the prior trauma group required that the participants had a history of sexual trauma involving rape or incest. As such, the relationships of the helper's experience with other kinds of primary traumas, such as a physical abuse history, were not addressed in this project. This limitation may be especially relevant given the dual mandate of the Guelph site (i.e., crisis calls concerned both physical and sexual abuse issues). Further, the sample studied were exclusively female and may not generalize to the experiences of male volunteers.

Future Directions

Despite the limitations of this study, it suggests some directions for future research. Indeed, some suggestions for new investigations have been mentioned throughout this discussion. As such, this section will simply recap some of these possibilities.

In particular, the results indicated that coping efforts need to be considered alongside investigations of the vulnerability, prior trauma, and exposure hypotheses. For example, the helpers' coping efforts should be included as a moderator when investigating the hypotheses related to why some helpers develop symptoms comparable to the traumatized clients they assist. Also, investigators might more fully examine the moderating effect of a prior trauma history on the relationship between distress and coping efforts. Specifically, does this moderating effect reflect differences in how coping efforts are chosen by helpers with and without a trauma history? As well, the question of whether a parallel, yet beneficial process influences the distress levels of helpers, requires further investigation. In particular, this investigation might focus on the detection of a process that accounts for the selective promotion of psychological adjustment in those helpers who have experienced a trauma of their own. Such a process was suggested by the findings of the current study, but it has not yet been identified.

Other investigations might address the question of whether the personal traumas of the helpers and their clients must be similar. Specifically, is the mapping of these traumas a necessary condition for the manifestation of the vulnerability hypothesis? This interesting question may extend this line of investigation to other traumas, such as natural disasters or war-related traumas.

Another direction for future research suggested by the present study is the examination of the relationship between exposure and distress at the level of a single incident. For example, a narrative-based measure of outcome-sensitive coping might be used to achieve a finer-grained analysis of the relationships between exposure and disruptions in psychological adjustment. As part of this line of research, investigators might further explore the nature of the goals articulated by helpers: Does the nature of successes experienced by the helper vary as a function of experience, prior trauma, exposure, or other coping strategies? The explication of the goal process may be important in understanding how volunteers offset the potential changes in psychological adjustment that they might experience as a result of helping others who have been traumatized. Also, future research should consider collecting multiple narrative accounts to conduct within-subject analyses.

Implications

The results of this study suggest that disrupted psychological adjustment is a risk associated with helping others who have been traumatized. In an extreme form, this distress may be in the clinical range, as evidenced by some of the helpers studied. Recognition of this issue should spur changes to training programs and to policies regarding mental health workers and volunteers. These changes should include educating helpers of this risk in training programs and in the creation of policies in mental health settings that are sensitive to case load considerations or to the need for respite (e.g., mental health days). In particular, it is hoped that these findings will bolster efforts of organizations to support their volunteer workers who may be especially at risk of experiencing the kinds of distress expressed by those they help.

Alongside the implication of risk, was the indication of resilience in some volunteers.

Indeed, the study findings suggest that conditions exist under which volunteers experience improved psychological adjustment when exposed to the traumatic material of callers. In support, volunteers often spoke of the sense of meaning that this work provided for them. Notably, the differential relationship between the coping efforts and the distress experienced by helpers with and without a trauma history suggested that helpers with different trauma histories "select" different coping strategies. As such, various coping strategies may be more or less effective for helpers depending on their personal history of prior trauma. This implication warrants some caution in terms of implementing a "one-size-fits-all" intervention in an attempt to promote more successful coping strategies amongst helpers.

The present study cannot speak directly to the processes that enable some volunteers to be more resilient in the face of exposure to traumatic material. Future research may address these questions in ways that will yield a better understanding of these processes. With this foundation of knowledge, preventative training programs may be developed and tailored with consideration to the helper's history of primary trauma. This intervention would better support those who take the risk to assist others who have been traumatized.

List of Appendices

Appendix A 108

Appendix B 112

Appendix C 115

Appendix D 116

Appendix E 119

Appendix F 120

Appendix G 121

Appendix H 122

Appendix I 131

Appendix A

Dear x,

Thank you for taking the time to discuss the possibility of working with the women from the Brantford Sexual Assault Support Center.

Although we have briefly discussed the study, I have attached some information that may be helpful to you. This summary touches on my background, my reasons for conducting this research and an overview of the type of research proposed. Also, I have tried to anticipate some of the questions that might arise and have provided answers to these. Please let me know if you require any more information.

If you or anyone from the center has other questions, I would be happy to address them. I am most easily contacted at my home telephone number (519) 725-4478; please call collect by dialing 0 before the number and pressing 8172 after hearing the tone to reverse the charges.

I am eager to learn how the project was received by the Brantford center. I would be happy to meet with you (and/or the women from the center) in Brantford to discuss any concerns or how we might best proceed.

Many thanks again for your time and interest. I'll be in touch next week.

Sincerely,

Kristine Belanger

Study of Vicarious Traumatization in Crisis Line Volunteers

Researcher:

Kristine Belanger is a doctoral student in the Department of Psychology at the University of Waterloo, working under the supervision of Dr. Donald Meichenbaum. She has spent the last year investigating the experiences of crisis line workers who volunteer at sexual assault support centers. She is currently working with the Guelph, Niagara, Peel, London and Ottawa centers. She hopes to continue this line of research by working with women volunteering at the Brantford Sexual Assault Support Center.

Reasons for the Research:

As many of you know, responding to other women in distress on a sexual assault crisis line is challenging work. At times, the work can be stressful, but at the same time quite rewarding. This study is designed to better understand the impact of crisis line work, and moreover, how women cope when helping others. In particular, we are interested in assessing the risk of vicarious traumatization (the tendency for individuals to develop symptoms which are similar to those of the traumatized individuals they help) and the factors which might protect women against this risk.

We believe that this work will help us to find more effective ways of preparing women for crisis line work and providing support to those already volunteering. We hope that our findings will be used to help volunteers cope with the "burnout" that is often associated with the demands of answering a sexual assault crisis line and to support these helpers who are giving their valuable time to their community. We are particularly interested in working with and supporting the volunteer community, given the climate of funding cutbacks which may place even greater demands on this helping resource.

Proposed Research:

The study consists of two phases. While we prefer that volunteers participate in both phases of the research, we recognize that some individuals may only have time for participating in Phase One. Phase One investigates the relationship between the volunteer's ways of coping, personal history and an account of her most stressful experience related to working on the crisis line. In addition to a 30-minute interview, participants will be asked to complete several questionnaires that should take about an hour. In total, the time commitment is not longer than one-and-a-half hours. Participants in this phase of the study need not be active on the crisis line, but they must have answered the crisis line at one time.

The second phase of the research addresses the various ways volunteers cope with their helping experiences. It is a diary study where participants will be asked to report their reactions on four separate occasions, each of which should take approximately 20 minutes. Since it is important to determine if volunteers reactions change over time, we need to ask the volunteers to complete the scales on a number of occasions. We expect that these four reports will be spread over four months, starting in March. Volunteers wishing to participate in the second phase should plan to be active on the crisis line for these months. In total, the time commitment for the second phase is not longer than two hours.

In both phases of the study, volunteers may "skip" any questions they feel they do not wish to answer. At the outset of the study, volunteers will select a codename to use instead of their real name in order to ensure that their responses remain completely confidential. They will not be identified by name in any way. The group findings from this study will be shared with all who work at the crisis line and should prove to be a valuable resource for the staff.

If you would like more information concerning this research project, please feel free to contact me at home by dialing 0 + 519 + 725-4478, and pressing 8172 after you hear a tone. Please leave a message indicating a time when it would be best for me to return your call. Thank you for your interest. We hope this study will further strengthen the ability of women to help one another.

Research Proposal: Questions and Answers

Q: Does the investigation of vicarious trauma focus on the negative?

A: No. Although we are interested in tracking how vicarious traumatization may develop in individuals, we are most interested in the factors that help people cope. Although we acknowledge the problem of vicarious trauma, our focus is on preventative factors. As such, we attempt to explore both the positive and negative impacts of working on the crisis line. Also, when we collect our data, we ask people to tell us stories of their experiences. Not only does this technique provide positive and negative experiences, but also it provides a context for the thoughts and feelings expressed by the volunteer.

Q: What steps are taken to ensure confidentiality?

A: This study does not compromise the confidentiality of the service provided by the crisis line. When the volunteers recount their experiences, they are asked not to name the caller and to focus their story on their thoughts and feelings around the call. In terms of the confidentiality of the center, the name of the organization and the location of its business office will remain confidential. In accounts of this study, the research participants will be referred to as "volunteers answering a sexual assault crisis line". In terms of the confidentiality of the individual participants, all of their materials will be identified by a codename, and these materials are kept in a locked office at the university. In addition, only group findings will be presented; the information provided by individual participants will not be released.

Q: What kinds of "personal history" questions will be asked in the initial interview?

A: Overall, we are interested in the volunteer's reasons for becoming a crisis line worker and how similar they may be to some of the women that they help. All interviews will be conducted by Kristine, who is currently being trained as a clinical psychologist. During the interview, Kristine will respect the individual differences in the way in which difficult life events are reported, giving extra time to those women who wish to talk and not pushing or demanding an answer from those who do not.

Q: Does this research evaluate the type of work done on the crisis line?

A: No. The research focuses on the volunteer and her experience of the answering the crisis line. Our investigation concerns the impact of offering help on the volunteer, rather than the impact of the help on the caller.

Q: Will this study interfere with the work being done on the crisis line?

A: When designing the study, we have tried to conduct our investigation in a way that does not interfere with the work of the crisis line. For example, in conducting our interviews, we simply gather information and do not comment on the volunteers' actions, provide guidance or advice. Also, we have tried to minimize the time commitment of the volunteers in several ways: we have streamlined the questionnaire package, we arrange all meetings and phone calls at their convenience, we collect our diary information by telephone, as opposed to written format, because it is more time efficient for the volunteer.

Q: Will we get feedback from the study?

A: Yes. Upon completion of the study, an executive summary of the results will be given to the volunteer coordinator. In addition, depending on participant interest, a meeting could be held to present results and field questions.

Other information:

If volunteers have any questions or concerns resulting from their participation in this study, they may contact Office of Human Research at the University of Waterloo at 885-1211 Ext. 6005.

Appendix B

Dear Volunteer or Staff Member,

As many of you know, responding to other women in distress on a sexual assault crisis line is challenging work. At times, the work can be stressful, but at the same time quite rewarding. This study investigates the different ways in which women cope when providing support to women who have been sexually assaulted. The study is being conducted as part of Kristine Belanger's doctoral dissertation through the Department of Psychology at the University of Waterloo and is being supervised by Dr. Donald Meichenbaum.

Given the prevalence of sexual assault in our society, this study is designed to better understand the impact of crisis line work, and moreover, how women cope when helping others. To investigate these issues, we need your help. We hope that you will take the time to share your experiences as a crisis line volunteer/staff or volunteer-in-training with us. We believe that your experiences will help us to find more effective ways of preparing women for crisis line work. We hope that our findings will be used to help volunteers and staff cope with the "burnout" that is often associated with the demands of answering a sexual assault crisis line and to support these helpers who are giving their valuable time to their community.

The study consists of two phases. Phase One investigates the relationship between your ways of coping, personal history and an account of your most stressful experience related to training or working on the crisis line. In addition to a 30-minute interview, participants will be asked to complete several questionnaires that should take about an hour. In total, the time commitment is not longer than one-and-a-half hours. The second phase of the research addresses the various ways volunteers cope with their helping experiences. It is a diary study where participants will be asked to record their reactions on about four separate occasions , each of which should take approximately 20 minutes. Since it is important to determine if volunteers reactions change over time, we need to ask you to complete the scales on a number of occasions. In both phases of the study, you may "skip" any questions you feel you do not wish to answer. However, we would greatly appreciate your answering all of the questionnaire items because we feel that each question is relevant to understanding the challenges encountered in working on the crisis line. At the outset of the study, you will select a codename to use instead of your real name in order to ensure that your responses remain completely confidential. You will not be identified by name in any way.

While we prefer that volunteers and staff participate in both phases of the research,

we recognize that some individuals may only have time for participating in Phase One. We greatly appreciate any help you can provide. This study has been fully endorsed and supported by the board of directors indicating their recognition of the importance of this research. Although we appreciate their endorsement, the final decision to participate in this study is yours. The group findings from this study will be shared with all who work at the crisis line and should prove to be a valuable resource for the staff.

If you would like more information concerning this research project or your decision to participate in the project, please feel free to contact me at home [Dial 0 + (519) 725-4478; after the tone press 8172]. This is a long-distance number that allows you to call free of charge. If I am not available when you call, please indicate a time when it would be best for me to return your call. This project has been reviewed and has received ethics approval by the Office of Human Research at the University of Waterloo. If you have any questions or concerns resulting from your participation in this study, please contact this Office at 885-1211 Ext. 6005.

Thank you, in advance, for your consideration of this request. We hope this study will further strengthen the ability of women to help one another. Please indicate on the attached page your willingness to participate and how we can get in touch with you. A self-addressed stamped envelope has been provided for your convenience. Thank you.

Yours sincerely,

Kristine Belanger

I agree to participate in a study being conducted by Kristine Belanger of the Department of Psychology under the supervision of Professor Donald Meichenbaum. I have made this decision based on the information I have read in the information-consent handout . As a participant in this study, I realize that I will be asked to complete several questionnaires and that I may decline answering any of the items, if I so choose. All information which I provide will be held in confidence and I will not be identified in any way in the final report. I understand that I may withdraw this consent at any time by ceasing to complete the questionnaires and diaries. I also understand that this project has been reviewed and it has received ethical approval through the Office of Human Research at the University of Waterloo and that I may contact this office if I have any concerns or questions about my involvement in this study.

I agree to participate in Phase One of this study
[self-report questionnaires (60 minutes) and a brief interview (30 minutes)]

YES NO
(Please circle your choice)

I also agree to participate in Phase Two
[diary study: four 20-minute samples to be individually negotiated]

YES NO
(Please circle your choice)

Participant's Name: _____ (Please print)
Participant's Signature: _____
Date: _____

To receive your information package, please complete the following information:

I am involved as a: CRISIS LINE VOLUNTEER VOLUNTEER IN TRAINING STAFF MEMBER
(Please circle your position)

My telephone number is: _____

The best time to reach me at that number is: _____
My address is:

_____
(STREET / APT)

_____
(CITY/TOWN)

_____
(POSTAL CODE)

Report Log Sheet

Please record and rate the calls that you received on your shift.

Date of Shift: _____

Call	Duration (in Minutes)	Have you spoken to this caller before? (circle your answer)	How distressed was the caller? (circle your answer using the scale described below)	How stressful was the call for you? (use the same scale to rate)
1.	_____	YES NO	1 2 3 4 5 6	1 2 3 4 5 6
2.	_____	YES NO	1 2 3 4 5 6	1 2 3 4 5 6
3.	_____	YES NO	1 2 3 4 5 6	1 2 3 4 5 6
4.	_____	YES NO	1 2 3 4 5 6	1 2 3 4 5 6
5.	_____	YES NO	1 2 3 4 5 6	1 2 3 4 5 6
6.	_____	YES NO	1 2 3 4 5 6	1 2 3 4 5 6
7.	_____	YES NO	1 2 3 4 5 6	1 2 3 4 5 6
8.	_____	YES NO	1 2 3 4 5 6	1 2 3 4 5 6
9.	_____	YES NO	1 2 3 4 5 6	1 2 3 4 5 6
10.	_____	YES NO	1 2 3 4 5 6	1 2 3 4 5 6
11.	_____	YES NO	1 2 3 4 5 6	1 2 3 4 5 6
12.	_____	YES NO	1 2 3 4 5 6	1 2 3 4 5 6
13.	_____	YES NO	1 2 3 4 5 6	1 2 3 4 5 6
14.	_____	YES NO	1 2 3 4 5 6	1 2 3 4 5 6
15.	_____	YES NO	1 2 3 4 5 6	1 2 3 4 5 6
16.	_____	YES NO	1 2 3 4 5 6	1 2 3 4 5 6
17.	_____	YES NO	1 2 3 4 5 6	1 2 3 4 5 6
18.	_____	YES NO	1 2 3 4 5 6	1 2 3 4 5 6
19.	_____	YES NO	1 2 3 4 5 6	1 2 3 4 5 6
20.	_____	YES NO	1 2 3 4 5 6	1 2 3 4 5 6

Very little or not at all	Less than average	An average amount	More than average	Much more than average	Most intense experience ever on the crisis line
1	2	3	4	5	6

Please circle the number of your <u>most stressful call</u> for your shift
(use the numbers that appear in the leftmost column of this page)
(you may want to jot some notes to cue your memory on the back of this sheet; please do not identify the caller in any way)

This questionnaire is used to learn how individuals view themselves and others. As people differ from one another in many ways, there are no right or wrong answers. Please place next to each item the number from the scale below which you feel most closely matches your own beliefs about yourself and your world. Try to complete every item.

0	1	2	3	4	5
Disagree Strongly	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Agree Strongly

_____ 1. I generally feel safe from danger.
_____ 2. People are wonderful.
_____ 3. I can comfort myself when I'm in pain.
_____ 4. I find myself worrying a lot about my safety.
_____ 5. I don't feel like I deserve much.
_____ 6. I can usually trust my own judgement.
_____ 7. I feel empty when I am alone.
_____ 8. I have a lot of bad feelings about myself.
_____ 9. I'm reasonably comfortable about the safety of those I care about.
_____ 10. Most people destroy what they build.
_____ 11. I have a difficult time being myself around other people.
_____ 12. I enjoy my own company.
_____ 13. I don't trust my own instincts.
_____ 14. I often think the worst of others.
_____ 15. I believe I can protect myself if my thoughts become self-destructive.
_____ 16. You can't trust anyone.
_____ 17. I'm uncomfortable when someone else is leading the group.
_____ 18. I feel good about myself most days.
_____ 19. Sometimes I think I'm more concerned about the safety of others than they are.
_____ 20. Other people are no good.
_____ 21. Sometimes when I'm with people, I feel disconnected.
_____ 22. People shouldn't place too much trust in their friends.
_____ 23. Mostly, I don't feel like I'm worth much
_____ 24. I don't have much control in my relationships.
_____ 25. My capacity to harm myself scares me sometimes.
_____ 26. For the most part, I like other people
_____ 27. I deserve to have good things happen to me.

CODENAME: _____ Date: _____

0	1	2	3	4	5
Disagree Strongly	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Agree Strongly

_____ 28. I usually feel safe when I'm alone.
_____ 29. If I really need them, people will come through for me.
_____ 30. I can't stand to be alone.
_____ 31. This world is filled with emotionally disturbed people.
_____ 32. I am basically a good person.
_____ 33. For the most part, I can protect myself from harm.
_____ 34. Bad things happen to me because I'm bad.
_____ 35. Some of my happiest experiences involve other people.
_____ 36. There are many people to whom I feel close and connected.
_____ 37. Sometimes I'm afraid of what I might do to myself.
_____ 38. I am often involved in conflicts with other people.
_____ 39. I often feel cut off and distant from other people.
_____ 40. I worry a lot about the safety of loved ones.
_____ 41. I don't experience much love from anyone.
_____ 42. Even when I'm with other people, I feel alone.
_____ 43. There is an evil force inside of me.
_____ 44. I feel uncertain about my ability to make decisions.
_____ 45. When I'm alone, I don't feel safe.
_____ 46. When I'm alone, it's like there's no one there.
_____ 47. I can depend on my friends to be there when I need them.
_____ 48. Sometimes I feel like I can't control myself.
_____ 49. I feel out of touch with people.
_____ 50. Most people are basically good at heart.
_____ 51. I sometimes wish I didn't have any feelings.
_____ 52. I'm often afraid I will harm myself.
_____ 53. I am my own best friend.
_____ 54. I feel able to control whether I harm others.
_____ 55. I often feel helpless in my relationships with others.
_____ 56. I don't have a lot of respect for the people closest to me.
_____ 57. I enjoy feeling like part of my community.
_____ 58. I look forward to time I spend alone.

CODENAME: _____ Date: _____

0	1	2	3	4	5
Disagree Strongly	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Agree Strongly

_____ 59. I often feel others are trying to control me.
_____ 60. I envy people who are always in control.
_____ 61. The important people in my life are relatively safe from danger.
_____ 62. The most uncomfortable feeling for me is losing control over myself.
_____ 63. If people really knew me, they wouldn't like me.
_____ 64. Most people don't keep the promises they make.
_____ 65. Strong people don't need to ask for others' help.
_____ 66. Trusting other people is generally not very smart.
_____ 67. I fear my capacity to harm others.
_____ 68. I feel bad about myself when I need others' help.
_____ 69. To feel at ease, I need to be in charge.
_____ 70. I have sound judgment.
_____ 71. People who trust too much are foolish.
_____ 72. When my loved ones aren't with me, I fear they may be in danger.
_____ 73. At times my actions pose a danger to others.
_____ 74. I feel confident in my decision-making ability.
_____ 75. I can't work effectively unless I'm the leader.
_____ 76. I often doubt myself.
_____ 77. I can usually size up situations pretty well.
_____ 78. I generally don't believe the things people tell me.
_____ 79. Sometimes I really want to hurt someone.
_____ 80. When someone suggests I relax, I feel anxious.

Appendix E

VARIABLES	Cronbach's Alpha for Data Collection Waves : Initial (N=56)	Initial Subset (N= 29)	Second Wave (N=29)
COMPASSION FATIGUE	.779	.82	.76
BDI	.66	.72	.74
TSI BELIEF SCALE			
Full Scale	.94	.95	.92
Self-Safety	.84	.79	.80
Other-safety	.67	.46	.55
Self-trust	.88	.82	.83
Other-trust	.85	.80	.83
Self-Esteem	.85	.73	.84
Other-Esteem	.75	.60	.82
Self-Intimacy	.77	.79	.83
Other-Intimacy	.85	.84	.81
Self-Control	.70	.70	.59
Other-Control	.66	.46	.65
EMO. SOC. SUP. COPE.	.82	N/A	N/A
AVOIDANT COPING	.77	N/A	N/A

Appendix F

Consider each of the following characteristics about you and your current situation. Write in the number for the best response. Use one of the following answers to fill in the blank next to the item number.

Rarely/Never	At Times	Not Sure	Often	Very Often
1	2	3	4	5

1) ___ I force myself to avoid certain thoughts or feelings that remind me of a frightening experience.

2) ___ I find myself avoiding certain activities or situations because they remind me of a frightening experience.
3) ___ I have gaps in my memory about frightening events.
4) ___ I feel estranged from others.
5) ___ I have difficulty falling or staying asleep.
6) ___ I have outbursts of anger or irritability with little provocation.
7) ___ I startle easily.

8) ___ While working with a victim (i.e. caller) I thought about violence against the perpetrator.

9) ___ I have had flashbacks connected to my clients (i.e. callers).
10) ___ I have had first-hand experience with traumatic events in my adult life.
11) ___ I have had first-hand experience with traumatic events in my childhood.
12) ___ I have thought that I need to "work through" a traumatic experience in my life.
13) ___ I am frightened of things a caller has said or done to me.
14) ___ I experience troubling dreams similar to those of a client (i.e. caller) of mine.
15) ___ I have experienced intrusive thoughts of sessions with especially difficult callers.
16) ___ I have suddenly and involuntarily recalled a frightening experience while working with a caller.
17) ___ I am preoccupied with more than one caller.
18) ___ I am losing sleep over a caller's traumatic experiences.
19) ___ I have thought that I might have been "infected" by the traumatic stress of some callers.
20) ___ I remind myself to be less concerned about the well-being of my clients (callers).
21) ___ I have felt trapped by my work as a crisis line volunteer.
22) ___ I have felt a sense of hopelessness associated with working with clients (callers).
23) ___ I have been in danger working with some crisis line callers.

Appendix G: Interview Format

i) Instructions for Narrative Accounts:

PHASE I:

"Please describe the most stressful event that you experienced as a result of answering the sexual assault crisis line"

PROMPTS. What happened? When did it happen? Who was involved (you don't need to use real names)? What made it stressful. What emotions did you feel? What made you feel [name of emotion].

PHASE II:.

"Please take time to describe the most stressful event that you experienced as a result of answering the sexual assault crisis line a week ago."

PROMPTS. What happened? When did it happen? Who was involved (you don't need to use real names)? What made it stressful. What emotions did you feel? What made you feel [name of emotion].

II) Personal History

To make the most sense of the information we are collecting, it is important for us to understand your personal reasons for becoming a crisis line volunteer and how similar you may be to the women you help. Could we take a few moments to discuss these issues?

1) What are your personal reasons for becoming a crisis line volunteer?
2) Have those reasons changed over time?
3) What motivates you to continue with this work?
4) It is not uncommon for women in our society to be a victim of a crime.

a) When asked about sexual abuse or mistreatment, many people tend to think about incidents in which they were attacked or mistreated by a total stranger. As you answer these questions, please remember that we need to know about all incidents of sexual abuse or mistreatment, not just those involving a stranger. So, please don't forget to tell us about incidents that might have happened when you were a child or those in which the person who tried to abuse or mistreat you was someone you knew, such as a friend, romantic partner, or family member.

i) Has anyone ever tried to make you have sexual relations with them against your will?

IF YES, What kind of support did you receive at that time?

ii) Has anyone ever attempted to rape you or actually raped you?

IF YES, What kind of support did you receive at that time?

iii) Have you ever had any other experience in which someone tried to molest you sexually - that is, they made serious unwanted sexual advances but did not attempt full sexual relations?

IF YES, What kind of support did you receive at that time?

iv) Have you ever been in a situation in which you were pressured into doing more sexually than you wanted to do; that is, a situation in which someone pressured you against your will into forced contact with the sexual parts of your body or their body?

IF YES, What kind of support did you receive at that time?

Appendix H

Coding Manual: Goal-Process Coding

Purpose:

This coding manual was used to identify the goals of a narrator and to determine whether these goals were successfully realized. The coding system described by Folkman & Stein (1995) was supplemented with a coding system which detects inferred goals, allowing documentation of those goals that would NOT have been captured by the original Folkman & Stein (1995) coding scheme.

Application:

This coding manual is applied according to the following procedure. A transcript of an account of a single stressful account is read by the coder (i.e. the individual using the coding scheme). After the initial reading, the coder reads the narrative again and follows the decision tree outlined in the attached flowchart to code identified goals and their outcomes.

Assumptions of the Decision Tree:

It is assumed that:

- that a goal is "a desire to go from one state to another or a desire to maintain a current state. Goals refer to any valued object, activity, or state that" the narrator wants to attain (Folkman & Stein, 1995).
- that the text needs to be read in simple sentences. Sentences are reworded to reflect one subject, one verb and one object. For example, "..you can't keep them talking or even on the line" is read as "you can't keep them talking, or even, you can't keep them on the line".
- only the narrator's goals are coded, for the goals of several individuals can be expressed in the narratives. Only statements involving the narrator (i.e. I or me or we), are coded as goals. That is, the narrator must own the goal or must claim responsibility for achieving the goal.

EXAMPLE: Personal goals for the narrator would include statements such as:
"I wanted to calm her down"
"I needed to read about it"
"I tried to remind myself"
...and general statements that appear in a context that is narrator-focused:
"you want to be there"
"Ultimately, you are the one that has to be the vehicle of change".
(" to be a vehicle of change" would be coded ONLY in the context of more self-focused statements of the narrator such as her reasons for joining the crisis line, or a discussion of how she actively manages her

emotions while answering crisis calls)

Narrator goals would NOT include :
"she didn't have a lot of choice"
"she needs to do the work herself"
"the caller wanted support from her partner".
"that decision couldn't have been made with her" (this is a belief of goals for others)
"people don't seem to be aware"
"this woman deserves more supports in her life than what she has"
"Ultimately, you are the one that has to be the vehicle of change".
(not coded in the context of the narrator wanting a woman seeking help to take more responsibility for herself)

- only goals are coded, even though beliefs (statements of how things are) and goal outcomes might overlap. Sometimes goals involve reaching certain belief states or mental states(see eg.). Belief statements may guide the narrator's behavior, and are considered to be goals. Also changes in beliefs that occur in the context of realization, may also mark changes in goal states, so these goals are identified.

EG: "I couldn't think clearly" (a belief, that implies the goal to think clearly)
"You have to let it go" (a belief, that implies a goal)
"You realize that you can't fix everything"
(a belief that the goal to fix everything is not tenable)

However, when narrator's speculate about their expectation (i.e. how things will be), then these beliefs are not identified as goals. For example, "I can't see her life becoming any better too soon". The rule of thumb is that beliefs phrased as future expectations, are not coded as goals unless they are written in the past tense: "I was expecting a little bit more support" or "I had hoped that things had changed".

Finding Goal tags:

Explicit and Inferred goal coding schemes: The narrator's goals are identified by looking for key words or tags that would indicate the presence of a goal. Since the key words employed by Folkman & Stein (1995) differ from those words signaling inferred goals, the method by which goals are identified will be discussed separately for the two different coding schemes. Ultimately, the identified goal is coded to indicate that scheme that was used to identify it (i.e.Explicit vs. Inferred).

I) Folkman & Stein (1995). The following key words are used to signal the presence of an EXPLICIT goal.
- statements of preference:
EG: liking, loving, missing, hating, avoiding, disliking, thankfully, unfortunately

- auxiliaries:
  EG: wish, want, decide, going to do, try to do, must do

- preposition attached to an action statement: such as "to", "for", or "in order to".
  EG: "I read in order to relax him"
  "I was taking him to the doctor when, "
  Note: when "to" is used as a tag, it must come before the verb
  e.g.: "to relate" is coded but "relate to" is not, unless another tag is present

Although the following tags were not listed by Folkman & Stein (1995) they can also be used to flag the Explicit statement of goals:

- Affective tags: emotion or "feeling" words that reflect affective states
  EG: afraid, bothered, happy, encouraged

- Statements of need: need, deserve, desire
  EG: "I need to understand why it happens"
  "I deserve respect"

- Statement of effort:
  EG: hard , easy, managed, handled, struggled, difficult, took a while

- statements of motivation or intent
  EG: "my intent", "my whole point"

II) Implied Goals: This supplemental coding scheme identifies goals that appear in "blocked" or "questioning" form.

- When stating a blocked goal, the narrator does not articulate the goal, but articulates the goal outcome as a failure. For example, the use of the words "I couldn't" implies that the narrator was unable to meet a goal. Most implied goals are identified by the following key words : wasn't, didn't feel, nothing, never, couldn't, didn't, have no idea. (MUST refer to the narrator (i.e. "I", "me" or "we")

EXAMPLES:
- "I couldn't be": goal to be some way
- "I can't concentrate": goal to concentrate
- "I wasn't ready or able": goal to be ready and able
- "I didn't feel...(comfortable, confident)": goal to feel comfortable/confident
- "nothing was furthered": goal to further something
- "you have no idea where to go": goal to know where to go
- "I was never good enough": goal to be good enough
- "I didn't know...(what to say/do)": goal to know what to say/do

NOTE: The statement "I didn't know" must refer to a specific action. As a rule of thumb, if you can replace I didn't know with "I had no idea" then it is a goal. For example,
"I didn't know what to say"= "I had no idea what to say" constitutes a goal,
BUT "I didn't know the area"="I had not idea the area" does not make sense, and is NOT coded as a goal

- Implied goals in "questioning" from are signaled by rhetorical questions or statements that the narrator makes that suggest that he/she is questioning a course of action. It is important that these statements be translated into goal stems before the descriptive coding scheme is applied.
EXAMPLES:
- "What can I say?": can be reworded as "I didn't know what to say"
- "How can I help?: inferred goal is to help
- "asking", "pondering", "wondering", "worrying", "concerning"
- "might" : "that might have triggered something else to happen" "might have stopped this"
- EXCLUDE thinking

Given that the flags for implied goals frequently appear in narratives some exclusionary criteria are described below.
EXCLUDE:

a) Statements of Fact: Simple statements of fact do not have a motivational component. That is, they do not suggest whether the narrator is wanting to approach, avoid or maintain, the opposite of the situation.
EG: "I haven't been on the line for that long" does not necessarily imply that they would like to have been on the line longer, and would be considered a statement of fact rather than an inferred goal.
EG: "I haven't had that many calls", this is more descriptive.

b) Statements of disbelief:
- "I couldn't believe"
- "I couldn't understand": be careful to ensure that this is in the context of disbelief, usually the person "couldn't understand" an atrocity (i.e. something that you wouldn't want to understand, thus it is not truly a goal but rather a statement of disbelief.

c) Conversational language: these are statements that come up in the context of the interview and do not really refer to the situation that the caller is describing but is more a way of carrying on a conversation with the interviewer.
- "I don't know": "I don't know, maybe I was feeling angry/how much detail you want"

- "I can't remember...(what happened next)": although this is a goal, it is a goal at the time of the interview and refers to the demands on the interview.

d) Unfamiliarity: Expression of unfamiliarity are not considered goals when they are stated in the past tense and are used to express the narrator's experience.
EG: "I never had to"

However, some statements of unfamiliarity are coded as goals when they concern the narrator's difficulty in establishing expectations. These statements should be included when inferred goals are identified.
EG: "I didn't know what to expect"
"I didn't know what was going to come up"

e) Double counting: Goals may be counted twice if they are articulated very close to an outcome statement. Double-counting occurs when two similar goals are identified using the inferred coding scheme. In the event that the goals are not both conducive or both not conducive to the narrator's well being (in this case both are coded), then only the goal that is worded in a direction that would support the narrator's well-being is coded. The other statement is used as an outcome.
EG: "not to pick up on panic" (goal to avoid panic)
"I tend to pick that [panic] up a little bit"(outcome:panic picked up)

In this example, only the first statement would be coded as a goal

BY THE END OF THIS STEP: A goal have been identified and coded as EXPLICIT or IMPLIED to indicate the coding scheme used to identify the goal (Folkman & Stein (1995) coding scheme vs. the Implied goals coding scheme).

Translating text into goal stems:

A goal stem is a standardized description of a goal statement. This translation is necessary to ensure that all goals are phrased, so that the narrator would experience or maintain a positive state if the outcome of the articulated goal was successful. For example, the statement "I didn't dwell on the call" could be translated as follows:

#1 - to dwell on the call: a successful outcome would not be conducive to well-being
#2 - to avoid dwelling on the call: a successful outcome is conducive to well-being

From this example, it is clear that the same goal can be interpreted and translated into various goal stems. The following procedure is used to ensure that goals are phrased in a direction that is conducive to well-being (see translation #2). In some ways, this

procedure in analogous to correcting the items that have been reversed coded before one sums items across a questionnaire.

The distinction between approach and avoidance goals was made to establish a coding framework or mind set which might help raters translate goals. Since goals are motivated behaviors, a goal may express an intent to move a person towards or away from a particular consequence.

Approach goal: desire to move towards a particular activity, state, or object usually in a way that would promote the individual's well-being.

Avoidance goal: a desire to avoid a particular activity, state or object in such a way that avoidance would contribute to the individual's state of well-being

To standardize the format used for goal stems the following rules are followed:

1) Goal stems are phrased to ensure that successful outcome of the goal (as indicated by the goal stem) correspond to a more desirable state for the individual, compared to the state experienced if the goal was not met.

2) All goal stems start with the word "to".
EXAMPLE:
"I wanted to help" becomes"to help"

3) Goal stems must remain as true to the text as possible. That is, the text is simply rearranged to fit the format. The introduction of new words is not permitted except under the following circumstances:

i) If the goal stem seems to run counter to the well-being of the narrator, then the words "to avoid" are included to "reverse" the goal to reflect well-being.
EXAMPLE: "I didn't want to be late" -> to avoid being late
(note that a logical equivalent [i.e. to be on time] is not acceptable).
"I couldn't be angry" -> to avoid being angry

ii) If an implied goal is identified by the questioning tags (i.e. rhetorical questions, "wondering", "asking myself", "worrying" etc...), then the goal stem begins with "to know...".
EXAMPLE: "What can I say?" -> to know what to say
"I kept asking myself why did it happen" -> to know why it happened.
"I worried about the child's fate" -> to know about the child's fate

iii) If the narrator uses the referents (i.e. "it", "that", "this") without qualifiers. In this case, the coder must return to the last clause to find the subject and

include this subject in the goal stem.
EXAMPLE: "I wanted to be able to do it" -> to ?
"All I could think of was calming her down, I wanted to be able to do it"
-> to calm her down

4) At times, narrators will use both approach and avoidance statements to phrase a conceptually similar goal. In this case, both goals are coded.
EG: "I was wanting to draw her out of it (approach) , not [to] push her back into it " (avoidance)
"I wanted her to be aware of her safety (approach), but I didn't want to make her paranoid (avoid)"
"I was trying to really stay focused.. on what was being said (approach), and not [to stay focused on} the childlike voice that saying [it] (avoidance)"

BY THE END OF THIS STEP: The coder has created a goal stem for the goal. The rules for creating goal stems will also indicate an "AVOIDANCE" goal if the stem begins with "to avoid..". In all other cases, the goal is considered an APPROACH GOAL.

Identifying Outcomes and Matching them to Specific Goals:

As narrative accounts unfold, the outcomes of goals articulated earlier in the narrative may be articulated or changed. For this reason, the outcome of a particular goal is tracked through the narrative and recorded. These outcomes are signaled by some key words such as "now", "just", "currently" and "at this point". Also, outcomes may be identified because they are expressed in words that match the "goal stems".

The outcomes are matched to specific goals by immediate proximity or by considering the overlap in the specific words used to describe both the goal and the outcome.
EXAMPLE: The goal stem "to help her" may have been identified, and toward the end of the account the narrator might say "I did help her". The overlap in words "help her" would be considered a match and the goal would be coded as a success.

1) Coding "Matched outcomes"
According to this scheme, the goals articulated in narratives may have various outcomes:

SUCCESSFUL: A goal is coded as a success when the narrator has been able to achieve the goal in its entirety.
HOW TO IDENTIFY: "I did it", "I got it", "I really accomplished a lot" or positive self talk such as "I made it!"

PARTIAL: A goal is coded as a partial when the narrator has been able to achieve

part, but not all, of the goal articulated.

HOW TO IDENTIFY: Partial outcomes may be tagged by "some" or "kind of". A rule of thumb for identifying partials involves thinking of the goal in quantitative terms. If some, but not all of the goal is achieve, it is coded as a partial.

For example, "I wanted to help her ... more than I did in just that one call". This example illustrates, that although some help was provided, it was only a partial success because the narrator wanted to do "more".

FAILURE: A goal is coded as a failure, if the narrator has not been able to achieve any part of the goal. Often failed goals are identified using the INFERRED coding scheme, for these goals appear initially in blocked (or failed) form.

HOW TO IDENTIFY OTHERS:
1) Proximity examples: "I really blew it", "It just didn't happen", "wasn't working"
2) If the goal stem of an inferred goal begins with "to know", it is coded as Failed
"to know what to say" ->FAILURE (she didn't know what to say)
3) When a desire to to "more" does not include reference to what has been done.
"I wish I could do more" (note how this is different than the example of the partial "more than I did", which acknowledges some help to the caller).

UNKNOWN: A goal is coded a unknown if there is no reference to outcome at the time that the goal is stated. This code may not change if the subsequent narrative does not provide outcome information that can be matched specifically to this goal.

HOW TO IDENTIFY: "maybe", "perhaps" or if no outcome is provided

2) Coding Outcomes by Applying Global outcomes to Specific Goals:
Global outcomes which do not "match" specific goals, according to the above rules, can be applied to specific goals. THIS PROCEDURE IS UNDERTAKEN ONLY AFTER ALL GOALS HAVE BEEN TRANSLATED AND CODED.

- Specific goals to "get through the call"
  - coded as failures in the event of a hang up
  - coded as successes if the following global statements: "I survived", "I was fine"

- Specific goals to "help", "handle the call", "deal with the call/caller"
  - coded as failures if a global "the call went badly"
  - coded as success if the following global performance-based statements made:

- "I did alright"
- "I did well"
- "I handled it well/fine"
- "I did my job"
- "I provided support"
- "she was good/calm/ okay/ in a better place"
- "it went well/good/okay"

(Does not include descriptions of narrator's state [e.g."I'm fine","I'm fine with it"])

- Specific goal to "know what to/say" or to avoid "doing/saying wrong thing"
  - coded as partial if the following global statements made:

    Caller-focused: (ALSO, corresponds to "avoid triggering/unbalancing")
    - "she was good/calm/okay/ in a better place"

    Call-focused:
    - "it went well/okay/good"
    - "we left it good"
    - "it ended well"
    - "things are fine with both [the caller and the helper]"

    Helper-focused:
    - "it was a learning experience"
    - statements about being able to handle or not worry about next call

3) Coding Implied Successes

At times, it is not possible to match an outcome with a specific goal. Positive outcomes that are not matched to specific goals are identified as Implied successes. The implied successes are only coded in the portion of the narrative following the question "Where does the call stand for you now?"

Examples: "I don't dwell on the call"
"Now, I've forgotten about the caller"
"I did release it [the call}, I let it go"

BY THE END OF THIS STEP: The goal identified in STEP 1 and STEP 2 have been coded to reflect their outcomes. It is important to note that although the final outcome for each goal is documented, so are the intermediate outcomes. In this way, the process of articulating and reaching goals has been documented.

Using Codes to Generate Variables:

The variable of interest is the number of successful goals that an individual can articulate, relative to all the goals he/she sets for him/herself. It represents a count.

Appendix I

Table I1
Inter-correlations of Distress Measures

	BDI	TSI Belief	Comp.Fatigue	Int. Id.	Avoid.Id.
BDI	-	.530**	.526**	.228	.185
TSI Belief	-	-	.692**	.149	.146
Comp. Fatigue	-	-	-	.267*	.205
Intrusive Ideation	-	-	-	-	.370

* - p<.05
** p <.01
BDI - Beck Depression Inventory
Comp. Fatigue - Compassion Fatigue Scale
Int. Id. - Intrusive Ideation
Avoid. Id. - Avoidant Ideation

Table I2

Correlations of TSI Belief Scale with its Subscales

SS	OS	ST	OT	SE	OE	SI	OI	SC	OC
.75**	.68**	.81**	.79**	.83**	.80**	.60**	.83**	.82**	.71**

SS- Self-Safety, OS - Other-Safety, ST - Self-Trust, OT - Other-Trust, SE - Self-Esteem, OE - Other-Esteem, SI - Self-Intimacy, OI - Other-Intimacy, SC- Self-Control, OC - Other-Control
* - p<.05
** p <.01

Table I3

Intercorrelations of the TSI Belief Scale

	SS	OS	ST	OT	SE	OE	SI	OI	SC
S-S	-								
O-S	.54**	-							
S-T	.57**	.54**	-						
O-T	.46**	.32*	.61**	-					
S-E	.55**	.61**	.68**	.58**	-				
O-E	.48**	.59**	.62**	.67**	.65**	-			
S-I	.51**	.31*	.49**	.54**	.26	.73**	-		
O-I	.52**	.48**	.64**	.65**	.71**	.70**	.34*	-	
S-C	.58**	.50**	.60**	.57**	.77**	.51**	.49**	.64**	-
O-C	.51**	.27*	.51**	.68**	.50**	.42**	.34*	.60**	.62**

SS- Self-Safety, OS - Other-Safety, ST - Self-Trust, OT - Other-Trust, SE - Self-Esteem, OE - Other-Esteem, SI - Self-Intimacy, OI - Other-Intimacy, SC- Self-Control, OC - Other-Control

* - $p<.05$

** $p<.01$

ENDNOTES

1) Initially, the use of avoidant coping strategies was to be measured by subscales of the COPE. Unfortunately, these measures were not found to be adequately reliable in this sample. Cronbach's alpha was calculated for the following subscales were calculated: mental disengagement (Rxx=.64); behavioural disengagement (Rxx=.35); and denial (Rxx=.20). Given the inadequate reliability of these measures (and combinations of these subscales), the use of avoidant coping strategies was assessed by the CISS-A which proved to be a more reliable measure (Rxx=.77). Initially, the CISS-A was to be used as a covariate, but the sample size was not large enough to perform this analysis.

2) Two exceptions were adopted concerning the decision to retain outlying data. First, skewness statistics for each variable were examined to ensure that variables were normally distributed. If the skewness statistic was greater than 2 (West and Finch, 1997), the outliers were eliminated systematically beginning with the most extreme values until the skewness of the variable was sufficiently normally distributed. (This elimination of outliers was only necessary in the case of the variable used in longitudinal analyses: the number of crisis calls answered in a four month period). The second exception concerned a participant who had experienced a recent traumatic event -- she was carjacked resulting in physical injuries days before beginning the study -- and her extreme scores across all measures of distress likely resulted from this incident. Following Pedhazur (1982), her extreme scores were omitted from all further analyses.

3) Although the various measures were purported to assess different facets of distress, an examination of their inter-correlations indicated that they overlapped significantly. These findings are consistent with the interpretation that these scales

assess a similar construct (i.e., helper distress). Similarly, the TSI Belief Scale was highly correlated with its subscales and the subscales were highly inter-correlated. These relationships are presented in detail in Appendix E.

4) The mean of zero is an artifact creating by centering the predicted variable (i.e., subtracting the score from the group mean.

5) When all outliers were removed from the analyses the following findings supported the exposure hypothesis insofar as greater increases in distress over a four-month period were related to a greater number of crisis calls answered: 1) disruptions in self-safety ($\underline{tb}(25)=2.59, \underline{p}=.02$); 2) increased mistrust of others ($\underline{tb}(25)=3.04$, $\underline{p}=.01$); and 3) believing that one is less connected with others ($\underline{tb}(25)=2.26, \underline{p}=.03$).

6) The discussion is limited to the exposure variable because when all the outliers except those of the exposure variable were retained, the results were similar to the findings presented. However, when the outliers for the exposure variable were also retained in the analyses, the findings supported the exposure hypothesis. As such, the outliers of the exposure variable seem to be sufficiently extreme to change the nature of the results.

7) Pearlman and MacIan (1995) did not compute whether the correlations obtained for groups with and without a trauma history were significantly different. However, when this analysis was performed, the correlations were found to be significantly different.

8) It is possible that any limitations concerning the definition of the prior trauma group would have impacted any test of the vulnerability hypothesis.

References

Aldwin, C. & Revenson. T. (1987). Does coping help? A reexamination of the relation between coping and mental health. Journal of Personality and Social Psychology, 53, 337-348.

Baron, R.M. & Kenny, D.A. (1986). The Moderator-Mediator variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations. Journal of Personality and Social Psychology, 51 ((6), 1173-1182.

Beck, A.T., Steer, R.A., & Garbin, M.G. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. Clinical Psychology Review, 8, 77-100.

Belanger, K.A. (1999). [Phone survey of Ontario Sexual-Assault Support Centers]. Unpublished raw data.

Burisch, M. (1993) In Search of Theory: Some ruminations on the nature and etiology of burnout. In W.B. Schaufeli, C. Maslach and T. Marek (Eds.). Professional Burnout: Recent Developments in Theory and Research. Washington, DC: Taylor & Francis, pp.75-93.

Capner, M. & Caltabiano, M.L. (1993). Factors Affecting the Progression Towards Burnout: A Comparison of Professional and Volunteer Counsellors. Psychological Reports, 73, 555-561.

Carver, S.C. & Scheier, M.F. (1994). Situational Coping and Coping Dispositions in a Stressful Transaction. Journal of Personality and Social Psychology, 66(1),184-195.

Carver, S.C., Scheier, M.F. & Weintraub, J.K. (1989). Assessing Coping Strategies: A Theoretically Based Approach. Journal of Personality and Social Psychology, 56 (2), 267-283.

Chrestman, K.R. (1995). Secondary Exposure to Trauma and Self-Reported Distress Among Therapists. In B.H. Stamm (Ed.), Secondary Traumatic Stress: Self-Care Issues for Clinicans, Researchers, and Educators (pp. 29-36). Lutherville, MD: Sidran Press.

Courtois, C.A. (1988). Healing the incest wound: Adult survivors in therapy. New York: W.W. Norton.

Cunningham, M. (1998). Vicarious Traumatization: Impact of Trauma Work on the Clinician (Doctoral Dissertation, Adelphi University, School of Social Work,(1997).Abstract from: ProQuest file: Dissertation Abstracts.

Danieli, Y. (1988). Confronting the unimaginable: Psychotherapists' reactions to victims of the Nazi Holocaust. In J. P. Wilson, Z. Harel, & B. Kahana (Eds.). Human adaptation to extreme stress: From the Holocaust to Vietnam. New York: Plenum.

Day, K.M. & Devlin R.A. (1996). Volunteerism and crowding out: Canadian econometric evidence. Canadian Journal of Economics, 29, (1), 37-53.

Deutsch, C.J. (1984). Self-reported sources of stress among psychotherapists. Profesional Psychology, 115 (6), 833-845.

Endler, N.S. & James, D.A. (1990). CISS-Adult. North Tonawanda, NY: Multi-Health Systems.

Etzion, D. & Pines, A.M. (1986). Sex and Culture in burnout and coping among human service professionals. Journal of Cross Cultural Psychology, 17 (2), 191-209.

Everett, S.R. (1996). Stress, vicarious traumatization, and coping: Therapists' efforts to manage the stress of treating sexual trauma. Dissertation Abstracts International, 57 (10), (Printed 1997 - but thesis in 1996 - University of Virginai)

Farber, B.A. (1983) Psychotehrapists' Perceptions of Stressful Patient Behavior. Professional Psychology, 14 (5), 697-705.

Farber, B.A. (1983). Stress and Burnout in the Human Service Professions. New York: Pergamon Press.

Farber, B.A. (1983). Dysfunctional Aspects of thePsychotherapeutic Role. In B.A. Farber (Ed.) Stress and Burnout in the Human Service Professions (pp. 97-118). New York: Pergamon Press.

Farber, B.A. & Heifitz, L.J. (1982). The process and dimensions of burnout in psychotherapists. Professional Psychology, 13, 293-301.

Farber, B.A. & Heifitz, L.J. (1981). The satisfactions and stresses of psychotherapeutic work: A factor analytic study. Professional Psychology, 12, 621-630.

Figley, C.R. (1995). Compassion Fatigue: Coping with Secondary Traumatic Stress Disorder in Those Who Treat the Traumatized. New York: Brunner/Mazel.

Figley, C.R., Stamm, B.H. (1996). Psychometric review of Compassion Fatigue Self Test. In B.H. Stamm (Ed.) Measurement of stress, trauma, and adaptation. Lutherville, MD: Sidran Press.

Finch, J.F. & West, S.G. (1997). The Investigation of Personality Structure: Statistical Models. Journal of Research in Personality, 31, 439-485.

Foa, E.B. & Rothbaum, B.O. (1998). Treating the trauma of rape: Cognitive-behavioural therapy for PTSD. New York: Guilford Press.

Folkman, S. & Stein, N.L. (In press). A Goal-Proces Approach to Analyzsing Narrative Memories for AIDS Related Stressful Events. In N.L. Stein, P.A. Ornstein, B.Tversky, and C. Brainerd (Eds.), Memory for eveyday and emotional events, Hillsdale, NJ: Lawrence Erlbaum Associates.

Follette, V.M, Polusny, M.M., & Milbeck, K. (1994). Mental Health and Law Enforcement Professionals: Trauma History, Psychological Symptoms, and Impact of Providing Services to Child Sexual Abuse Survivors. Professional Psychology: Reseach and Practice, 25 (3), 275-282.

Haley, S.A. (1974). When the patient reports atrocities: Specific treatment considerations of the Vietnam veteran. Archives of general psychiatry; 30(2), 191-196.

Hellman, I.D., Morrison, T.L., & Abramowitz, S.I. (1986). The stresses of psychotherapeutic work: A replication and extension. Journal of Clincal Psychology, 42, 197-205.

Hellman, I.D., Morrison, T.L., & Abramowitz, S.I. (1987). Therapist experience and the stresses of psychotherapeutic work. Psychotherapy, 24, 171-177. (This is the CIRCA article)

Herman, J. L. (1992). Trauma and recovery. New York: Basic Books.

Horowitz, M.J., Wilner, N., & Alvarez, W. (1979). Impact of event scale: A measure of subjective stress. Psychosomatic Medicine, 41, 209-218.

Jayaratne, S. & Chess, W.A.. (1983). Job Satisfaction and Burnout in Social Work. In B.A. Farber (Ed.) Stress and Burnout in the Human Service Professions (pp. 129-141). New York: Pergamon Press.

Johnson, C.N.E. & Hunter, M., (1997). Vicarious traumatization in counsellors working in the New Sough Wales Sexual Assault Service: an exploratory study. Work & Stress, 11(4), 319-238.

Jones, J.W.(1981). The burnout syndrome: Current research, theory, interventions. Park Ridge, Illinois: London House Press.

Justice, B., Gold, R.S., & Klein, J.P. (1981). Life events and burnout. Journal of Psychology, 108, 219-226.

Kahill, S. (1986). Relationship of Burnout among Professional Psychologists to Professional Expectations and Social Support. Psychological Reports, 59, 1043-1051.

Kahill, S. (1988). Symptoms of Professional Burnout: A Review of the Empirical Evidence. Canadian Psychology, 29 (3), 284-297.

Kassam-Adams, N. (1995). The Risks of Treating Sexaul Trauma: Stress and Secondary Trauma in Psychotherapists. In B.H. Stamm (Ed.). Secondary Traumatic Stress: Self-Care Issues for Clinicians, Reserachers, and Educators, pp. 37-49, Lutherville MD: Sidran Press.

Kilpatrick, D.G., Edmonds, C.N., & Seymour, A. K. (1992). Rape in America: A report to the nation. Arlington, VA: National Victim Center.

Koeske, G.F. & Kelly, T. (1995). The Impact of Overinvolvement on Burnout and Job Satisfaction. American Journal of Orthopsychiatry, 65 (2), 282-292.

Koeske, G.F., Kirk, S.A., & Koeske, R.D. (1993). Coping with job stress: Which strategies work best? Journal of Occupational and Organization Psychology, 66, 319-335.

Lee, R.T. & Ashforth, B.E. (1996). A Meta-Analytic Examination of the Correlates of the Threee Dimensions of Job Burnout. Journal of Applied Psychology, 81 (2), 123-133.

Leiter, M.P. (1993). Burnout as a Developmental Process: Consideration of Models. In W.B. Schaufeli, C. Malach, T. Marek (Eds.) Professional Burnout: Recent Developments in Theory and Research, pp. 237-249. NY: Taylor & Francis.

Leiter, M.P. (1992). Burnout as a crisis in self-efficacy: Conceptual and practical implications. Work & Stress, 6(2), 107-115.

Leiter, M.P. (1991). The Dream Denied: Professional Burnout and the Constraints of Human Service Organizations. Canadian Psychology, 32(4), 547-555.

Leiter, M.P.(1991). Coping patterns as predictors of burnout: The function of control and escapist coping patterns. Journal of Organizational Behaviour, 12, 123-144.

Maslach, C. & Jackson, S.E. (1981). The measurement of experienced burnout. Journal of Occupational Behavior, 2 (2), 99-113.

Maslach, C. & Schaufeli, W.B. (1993). Historical and Conceptual Development of Burnout. In W.B. Schaufeli, C. Malach, T. Marek (Eds.) Professional Burnout: Recent Developments in Theory and Research, pp. 1-16. NY: Taylor & Francis.

McCann, I.L. & Colletti, J. (1994). The Dance of Empathy: A Hermeneutic Formulation of Countertransference, Empathy, and Understanding in the Treatment of Individuals Who Have Experienced Early Childhood Trauma. In J.P. Wilson & J.D. Lindy (Eds.), Countertransference in the Treatment of PTSD (pp. 87-121). New York: The Guilford Press.

McCann, I.L. & Pearlman, L.A. (1990). Vicarious Traumatization: A Framework for Understanding the Psychological Effects of Working with Victims. Journal of Traumatic Stress, 3 (1), pp131-149.

McCann, I.L. & Pearlman, L.A. (1990). Through a Glass darkly: Understanding and Treating the Adult Trauma Survivor through Constructivist Self-Development theory. New York: Brunner/Mazel.

Meier, S.T. (1984). The construct validity of burnout. Journal of Occupational Psychology, 57 (3), 211-219.

Mishara, B.L. & Giroux, G. (1993). The Relationship between Coping Strategies and Perceived Stress in Telephone Intervention Volunteers at a Suicide Prevention Center. Suicide and Life-Threatening Behavior, 23(3), 221-229.

Munroe, J.F. (1991). Therapist traumatization from exposure to clients with combat related post-traumatic stress disorder: implications for administration and supervision. Unpublished doctoral dissertation Northeastern University.

Oakland, S. & Ostell, A. (1996). Measuring Coping: A Review and Critique. Human Relations, 49 (2), 133-155.

Pearlman, L.A. & Saakvitne, K.W. (1995). Treating Therapists with Vicarious Traumatization and Secondary Traumatic Stress Disorders. In C.R. Figley (Ed.), Compassion Fatigue: Coping with Secondary Traumatic Stress Disorder in Those Who Treat the Traumatized (pp.150-178). New York: Brunner/Mazel.

Pearlman, L.A. & MacIan, P.S. (1995). Vicarious Traumatization: An Empirical Study of the Effects of Trauma Work on Trauma Therapists. Professional Psychology: Research and Practice, 26 (6), 558-565.

Pearlman, L.A., MacIan, P.S., Johnson, G., & Mas, K. (1992). Understanding cognitive schemas across groups: Empirical Findings and their implications. Presentation at the 8th Annual Meeting of the International Society for Traumatic Stress Studies, Los Angeles, CA.

Pedhazur, E.J. (1982). Multiple Regression in Behavioural Research. Fort Worth, Texas: Harcourt, Brace and Jovanovich, Inc.

Pennebaker, J.W. (1998). Conflict and canned Meat. Psychological Inquiry,9(3), 219-230.

Pines, A., & Maslach, C. (1978). Characteristics of staff burnout in mental health settings. Hospital and Community Psychiatry, 29, 233

Quattrochi-Tubin, S., Jones, J.W., & Breedlove, V. (1982). The burnout syndrome in geriatric counselors and service workers. Activities, Adaptation & Aging, 3 (1), 65-76.

Raquepaw, J.M. & Miller, R.S. (1989). Psychotherapist Burnout: A Componential Analysis. Professional Psychology: Research and Practice, 20 (1), 32-36.

Resnick, H.S., Kilpatrick, D.G., Dansky, B.S., Saunders, B.E., & Best, C.L. (1993). Prevalence of civilian trauma and Posttraumatic stress disorder in a representative national sample of women. Journal of Consulting and Clinical Psychology, 61, 984-991.

Rohman, C. (1987/1988). A study of burnout among psychologist (Doctoral dissertation, Rutgers, The State University of New Jersey, 1987). Dissertation Abstracts International, 48, 2772B.

Saakvitne, K.W. & Pearlman, L.A. (1996). Transforming the Pain: A Workbook on Vicarious Traumatization. New York: W.W. Norton & Company.

Schauben, L.J. & Frazier, P.A. (1995). Vicarious Trauma: The Effects on Female Counselors of Working with Sexual Violence Survivors. Psychology of Women Quarterly, 19, pp.49-64.

Schaufeli, B., Maslach, C. & Marek, T. (Eds.) (1993). Professional Burnout. Recent developments in theory and research. Washington, DC: Taylor & Francis.

Shirom, A. (1989). Burnout in Work Organizations. In C.L. Cooper & I. Rovertson (Eds.) International Review of Industrial and Organizational Psychology. New

York: John Wiley & Sons Ltd.

Simonds, S.L. (1997). Vicarious traumatization in therapists treating adults survivors of childhood sexual abuse (Doctoral dissertation, The Fielding Institute, 1996). Dissertation Abstracts International, 57 (8), 5344B.

Slover, C.A. (1998). The effects of repeated exposure to trauma on volunteer victim advocates (Doctoral dissertation, University of Northern Colorado, 1998). Dissertation Abstracts International, 58(8).

Stein, N.L., Folkman, S., Trabasso, T., & Christopher-Richards, A. (1995). Paper presented at the Rashomon Conference, Center for the Study of AIDS Prevention, University of California, San Francisco, January, 1995.

Thornton, P.I. (1992). The Relation of Coping, Appraisal, and Burnout in Mental Health Workers. The Journal of Psychology, 126 (3), 261-271.

Truman, B.M. (1997). Secondary traumatization, counselor's trauma history, and styles of coping (Doctoral Dissertation, The University of Memphis, 1996). Dissertation Abstracts International, 57(9), 5935B.

Van de Water, R.C. (1996). Vicarious traumatization of therapists: The impact of working with trauma survivors (Doctoral Dissertation, Boston University, 1996). Dissertation Abstracts International, 57(3).

Watson, D., Clark, L.A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. Journal of Personality and Social Psychology, 54, 1063-1070.

Wilson, J.P. & Lindy, J.D. (1994). Countertransference in the Treatment of PTSD. New York: The Guilford Press.

Wilson, J.P., Lindy, J.D. & Raphael, B. (1994). Empathic Strain and Therapist Defense: Type I and II CTRs. In J.P. Wilson & J.D. Lindy (Eds.), Countertransference in the Treatment of PTSD (pp. 31-61). New York: The Guilford Press.

West, S.G., Aiken, L.S. & Krull, J.L. (1996). Experimental Personality Designs: Analyzing Categorical by Continuous Variable Interactions. Journal of Personality, 64(1), 1-48.

Zilberg, N.J., Weiss, D.S., & Horowitz, M.J. (1982). Impact of Event Scale: A Cross-Validation Study and Some Empirical Evidence Supporting a Conceptual Model of Stress Response Syndromes. Journal of Consulting and Clinical Psychology, 50 (3), 407-414,