

**“Relief for the Spirit” in Post-Earthquake Haiti: The Development,
Implementation, and Evaluation of a Lay Mental Health Worker Project**

by

Leah Emily James

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
(Social Work and Psychology)
in The University of Michigan
2012

Doctoral Committee:

Professor Jorge Delva, Co-Chair
Professor Daphna Oyserman, Co-Chair
Professor Phoebe Ellsworth
Assistant Professor Sandra Momper
Clinical Professor Edward MacPhee

© Leah Emily James
2012

DEDICATION

To the victims and survivors of the 2010 Haiti earthquake

ACKNOWLEDGEMENTS

There are many, many contributors to this work. First, I would like to fully acknowledge, and to humanize, the often invisible *N* – the nearly 800 IDP camp residents who contributed to these studies. These participants (though their distress scores may have decreased by a standard deviation) face overwhelming challenges in securing a stable home, supporting their families, and gaining an education. Although the focus of this paper, and my area of interest, is mental health intervention, it is clear that the first step in improved well-being is adequate resources – something sorely lacking for the majority of the individuals.

In light of these factors, the enthusiasm with which participants responded to this project is truly amazing, and is a testament both to their unfaltering hope and energy, and to the charismatic and devoted young people who worked with them. The *Soulaje Lespri Moun* Haiti team: the project managers, the original Ajan Sante Mantal (lay mental health workers), and the additional “baby Ajan” who joined in June of 2011, are together the most talented group of individuals I have ever met. I feel very lucky to have had the opportunity to work with them. Thus, while a dissertation is certainly something, I will always be thankful to them for lessons learned in humility, open-mindedness, patience, flexibility, sacrifice, and friendship.

To this end, I gratefully acknowledge the invaluable contribution of *Soulaje Lespri Moun*'s project managers: Roger Noel, Jacques Solon Jean, and Yves Merry Stuart

Roche Jean Pierre, and the Ajan Sante Mantal (lay mental health workers): Soulouque Pierre Anderson, Farah Charles, Stephane Dennery, Tessa Dufresne, Bernard Paul Evans, Gessica Francois, Gloria Germain, Samuel Baptiste Jean, Gilbert Kenson, Monique Leonard, Mirlande Louis, Bettie Pierre, Marthe Voltice Revolve, Ernsou Saul Roche, Louis Jean Roberto Stevenson, and Alexis Vilvert.

I also thank US and Haitian collaborators and volunteers, including but not limited to: Gilberte Bastien, Laura Flynn, Toussaint Hillaire, Sunday Illechukwu, Athena Kolbe, Naomi Levitz, Michael Messina, Todd Favorite, and Michael Varnum for their assistance in implementing this project. I am indebted to the Aristide Foundation for Democracy in Port-au-Prince, and the University of Michigan's Center for Global Health, Rackham Graduate School, and School of Social Work for financial support for this work.

I am very grateful for all that I have learned from Daphna Oyserman and the enormous support provided by Jorge Delva. Many thanks to other advisers and mentors of past and present, especially Phoebe Ellsworth, Jane Hassinger, Ed MacPhee and Sandy Momper. I'm especially thankful for guidance and encouragement from my mother, my social work role model.

Finally, other family members, close friends, and my incredibly affectionate dog have been much-needed sources of support and distraction – thank you.

TABLE OF CONTENTS

Dedication	ii
Acknowledgements	iii
List of Figures	vii
List of Tables	viii
Abstract	ix
Chapter I. Introduction	1
References.....	7
Chapter II. Challenges of post-disaster intervention in cultural context: The implementation of a lay mental health worker project in post-earthquake Haiti.....	9
Controversy and consensus in cross-cultural disaster mental healthcare	12
Balancing indigenous and psychological perspectives	17
Haiti’s historical and cultural context.....	19
Development and implementation of <i>Soulaje Lespri Moun</i>	22
Challenges faced.....	36
Empirical aims	40
References.....	43
Chapter III. Preliminary evaluation of a lay mental health worker intervention for displaced earthquake survivors in Port-au-Prince, Haiti	49
Hypotheses.....	55
General Method	57
Study 1	61
Study 2	64
Study 3	66
Analyses across Studies 1, 2, and 3	68
General Discussion	72
References.....	79
Chapter IV. “Even as I’m helping people, I help myself also”: A mixed-methods assessment of the experiences of lay mental health workers in post-earthquake Haiti.....	90
Methods.....	97
Results.....	104
Discussion.....	110
References.....	117

Chapter V. Ongoing research: Instrument development and evaluation trial	128
Study 1	128
Study 2	139
References.....	149
Chapter VI. Conclusion	162
References.....	166

LIST OF FIGURES

Figure 3.1: Posttraumatic distress pre- and post-SLM in Studies 1-3	85
Figure 3.2: Interaction of intervention and gender on posttraumatic distress among SLM participants.....	86
Figure 3.3: Posttraumatic distress of SLM participant and non-participant IDP camp residents over time	87
Figure 3.4: Posttraumatic distress (overall and symptom clusters) of lay mental health workers over time	88
Figure 4.1: Posttraumatic distress (overall and symptom clusters) of lay mental health workers over time	121
Figure 4.2: Compassion satisfaction among lay mental health workers over time	122
Figure 4.3: Secondary traumatic stress among lay mental health workers over time.....	123
Figure 4.4: Burnout among lay mental health workers over time	124
Figure 4.5: Posttraumatic growth (overall and five factors) among lay mental health workers over time	125
Figure 5.1: Change in stress and trauma symptom severity from pre- to post-SLM.....	150
Figure 5.2: Change in use of coping strategies from pre- to post-SLM	151
Figure 5.3: Change in use of psychosocial and cultural/religious coping skills from pre- to post-SLM	152

LIST OF TABLES

Table 3.1: Means and standard deviations of demographic and outcome variables by study.....	88
Table 3.2: Mean pre-post difference scores, significance levels, and effect sizes by study.....	89
Table 4.1: Intercorrelations of measures.....	126
Table 5.1: Mean pre-post difference scores, significance levels, and effect sizes.....	153

ABSTRACT

In light of the frequency and impact of natural and social disasters, the development of empirically-informed and culturally-appropriate approaches to post-disaster mental healthcare is a priority. However, it is also a topic of spirited controversy – particularly regarding the potential dangers of importing a psychological model based in dominant Western culture to other cultural contexts.

In three manuscripts and a fourth chapter documenting ongoing research, this dissertation contributes to this debate through an account of the development, implementation and preliminary evaluation of an intervention designed to balance indigenous and psychological perspectives in addressing disaster-related distress. This grass-roots lay mental health worker project, called *Soulaje Lespri Moun* (SLM; “Relief for the Spirit” in Haitian Creole) is designed to aid displaced survivors of the 2010 earthquake in Port-au-Prince, Haiti. It entails a theory-based merging of mental health and psychosocial expertise contributed by US and Haitian mental health professionals, with the cultural and situational expertise of local lay earthquake survivors, to create a cost-efficient, culturally-adapted model suited to a post-disaster context.

A series of multi-methodological studies support the effectiveness of SLM in decreasing distress and increasing use of coping strategies among participants (Chapters III, V). The feasibility of the model is further supported by evidence that the lay earthquake survivors implementing it experienced limited compassion fatigue, and rather, elements of

posttraumatic growth (Chapter IV). Further, using a tailored outcome measure created for this purpose, an evaluation trial in Chapter V provides preliminary evidence that SLM can increase participants' psychosocial coping skills (themselves associated with decreased distress) without disrupting use of pre-existing cultural and religious coping strategies. Thus, results provide initial support for SLM's proposal that, if using a strategic and culturally-appropriate approach, participants can benefit from both psychologically-informed and indigenous belief systems simultaneously.

CHAPTER I

Introduction

Dye mon, gen mon.

Beyond the mountain is another mountain.

Ou bat tanbou epi ou danse ankò.

You beat the drum and you dance again.

--Haitian Proverbs

As exemplified by these Creole proverbs, life in Haiti is characterized by unrelenting challenge, as well as by spirited and colorful fortitude. This figurative combination of mountains, drums, and dancing is shared, in some form, by much of the world's population. A significant portion of humanity resides in war-torn or severely impoverished areas in which violence is commonplace; others are frequently and powerfully affected by natural disasters. Some groups have survived generations of genocide, slavery, and oppression. Yet overall, the vast majority of people wake up each morning and keep going, often with only minimal psychological distress (Bonanno, 2004).

While it is critical to keep this remarkable natural resilience firmly in mind, it

must also be acknowledged that devastating circumstances do create significant distress for a sizeable portion of the population. Disaster survivors, the focus of this paper, may lose loved ones and endure injuries or close-calls, and, in the longer term, grapple with displacement and resource loss (Bonanno et al., 2010; Hobfoll et al., 2007). Overall, there is consensus that natural and social disasters, like other traumatic experiences, can result in considerable emotional and somatic difficulties (although not always at pathological levels) for a substantial portion of survivors, across events and cultures (e.g., Neria, Nandi, & Galea, 2008; Norris, Friedman, & Watson, 2002; van Ommeren, Saxena, & Saraceno, 2005).

Yet, there is little consensus regarding what, if anything, should be done about this (Hobfoll et al., 2007). Rather, a spirited debate challenges the assumptions that psychological distress after a disaster is a pathological response requiring professional mental healthcare, or that foreign mental health professionals, with their own cultural preconceptions, have any useful role in the recovery process of another society (e.g., Bracken, 2001; Summerfield, 2004). Indeed, some commonly implemented interventions based in a dominant Western psychological perspective (e.g., universal psychological debriefing and prescription of benzodiazepine and antidepressant medications in the immediate aftermath of trauma) have been shown to lack benefit, and at worst, to impede recovery (Bonanno, Brewin, Kaniasty, & La Greca, 2010; Katz, Pellegrino, Pandya, Ng, & DeLisi, 2002; McNally, Bryant, & Ehlers, 2003).

However, there is growing support for approaches that draw on local perspectives, coping and treatment strategies, and resiliency factors – such as the drums and dancing mentioned in the opening proverb – in addressing post-disaster distress (e.g.,

Danieli & Nader, 2006; Drozdek, 2007; Mercer, Ager, & Ruwanpura, 2005). Moreover, an expanding body of research supports the use of “psychosocial” intervention that provides psycho-education, relaxation and other coping skills, social support enhancement, and community building activity (e.g., Bonanno, Brewin, Kaniasty, & La Greca, 2010; Hobfoll et al., 2007). Together, emergent research encourages combining local perspectives and a psychosocial approach (including some elements based in Western psychological science) in post-disaster intervention (e.g., Mollica et al., 2004; van Ommeren, Saxena, & Saraceno, 2005; Weiss et al., 2003). Indeed, consensus best practice guidelines draw on psychological content, while also calling for the facilitation of locally-managed and implemented programs, utilization of non-professional community workers and train-the-trainer methodologies, and incorporation of local cultural practices into intervention (Interagency Standing Committee [IASC], 2007).

Still, little is said about how, concretely, to balance local and (imported) psychological approaches in practice. Despite plenty of lively discussion, empirical evidence regarding effective and culturally appropriate methods of addressing post-disaster mental health and psychosocial need is relatively scarce, particularly in developing countries and other low-resource contexts (e.g., Tol et al., 2011). On one hand, this is unsurprising in light of safety, ethical, logistical, and financial considerations that make both empirically-informed intervention work and rigorous research methodologies extremely challenging in the aftermath of significant disasters. On the other, the existence of widespread, potentially preventable suffering makes post-disaster program evaluation, even using non-controlled methodologies, an immediate and

pressing priority (e.g., Allden et al., 2010; van Ommeran, Saxena, & Saraceno, 2005; Weiss et al., 2003).

The current dissertation research aims to contribute to this objective through the development, implementation, and preliminary evaluation of an intervention designed to balance indigenous and psychological perspectives in addressing disaster-related distress. This small-scale, grass-roots lay mental health worker project, called *Soulaje Lespri Moun* (SLM; “Relief for the Spirit” in Haitian Creole) is designed to aid displaced survivors of the 2010 earthquake in Port-au-Prince, Haiti. SLM was developed through collaboration among myself and Haitian and US clinicians, researchers, and lay people, and is housed by the Aristide Foundation for Democracy (AFD) in Port-au-Prince with funding from the University of Michigan. It entails a theory-based merging of mental health and psychosocial expertise contributed by US and Haitian mental health professionals, with the cultural and situational expertise of local lay earthquake survivors, to create a cost-efficient culturally-adapted model suited to a post-disaster context. SLM utilizes a train-the-trainer structure, in which professionals train local young people to run coping skills seminars for residents of camps for internally displaced peoples (IDPs). Graduates of these seminars are then encouraged to serve as peer-leaders of ongoing support and problem-solving groups for other camp residents.

The papers presented here represent the first three manuscripts in a sequence that will entail several additional papers developed from a two year research program. The first paper (Chapter II), now in press in *International Perspectives in Psychology: Research, Practice and Consultation* (James, Noel, Favorite, & Jean, in press), is a conceptual account of SLM’s theoretical foundation. It begins by situating SLM’s

development within the context of controversies associated with the implementation of mental healthcare informed by a western psychological model in another cultural context. While acknowledging dangers associated with careless importation of Western explanatory and treatment models, this paper proposes that when a model is culturally-compatible, participants may benefit from both indigenous and Western psychological perspectives and coping strategies simultaneously, even if these approaches are not entirely congruent. This hypothesis is unpacked through an account of SLM's approach to presenting empirically-informed psychological content to IDP participants using a culturally-appropriate and community-focused framework. In addition to its theoretical contribution, this paper details the on-the-ground challenges of implementing a mental health intervention in the aftermath of a devastating natural and social disaster, in a developing country with extremely limited resources.

The subsequent manuscripts present preliminary empirical assessment of the SLM program. Chapter III evaluates SLM participant outcomes using data collected at three Port-au-Prince IDP camps in year following the 2010 earthquake. This paper portrays the evolving methods used to adapt intervention implementation and evaluation techniques to shifting conditions post-earthquake, while providing initial evidence of SLM's effectiveness in decreasing participants' self-reported posttraumatic distress. In Chapter IV, a third manuscript speaks to an additional hypothesis: that SLM will be beneficial for those implementing it. This paper uses a multi-method approach to show effects of implementing SLM on symptoms of posttraumatic stress disorder, compassion fatigue, and posttraumatic growth among eight lay mental health workers over a period of 18 months.

Following these three completed manuscripts, Chapter V, titled “Ongoing Research”, outlines additional studies conducted in the second year following the earthquake, to be presented more fully in future reports. Research described here was designed to address methodological challenges and limitations identified in prior papers, such as the use of a standardized PTSD checklist as the primary measure of distress, and reliance on less rigorous research designs. First, this section describes a needs assessment, conducted one year after the earthquake, that draws on perspectives of lay mental health workers and IDPs to inform used the development of a culturally and contextually tailored instrument to assess distress and functioning. Second, methods and results are presented for a quasi-experimental evaluation trial using this new instrument. Results of this trial provide further evidence of SLM’s effectiveness in decreasing participant distress, but also speak to a core hypothesis presented in the first manuscript (Chapter II): that SLM can increase psychologically informed coping strategies without decreasing pre-existing indigenous strategies.

Finally, a concluding chapter outlines remaining research questions and objectives, as well as broader implications of this work for the fields of disaster and cross-cultural mental health. Because extensive contextual and theoretical background is provided in the upcoming section, the reader is invited, without further ado, to continue to Chapter II.

References

- Allden, K., Jones, L., Weissbecker, I., Wessells, M., Bolton, P.,... Sumathipala, A. (2009). Mental health and psychosocial support in crisis and conflict: report of the Mental Health Working Group. *Prehospital and Disaster Medicine, 24*, s217–s227.
- Bonanno, G.A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist, 59*, 20–28.
- Bracken, P. J., Giller, J. E., & Summerfield, D. (1995). Psychological responses to war and atrocity: The limitations of current concepts. *Social Science & Medicine, 40*, 1073–1082.
- Danieli, Y. & Nader, K. (2006). Respecting cultural, religious, and ethnic differences in the prevention and treatment of psychological sequelae. In L. A. Schein, H. I. Spitz, G. M. Burlingame, & P. R. Muskin (Eds.), *Psychological Effects of Catastrophic Disasters: Group Approaches to Treatment* (pp. 203-234). New York: Hawthorne Press.
- Hobfoll, S. E., Watson, P., Bell, C., Bryant, R. A., Brymer, M. J., Friedman, M. J., Gersons, B. P., de Jong, J. T... Ursano, R. J. (2007). Five essential elements of immediate and mid-term mass trauma intervention: Empirical evidence. *Psychiatry, 70*, 283–315
- James, L. E., Noel, J. R., Favorite, T. K., & Jean, J. S. (in press). Challenges of post-disaster intervention in cultural context: The implementation of a lay mental health worker project in post-earthquake Haiti. *International Perspectives in Psychology: Research, Practice, Consultation*.
- Katz, C. L., Pellegrino, L., Pandya, A., Ng, A., & DeLisi, L. E. (2002). Research on psychiatric outcomes and interventions subsequent to disasters: A review of the literature. *Psychiatry Research, 110*, 201–217.
- Mercer, S. W., Ager, A., & Ruwanpura, E. (2005). Psychosocial distress of Tibetans in exile: Integrating western interventions with traditional beliefs and practices. *Social Science and Medicine, 60*, 179-189.
- Mollica, R. F., Cardozo, B. L., Osofsky, H. J., Raphael, B., Ager, A., & Salama, P. (2003). Mental health in complex emergencies. *Lancet, 364*, 2058-67.
- Neria, Y., Nandi, A., & Galea, S. (2008). Post-traumatic stress disorder following disasters: A systematic review. *Psychological Medicine, 38*, 467–480.
- Norris, F. H., Friedman, M. J., Watson, P. J., Byrne, C. M., Diaz, E., & Kaniasty, K.

(2002). 60,000 disaster victims speak: part I. An empirical review of the empirical literature, 1981–2001. *Psychiatry*, *65*, 207-39.

Tol, W. A., Patel, V., Tomlinson, M., Baingana F, Galappatti A, . . . van Ommeran, M. (2011). Research priorities for mental health and psychosocial support in humanitarian settings. *PLoS Medicine*, *8*, e1001096.

van Ommeren, M., Saxena, S., & Saraceno, B. (2005). Mental and social health during and after acute emergencies: Emerging consensus? *Bulletin of the World Health Organization*, *83*, 71-76.

Weiss, M. G., Saraceno, B., Saxena, S., & van Ommeren, M. (2003). Mental Health in the Aftermath of Disasters: Consensus and Controversy. *The Journal of Nervous and Mental Disease*, *191*, 611-615.

CHAPTER II

Challenges of post-disaster intervention in cultural context: The implementation of a mental health worker project in post-earthquake Haiti

Co-authored with Jean Roger Noel, Todd K. Favorite, and Jacques Solon Jean

The Haitian earthquake is referred to as “Goudou Goudou” by local people, a nickname derived from the sound and sensation of 35 seconds of shaking and banging, followed by multiple aftershocks, which devastated much of the country in January 2010. The earthquake resulted in more than 300,000 deaths, with 160,000 people killed in the Port-au-Prince area alone, and a million and a half made homeless (Kolbe et al., 2010; USAID/OFDA, 2011). More than 2 years later, half a million individuals continue to reside in temporary housing in camps for internally displaced peoples (IDP), in which securing basic necessities is a daily battle (Office for the Coordination of Human Affairs [OCHA], 2011).

In the months following the quake, the World Health Organization (WHO) documented psychological and emotional difficulties such as hypervigilance, sleep difficulty, anxiety, grief, anger, social isolation, and drug and alcohol use among IDP camp residents (Interagency Standing Committee [IASC], 2010). These issues have

been exacerbated by the chronic stress associated with life in IDP camps, including cholera outbreak and fear of violence and sexual assault, as well as widespread preexisting poverty, a severe job shortage, political instability, and electoral fraud (Haiti Earthquake Post Disaster Needs Assessment [PDNA], 2010). To compound the problem, prior trauma exposure is common in Haiti. Because of political violence, multiple natural disasters, and chronic poverty, many Haitians have already been suffering from trauma-related distress prior to January 2010 (IASC, 2010). By available reports, Port-au-Prince lacks the necessary infrastructure to provide effective psychosocial services to the thousands of displaced individuals in need (Sontag, 2010; WHO/Pan American Health Organization [PAHO], 2010).

Hence, the direct involvement of foreign mental health professionals willing to donate expertise, time, and finances seems a sensible solution. As food, shelter, and medical relief are imported to disaster areas, an international humanitarian effort might supply psychological “aid” as well. However, despite those considerations, the need for and effectiveness of an international post-disaster mental health response is controversial. A core objection concerns whether foreign, often Western, professionals with embedded assumptions about what constitutes trauma, what pathologies are likely to result, and how best to treat them have any role at all in post-disaster mental health work with people of another culture. Practitioners importing their own culture’s explanatory and treatment models have been accused of disrespecting, and perhaps disrupting, the very real effects of local modes of resiliency and healing (e.g., Bracken, Giller, & Summerfield, 1995; Marsella, Johnson, Watson, & Gryzycnski, 2008; Summerfield, 1999).

The purpose of this article is to explore and propose a method of addressing such concerns through an account of the development and implementation of an evidence-informed, train-the-trainer intervention model implemented by the authors. This project, called *Soulaje Lespri Moun* (SLM; “Relief for the Spirit” in Haitian Creole), was developed in collaboration with Haitian and U.S. mental health workers, researchers, and lay people and was implemented in IDP camps in Port-au-Prince, Haiti, between April 2010 and January 2012. The model entails content informed by a psychological perspective grounded in Western¹ culture, adapted to the Haitian post-earthquake context, and applied by local earthquake survivors trained as lay mental health workers. Although criticism concerning the dissemination of a perspective based in Western culture is a serious consideration, we propose that a culturally sensitive intervention utilizing a psychological framework can increase explanatory and coping flexibility to benefit participants without disrupting preexisting indigenous coping mechanisms.

In the current article, we first outline concerns regarding the cross-cultural importation of a Western psychological approach to understanding and treating trauma, followed by introduction of a theoretical basis for a model that utilizes such content in a way that adds to, rather than disrupts, local perspectives. Next, we narrow focus to the Haitian context and describe the development of SLM and the ways in which it aims to capture the benefits of Western psychological perspective while reinforcing beneficial Haitian cultural practices. Finally, we discuss challenges faced and ongoing program development and research efforts.

¹ Of course, Haiti resides in the Western hemisphere as well; in this article, we use the term “Western” in reference to dominant cultural practices common to the United States, Canada, and Western Europe.

Controversy and Consensus in Cross-Cultural Disaster Mental Health Care

Despite the devastating impact of many natural and man-made disasters on health, economics, and social infrastructure, most disaster survivors are remarkably resilient—the majority will recover emotionally without any intervention (Bonanno, 2004).

However, there is also consensus among mental health professionals that natural disasters, like other traumatic experiences, can create lasting—though not necessarily pathological—distress for a sizable portion of survivors (e.g., IASC, 2007). During the immediate experience of the disaster, distress can stem from injury or threat of injury or death, death of loved ones, destruction of property, and exposure to disturbing scenes. Later, disaster-related loss of resources such as home, possessions, and employment can interfere with ability to cope (Bonanno, Brewin, Kaniasty, & La Greca, 2010).

Displacement and relocation may disrupt social networks, and life in camps for internally displaced peoples (IDP) often means compromised hygiene, exposure to disease, vulnerability to theft and assault, and daily stress of securing food, water, and other basic necessities (Hobfoll et al., 2007).

In Western science, posttraumatic stress disorder (PTSD) is the most commonly studied psychological outcome after disasters and is widely considered a major public health threat. In their review of 284 reports of PTSD after disasters, Neria, Nandi, and Galea (2008) estimated that the prevalence of PTSD among those directly affected by disasters is 30%–40%. However, some Western trauma researchers have been criticized for assuming that their conceptions of what constitutes “trauma” and its effects (namely symptoms of PTSD) and appropriate treatment (medication and individual psychotherapy) are universal (e.g., Argenti-Pillen, 2000; Marsella, 2010; Young, 1995).

Critics argue that although the Western empirical perspective (from which much PTSD research is conducted) takes pleasure in promoting an “illusion of objectivity,” in reality it operates from a perspective that in some ways is quite different from that of much of the rest of the world (Sinha, 1984). For instance, at the core of Western psychiatry is the biomedical model that places problems at the level of the individual rather than the social, cultural, political, economic levels—even, some have argued, when problems have clear social and cultural roots (Almedom & Summerfield, 2004; Bracken et al., 1995). Western culture’s analytic cognitive perspective implies that things must be taken apart and looked at individually in order to be understood and thus focuses on individuals while undervaluing the context (Drozdek, 2007).

In the realm of trauma, a Western psychological model often centers on identifying an individual’s dispositional and emotional “symptoms,” making attributions to brain functioning, hormonal responses, and maladaptive thought processes and diagnosing “disorder,” such as PTSD. With this medicalization of distress comes the implication that treatment must come from an (often foreign) professional, effectively moving the power of recovery out of the hands of survivors and focus away from social contributors to suffering (Summerfield, 1999). A Western individualistic perspective is further evident in one-on-one psychotherapeutic interventions that promote qualities associated with individualism (e.g., “finding oneself”; “being assertive”) as the model of mental health. Such approaches may create tension and conflict in groups that value harmonious relations above personal autonomy and well-being, and may be particularly unhelpful in contexts in which collective social action is needed to alter distress-inducing circumstances (Bracken, 2001).

In addition to being culturally incongruent in collectivist societies, viewing the individual as the primary unit of analysis may be especially flawed when distress stems from mass trauma in which entire communities are affected and when distress is expressly linked to social and economic ills such as war and poverty (Drozdek, 2007; Summerfield, 1999). Even the effects of natural disasters are often compounded by perceptions that social inequities or mismanagement by authorities exacerbated the extent of the damage (e.g., through poor construction of homes) and/or the success of the relief effort (e.g., through corrupt and inefficient distribution of aid) (Katz, Pellegrino, Pandya, Ng, & DeLisi, 2002). Thus, psychosocial healing may necessitate the acknowledgment of and active involvement in the social world (Summerfield, 1999).

Other elements of Western culture, such as its reliance on science and rational thought, have also been theorized to contribute to the exacerbation of trauma-related distress, including the development of PTSD. Bracken (2001) defines the current postmodern era as characterized by the use of scientific methods to challenge the religious, spiritual, and cultural beliefs that provide a sense of life purpose and moral order. This scientific minimization of meaning-making systems that provide a source of life meaning through spirituality or other “unscientific” cultural belief systems may effectively leave individuals more vulnerable to trauma-related distress.

In this sense, practitioners operating under embedded cultural assumptions have the potential, often inadvertently and unconsciously, to break the sacred principle to “do no harm” that underlies mental health service provision (Almedom & Summerfield, 2004; Drozdek, 2007). Clinicians who attribute distress to serotonin levels and irrational thinking and prescribe medication or individual psychotherapy, while scoffing at prayer

or group ritual to lift curses or please spirits, may in fact discourage highly beneficial coping practices. Some theorists argue that even disseminating the perspective that PTSD or other diagnoses are common effects of trauma (and disasters are themselves a common source of trauma) may create expectations of certain kinds of distress and so exacerbate such responses (Bracken et al., 1995; Summerfield, 1999).

On the other hand, although concerns about importing a perspective that undermines existing resiliencies and coping practices are certainly compelling, others have argued that withholding the identification and treatment of distressed individuals (including through the use of Western psychological methods) is effectively condoning preventable suffering (e.g., van Ommeren, Saxena, & Saraceno, 2005). There is empirical evidence to suggest that at least some PTSD symptoms do exist and are disabling across cultures. In a study of South African former detainees, Kagee (2004) made every effort to reduce demand characteristics and other measurement biases by using an open-ended interview schedule without any items asking specifically about psychological responses and by administering interviews in the home of a community member rather than a hospital or clinic. He found that, among complaints about economic problems and political dissatisfaction, participants spontaneously volunteered symptoms that approximated the Diagnostic and Statistical Manual for Mental Disorders (4th ed., text revision) criteria for PTSD (American Psychiatric Association, 2000).

These findings correspond with recent trauma-related research (e.g., Marsella, 2010), suggesting that there is universal biological response to extreme stress—the activation of the brain, central nervous system, and hormonal systems that make up the fight, flight, or freeze response. However, Marsella and others argue that other

components of the trauma experience are culture-dependent: trauma exposure, the explanation and meaning applied to the event, idioms of distress, treatment, and outcomes (see also Castillo, 1997). Likewise, Suvak and Feldman- Barrett (2011) propose an approach to understanding PTSD in which psychological conditions are constructed from the culturally dependent meanings attached to posttrauma brain states. In line with these perspectives, Drozdek (2007) notes that core symptoms such as re-experiencing (intrusive memories and nightmares) and hyperarousal (sleep and concentration difficulty, irritability) are similar across cultures and that depressive symptoms also appear universal. He suggests that emotional numbing, social withdrawal, and other avoidance symptoms (interestingly, the more socially oriented symptoms) are more culture specific.

In light of these realities, it makes sense that benefit can derive from acknowledgment and explanation of such reactions and training in coping strategies designed to manage them. Noting the dearth of empirical evidence regarding effective post-disaster mental health intervention, Hobfoll and colleagues (2007) hold that best practices must extrapolate from empirical literature in relevant fields to create “evidence-informed practices.” They conclude that mass trauma intervention should promote a sense of safety and calming through normalization of responses to trauma and exercises to reduce physiological hyperarousal and should build self and collective efficacy, social connectedness, and hope for the future. The Psychological First-Aid approach has incorporated these elements into treatment recommendations for the immediate aftermath of a disaster, which includes inducing safety through grounding exercises, promoting social connectedness, and providing coping skills (Brymer et al., 2006; Vernberg et al.,

2008). Likewise, the IASC has developed comprehensive evidence-informed guidelines for mental health and psychosocial support in emergency settings, which emphasize the use of both local cultural practices and methods from outside cultures “when appropriate” (IASC, 2007). However, the specific contexts in which outside content should be utilized and the methods by which they should be incorporated to safeguard against the disruption of existing resiliency and coping factors are left unclear.

Balancing indigenous and psychological perspectives

Here, then, lie two core theoretical questions: First, is it possible to create an intervention model, incorporating psychological content informed by Western culture, which *contributes to* rather than disrupts existing indigenous coping mechanisms (even when content contradicts existing belief systems)? And second, if this is possible, what components should an intervention possess in order to facilitate this outcome?

In response to the former question, we propose that if an intervention is culturally sensitive and compatible, participants can maintain and benefit from evidence-informed Western psychological *and* local explanatory models and coping mechanisms simultaneously, even if the content is contradictory. There is some empirical evidence to support this hypothesis. First, people can in fact shift between potentially contradictory cognitive styles associated with different cultures (e.g., individualism and collectivism) from moment to moment, according to cues in the environment (e.g., Oyserman & Lee, 2008). This ability may in fact be quite adaptive, as explanatory and coping flexibility (the responsiveness of an individual to variations in situational context in explaining events or deciding how to cope) allows for a wider menu of potentially beneficial strategies (e.g., Bonanno, Pat-Horenczyk, & Noll, 2011). Rigidity in broader styles of

explanation and coping (e.g., making internal or external attributions for traumatic events, or coping by processing or distracting from trauma) is associated with increased symptoms of anxiety and depression (Fresco, Williams, & Nugent, 2006).

There is also evidence for similarly adaptive switching among specific explanatory and coping strategies. Research on South Africans and Tibetan refugees in India has documented pragmatic use of medical and social (e.g., witchcraft) explanations for distress and medical problems and fluid switching among treatment providers such as traditional healers, churches, and Western-trained doctors, when one approach was not working quickly enough (Lewando Hundt, Stuttaford, Ngoma, 2004; Mercer, Ager, & Ruwanpura, 2005; Ruwanpura, Mercer, Ager, & Duveen, 2006). Of course, this phenomenon is hardly unique to non-Western contexts. Many North Americans will take a sick family member to the hospital and pray for her or his recovery, without (in most cases) struggling with issues of logical inconsistency in explanation and response to illness.

If, in fact, it is possible and even adaptive, to maintain both psychological and indigenous explanatory and coping strategies simultaneously, it is probable that this balance is more likely to occur beneficially under certain conditions. This evokes the second question posed earlier: What framework should an intervention possess in order to facilitate productive use of both Western psychological and local perspectives?

Soulaje Lespri Moun (SLM), the project described in the remainder of this article, is an effort to develop and apply such a framework. SLM pairs evidence-informed psychological content with a culturally adapted train-the-trainer format based in perspectives such as empowerment and recovery theories, that emphasize the value of

diversity, community building and belonging, individual and collective strength building, and social change (e.g., Hobfoll et al., 2006; Lee, 2001; Roberts & Wolfson, 2004).

Of course, to develop a culturally compatible intervention, one must first possess knowledge of the culture. Therefore, we turn to a brief discussion of Haitian culture and the context of Port-au-Prince IDP camps, followed by a description of SLM's development and implementation.

Haiti's Historical and Cultural Context

History

Although a thorough review of Haitian history and culture is beyond the scope of this article, a few points are important for contextual understanding. In the late 1400s, the Caribbean islands were colonized by the Spanish, French, and English, who brought with them the African slave trade, which flourished from the mid-1500s to mid-1800s. Millions of slaves, mostly from West Africa, were imported to the Caribbean during this period. Mandatory evangelization, sometimes by decree of the colonizing government, meant that slaves were forced into Christian education and practice, resulting in loss and distortion of traditional cultural and spiritual belief systems (Miller, 2000).

In 1804, Haiti fought for and won independence, becoming the first independent Latin nation and first Black-led republic—an accomplishment for which intense pride persists to the current day (WHO/PAHO, 2010). However, even after independence, turmoil instigated by the colonial social structure impeded progress. In some perspectives, colonial occupation continues to the modern era. Many consider the presence of U.S. Marines in Haiti from 1915 to 1983 and the current United Nations

mission in Haiti, implemented following the U.S.-backed coup in 2004, to be undeclared occupations (e.g., Terrell, 2007).

Today, the effects of this history are evident in multiple ways. Perhaps most concretely, generations of oppression have resulted in severe socioeconomic disadvantage. Prior to the earthquake, 67% of the population lived on less than two dollars per day (Haiti Earthquake PDNA, 2010). Quite obviously, such conditions increase the likelihood of exposure to trauma and ongoing stress.

Culture and Religion

In contrast to Western anthropocentric views of the self in which life revolves around the individual, Haitians adopt a “cosmocentric” view in which one resides within a complex web of family, community, spirits, ancestors, and the natural world. Socially, Haiti is a collectivist society, in which the self is viewed as intrinsically linked to others. Family is defined communally and elastically, such that it includes not only blood relatives including extended family members, but also god-parents, informally adopted children, friends, and neighbors (WHO/PAHO, 2010). When the need for financial or other sorts of favors arise, this community can often be counted on to provide, allowing for survival even with virtually no income.

Despite significant disparity in wealth and education (72% of the population has only a primary school education), education and hard work are highly valued as modes of upward mobility (Dudley-Grant & Ethridge, 2008; WHO/PAHO, 2010). Both celebration and mourning are social affairs. Many recreational activities are community based and entail acts of creative physical expression, such as group song, dance, or prayer, often at festivals and holiday celebrations. However, after the earthquake, the Mardi Gras festival

was canceled and replaced by three days of collective prayer in front of the destroyed National Palace.

Indeed, the majority of Haitians are intensely religious and most identify as Catholic, with a smaller number of Protestants. Additionally, Voudou has long been an enormously important influence in the lives of Haitians, including those who identify as Christian (Nicolas, De-Silva, Gray, & Gonzalez-Eastep, 2006). After the family and community, religious leaders and traditional healers are critical sources of help-seeking for both medical and emotional problems (WHO/PAHO, 2010). In the Voudou belief system, the occurrence of traumatic experiences and emotional distress are often explained by a lack of harmony within the familial, social, natural, and spiritual worlds (for instance, a result of “being cursed,” by displeased acquaintances or spirits). Harmony can be reestablished and curses lifted in collaboration with one’s community, spirits, and ancestors, through prayer, visits to healers, and participation in individual or group rituals (Marshall, 2005; WHO/PAHO, 2010). Funereal rituals are particularly important to guarantee that dead loved ones are not left in a state of moral limbo; inability to complete these rites after the earthquake is a common source of distress (Burnett, 2010; James, 2004).

After the Earthquake

Today, Haiti is, by all accounts, in dire straits. According to the United Nations and the International Organization of Migration (IOM), as of November 2011, approximately 600,000 people remained in tents or other temporary housing in nearly 900 sites (OCHA, 2011). Although the number of people residing in IDP settings has decreased significantly since the earthquake, much of this has been attributed to evictions

and disintegrating conditions in the camps, rather than moves to repaired or rebuilt housing (OCHA, 2011). Only a fraction of the housing promised by international aid agencies such as the International Red Cross have been built, despite billions of dollars set aside for Haiti's reconstruction. This is symptomatic of larger failures in the distribution of humanitarian aid; as of September 2011, only 43% of the funds promised by donor countries had been disbursed and the Center for Economic and Policy Research (2011) estimated that only 10% of this had been spent on the ground.

Prior to the earthquake, unemployment was estimated at 45% in Port-au-Prince, and earthquake-related job losses are estimated at an additional 8.5% (Haiti PDNA, 2010). Thus, with few jobs and little income, many camp residents told us that their primary activity is to *chita san fe anyen*—sit and do nothing—and that they can see no way to change their situation.

Development and Implementation of Soulaje Lespri Moun

Soulaje Lespri Moun (SLM) is designed as a reinforcement, not a challenge, of the many healing aspects of Haitian culture, especially those that were disrupted by post-earthquake displacement. A central tenet of SLM's approach is that people are able to maintain multiple belief systems and shift between explanatory models as needed. They may also utilize varying treatment sources even when these offer conflicting "diagnoses." More specifically, we propose that Haitian SLM participants can appreciate psychological as well as Christian, Voodoo, and other local explanations and treatment recommendations simultaneously, without one wiping out or disrupting the others. To illustrate this point, an SLM staff member described the participation of older women from a rural area in an SLM seminar:

Some of them have never heard of psychology. They say, psychology—what is that? Maybe they think that their nervous feeling is caused by a Hougan (Voodoo doctor), because a neighbor is jealous of them. But if we take the time to explain to them about psychology, about fight or flight, and we teach them a technique to use to feel better, they will listen. They will say, wow! This works! But they will not stop believing in Voodoo. They may see a Hougan also. But in the meantime, they have a technique they can use.

In the following sections, we describe SLM's development and implementation, with focus on elements that contribute to this assertion, beginning with the theoretical basis for its two-level train-the-trainer format, followed by specific training and curricular procedures.

Two-Level Train-the-Trainer Structure

SLM utilizes a train-the-trainer model to effectively and efficiently disseminate content—a framework promoted by guidelines from the IASC and Psychological First Aid (Brymer et al., 2006; IASC, 2007). However the SLM model is unique in that it entails two levels of training of trainers. In the first, a team of U.S. professionals and Haitian professionals and paraprofessionals trained local young people to work as core team of lay mental health workers. In the second, the team of lay mental health workers train groups of IDP camp residents to serve as peer leaders of ongoing support and problem-solving groups for other camp residents.

There are multiple theoretical and logistical reasons for this format. First, in line with recovery and empowerment approaches to mental health care (e.g., Lee, 2001; Roberts & Wolfson, 2004), we adopt the assumption that local survivors and lay people are effective service providers. The use of local lay people fits with existing cultural help-seeking habits, in which the community serves as an initial source of aid. Moreover, by incorporating trainers who are community members and disaster survivors (many of

whom have friends and relatives in the camps), SLM accesses local cultural and experiential expertise regarding how best to engage and benefit participants. Employment of local staff also helps to offset concerns about the disempowering effects of placing responsibility for healing into the hands of “experts,” rather than survivors themselves (Bracken, 2001)—a particularly significant consideration in light of Haiti’s history of colonization and occupation. Without any foreign representative present, demand characteristics, issues of power structure and coercion, and expectations of financial reward are less significant.

Additional benefits include the increased time and cost efficiency resulting from avoiding the expenses associated with foreign staff; the provision of income, education, and training for the young Haitians who work as lay mental health workers, supervisors, and research assistants (at a time when such opportunities are scarce); and consequentially, the potential for increased sustainability. Moreover, framing the services as “training” rather than “therapy” capitalizes on the value placed on education in Haitian society and decreases potential stigma associated with accessing psychotherapy services (IASC, 2007). Throughout the training, the focus is on attending to one’s own mental health in order to help one’s family and friends and on learning skills to benefit the community more broadly.

Participants are trained in groups rather than individually, not only because it is cost and time efficient, but also because a group-level model is congruent with the collectivist social structure and a primary program aim is to rebuild social connection and support. Post-earthquake relocation has scattered neighbors, interfering with the preexisting neighborhood and community support networks that act as protective, healing

elements of Haitian culture. Although IDP camp environments can sometimes foster new contacts, in some cases insufficient space, lack of privacy and security, and competition for limited resources exacerbate in-group – out-group divisions (Giel, 1990). Sadly, social support and cohesion are threatened at the time when they are most critical; it is well established that perceived social support is one of the most robust predictors of recovery from trauma and from stress more generally across cultures (see Brewin, Andrews, & Valentine, 2000, & Stovall-McClough, & Cloitre, 2006 for reviews; Danieli & Nader, 2006; van Ommeren et al., 2005). SLM’s use of group format aims to help rebuild social networks disrupted by death and displacement by exposing shared experience and teaching coping strategies that necessitate social contact. Participants work in the same small groups throughout and then take the role of peer leaders to disseminate coping skills to their own groups for additional camp residents.

A primary anxiety in lay mental health intervention concerns the potential for vicarious traumatization of lay workers, especially survivors. Although these concerns are well-noted, we propose that with proper debriefing and other staff support services, effects on lay mental health workers are likely to be healing, rather than retraumatizing. In fact, we hypothesized therapeutic value both for the lay mental health workers and for the graduates-turned-peer leaders as a result of their reengagement with traumatizing content in a helping role. The empowering process by which participants use their own survival expertise to help others allows for a key transition from “victims” to “survivors” (Herman, 1997).

Aiding community members is a valued cultural practice in Haiti. Moreover, possessing a sense of social purpose is a prime source of perceived life meaning and

purpose, both considered critical elements of trauma recovery across cultures (e.g., Frankl, 1959; Herman, 1997; Power & Brewin, 1997; Pupavac, 2006). The therapeutic advantages of helping others are well documented; for example, the recovery model literature reports evidence of increased confidence, coping self-efficacy, self-esteem, sense of empowerment, and hope, as well as a reduction in use of crisis services by mental health service consumers working as peer providers (Solomon, 2004, for a review). The “helper-therapy principle” attributes the benefits of helping to interaction with others with similar problems, as well as gains in interpersonal competence, personally relevant knowledge, and social approval (Riessman, 1965).

The process of involving survivors in critical service provision roles aims to empower them not only at the individual level (e.g., enhancing perceived meaning, competence, self-determination), but also at the collective level, by enhancing perceived social belonging, control over influencing community outcomes, and community building (Hobfoll et al., 2006). Indeed, ongoing peer-led groups can provide a platform not only for disseminating specific coping skills, but also for additional forms of social problem-solving and action, spanning from sharing child-care to jointly advocating for a new camp toilet, to speaking about mental health or sexual assault at schools or camp gatherings. In this sense, SLM aims to incorporate aspects of social activism—an approach with proven effectiveness for trauma patients (e.g., Herman, 1997).

Thus, this train-the-trainer model allows for focus on community-building and social change, in addition to reducing distress at the individual level. There is much evidence that building community can itself be therapeutic, but we argue also that content informed by a psychological model can be used to build community by bringing people

together in support groups and empowering them to further disseminate useful coping strategies.

Training of *Ajan Sante Mantal* (Lay Mental Health Workers)

In May 2010, the authors (two clinicians from the University of Michigan and the PTSD clinic at the Ann Arbor Veteran Administration Healthcare System, a Haitian project manager, and a Haitian psychology student and consultant) collaborated with the Aristide Foundation for Democracy (AFD) (a local organization devoted to empowerment and education of youth and women, as well as varied earthquake relief projects) to train eight local young people to work as lay mental health workers. These workers, called *Ajan Sante Mantal* in Haitian Creole, are in their twenties or early thirties (four women, four men), all of them earthquake survivors and all previously involved in youth programming at the AFD. The “Ajan” as they are nicknamed, were selected by the AFD director based on positive feedback from his staff. Though some had prior teaching experience, none possessed clinical experience or psychological training. This is both because such training is relatively scarce in Haiti and because, in their work with SLM, the Ajan are not expected to act as therapists, but rather as instructors or guides for camp residents experiencing usual levels of distress related to the earthquake and displaced life. The Ajan are trained to identify and make referrals for seriously mentally ill individuals who require additional care.

During one week training, the Ajan were first introduced to project aims and expectations, including discussion of their role as teachers of a curriculum rather than therapists, the expectation that they would identify and make referrals for people with serious mental illness, and basic ethical issues such as confidentiality. They signed

employment contracts for a trial two month “internship” (new contracts were developed for each camp to follow). They were then provided with a coping skills curriculum in outline form in Haitian Creole. This outline, developed collaboratively by the authors, was informed by literature review, qualitative interviews conducted with camp residents regarding primary mental health concerns, and discussion with Haitian psychology consultant (Jean) about his experience treating IDP camp residents. The outline consisted of both Western psychological and Haitian coping mechanisms. In some cases, these techniques were merged, as in the case of physiological relaxation exercises presented to the rhythm of local songs (see SLM Content and Theory below for a more comprehensive account of curriculum content).

The Ajan were initially introduced to the content by serving as participants in a seminar run by the first author (James) with translation by the second author (Noel). They then practiced role-playing content in pairs, with close supervision by the psychology consultant (Jean). Ajan were instructed to run the seminars in conversational Haitian Creole and to avoid technical or unfamiliar language, to put concepts in their own words, and to use examples from their own experience, with the aim of enhancing cultural relevance by filtering the content through local perspectives. Successful examples developed by the Ajan were in turn integrated into the seminar protocol.

The Ajan were also trained to identify and monitor their own responses to their work, with the goal of preventing and managing their own mental health difficulties. While working in each camp, the Ajan met for one hour per week for processing with the psychology consultant (Jean) and project manager (Noel). This meeting provided a venue to discuss problems and successes in administering the seminars, as well as emotional

reactions to upsetting content encountered while working in the camps, and self care strategies. Trauma symptoms and compassion fatigue were assessed every several months.

In June 2011, the core group of Ajan was joined by eight new interns, selected by a psychology instructor teaching free courses as part of a Youth League program at the AFD. These young people were trained by the Ajan and project managers and shadowed the Ajan for 1 month on a volunteer basis, before becoming full-fledged Ajan.

Intervention Structure

Between April 2010 and January 2012, the Ajan conducted free seminars with hundreds of residents across seven IDP camps. The Ajan, as well as the project manager, staff supervisor, and psychology consultant, were paid a small stipend to run or facilitate seminars for one to two months in each camp.

SLM participants were volunteers, age 18 and over, residing at the IDP camps being targeted for intervention. Camps were selected because of preexisting relationships with the AFD (e.g., being sites for mobile schools run by the AFD) or with SLM staff members and physical proximity to the homes of the staff. Participants were recruited with the permission of the “camp committee,” a small leadership contingency in each camp. They were not selected based on any existing mental health concerns. Rather, the committee widely advertised the opportunity, and interested participants were invited to come to a centralized location to hear about the SLM project, their rights to refuse or cease treatment and confidentiality expectations and limitations and to provide oral or written consent to participate.

The structure of the seminars has evolved as participants' needs changed, and the Ajan's skills grew. In June through August, 2010, the Ajan worked in two very large camps where life was chaotic and transient. To accommodate those conditions, Ajan ran ongoing seminars for two months using a "drop-in" format in which participants could come and go as desired and basic material was continually repeated and elaborated upon. Hundreds of camp residents participated, if briefly, during this time. By November 2010, as conditions stabilized, seminar structure became increasingly formalized, so that a smaller but more stable group of participants was expected to attend every session. Their role was to learn material more deeply so as to be able to share it with others in the camp. Content could build upon itself from session to session, and time in each camp was cut to one month.

Additionally, foreign mental health professionals were invited to provide training in supplementary, basic, easily applicable trauma treatment modalities (e.g., self-soothing and mindfulness techniques) on a self-funded volunteer basis. The Ajan modified their sessions in response to this training and as experience informed what works best. For example, the Ajan independently elected to give a short exam after the content concluded. Those who passed the exam were given certificates of completion at a graduation ceremony complete with cake and speeches.

During the summer of 2011, the team developed a treatment manual informed by discussion and surveys completed by the Ajan and feedback from SLM participants, for use both by Ajan and to guide SLM graduates-turned-peer leaders. The manual, outlined below, provides content for 12 two-hour sessions.

SLM Curriculum Content

Upon meeting participants, Ajan introduce themselves, sometimes sharing their own stories about the earthquake and their involvement with SLM, describe seminar guidelines regarding attendance and confidentiality, and facilitate participant introductions. An important guideline is that participants are welcome to share their own stories at any point, in any format they choose, but there is no pressure to do so if they would rather not. This flexible approach is consistent with local storytelling customs in which narratives are spontaneous, detailed, expressive, and very much valued, but sharing personal difficulties (especially regarding mental health) can sometimes be considered taboo until trust is established (WHO/PAHO, 2010).

Natural disaster education. Next, the Ajan provide education about the geological causes of earthquakes and safety strategies for use in the event of future quakes and other natural disasters (e.g., Federal Emergency Management Agency [FEMA], 2010). This module aims to increase perceived safety by addressing immediate concerns about the likelihood of future disasters and simple safety strategies such as the identification of a meeting place for family members.

Common responses to stress and trauma. Following sessions focus on discussion of common challenges. When asked to describe current problems, participants most often begin by relating difficulties in securing housing, food and clean water, and employment. Initially, we had concerns that people would be uninterested and perhaps even resentful about being offered mental health intervention in light of these unresolved basic needs (IASC, 2007). We found that this is not the case, but also that acknowledging and empathizing with these unmet needs is a critical first step.

As participants become comfortable, they begin to share mental health concerns, which the Ajan list, explain, and normalize. Initial responses were often physical in nature, such as head, body, and stomach ache; disrupted menstrual cycle; physiological hyperarousal (such as “trembling,” the sense that the ground is moving, accompanied by racing heartbeat and hyperventilation); and sleep and sexual difficulties. As discussion progressed, psychological and emotional symptoms were also revealed, including anxiety, fear of another quake or the end of the world, intrusive memories and nightmares, grief, and guilt.

A discussion of symptom etiology follows, in which participants are asked why they believe they have these symptoms. The Ajan acknowledge that diverse contributors are likely, but explain that they will focus on one particular perspective, stemming from the field of psychology. We found that in most cases, participants had some prior experience with biomedical explanatory models and were responsive to psychological interpretations of symptoms and coping strategies as a method of increasing safety and calming. The Ajan provide interactive psychoeducation about the fight, flight, or freeze response and then demonstrate the hypervigilance and startle response and explain physiological origins in short skirts, emphasizing that one is neither crazy nor physically ill but rather that one’s symptoms stem from the body’s adaptive efforts to keep one safe.

Although personal symptoms are discussed, there is also ongoing effort to discourage perception of trauma as a malady situated solely in the individual. Rather, the social, political, and economic factors that contribute to current circumstances are frequently acknowledged, inspiring discussion of related human rights issues (IASC, 2007). The mental health effects of the Haitian quake, as in the case of most natural

disasters, are compounded by social injustices; losses were aggravated by the poor construction of the houses, a product of poverty, and the inadequate efforts of a corrupt government, and hundreds of thousands remain in IDP camps, not only because of the magnitude of the earthquake, but also because of slow rebuilding due to failures on the part of the government, non-governmental organizations, and the international community. Acknowledgment of these factors attributes suffering to a realistic cause outside of the individual and sometimes reveals opportunities for social action.

Coping. In subsequent sessions, Ajan inquire about, acknowledge, incorporate, and reinforce existing positive coping strategies, in an effort to avoid disrupting intact protective cultural and community influences (Ager, 1997). When asked to share what they do to alleviate distress, participants' common responses included attending church and group prayer, song, dance, sports, joking around, and attending rituals and festivals. Such responses are reinforced, while education is provided about long-term consequences of problematic coping strategies such as excessive alcohol use. To further enhance the use of social coping, participants construct Genograms to help identify potential supports.

In order to capitalize on the healing properties associated with group activities in Haitian culture, SLM adapts psychologically informed relaxation techniques and games to a group setting. A related aim is the imitation of physical and social aspects of religious rituals and festivals that were disrupted by the quake and ensuing displacement. For example, group exercises such as breathing retraining, muscle relaxation, and soothing bilateral stimulation and imagery through a technique called the Butterfly Hug (Artigas, Jarero, Mauer, López Cano, & Alcalá, 2000), are compared to the rhythmic movements experienced while swaying in prayer or dancing in ceremonies. Physiological

relaxation techniques are often accompanied by a calming hymn or Haitian song, and imagery uses local places and activities, such as visiting the beach with loved ones and often entails inviting others into one's "imaginary world".

Relaxation exercises are complemented by games familiar to participants from their own childhoods, with slight adaptations, such as "Tic Tic Boom," designed to decrease startle response through exposure to sudden noises, and "Send a Message," designed to improve concentration and memory. Group games are intended not only to remedy symptoms, but also to lower inhibitions, so allowing an opportunity to play, to burn off energy, and to express parts of oneself that are typically untapped in the sobering context of an IDP camp.

In general, techniques were developed through close collaboration between the authors and Ajan. After psychological relaxation techniques were introduced and their rationale explained, Ajan brainstormed related Haitian practices— song, dance, or prayer—that might make the technique feel more natural. In other cases, Haitian healing practices were used as initial inspiration. For instance, failure to complete funereal rituals due to post-earthquake chaos created guilt and a lack of social cohesion at a particularly difficult time and has been linked to ongoing distress by Voudou practitioners (Burnett, 2010). Thus, when discussing grief, Ajan organize a ritualized group procedure in which participants express feelings and share memories of loved ones killed in the earthquake.

Child responses and coping. Ajan next outline common responses among children such as fear, jumpiness, difficulty sleeping, nightmares, mood swings, being clingy, acting younger than the child's age, isolation, aggression, and trouble

concentrating.² This is followed by role playing strategies by which adults can help children, including taking care of oneself first so as to be a good role model, physical and emotional interaction, discussing the earthquake and safety planning, keeping a routine and giving children responsibilities, and teaching relaxation exercises (e.g., National Child Traumatic Stress Network [NCTSN], 2010).

Hope and meaning making. A following session focuses on ways of maintaining hope, including religiosity and taking comfort in family and friends. This session also includes discussion about distinguishing between controllable and uncontrollable aspects of current circumstances and coping accordingly. The Serenity Prayer, familiar to many Haitians, is used as a foundation for discussion of aspects of life to accept or to work to change. This is accompanied by realistic goal setting, including discussion of opportunities to engage in social action and other helping activities. This content provides an introduction for the following sessions, in which SLM directly facilitates an opportunity for participants to share coping skills learned thus far with their communities.

Review, exam, and supervision of peer-led groups. After reviewing prior content, participants complete an exam entailing written and role-playing components. Those who pass the exam are awarded certificates of completion in a graduation ceremony in the ninth session (those who do not are given additional testing opportunities after participating in peer-led groups). Finally, during the final three sessions, participants

² Thus far, SLM has aimed to aid children primarily by training parents and community members in skills to be used with the children in their lives. However, a child model to be run alongside the adult model is also underway, incorporating a narrative therapy framework and parallel efforts to enhance community engagement and helping behavior.

are supervised by the Ajan in recruiting other camp residents to join peer-led groups and in running these groups. The aim is that the peer-led stage of intervention will continue indefinitely and provide a platform for collective social action.

A note about conflicting content. Inevitably, there are moments in which SLM's content conflicts with some participants' beliefs. What the Ajan define as anxiety, participants may see as a curse implemented by a Voudou doctor at the request of a jealous acquaintance or a signal of insufficient prayer or ritualizing. A prime example is in explaining the earthquake itself. In response to our discussion about friction among plates under the earth, some participants eagerly press for scientific details, but others gently inform the Ajan that this is interesting but simply incorrect. Many hold the view that the earthquake is part of a religious prophesy, a response to sins committed by generations of Haitians, for which the people have only themselves to blame. When participants describe spiritual beliefs about the quake, the Ajan ask whether such thoughts are comforting or anxiety provoking. Many assure us that God will take care of them, that prayer is all that keeps them going, but a few confide that fear about the end and guilt about past and future sins are sometimes overwhelming. When people describe positive emotions, the Ajan reinforce their good coping. When they report negative emotions, they listen empathetically and explain that we will teach some basic things to do that can help people calm their bodies and feel better. These can be used on their own or in conjunction with prayer and other rituals. This is hardly a revolutionary approach, and it is not always entirely satisfying to participants. However, it allows SLM to maintain a core priority: introducing a psychological perspective without discounting other approaches, particularly those that are themselves beneficial.

Challenges Faced

This article aims to outline a conceptual framework for cross-cultural post-disaster intervention work and to provide a concrete example how this framework might be applied, by drawing on experiences implementing a lay mental health worker project in Port-au-Prince, Haiti. This has been a learning experience throughout, with countless challenges faced, some successfully addressed, and others ongoing. Although a thorough discussion of these could form a complete article themselves, in the interest of preparing future practitioners and researchers, we outline some primary difficulties below.

Logistics and safety

There are inevitable logistical challenges in navigating an unpredictable, often chaotic post-disaster context in a developing country. A sophisticated level of coordination and strategic planning is essential in order to guarantee safety and to provide for transportation, materials, and translation for participants and staff. However, despite even the best laid plans, flexibility and certain degree of faith are key. We have found that expertise from committed local staff has been enormously important, in issues as diverse as navigating traffic and locating a functioning copy machine, to alerting project managers about potential violence in camps. Paying close attention to local sources of news (e.g., text messages) has allowed us to tap into rumors of violence and motivated suspension of work in unsafe areas.

Local “buy in”

A related challenge is attaining (and maintaining) buy in from local organizations, staff, and participants. Our collaboration with a Haitian organization, the AFD, resulted from a gracious introduction by a University of Michigan colleague and allowed for

initial contact with the Haitian members of our team. The U.S. team leader (James) visited repeatedly to strengthen relationships with the staff and to establish a communication protocol for use when she was not in Haiti. A next step was securing access to intervention participants, a process that required close attention to established systems of leadership and communication. Organizational support and local staff members were critical in making contact with the committees that lead each IDP camp and organizing formal meetings with them in which we “sold” the SLM rationale and negotiated for space, security, and recruitment assistance.

Once participants were identified, the battle to win their attention and investment began. Although many were enthusiastic participants from the start, some were prone, quite rationally, to bouts of skepticism about the role of mental health intervention in light of basic survival needs. Again, our local staff, themselves earthquake survivors, were most effectively able to empathize with these concerns while endorsing the benefits of achieving “relief for the spirit,” even as shelter and financial needs remained unmet. This often entailed sharing their own stories of benefits gained from SLM content. Such a message is unlikely to have been nearly so well received if it had come from disconnected foreign professionals.

Staff self-care

A core concern throughout has been the well-being of the Ajan and other Haitian staff, who struggled with their own losses and trauma responses even as they listened to exceedingly painful stories in the camps. Weekly debriefing and monitoring of trauma and compassion fatigue symptoms, as well as anonymous interviews, suggested that their participation in SLM helped to alleviate, rather than exacerbate, their own distress.

However, the stress associated with this work is undeniable, and the promotion of adequate self-care tools among both local and foreign staff continues to be a work in progress.

Collaboration

A limitation in our work thus far has been minimal collaboration with other organizations doing work in Port-au-Prince. Although the decentralized and fragmented nature of service provision has made it difficult to form stable collaborative relationships, we are committed to further pursuing such relationships. Likewise, in light of Haitians' frequent use of traditional and spiritual healing, we feel strongly that consultation with religious and traditional healers is critical in order to inform measure development and program modifications that further tap into culturally specific modes of resiliency and healing. Collaboration with local healers can help with the development of culturally competent care (e.g., by countering clinicians' evaluation biases), reach marginalized and rural communities, and decrease stigma around mental illness (Incayawar, 2009).

Empirical research

Although the focus of the current article is the presentation of our conceptual model rather than its empirical assessment, it is important to note that we have also engaged in research to contribute to the small body of existing empirical work in cross-cultural disaster mental health. This has come with a plethora of challenges, including moral issues related to balancing research objectives with meeting participants' immediate needs and decreasing participant burden, and logistical and cultural issues, such as the timely development of culturally appropriate measurement tools. Being able

to explain, in practical language, the purpose and value of research, and the rationale behind particular methods, has been critical in order to facilitate honest discussion between U.S. and Haitian team members about when and how to collect data.

Empirical Aims

Despite these challenges, significant empirical work has been completed, to be presented fully in future publications. In brief, during 2010, we assessed SLM participant outcomes in a sequence of pilot studies conducted using a Creole translation of the PTSD checklist portion of the Harvard Trauma Questionnaire, a 17-item scale designed by the Harvard Program for Refugee Trauma to be used across cultures to assess the mental health of respondents who have experienced displacement, disaster, and war (Mollica et al., 1992).

In January 2011, due to concern that the Harvard Trauma Questionnaire could not fully capture the unique responses associated with life in a Haitian IDP camp, the SLM team conducted qualitative interviews to develop a culturally and situationally tailored measurement tool. This needs assessment was also used to revise manual content and to identify risk and resiliency factors among residents. Our tailored measure allows us to assess not only trauma symptoms, but also stress responses, functioning, and use of both local and Western psychological coping mechanisms. This final element allows for the testing of a key hypothesis: that SLM's culturally adapted format allows participants to incorporate psychologically informed coping mechanisms without disrupting existing indigenous coping practices.

Additional aims are to determine the extent to which the model operates as hypothesized, such that graduates naturally go on to recruit participants and run their own

peer-led groups, and to assess engagement in community action projects. We intend to assess if, as hypothesized, this community-engagement component has therapeutic benefits above and beyond that of simply participating in the seminars run by the original Ajan. If so, potential mechanisms of change will be explored, such as changes in meaning-making, self and collective efficacy, or simply increased exposure to the material.

Conclusion

Soulaje Lespri Moun (“Relief for the Spirit”) is a pilot intervention implemented over nearly two years for hundreds of participants in Port-au-Prince IDP camps. Despite many challenges, we propose that this Haitian–U.S. collaboration has resulted in a flexible, culturally anchored approach to aid earthquake survivors in coping with disaster- and displacement-related distress. Fundamentally, our approach is grounded in the appreciation of individuals’ ability to simultaneously benefit from a variety of different kinds of explanatory, coping, and treatment models—informed by both indigenous culture and by Western psychology—to alleviate distress. The two-level train-the-trainer framework provides a method by which a psychologically based approach can coexist productively with a culturally relevant focus on community building, so decreasing symptoms of distress by enhancing social cohesion and engagement and enhancing social engagement by teaching symptom-reduction techniques. Although our focus is on a post-disaster context outside of dominant Western culture, it is important to note that therapeutic approaches that stem from a socio-cultural perspective and strive to involve and develop community may benefit trauma survivors in Western cultures as well (Bracken, 2001).

The implementation of SLM in the face of significantly limited resources, as well as practical and cultural challenges, offers a sustainable model for post-disaster mental health intervention that we hope will prove useful in the development of future empirically informed and culturally compatible methods for the reduction of distress.

References

- Ager, A. (1997). Tensions in the psychosocial discourse: Implications for the planning of interventions with war-affected populations. *Development in Practice, 7*, 402-407.
- Almedom, A. & Summerfield, D. (2004). Mental well-being in settings of 'complex emergency': An overview. *Journal of Biosocial Science, 36*, 433-443.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental Disorders (4th ed., text revision)*. Washington, DC: Author.
- Argenti-Pillen, A. (2000). The discourse on trauma in non-Western cultural contexts: Contributions of an ethnographic method. In A. Shalev, R. Yehuda, & M. McFarlane (Eds.), *International Handbook of Human Response to Trauma* (pp. 87-102). New York: Kluwer Academic/Plenum Publishers.
- Artigas, L., Jarero, I., Mauer, M., López Cano, T., & Alcalá, N. (2000, September). *EMDR and traumatic stress after natural disasters: Integrative treatment protocol and the butterfly hug*. Poster presented at the EMDRIA Conference, Toronto, Ontario, Canada.
- Bonanno, G.A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist, 59*, 20-28.
- Bonanno, G. A., Brewin, C. R., Kaniasty, K., & La Greca, A. M. (2010). Weighing the costs of disaster: Consequences, risks, and resilience in individuals, families, and communities. *Psychological Science in the Public Interest, 11*, 1-49.
- Bonanno, G, Pat-Horenczyk, R., & Noll, J. (2011). Coping flexibility and trauma: The Perceived Ability to Cope with Trauma (PACT) scale. *Psychological Trauma: Theory, Research, Practice, and Policy, 3*, 117-129.
- Bracken, P. (2001). Postmodernity and posttraumatic stress disorder. *Social Science and Medicine, 53*, 733-743.
- Bracken, P. J., Giller, J. E., & Summerfield, D. (1995). Psychological responses to war and atrocity: The limitations of current concepts. *Social Science & Medicine, 40*, 1073-1082.
- Brewin, C. R., Andrews, B., & Valentine, J. D. (2000). Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. *Journal of Consulting and Clinical Psychology, 68*, 748-766.
- Brymer, M., Jacobs, A., Layne, C., Pynoos, R., Ruzek, J., Steinberg, A.,...Watson, P.,

- (National Child Traumatic Stress Network and National Center for PTSD) (2006). *Psychological First Aid: Field Operations Guide, 2nd Edition*. Available at: www.nctsn.org and www.ncptsd.va.gov.
- Burnett, J. (2010, February 3). Quake Takes Its Toll On Haiti's Burial Rites. In *NPR*. Retrieved August 10, 2010, from <http://www.npr.org/templates/story/story.php?storyId=123331644>.
- Castillo, R. J. (1997). *Culture and Mental Illness: A Client Centered Approach*. Pacific Grove, CA: Brooks/Cole Publishing Company.
- Center for Economic and Policy Research. (2011, September 22). *43% of Donor Pledges Disbursed, But Where? To Whom?* Retrieved October 30, 2011 from <http://www.cepr.net/index.php/blogs/relief-and-reconstruction-watch/43-of-donor-pledges-disbursed-but-where-to-whom>.
- Danieli, Y. & Nader, K. (2006). Respecting cultural, religious, and ethnic differences in the prevention and treatment of psychological sequelae. In L. A. Schein, H. I. Spitz, G. M. Burlingame, & P. R. Muskin (Eds.), *Psychological Effects of Catastrophic Disasters: Group Approaches to Treatment* (pp. 203-234). New York: Hawthorne Press.
- Drozdek, B. (2007). The rebirth of contextual thinking in psychotraumatology. In B. Drozdek & J. P. Wilson (Eds.), *Voices of Trauma: Treating Survivors across Cultures* (pp. 1-25). New York: Springer.
- Dudley-Grant, R. & Ethridge, W. (2008). Caribbean Blacks: (Haitians, Jamaicans, Virgin Islanders, Eastern Caribbean) Responses to disasters in cultural context. *Ethnocultural Perspectives on Disaster and Trauma International and Cultural Psychology, Section II*, 209-240.
- Federal Emergency Management Agency (FEMA) U.S. Department of Homeland Security. (2010). *Earthquake Safety Checklist*. Retrieved August 15, 2010 from <http://www.fema.gov/library/viewRecord.do?id=1664>
- Frankl, V. E. (1959). *Man's Search for Meaning: An Introduction to Logotherapy (3rd ed.)*. New York: Simon & Schuster.
- Fresco, D. M., Williams, N. L., & Nugent, N. R. (2006). Flexibility and negative affect: Examining the associations of explanatory flexibility and coping flexibility to each other and to depression and anxiety. *Cognitive Therapy and Research*, 30, 201-210.
- Giel, R. (1990). Psychosocial processes in disasters. *International Journal of Mental Health*, 19, 7-20.

- Haiti Earthquake Post Disaster Needs Assessment (PDNA): Assessment of damage, losses, general and sectoral needs. (2010). Retrieved August 15, 2011 from http://www.refondation.ht/resources/PDNA_Working_Document.pdf
- Herman, J. (1997). *Trauma and recovery: The aftermath of violence from domestic abuse to political terror*. Basic Books: New York.
- Hobfoll, S. E., Watson, P., Bell, C., Bryant, R. A., Brymer, M. J., Friedman, M. J., Gersons, B. P., de Jong, J. T....Ursano, R. J. (2007). Five essential elements of immediate and mid-term mass trauma intervention: Empirical evidence. *Psychiatry*, 70, 283–315.
- Hur, M. H. (2006). Empowerment in terms of theoretical perspectives: Exploring a typology of the process and components across disciplines. *Journal of Community Psychology*, 34, 523-540.
- Incayawar M. (2009). Future partnerships in global mental health - Foreseeing the encounter of psychiatrists and traditional healers. In Incayawar M, Wintrob R, Bouchard L (eds.), *Psychiatrists and Traditional Healers: Unwitting Partners in Global Mental Health* (pp. 251-260). London, UK: Wiley-Blackwell.
- Interagency Standing Committee (IASC). (2007). *IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings*, Geneva, IASC.
- Interagency Standing Committee (IASC) Mental Health and Psychosocial Support (MHPSS) Reference Group. (2010). Haiti Earthquake Emergency Response. Retrieved September 15, 2010 from http://www.who.int/hac/crises/hti/haiti_guidance_note_mhpss.pdf.
- James, E. C. (2004). The political economy of 'trauma' in Haiti in the democratic era of insecurity. *Culture, Medicine and Psychiatry*, 28, 127-149.
- Kagee, A. (2004). Do South African former detainees experience posttraumatic stress? Circumventing the demand characteristics of psychological assessment. *Transcultural Psychiatry*, 41, 323-336.
- Katz, C. L., Pellegrino, L., Pandya, A., Ng, A., & DeLisi, L. E. (2002). Research on psychiatric outcomes and interventions subsequent to disasters: A review of the literature. *Psychiatry Research*, 110, 201–217.
- Kolbe, A., Hutson, R., Shannon, H., Trzcinski, E., Miles, B., Levitz, N., Puccio, M., James, L., Noel, J., Muggah, R. (2010). Mortality, crime and access to basic needs before and after the Haiti earthquake: a random survey of Port-au-Prince households. *Medicine, Conflict and Survival*, 26, 4, 281–297.

- Lee, J. A. (2001). *The empowerment approach to social work practice: Building the beloved community*. (2nd ed.). New York: Columbia University Press.
- Lewando-Hundt, G., Stuttaford, M., & Ngoma, B. (2004). The social diagnostics of stroke-like symptoms: healers, doctors and prophets in Agincourt, Limpopo province, South Africa. *Journal of Biosocial Science*, 36, 433-443.
- Marsella, A.J., Johnson, J., Watson, P., & Gryzycnski (Eds.). (2008). *Ethnocultural perspectives on disasters and trauma*. NY: Springer SBM
- Marsella, A. J. (2010). Ethnocultural aspects of PTSD: An overview of concepts, issues, and treatments. *Traumatology*, 16, 17-26.
- Marshall, R. (2005). Caribbean healers and healing: Awakening spiritual and cultural healing powers. In R. Moodley & W. West (Eds.) *Integrating Traditional Healing Practices into Counseling and Psychotherapy* (pp. 73-84). Thousand Oaks, CA: Sage Publications.
- Mercer, S. W., Ager, A., & Ruwanpura, E. (2005). Psychosocial distress of Tibetans in exile: Integrating western interventions with traditional beliefs and practices. *Social Science and Medicine*, 60, 179-189.
- Miller, N. L. (2000). Haitian ethnomedical systems and biomedical practitioners: Directions for clinicians. *Journal of Transcultural Nursing*, 11, 204-211.
- Mollica, R.F., Caspi-Yavin, Y., Bollini, P., Truong, T., Tor, S., & Lavelle, J. (1992) The Harvard Trauma Questionnaire: Validating a cross-cultural instrument for measuring torture, trauma, and posttraumatic stress disorder in Indochinese refugees. *Journal of Nervous and Mental Disease*, 180, 111-116.
- Neria, Y., Nandi, A., & Galea, S. (2008). Post-traumatic stress disorder following disasters: A systematic review. *Psychological Medicine*, 38, 467-480.
- Nicholas, G., DeSilva, A. M., Grey, K. S., Gonzalez-Eastep, D. (2006). Using a multicultural lens to understand illness among Haitians living in America. *Professional Psychology: Research and Practice*, 37, 702-707.
- Office for the Coordination of Human Affairs (OCHA), United Nations (2011). Camp Coordination and Camp Management (CCCM) Cluster: Displacement Tracking Matrix (DTM). Retrieved October 30, 2011, from http://www.cccmhaiti.info/pdf/DTM_V2_Report_July_English_FINAL.pdf
- Oyserman, D., & Lee, S. W. S. (2008). A situated cognition perspective on culture: Effects of priming cultural syndromes on cognition and motivation. In R. Sorrentino & S. Yamaguchi (Eds.), *Handbook of motivation and cognition across cultures* (pp. 237-265). New York, NY: Elsevier.

- Power, M. J., & Brewin, C. R. (Eds.) (1997). *The Transformation of Meaning in Psychological Therapies: Integrating theory and practice*. Chichester: Wiley
- Pupavac, V. (2006). Humanitarian Politics and the Rise of International Disaster Psychology. In G. Reyes & G. Jacobs (Eds.), *Handbook of International Disaster Psychology, Vol. 1* (pp. 15-34). Westport CT: Praeger Publishers.
- Reissman, F. (1965). The “helper-therapy” principle. *Social Work, 10*, 27-32.
- Roberts, G. & Wolfson, P. (2004). The rediscovery of recovery: Open to all. *Advances in Psychiatric Treatment, 10*, 37– 48.
- Ruwanpura, E., Mercer, S., Ager, A., & Duveen, G. (2006). Cultural and spiritual constructions of mental distress and associated coping mechanisms of Tibetans in exile: Implications for Western intervention. *Journal of Refugee Studies, 19*, 187-202.
- Sinha, D. (1984). Psychology in the context of third world development. *International Journal of Psychology, 19*, 17-29.
- Solomon, P. (2004). Peer support/peer provided services: Underlying processes, benefits, and critical ingredients. *Psychiatric Rehabilitation Journal, 27*, 392-401.
- Sontag, D. (2010, March 20). In Haiti, mental health system is in collapse. Retrieved March 1, 2011 from <http://www.nytimes.com/2010/03/20/world/americas/20haiti.html>
- Stovall-McClough, K. C. & Cloitre, M. (2006). Traumatic reactions to terrorism: The individual and collective experience. In L. A. Schein, H. I. Spitz, G. M. Burlingame, & P. R. Muskin (Eds.), *Psychological Effects of Catastrophic Disasters: Group Approaches to Treatment* (pp. 103-153). New York: Hawthorne Press.
- Summerfield, D. (1999). A critique of seven assumptions behind psychological trauma programmes in war-affected areas. *Social Science & Medicine, 48*, 1449–1462.
- Suvak, M. & Feldman-Barrett, L. (2011). Considering PTSD from the perspective of brain processes: A psychological construction approach. *Journal of Traumatic Stress, 24*, 3–24.
- Terrell, B. (2007). *In Haiti, Kill the Poor, Leave the Right-Wing Death Squads Untouched*. Retrieved August 23, 2010, from <http://www.globalresearch.ca/index.php?context=va&aid=4833>

- The National Child Traumatic Stress Network (NCTSN). (2011). *Parent Guidelines for Helping Children after an Earthquake*. Retrieved February 20, 2010 from http://www.nctsn.org/sites/default/files/assets/pdfs/Parents_Talk_to_Children_about_Earthquake.pdf
- USAID/OFDA. (2011, March 4). *Haiti – Earthquake: Fact Sheet #11*. Retrieved March 31, 2011 from http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/countries/haiti/template/fs_sr/fy2011/haiti_eq_fs11_03-04-2011.pdf
- van Ommeren, M., Saxena, S., & Saraceno, B. (2005). Mental and social health during and after acute emergencies: Emerging consensus? *Bulletin of the World Health Organization*, 83, 71-76.
- Vernberg, E. M., Steinberg, A. M., Jacobs, A. K., Brymer, M. J., Watson, P. J., Osofsky, J. D., Layne, C. M., Pynoos, R. S., & Ruzek, J. I. (2008). Innovations in disaster mental health: Psychological first aid. *Professional Psychology: Research and Practice*, 39, 381-388.
- World Health Organization (WHO) / Pan American Health Organization (PAHO). (2010). *Culture and Mental Health in Haiti: A Literature Review*. Geneva: WHO. Retrieved April 20, 2010, from http://www.who.int/mental_health/emergencies/culture_mental_health_haiti_eng.pdf
- Young, A. (1995). *The Harmony of Illusions: Inventing Posttraumatic Stress Disorder*, Princeton: Princeton University Press.

CHAPTER III

Preliminary evaluation of a lay mental health worker intervention for displaced earthquake survivors in Port-au-Prince, Haiti

On January 12, 2010, a catastrophic 7.0 magnitude earthquake struck Haiti, its epicenter just 16 miles outside of the capital, Port-au-Prince. The earthquake and resulting displacement affected a population already exposed to long-standing poverty, economic and social injustice, political violence and corruption, and multiple natural disasters (Haiti Earthquake PDNA, 2010; IASC, 2010; WHO/PAHO, 2010), and with virtually no existing mental health system (Budosan & Bruno, 2011; Raviola, Eustache, Oswald, & Belkin, 2012; Sontag, 2010).

Unsurprisingly exposure to earthquake trauma and the chronic stress of life in camps for internally displaced peoples (IDPs) are associated with significant distress among IDP camp residents. Common somatic and emotional responses include sleep disruption, headaches and other body pain, flashbacks and intrusive memories of the quake, fear of another earthquake, hypervigilance, grief, irritability, social isolation, and drug and alcohol use (Budosan & Bruno, 2011; IASC, 2010). Such responses are consistent with reports showing both short-term and chronic distress, including symptoms of posttraumatic stress disorder (PTSD), among a sizeable portion of disaster survivors

cross-nationally (Neria, Nandi, & Galea, 2008). Despite clear need, by all available accounts, Port-au-Prince lacks the resources or infrastructure necessary to efficiently provide mental health services to displaced individuals (Sontag, 2010; WHO/PAHO, 2010). Even prior to the earthquake, the threadbare mental health system was largely ignored by the Haitian government, and widely considered insufficient to meet pre-existing need (Budosan & Bruno, 2011; Raviola et al., 2012).

While Haiti's circumstances are extreme, unmet mental health need is common in the aftermath of disasters worldwide (e.g., Kakuma et al., 2011; Tol et al., 2011). Overall, empirical evidence regarding effective and culturally-appropriate methods of addressing post-disaster mental health and psychosocial need is scarce, particularly in developing countries and other low-resource contexts. On one hand, this is unsurprising in light of the myriad of safety, ethical, logistical, and financial considerations that make gold standard research methodologies largely unfeasible in the immediate aftermath of significant disasters. On the other, the existence of widespread, potentially preventable suffering makes post-disaster program evaluation, even using non-controlled methodologies, an immediate and pressing priority. The current paper aims to contribute to the small body of empirical literature in this area through the preliminary evaluation of a mental health and psychosocial group intervention implemented by local lay workers to decrease symptoms of distress among displaced Haitians.

In emergency, low-resource contexts such as that in Haiti, the international humanitarian community has historically stepped in to provide assistance (e.g., Tol et al., 2011). The majority of post-disaster mental health interventions in the Caribbean (including in the aftermath of the Haitian earthquake) have been “vertically-delivered”

psychosocial programs enacted by foreign organizations, with little integration into local communities (Kutcher, Chehil, Roberts, 2005). Despite good intentions, some such programs have been criticized for being costly, unevaluated, lacking sustainability and cultural adaptation, and for making minimal effort to capitalize on or develop strengths in the local community (Mental Health and Psychosocial Support Network [MHPSN], 2010; Van Ommeren, Saxena, & Saraceno, 2005). Scholars and interventionists warn that programming that imports a Western psychological (or other outside) perspective without adapting to or integrating with the culture or context may not only be ineffective, but also has the potential to disrupt local explanatory and coping models, and therefore do harm (e.g. Almedom & Summerfield, 2004; Bracken, Giller, & Summerfield, 1995; Drozdek, 2007). Indeed, commonly implemented interventions such as universal psychological debriefing and prescription of benzodiazepine and antidepressant medications in the immediate aftermath of trauma have been shown to lack benefit, and at worst, to impede recovery (Bonanno, Brewin, Kaniasty, & La Greca, 2010; Katz, Pellegrino, Pandya, Ng, & DeLisi, 2002; McNally, Bryant, & Ehlers, 2003). In contrast, consensus regarding best practices, such as the *Guidelines on Mental Health and Psychosocial Support in Emergency Settings* developed by the Inter Agency Standing Committee, call for facilitating locally-managed and implemented programs, utilizing non-professional community workers and train-the-trainer methodologies, and incorporating local cultural practices into intervention (IASC, 2007).

Thus, in addressing both the problem of limited human and financial resources, and the need for culturally and contextually appropriate services, there is growing acknowledgement of the need for “task shifting”: the use of local non-specialists (e.g.

primary care physicians and community workers) to meet mental health need (Kakuma et al., 2011). This approach calls for brief training provided by professionals to local non-specialists and lay people in the identification, referral, and treatment of individuals with mental health need. “Train-the-trainer” methodologies can further increase cost and time efficiency by creating a “cascade of training” in which professionals teach skills and techniques to trainees, who go on to train others, so reaching an enormous number of participants (Baron, 2006). Train-the-trainer and community-based approaches in which local community and healthcare workers make referrals and implement basic, culturally-adapted mental health interventions have been implemented in a range of post-disaster settings, including with tsunami survivors in India (Becker, 2007), Indonesia (Prasetyawan, Viora, Maramis, & Keliat, 2006), and Sri Lanka (Kakuma et al., 2011), and with hurricane survivors in Grenada (Kutcher, Chehil, & Roberts, 2005).

Although evaluation trials are relatively scarce, existing evidence suggests that mental health services provided by lay workers can be effective. A meta-analysis of 42 published studies revealed substantial improvements in patient outcomes (i.e. recovery, functionality, and severity) as a result of mental health case-finding, referral, treatment, and monitoring provided by non-specialist health workers, lay people, affected populations, and caregivers who were given brief training by specialists (Kakuma et al., 2011). A small body of studies focused particularly on the direct provision of psychosocial and mental health treatment by lay people. For example, in a randomized controlled trial, lay counselors providing case management and psychosocial intervention (supplemented by antidepressant drugs) increased recovery from common mental health disorders in Goa, India, compared to usual care by physicians (Patel et al., 2010). In

quasi-experimental trials, lay counseling provided by women from underprivileged communities in Pakistan decreased anxiety and depression in mothers of young children (Ali, Ali, Azam, & Khuwaja, 2010) and in a Dutch-Rwandan collaborative project, participants in a culturally-adapted sociotherapy intervention led by Rwandan community leaders showed more improvement in symptoms associated with common mental health disorders than did a control group (Scholte et al., 2011). Only a few studies were conducted in post-disaster settings. In two non-randomized controlled studies conducted with tsunami survivors in India, psychosocial groups led by trained community members decreased symptoms of posttraumatic stress among women compared to a no treatment control group (Becker, 2009), and mental health support provided trained lay volunteers decreased symptoms of depression, PTSD, and general distress among survivors who lost close family members (Vijayakumar & Kumar, 2008).

In Haiti, lay community workers have been active in recent years in raising awareness and providing supportive services focused on healthcare issues such as HIV (e.g., Ivers et al., 2011; Koenig et al., 2010), and social issues such as domestic violence and child-welfare (WHO/PAHO, 2010). After the earthquake, several organizations have trained non-specialists to contribute to meeting mental health need. Partners in Health (PIH), an international healthcare organization, and its Haitian sister organization, Zanmi Lasante (ZL), trained community members to conduct memorial ceremonies, and several months later, trained community health workers residing in IDP camps to help refer acutely distressed residents to clinics run by PIH/ZL (Raviola et al., 2012). Likewise, the Mental Health and Psychosocial Support (MHPSS) Working Group conducted trainings in basic mental healthcare for community-level workers and primary healthcare

providers. Trainings were successful in increasing knowledge among participants, and community workers were able to identify severe cases for referral, but the program was not able to significantly change clinical practices among primary care providers (Budosan & Bruno, 2011). Neither project reported outcomes for individuals accessing care.

The current paper aims to begin to fill the gap in empirical evidence regarding disaster mental healthcare in Haiti, and more broadly, in a developing country, IDP camp setting, and non-Western cultural context, using a task-shifting approach employing lay disaster survivors as practitioners. The following studies present preliminary results of an assessment of a small-scale, grass-roots lay mental health worker intervention called *Soulaje Lespri Moun* (SLM; “Relief for the Spirit” in Haitian Creole), that was implemented in IDP camps in the two years following Haiti’s 2010 earthquake. This project, housed by the Aristide Foundation for Democracy (AFD) in Port-au-Prince, was developed through collaboration between Haitian and US mental health workers, researchers, and lay people. It entails a purposeful merging of mental health and psychosocial expertise contributed by US and Haitian mental health professionals, with the cultural and situational expertise of local lay earthquake survivors to create a culturally-sensitive and adapted model, driven by local needs and leadership. SLM utilizes a two-level train-the-trainer structure, in which professionals train local young people to work as a core team of lay mental health workers, who then train groups of IDP camp residents to serve as peer-leaders of ongoing support and problem-solving groups for other camp residents (see Chapter II).

The current studies

At several time points throughout SLM's implementation, the SLM team assessed participant distress in order to inform intervention improvement. From the perspective of the SLM team, both logistical and ethical issues associated with instability in IDP camps and the need to provide immediate services with as little participant burden as possible made randomized and controlled research methodologies unfeasible in the first year after the earthquake. However, the team used a brief self-report measure of PTSD symptoms (the Harvard Trauma Questionnaire) to assess symptoms of distress before and after SLM participation as possible. In the following studies, we present secondary analysis of these measures collected at three IDP camps during the first eight months that SLM was implemented. These studies portray the evolving methods used to adapt intervention implementation and evaluation techniques to shifting conditions post-earthquake, while providing a preliminary test of hypothesized benefits of a psychosocial intervention model implemented by local disaster survivors in IDPs.

Hypotheses

The primary aim of the following studies is initial evaluation of the hypothesis that participation in SLM will be associated with decreased symptoms of posttraumatic distress among IDP participants. In light of evidence of neutral or even detrimental effects of some post-disaster interventions (Bonanno et al., 2010, Katz et al., 2002; McNally et al., 2003), an initial test is simply whether symptoms of SLM participants improve, stay constant, or worsen from start to finish. In Studies 1-3, outcome data is presented from SLM's implementation at three camps, each at different time points post-earthquake, and each using a slightly different intervention format in order to

accommodate shifting circumstances due to the passing of time since the earthquake and conditions in particular camps.

Subsequent analyses pool data from all three camps in order to compensate for small sample sizes of participants providing within-subject data at each camp, and provide a more comprehensive assessment of SLM's influence on symptoms, including on each of three PTSD symptom clusters. Analyses conducted on aggregate data also speak to a second hypothesis: that improvement among SLM participants is greater than the natural resolution of distress due to time passing. In partial compensation for a non-controlled design, aggregate data collected from both participants and non-participants across time and camp is used to control for the effect of time passing in assessing the impact of SLM.

Secondary hypotheses concern the role of gender on posttraumatic distress and engagement in and response to SLM. Women are disproportionately burdened by social factors, such as poverty and domestic and sexual violence, that commonly contribute to mental health problems, and are considered at increased risk in emergency contexts (IASC, 2007; WHO, 2000). These factors are especially relevant in IDP camp settings; notably, reports indicate significant rates of sexual violence in Port-au-Prince camps (Kolbe et al., 2011). In light of these contextual factors and considerable evidence that women are more susceptible to PTSD than men, including after disasters (Galea, Nandi, & Vlahov, 2005; Norris, Friedman, & Watson, 2002; Tolin & Foa, 2006), we predict higher distress among women than men reported in baseline measures collected at each camp (Studies 1-3).

There is also evidence that women may be more likely to seek help after trauma (e.g., Gavrilovic, Schutzwahl, Fazel & Priebe, 2005), although little work speaks to the role of gender in post-disaster, IDP camp, or Haitian contexts. Our aim is that both women and men will engage in and benefit from SLM. Thus, we report relationships between gender and voluntary engagement in SLM, and between gender and participant outcome. Due to small sample sizes, effects of gender on participation in and benefit from SLM are presented only for aggregate data across Studies 1-3.

Method

Setting and context

The effects of Haiti's January 2010 earthquake, locally nicknamed "Goudou Goudou" in imitation of the sound and feeling of buildings shaking and falling, are devastating. Nearly 160,000 residents of metropolitan Port-au-Prince died in the quake or its immediate aftermath. A quarter of households lost their homes entirely, while more than 40% sustained severe damage (Kolbe et al., 2010). As a result, a million and a half residents of Port-au-Prince were displaced to camps for internally displaced peoples (IDPs), where they have faced ongoing struggles to secure adequate shelter, food, and water, to ward off physical and sexual violence, and to survive a devastating cholera outbreak. As of January 2012, two years after the quake, more than 420,000 Haitians remain in 602 IDP settings¹ (IOM, 2012).

Intervention

A thorough account of the theory base, development, and implementation of SLM is described elsewhere (see James, Noel, Favorite, & Jean, in press). In brief, in April

¹ Although these figures show a significant decrease in IDP population over the prior two years, reports indicate that many of those who departed did so due to forced evictions and disintegrating conditions in the camps, rather than voluntary return to rebuilt housing (OCHA, 2011).

2010, a US-Haitian team made up of social workers, psychologists, and researchers trained eight Haitian young people (4 female, 4 male; mean age = 25, range = 22 – 31) to work as lay mental health workers, called “Ajan Sante Mantal” (“Ajan” for short). Over the next 18 months, the Ajan, working in male/female pairs, conducted group seminars open to volunteer participants in seven IDP camps in the Port-au-Prince metropolitan area. While SLM participation was open to all adults with interest, those with serious mental illness were given referrals for additional care.

SLM’s model has both a trauma focus, incorporating techniques to relieve distress associated with earthquake trauma, and a psychosocial focus, geared at rebuilding social networks disrupted by stressful IDP camp conditions. Intervention format has evolved as situational factors and needs have shifted. In general, lay mental health workers run 12 group seminars covering earthquake safety, common somatic and emotional responses to stress and trauma, basic relaxation and self-soothing techniques, and other coping skills for adults and children, including meaning-making strategies such as spirituality. This evidence-informed content aims to promote a sense of safety and calming to counter the symptoms of physiological hyperarousal typical of posttraumatic distress, to encourage a sense of self and collective-efficacy, and to enhance social connectedness and hope for the future (Hobfoll et al., 2007). Content is consistent with guidelines promoted by the IASC (IASC, 2007), ISTSS (Weine et al., 2002), the National Center for PTSD (Young et al., 2000), Psychological First Aid (Brymer, et al., 2006) and the WHO (WHO, 2003).

Despite being based in a model informed by Western psychology, content is culturally and contextually adapted by the SLM team, with the aim of acknowledging and reinforcing, rather than disrupting, beneficial local belief systems and coping

mechanisms. For example, SLM utilizes a group format framed as a non-stigmatizing “training seminar”, to build community and capitalize on the social value placed on education and training. It provides education and skills focused on a broad range of responses, including not only PTSD symptoms, but also the headaches and other somatic responses often described by camp residents, and incorporates local group song, games, and prayer to tap into therapeutic elements of cultural practices disrupted by the earthquake. Rather than focus on individual psychopathology, SLM content emphasizes the interchange between the psychological and social, political, and economic effects of disaster and disadvantage. After seminars end, participants are encouraged to continue meeting in peer-led groups to teach skills to new participants, and to provide a platform for community projects and advocacy. Thus, SLM aims to decrease distress not only by directly providing education and coping skills, but also by providing participants with the opportunity to reengage with a traumatizing situation in an efficacy- and community-building role by disseminating knowledge and providing support to others.

Measure

Assessments utilized a Creole translation of the PTSD checklist portion of the Harvard Trauma Questionnaire (HTQ). The HTQ, created by the Harvard Program for Refugee Trauma, aims to assess the mental health of survey and interview respondents who have experienced displacement, disaster, and war (Mollica et al., 1992). It is designed specifically for cross-cultural use and has been implemented in a wide variety of settings, including among Cambodian, Laos, and Vietnamese torture survivors, Bosnian refugees, trafficked women, and Australian asylum seekers (Mollica et al., 2004), as well as post-war African populations (Rasmussen, Smith, & Keller, 2007;

Roberts, Damundu, Lomoro, & Sondorp, 2009). It has also been used in Haiti both before and after the earthquake (Kolbe et al., unpublished data).

The HTQ consists of four parts: 1) an assessment of trauma exposure; 2) a description of one's most traumatic experience; 3) an assessment of the likelihood of head injury, and 4) a measure of trauma symptoms. The following studies used only the fourth section, which consists of 16 self-report questions modeled after the 17 symptoms that make up the posttraumatic stress disorder (PTSD) diagnostic criteria of the DSM-IV (with two symptoms, emotional and physiological responses to traumatic triggers, represented by a single item). The HTQ, like the DSM-IV symptom model of PTSD, consists of three criterion: re-experiencing/intrusion (sample item: "Recurrent thoughts or memories of hurtful or terrifying events"), avoidance/numbing (sample item: "Avoiding activities that remind you of the traumatic or hurtful event"), and hyperarousal (sample item: "Feeling on guard") (APA, 2000). Participants are asked to rate how much symptoms have bothered them in the last week, using four answer categories ranging from 'not at all' (score = 1) to 'extreme' (score = 4). Scores are averaged for the 16 items, with those with scores of 2.5 or above meeting cut-off criteria for PTSD² (Mollica et al., 1992). A Haitian Creole version of the HTQ was used in these studies, originally developed by Kolbe and colleagues (unpublished), through translation, back-translation, and revision for clarity.

² To aid in interpretability, results presented here include percentages of respondents surpassing the cutoff level specified by Mollica et al. (1992). However, these criteria have not been validated with this population and should be interpreted as a marker of severity of distress rather than as diagnostic of PTSD. See General Discussion section for further discussion.

Study 1

Method

In April 2010, residents of an IDP camp near downtown Port-au-Prince were invited by members of the camp's leadership contingency (known as the "camp committee") to come to a centralized location to learn about the SLM project. These residents were recruited because they had children in mobile schools that were being run by the Aristide Foundation at the camp, and therefore had an existing relationship with the organization housing SLM. They were not selected based on any existing mental health concerns. After a brief overview of the project, residents determined whether to consent to voluntary participation. Those who met criteria (age 18 or over, a resident of the IDP camp, and in Haiti at the time of the earthquake) and gave oral consent to participate were asked to complete paper versions of the Creole HTQ. While most participants completed the HTQ independently, the SLM team assisted those who requested help, including by reading it aloud in some cases. Participants also provided gender and age information.

One-hundred and thirty-nine residents completed HTQs. HTQs with missing data or with multiple items circled ($n = 33$, 22 female, 11 male) were not included in analyses, leaving a total of 106 participants (63 female, 43 male). Number of missing data did not correlate with participant age, gender or total HTQ score (calculated using existing data) (all $r_s \leq .14$; all $p_s \geq .128$), and did not differ by HTQ item (all were items missing $\leq 4.3\%$ of cases), suggesting that participants missed items randomly.³

³ Descriptive statistics for participants with missing data: Age: $M = 33.25$, $SD = 11.38$; Overall HTQ: $M = 2.64$, $SD = .45$, 67% PTSD; Women HTQ: $M = 2.60$, $SD = .49$, 64% PTSD; Men HTQ: $M = 2.71$, $SD = .37$, 72% PTSD.

For participants with complete data, HTQ items formed a reliable scale (Cronbach's $\alpha = .88$). There was a trend-level difference in HTQ score by gender, such that women reported higher HTQ scores than did men, $t(104) = 1.96, p = .052$. Age did not correlate with HTQ score, $r(99) = -.013, p = .900$ (five respondents were missing age data). See Table 3.1 for means, standard deviations, and percentage of respondents exceeding the PTSD cut-off.

Six Ajan working in pairs conducted two-hour drop-in seminars three times per week over the course of two months. Participants attended as much as possible and desired during this time. With the assistance of the camp committee, all participants were again invited to gather in July of 2010 to complete HTQs. At this time, 215 residents completed HTQs. Fifty-two (28 female, 24 male) of these were not analyzed due to missing data, leaving 163 remaining participants (81 female, 82 male). Again, number of missing data did not correlate with participant age, gender or total HTQ score (all $r_s \leq .11$; all $p_s \geq .116$), and did not differ by HTQ item (all items missing $\leq 5.6\%$ of cases).⁴ See Table 3.1 for descriptive statistics for participants with complete data.

Results

When asked to report whether they had participated in SLM, 46 of those surveyed reported doing so. Of those that reported participation, 17 (14 female, 3 male, mean age = 35.44, $SD = 10.38$) completed both pre and post-HTQs. Prior to SLM, these participants had a mean HTQ score of 2.79 ($SD = .54$; 82% met PTSD criteria), while post-SLM, mean score dropped to 2.22 ($SD = .52$; 29% met PTSD criteria), $t(16) = 3.60, p < .01$,

⁴ Descriptive statistics for participants with missing data: Age: $M = 34.86, SD = 16.81$; Overall HTQ: $M = 2.10, SD = .49, 25\%$ PTSD; Women HTQ: $M = 2.11, SD = .51, 29\%$ PTSD; Men HTQ: $M = 2.09, SD = .39, 21\%$ PTSD.

Cohen's $d = .89^5$. See Figure 3.1 for a graphical representation and Table 3.2 for mean pre-post differences.

A comparison between other participants (excluding those with within-subject data) who reported participating in SLM ($n = 32$) and participants who denied doing so ($n = 117$) at the July time point revealed significantly lower HTQ scores among SLM participants compared to non-participants, $t(147) = 3.74, p < .001$. See Table 3.1 for means, standard deviations, and PTSD percentages.

Discussion

Participants who completed both pre- and post- SLM HTQs (in April and July, respectively) reported significantly decreased HTQ scores following participation in SLM. Moreover, while HTQ scores for respondents overall were lower in July than in April, those who reported participating in SLM at the July time point had significantly lower HTQ scores than did those who denied doing so.

Results are limited by the small sample of participants with both pre- and post-intervention data. The structure of the drop-in sessions meant that participants who began in May had received the entire content well before July and had likely stopped attending by the time post-intervention data collection occurred. Transient participation and concerns about confidentiality discouraged documentation of participant attendance, and transience within the camp made it impossible to re-contact most of the participants originally surveyed. As evident from the large number of people who filled out the HTQ in July without completing SLM, the very public and often chaotic IDP camp environment made it difficult to limit the data collection to only legitimate participants

⁵ For Cohen's d , an effect size of 0.2 constitutes a "small" effect, 0.5 a "medium" effect, and 0.8 or above, a "large" effect (Cohen, 1988).

who planned to or had completed SLM. Anecdotally, team members reported that many camp residents were likely motivated to complete measures at both the April and July time points due to perceptions that they might receive aid, rather than interest in SLM, suggesting that the large number of lost respondents should not be assumed to be due entirely to drop-out. Study 2 expands on these results by examining data collected several months later, in a somewhat more stable camp environment.

Study 2

Method

In July 2010, 137 (87 female, 51 male; mean age = 34.58, $SD = 11.75$) residents of a camp in Bon Repos neighborhood of metropolitan Port-au-Prince completed the HTQ using the same procedure as in Study 1, with the exception that participants were not recruited due to their connection to AFD Mobile Schools (which were not run in this camp) but rather responded to widespread advertisement by the camp committee. Twenty-eight respondents (19 female, 9 male) were eliminated from analyses due to missing data, leaving 109 remaining respondents (68 female, 41 male), for whom HTQ items formed a reliable scale ($\alpha = .85$). As in Study 1, number of missing data did not vary by participant age, gender or total HTQ score (all $r_s \leq .04$; all $p_s \geq .644$), and did not differ by HTQ item (all items were missing $\leq 3.6\%$ of cases).⁶ For those with complete data, pre-SLM HTQ scores did not significantly differ by gender, $t(107) = 1.09$, $p = .28$, although there was a trend-level negative correlation between HTQ scores and age $r(106) = -.17$, $p = .089$ (one respondent was missing age data). See Table 3.1 for means, SDs, and PTSD percentages.

⁶ Descriptive statistics for participants with missing data: Age $M = 34.11$, $SD = 11.35$; Overall HTQ $M = 2.53$, $SD = .48$, 54% PTSD; Women HTQ $M = 2.56$, $SD = .41$, 53% PTSD; Men HTQ $M = 2.47$, $SD = .62$, 60% PTSD.

As in Study 1, the SLM team ran drop-in seminars, but participants were able to meet in a large covered tent, allowing for more privacy. Additionally, because this was a smaller camp with greater stability, the same participants attended more regularly and content was not repeated as frequently, allowing for more in-depth discussion and skills practice, and one month of seminars were provided rather than two.

Results

Participants were re-sampled in September 2010, and because team members were able to form closer relationships with participants and to collect data in a more secluded location, only those who had in fact participated in SLM completed HTQs at this time. Of the 40 participants who completed post-SLM measures, 3 were disincluded due to missing data, leaving 37 (28 female, 9 male) remaining participants with complete HTQ data ($\alpha = .79$). See Table 3.1 for means, SDs, and PTSD percentages.

Thirteen of these participants (10 female, 3 male; mean age = 39.92, $SD = .48$) completed both pre ($M = 2.59$, $SD = .48$; 54% met PTSD criteria) and post ($M = 1.78$, $SD = .36$; 0% met PTSD criteria) HTQs, demonstrating a significant decrease in HTQ scores between these time points, $t(12) = 5.33$, $p < .001$, Cohen's $d = 1.51$. See Figure 3.1 for a graphical representation and Table 3.2 for mean pre-post differences.

Discussion

Results replicate those of Study 1, showing a significant decrease in HTQ scores for SLM participants. However, similar limitations pertain, including a small sample of participants completing pre and post measures. Data described in Study 3, collected several months later, addresses some of these challenges. In the period between Study 2 and Study 3, the structure of the intervention was further modified due to increasing

stabilization in camp life. Whereas drop-in groups were critical in the first six months after the earthquake due to the transitory nature of peoples' lives, several months later, conditions had stabilized such that it was feasible to expect participants to attend a sequence of scheduled seminars. This allowed for the collection of a larger sample of within-subject data, as well as use of a feedback form to assess participant reactions to SLM. Additionally, precautions were taken to reduce missing data.

Study 3

Method

In November 2010, 66 (32 female, 34 male; mean age = 28.0, $SD = 8.46$, range 18-55) residents of an IDP camp in the Delmas neighborhood of Port-au-Prince completed the HTQ using the same procedure as in Study 2 with one exception: in light of significant missing data in earlier studies, the SLM team took particular care to encourage participants to work slowly and carefully in order to complete every item accurately, and to ask questions when confused. There was no missing data, and items formed a reliable scale ($\alpha = .78$). Pre-SLM HTQ scores varied by gender, such that women had higher scores than men, $t(64) = 2.56, p = .013$. There was no association between age and HTQ score, $r(64) = -.12, p = .353$. See Table 3.1 for means, SDs, and PTSD percentages.

Seminars were again run three times per week for one month, although at this camp, participants were expected to attend as many sessions as possible and new participants were not permitted to join midway through. Rather, individuals who expressed interest in participation after SLM had started were encouraged to join a peer-led group to be run by current participants after they complete the seminars. At the

completion of the seminar series, the Ajan gave written “exams” to assess knowledge, and received certificates of completion at a graduation ceremony. At this time, participants were also asked to complete HTQs and anonymous feedback forms. Graduates were then encouraged to run formal peer-led groups to further disseminate knowledge and provide ongoing support.

Results

Thirty participants completed both pre and post SLM measures. These participants completed their post HTQ ($\alpha = .80$) in early January, one month after the seminars’ completion (two months after pre-measure). Participation in SLM was associated with decreased distress, such that pre-SLM scores ($M = 1.97$, $SD = .48$, 20% PTSD) were significantly higher than post-HTQ scores ($M = 1.53$, $SD = .40$, 3% PTSD), $t(29) = 4.19$, $p < .001$, Cohen’s $d = .79$. See Figure 3.1 for a graphical representation and Table 3.2 for mean pre-post differences.

Thirty participants also completed brief feedback forms consisting of open-ended items that asked what they liked and disliked about SLM, and what they might change. The top three “liked” responses were relaxation exercises (48%), qualities of the Ajan (e.g. kindness, respect, determination to make sure all understood; 45%) and education about earthquake safety and common reactions to stress (29%). Top “disliked” responses were “nothing” (36%), that the intervention is too short, or was sometimes delayed or canceled due to weather or other circumstances (29%), and that other participants talked too much or were disruptive (28%). When asked what they might change about SLM, the most common response was “nothing” (43%), while others suggested having more

handouts (17%), changing the schedule (17%), reducing disruptive behavior (7%) and integrating a role-playing component into the exam (7%).

Discussion

Results replicate those of Study 1 and 2, revealing decreased HTQ scores among SLM participants, this time with a somewhat larger sample size and more consistent intervention structure. Increased participant stability also allowed for the use of feedback forms, which provided preliminary data regarding participant satisfaction with various elements of the model, as well as clues regarding mechanisms by which SLM may reduce distress – namely psychoeducation and relaxation skills training, as well as the therapeutic presence of the Ajan. Responses regarding disliked elements and suggestions about change, such as the need for more handouts and a role-playing element in the exam, were incorporated into subsequent iterations of SLM.

Analyses across Studies 1, 2, & 3

In order to assess the effects of SLM across studies and to increase the overall sample of within-subject data, analyses were conducted on aggregate data from all three studies. Overall, 60 (44 female, 16 male) participants completed both pre and post-SLM HTQs.

PTSD symptom scores

A repeated measures ANOVA was used to compare pre- and post-intervention HTQ scores. Gender was included as a between-subjects variable, as was Study, as the participants in each study varied according to time since earthquake, camp of residence, and the particular intervention structure used in that study. This resulted in a 2 x 2 x 3 analysis.

Results revealed a significant main effect of the intervention, such that PTSD symptom scores decreased from pre to post-SLM, $F(1, 54) = 32.83, p < .001$. There were also main effects of gender, such that women were more distressed than men, $F(1, 54) = 7.07, p = .010$, and of Study, such that participants in Studies 1-3 demonstrated progressively less distress overall, $F(1, 54) = 24.75, p < .001$. There were no significant effects for interactions between intervention and Study, gender and Study, or the three-way interaction, all $F_s \leq 1.07$, all $p_s \geq .350$. However, a significant interaction between intervention and gender revealed that that women demonstrated more symptom reduction than did men, $F(1, 54) = 4.30, p = .043$. A simple effects analysis (controlling for camp) revealed that SLM participation was associated with a statistically significant symptom decrease for women, $F(1, 54) = 58.32, p < .001$, and a trend-level decrease for men, $F(1, 54) = 2.76, p = .102$. See Figure 3.2.

PTSD symptom clusters. Analyses were also conducted separately for each of the three subscales of the HTQ, representing the three PTSD symptom clusters as specified by the DSM-IV (APA, 2000). Baseline distress (averaged across studies) was similar across each of the re-experiencing ($M = 2.39, SD = .71$), avoidance ($M = 2.32, SD = .66$) and hyperarousal ($M = 2.32, SD = .72$) subscales. A repeated measures ANOVA with gender and Study as between subject factors revealed significant reduction in pre- to post-SLM scores for all three subscales: re-experiencing symptoms (e.g. intrusive memories, flashbacks, and nightmares), $F(1,54) = 41.83, p < .001$; hyperarousal symptoms (e.g. sleep and concentration difficulty, irritability, hypervigilance, startle response), $F(1, 54) = 18.78, p < .001$; and avoidance symptoms (e.g. avoiding trauma

memories and places that trigger memories, emotional numbing, lack of interest in activities), $F(1,54) = 14.61, p < .001$.

As in the results for the overall HTQ, there were also significant main effects of gender ($F_s \geq 4.41, p_s \leq .040$) and Study ($F_s \geq 4.62, p_s \leq .014$) for all three symptom clusters. Results also revealed significant interactions between gender and intervention, such that women demonstrated more improvement in these symptoms than did men, for the re-experiencing and hyperarousal subscales ($F_s \geq 7.05, p_s \leq .010$), but not for the avoidance subscale, $F(1, 54) = .476, p = .493$. Finally, results for the re-experiencing subscale also revealed a significant interaction between intervention and Study, $F(1, 54) = 4.62, p = .014$, such that Study 2 showed a larger decrease in symptom severity than did Study 1 or 3.

In order to assess whether SLM affected the subscales differently, the three subscales were entered into a single model (again with gender and Study as between subject variables). Results revealed a trend-level interaction between subscale and intervention, $F(2, 53) = 2.53, p = .089$, such that re-experiencing symptoms decreased somewhat more sharply than did avoidance symptoms, with hyperarousal symptoms in between. See Table 3.2 for mean differences between pre and post scores and effect sizes.

Comparison to effects of time. A linear regression analysis conducted on non-SLM participants with months since the earthquake as the independent variable revealed a significant effect of time on HTQ score, $B = -.069, t(322) = 4.72, p < .001$, implying a gradual decline in PTSD symptomology as time passed. In order to assess the effect of intervention while controlling for the effect of time passing, a second linear regression

analysis, using both non-SLM participant⁷ and post-treatment SLM participant data, was conducted with SLM participation and months since the earthquake as predictors. The full model R^2 was significantly greater than zero, $F(2, 408) = 39.93, p < .001, R^2 = .16$. Results also revealed significant effects of both intervention, $B = -.39, t(408) = 5.85, p < .001$, Cohen's $d = .58$, and time, $B = -.07, t(408) = 4.81, p < .001$, Cohen's $d = .47$ implying that benefit associated with SLM cannot be explained by the passing of time, and rather that SLM contributes its own unique effect. The interaction between intervention and time was tested in separate model and found to be non-significant, $B = .013, t(407) = .54, p = .587$. See Figure 3.3 for a graphical representation of SLM participants compared to non-participants over time.

Gender. In addition to assessing the role of gender in response to SLM as discussed above, analyses were conducted to assess gender differences in baseline HTQ and in participation in SLM. More women than men completed SLM (73% of within-subject participants, 62% of SLM completers overall). However, although women reported higher HTQ scores (50% met PTSD criteria) at pre-SLM time points overall than did men (35% met PTSD criteria), $t(382) = 3.55, p < .001$,⁸ this did not account for differences in SLM participation. Across studies, there was no relationship between HTQ score at pre-SLM time points and participants' completion of SLM, $t(382) = .65, p = .514$. However, 59% (53% of those with complete data) of all respondents who completed HTQs at pre-SLM time points were female, suggesting that women were also more willing to show interest in SLM initially, and they may have been more prevalent in

⁷ Pre-SLM data was not included for subjects with both pre and post SLM data to allow for between subject comparisons.

⁸ For participants with complete data.

the camps or more available during the day. There was no gender difference at post-SLM time points, $t(58) = 1.30, p = .199$.

General Discussion

Data collected at three camps, at three time points post-earthquake, showed significantly decreased symptoms of PTSD among SLM participants. Despite small sample sizes, effect sizes calculated from within-subject data were medium to large (see Table 2). Although the lack of a controlled design impedes disentangling the influence of SLM from the influence of time passing and other contextual changes, a comparison to non-SLM participant data over time revealed that benefits associated with SLM participation cannot be explained by the passing of time. Thus, despite challenges associated with data collection in chaotic post-disaster circumstances, these results present preliminary evidence for the effectiveness of SLM as a treatment of posttraumatic distress in a post-disaster cross-cultural context. More broadly, results suggest positive effects of a mental health and psychosocial group model implemented by young, local lay people who are themselves earthquake survivors – an area in which research thus far is lacking (Kakuma et al., 2011).

All three studies showed decreased PTSD symptoms in association with SLM participation. However, the average difference from pre to post HTQ score in Study 2 (.80) was somewhat larger than in Study 1 (.54) or Study 3 (.45) (although this difference was statistically significant only for the re-experiencing symptom subscale). Although differences in effects by Study were not predicted and the small sample size limits interpretability, in hindsight, this is potentially explained by the timing and circumstances of Study 2. Baseline HTQ scores were still quite high when Study 2 began (six months

after the earthquake), yet increased stability in IDP camp life made it possible to run a more formalized seminar series in which a small group of participants attended regularly. Additional work is needed to further explore the timing and contextual conditions most conducive to optimal outcomes.

All three PTSD symptom clusters showed significant improvement associated with SLM participation. There was a trend-level interaction among symptom clusters, such that re-experiencing symptoms improved somewhat more steeply than avoidance symptoms (with hyperarousal symptoms in between). This was not hypothesized and cannot be explained entirely by differences in baseline levels, or by floor or ceiling effects. However, SLM content does focus more directly on strategies for reducing re-experiencing and hyperarousal symptoms (e.g. processing trauma memories; relaxation techniques), than on decreasing avoidance symptoms. Moreover, avoidance and numbing symptoms have been found to have more cultural variability and to be less easily assessed using DSM-IV criteria across cultures than other symptom clusters (Drozdek, 2007; Hinton & Lewis-Fernandez, 2010). Additional work is needed to further unpack the applicability of these PTSD symptom clusters to a Haitian IDP population and SLM's influence on each.

In replication of literature showing increased vulnerability to PTSD among women, data collected prior to SLM being run in a camp revealed greater posttraumatic distress among women than men overall (although not in Study 2). Women were also more likely to participate in SLM than were men. There was no relationship between HTQ scores and participation, suggesting that this gender difference in participation is not due to greater need. In fact, some of this effect may be due to a larger baseline

population of women in IDP camps (53% compared to 47% male) (IOM, 2010), or more availability during the day due to not working. Additional research is needed to assess other possibilities, such as whether women felt more comfortable participating in a mental health intervention.

Moreover, while both women and men showed decreased HTQ scores following SLM participation, this drop was larger for women, implying that they may benefit more from the intervention. However, because there was no gender difference in post-SLM HTQ scores, greater improvement for women can be attributed to their higher pre-existing distress, rather than resistance to treatment benefits among men. Moreover, the small sample of men with both pre and post SLM data limits the interpretability of results. Nevertheless, results imply the need for additional research to determine how SLM may more effectively serve male IDP camp residents. See Figure 3.2 for a graphical representation of this interaction effect.

A useful side effect of data presented here is that it provides a descriptive account of the extent of posttraumatic distress among IDP camp residents at multiple time points post-earthquake, in multiple settings. Few studies speak to the course of distress, including PTSD, among disaster survivors. Those that do paint an inconclusive picture, showing both decrease and increase in PTSD over time, but do provide substantial suggestion that disaster-related PTSD is a chronic condition (e.g., Neria, Nandi, & Galea, 2008). Results presented here provide further evidence of the chronicity of posttraumatic distress among displaced survivors, as well as gradual reduction in distress as time passes; across four time points during the year after the earthquake, HTQ scores ranged from 2.54 to 1.91, and percentages of individuals exceeding the PTSD cutoff of 2.5

ranged from 50% to 38% (see Figure 1). However, conclusions regarding the influence of time passing are necessarily limited due to confounds between time and IDP camp (which can vary greatly in conditions, resources, population characteristics, and other factors) as well as time and subject population (due to the lack of a within-subject design).

Limitations and future directions

Despite promising preliminary findings, these initial evaluations exhibit shortcomings related to the challenges of conducting research in the aftermath of disaster, at an IDP camp, and in a developing country. First, the results are limited by small samples of participants with both pre and post intervention data. In Studies 1 and 2, participants dropped in and out during the course of the intervention, and transience within the camp made it difficult to re-contact most of the participants originally surveyed. Study 3 made some improvements due to an increasingly formalized seminar structure and consistency among participants. However, because all SLM participants were volunteers, it is not possible to disentangle the role of individual difference variables in their improved outcomes. It may be that those who chose to participate in SLM were motivated to improve and therefore likely to do so with or without the intervention.

Additionally, despite efforts to take into account the role of time passing on the resolution of post-earthquake distress, we were unable to fully control for the influence of time or other changing circumstances in the camps on participants' distress. Anecdotally, lay mental health workers, who were in the camps on a regular basis, denied awareness of large shifts in fortune, such as additional aid, which might significantly affect mental health. Plainly, a randomized, controlled design would allow us to fully account for these

possibilities. While during the first year of services, hectic circumstances within the camps made it unrealistic to effectively and ethically run a controlled trial, future work may be able to adopt more rigorous methods.

A third limitation in this work is the use of a close-ended PTSD checklist as a primary source of outcome data. Although the HTQ is the PTSD measure most commonly used cross-culturally (Shoeb, Weinstein, & Mollica, 2007), it is not adapted to Haitian culture or to reactions to an ongoing stressful context of an IDP camp, and therefore likely underequipped to capture the realities of distress and functioning in this population. Researchers such as Bracken, Giller, & Summerfield (1995) have argued that PTSD checklists may force participants to conform to a Western conceptualization of distress, obscuring true responses, and inviting inaccuracies as a result of demand characteristics and differences in item interpretation. Despite such controversy regarding the validity of the PTSD construct outside of modern, industrial, and westernized cultures, there is also evidence that symptoms associated with PTSD do occur cross-culturally (Kagee, 2004; Marsella, 2010; McCall & Resick, 2003; Neria, Nandi, & Galea, 2008). Moreover, use of a standardized measure allows for communication between researchers and clinicians regarding severity of distress. Thus, we see the HTQ as an appropriate preliminary measure of distress, especially when limited resources and a pressing need for immediate service provision makes the development of a tailored measure unfeasible. In January 2011, when conditions had become more stable, the SLM team conducted a needs assessment consisting of a qualitative assessment of symptoms and of interpretations of HTQ symptoms among both IDP camp residents and lay mental

health workers, which informed the development of a tailored instrument that was incorporated during SLM's second year (also to be described further in future reports).

Outcome data presented here was collected at only one time point after the content of the seminars had concluded, likely before SLM graduates had fully initiated peer-led groups. Although anecdotal evidence suggests that some participants (especially at the Delmas camp, when conditions were relatively stable) continued meeting in peer-led groups, rates of doing so are as of yet unknown. Future work can assess the attendance and activities of peer-led groups, as well as the effects of running their own seminars on SLM graduates, in order to determine if, as hypothesized, this has therapeutic benefits above and beyond that of simply participating in the seminars run by the lay mental health workers.

An additional branch of research concerns assessment of the effects of running SLM on the lay workers themselves, especially in light of their status as earthquake survivors. SLM's lay mental health workers were trained to identify and monitor their own responses to their work, and while working in each camp, they met for one hour per week for debriefing with the psychology consultant and project manager. Quantitative and qualitative self-reports of PTSD symptomology, compassion fatigue, and posttraumatic growth collected periodically suggest positive effects on their own mental health (See Chapter III of this dissertation). Further investigation regarding both negative and positive consequences of this work is critical for the expansion of the lay mental health care model.

Conclusion

Soulaje Lespri Moun is a small-scale pilot intervention designed to address mental health and psychosocial need in a low-resource post-disaster setting. These studies provide preliminary evidence for its effectiveness in decreasing distress among IDP camp participants, while also portraying the challenges associated with intervention research in a post-disaster setting. Thus, the work described here aims first to benefit Haitian IDP camp residents, but also to add to the small body of empirical research focused on cross-cultural mental health treatment and evaluation. Results suggest that a collaborative US-Haitian group model, incorporating train-the-trainer framework, local and lay staff, and a culturally-adapted curriculum, is an effective approach to decreasing distress among displaced disaster survivors.

References

- Ali, N. S., Ali, B. S., Azam, I. S., & Khuwaja, A. K. (2010) Effectiveness of counseling for anxiety and depression in mothers of children ages 0–30 months by community workers in Karachi, Pakistan: a quasi experimental study. *BMC Psychiatry, 10*, 57.
- Almedom, A. & Summerfield, D. (2004). Mental well-being in settings of ‘complex emergency’: An overview. *Journal of Biosocial Science, 36*, 433-443.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental Disorders (4th ed., text revision)*. Washington, DC: Author.
- Baron N. (2006). ‘The “TOT”’: A global approach for the Training of Trainers for psychosocial and mental health interventions in countries affected by war, violence and natural disasters’. *Intervention: International Journal of Mental Health, Psychosocial Work and Counselling in Areas of Armed Conflict, 4*, 109-126.
- Becker, S. M. (2007). Psychosocial care for adult and child survivors of the tsunami disaster in India. *Journal of Child and Adolescent Psychiatric Nursing, 20*, 148-55.
- Becker, S. M. (2009). Psychosocial care for women survivors of the tsunami disaster in India. *American Journal of Public Health, 99*, 654-8.
- Bonanno, G. A., Brewin, C. R., Kaniasty, K., & La Greca, A. M. (2010). Weighing the costs of disaster: Consequences, risks, and resilience in individuals, families, and communities. *Psychological Science in the Public Interest, 11*, 1-49.
- Bracken, P. (2001). Postmodernity and posttraumatic stress disorder. *Social Science and Medicine, 53*, 733–743.
- Bracken, P. J., Giller, J. E., & Summerfield, D. (1995). Psychological responses to war and atrocity: The limitations of current concepts. *Social Science & Medicine, 40*, 1073–1082.
- Brymer, M., Jacobs, A., Layne, C., Pynoos, R., Ruzek, J., Steinberg, A.,... Watson, P., (National Child Traumatic Stress Network and National Center for PTSD) (2006). *Psychological First Aid: Field Operations Guide, 2nd Edition*. Available on: www.nctsn.org and www.ncptsd.va.gov.
- Budosan, B. & Bruno, R. F. (2011). Strategy for providing integrated mental health/psychosocial support in post earthquake Haiti. *Intervention, 9*, 225-236.
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (second ed).

Lawrence Erlbaum Associates.

- Drozdek, B. (2007). The rebirth of contextual thinking in psychotraumatology. In B. Drozdek & J. P. Wilson (Eds.), *Voices of Trauma: Treating Survivors across Cultures* (pp. 1-25). New York: Springer.
- Galea, S., Nandi, A. & Vlahov, D. (2005). The epidemiology of post-traumatic stress disorder after disasters. *Epidemiologic Reviews*, 27, 78–91.
- Gavrilovic, J. J., Schützwohl, M., Fazel, M., & Priebe S. (2005). Who seeks treatment after a traumatic event and who does not? A review of findings on mental health service utilization. *Journal of Traumatic Stress*, 18, 595-605.
- Ghodse, H. & Galea, S. (2006) Tsunami: understanding mental health consequences and the unprecedented response. *International Review of Psychiatry*, 18, 289–297.
- Haiti Earthquake Post Disaster Needs Assessment (PDNA): Assessment of damage, losses, general and sectoral needs. (2010). Retrieved August 15, 2011 from http://www.refondation.ht/resources/PDNA_Working_Document.pdf
- Hinton, D. E., & Lewis-Fernandez, R. (2010). The cross-cultural validity of posttraumatic stress disorder: Implications for DSM-5. *Depression and Anxiety*, 0, 1-19.
- Inter-Agency Standing Committee. (2007). *IASC Guidelines on mental health and psychosocial support in emergency settings*. Geneva: IASC. Available online: http://icn.ch/IASC_MHPSS_guidelines.pdf
- Interagency Standing Committee (IASC) Mental Health and Psychosocial Support (MHPSS) Reference Group. (2010). Haiti Earthquake Emergency Response. Retrieved September 15, 2010 from http://www.who.int/hac/crises/hti/haiti_guidance_note_mhpss.pdf
- Internal Organization for Migration. (IOM). (2012, Apr.) *Displacement Tracking Matrix V2 April 2012*. Geneva: IASC. Available online: <http://iomhaitidataportal.info/dtm/>
- Internal Organization for Migration (IOM). (2010, Dec.) *Phase 1: Emergency Registration. Final Report: Registration of internally displaced populations affected by the earthquake in Haiti*. http://www.eshelter-cccmhaiti.info/jl/pdf/phase_1_registration_final_report_dec_21.pdf
- Ivers, L. C., Jerome, J-G., Cullen, K. A., Lambert, W., Celletti, F., & Samb, B. (2011). Task-shifting in HIV care: a case study of nurse-centered community-based care in rural Haiti. *PLoS One*, 6, e19276.
- James, L. E., Noel, J. R., Favorite, T. K., & Jean, J. S. (in press). Challenges of post-

disaster intervention in cultural context: The implementation of a lay mental health worker project in post-earthquake Haiti. *International Perspectives in Psychology: Research, Practice, Consultation*.

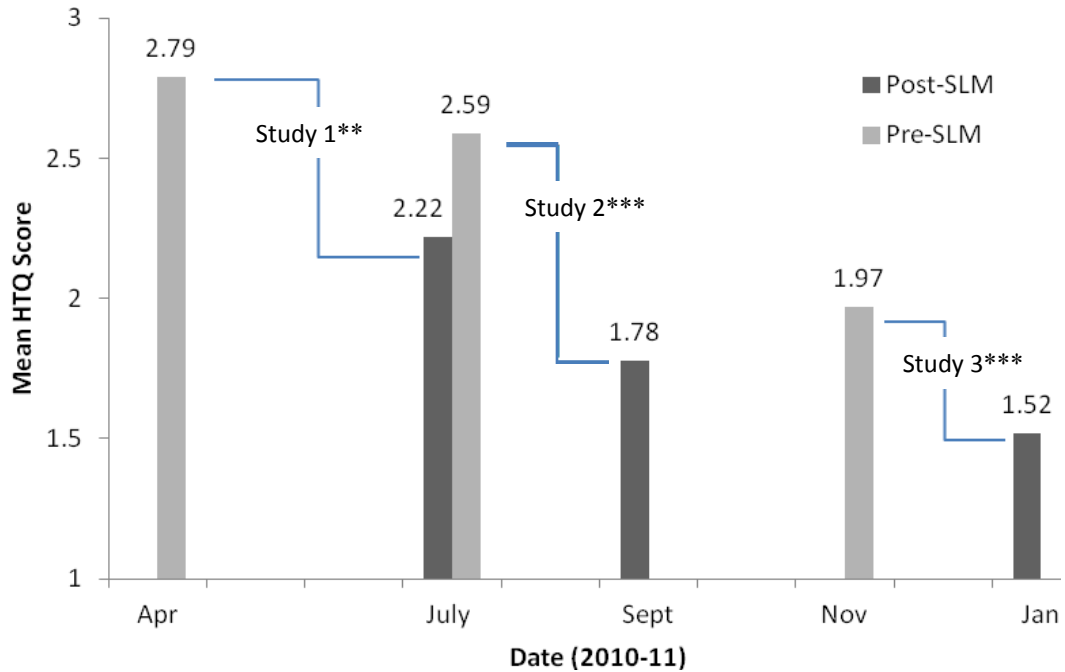
- Kagee, A. (2004). Do South African former detainees experience posttraumatic stress? Circumventing the demand characteristics of psychological assessment. *Transcultural Psychiatry, 41*, 323-336.
- Kakuma, R., Minas, H., van Ginneken, N., Dal Poz, M. R., Desiraju, K., Morris, J. E., Saxena, S., & Scheffler, R. M. (2011). Human resources for mental health care: current situation and strategies for action. *Lancet, 378*, 1654-63.
- Katz, C. L., Pellegrino, L., Pandya, A., Ng, A., & DeLisi, L. E. (2002). Research on psychiatric outcomes and interventions subsequent to disasters: A review of the literature. *Psychiatry Research, 110*, 201-217.
- Koenig, S., Ivers, L. C., Pace, S., Destine, R., Leandre, F., Grandpierre, R., Mukherjee, J., Farmer, P. E., & Paper, J. W. (2010). Successes and challenges of HIV treatment Programs in Haiti: Aftermath of the earthquake. *HIV Therapy, 4*, 145-60.
- Kolbe, A., Hutson, R., Shannon, H., Trzcinski, E., Miles, B., Levitz, N., Puccio, M., James, L., Noel, J., Muggah, R. (2010). Mortality, crime and access to basic needs before and after the Haiti earthquake: a random survey of Port-au-Prince households. *Medicine, Conflict and Survival, 26, 4*, 281-297.
- Kolbe, A., Hutson, R., Shannon, H., Trzcinski, E., Miles, B., Levitz, N., Puccio, M., James, L., Noel, J., Muggah, R. (2010). Unpublished raw data.
- Kutcher, S., Chehil, S., & Roberts, T. (2005). An integrated program to train local health care providers to meet post-disaster mental health needs. *Revista Panamericana Salud Publica/Pan American Journal of Public Health, 18*, 338-45.
- Marsella, A. J. (2010). Ethnocultural aspects of PTSD: An overview of concepts, issues, and treatments. *Traumatology, 16*, 17-26.
- McCall, G. J. & Resick, P. (2003). A pilot study of PTSD among Kalahari Bushmen. *Journal of Traumatic Stress, 5*, 445-450.
- McNally, R. J., Bryant, R. A., & Ehlers, A. (2003). Does early psychological intervention promote recovery from posttraumatic stress? *Psychological Science in the Public Interest, 4*, 45-79.
- Mental Health and Psychosocial Support Network (2010). Haiti 4Ws Matrix MHPSS 12 March, 2010. Available at: <http://www.psychosocialnetwork.net/regions/153/upload/haiti.4ws.matric/view.resource>.

- Mollica, R.F., Caspi-Yavin, Y., Bollini, P., Truong, T., Tor, S., & Lavelle, J. (1992) The Harvard Trauma Questionnaire: Validating a cross-cultural instrument for measuring torture, trauma, and posttraumatic stress disorder in Indochinese refugees. *Journal of Nervous and Mental Disease*, 180, 111-116.
- Mollica, R. F., Cardozo, B. L., Osofsky, H. J., Raphael, B., Ager, A., & Salama, P. (2004). Mental health in complex emergencies. *Lancet*, 364, 2058-67.
- Norris, F. H., Friedman, M. J., Watson, P. J., Byrne, C. M., Diaz, E., & Kaniasty, K. (2002). 60,000 disaster victims speak: part I. An empirical review of the empirical literature, 1981–2001. *Psychiatry*, 65, 207-39.
- Neria, Y., Nandi, A., & Galea, S. (2008). Post-traumatic stress disorder following disasters: A systematic review. *Psychological Medicine*, 38, 467–480.
- Office for the Coordination of Human Affairs (OCHA), United Nations (2011). Camp Coordination and Camp Management (CCCM) Cluster: Displacement Tracking Matrix (DTM). Retrieved October 30, 2011, from http://www.cccmhaiti.info/pdf/DTM_V2_Report_July_English_FINAL.pdf
- Patel, V., Weiss, H. A., Chowdhary, N., Naik, S., Pednekar, S., Chatterjee, S., ...Kirkwood, B. (2010). Effectiveness of an intervention led by lay health counselors for depressive and anxiety disorders in primary care in Goa, India. *Lancet*, 376, 2086-95.
- Prasetyawan, V. E., Maramis, A., & Keliat, B. A. (2006). Mental health model of care programmes after the tsunami in Aceh, Indonesia. *International Review of Psychiatry*, 18, 559–62.
- Rasmussen, A., Smith, H., & Keller, A. S. (2007). Factor structure of PTSD symptoms among West and Central African Refugees. *Journal of Traumatic Stress*, 20, 271-280.
- Raviola, G., Eustache, E., Oswald, C., & Belkin, G. S. (2012). Mental health response in Haiti in the aftermath of the 2010 earthquake: A case study for building long term solutions. *Harvard Review of Psychiatry*, 20, 68-77.
- Roberts, B., Damundu, E. Y., Lomoro, O., & Sondorp, E. (2009). Post-conflict mental health needs: A cross-sectional survey of trauma, depression, and associated factors in Juba, Southern Sudan. *BMC Psychiatry*, 7.
- Saxena, S., van Ommeren, M. & Saraceno, B. (2006) Mental health assistance to populations affected by disasters: World Health Organization's role. *International Review of Psychiatry*, 18, 199–204.

- Scholte, W. F., Verduin, F., Kamperman, A. M., Rutayisire, T., Zwinderman, A. H., & Stronks, K. (2011). The effect on mental health of a large scale psychosocial intervention for survivors of mass violence: A quasi-experimental study in Rwanda. *PLoS ONE*, 6, e21819.
- Shoeb, M., Weinstein, H., Mollica, R. (2007). The Harvard trauma questionnaire: adapting a cross-cultural instrument for measuring torture, trauma and posttraumatic stress disorder in Iraqi refugees. *International Journal of Social Psychiatry*, 53, 447-63.
- Sontag, D. (2010, March 20). In Haiti, mental health system is in collapse. Retrieved March 1, 2011 from <http://www.nytimes.com/2010/03/20/world/americas/20haiti.html>
- Tol, W. A., Barbui, C., Galappatti A, Silove, D., Betancourt T. S., Souza, R., Golaz, A., & van Ommeren, M. (2011). Mental health and psychosocial support in humanitarian settings: linking practice and research. *Lancet*, 378, 1581-91.
- Tolin, D.F., & Foa, E.B. (2006). Sex differences in trauma and posttraumatic stress disorder: A quantitative review of 25 years of research. *Psychological Bulletin*, 132, 959-992.
- van Ommeren, M., Saxena, S., & Saraceno, B. (2005). Mental and social health during and after acute emergencies: Emerging consensus? *Bulletin of the World Health Organization*, 83, 71-76.
- Vijayakumar, L., & Kumar S. M. (2008). Trained volunteer-delivered mental health support to those bereaved by Asian tsunami – An evaluation. *International Journal of Social Psychiatry*, 54, 293-302.
- Weine, S., Danieli, Y., Silove, D., Van Ommeren, M., Fairbank, J. A., & Saul, J. (2002). Guidelines for international training in mental health and psychosocial interventions for trauma exposed populations in clinical and community settings. *Psychiatry*, 65, 156–164.
- World Health Organization (WHO) / Pan American Health Organization (PAHO). (2010). *Culture and Mental Health in Haiti: A Literature Review*. Geneva: WHO. Retrieved April 20, 2010, from http://www.who.int/mental_health/emergencies/culture_mental_health_haiti_eng.pdf
- World Health Organization (WHO) (2003). *Mental health in emergencies: psychological and social aspects of health of populations exposed to extreme stressors*. Geneva: World Health Organization. Available online at: http://www.who.int/mental_health/media/en/640.pdf
- Young, B. H., Ruzek, J. I., Wong, M., Salzer, M. S., & Naturale, A. J. (2006). Disaster

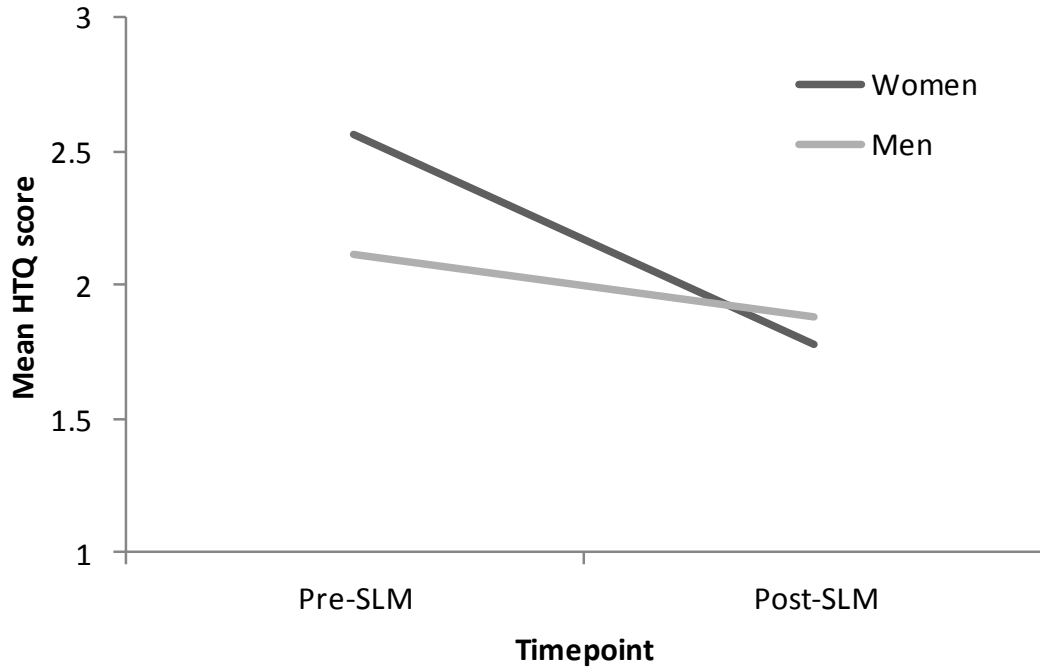
Mental Health Training: Guidelines, considerations, and recommendations. In E. C. Ritchie, P. J. Watson & M. J. Friedman (Eds.) *Interventions Following Mass Violence and Disasters: Strategies for Mental Health Practice*. Guilford Publications.

Figure 3.1. Posttraumatic distress pre- and post-SLM in Studies 1-3.



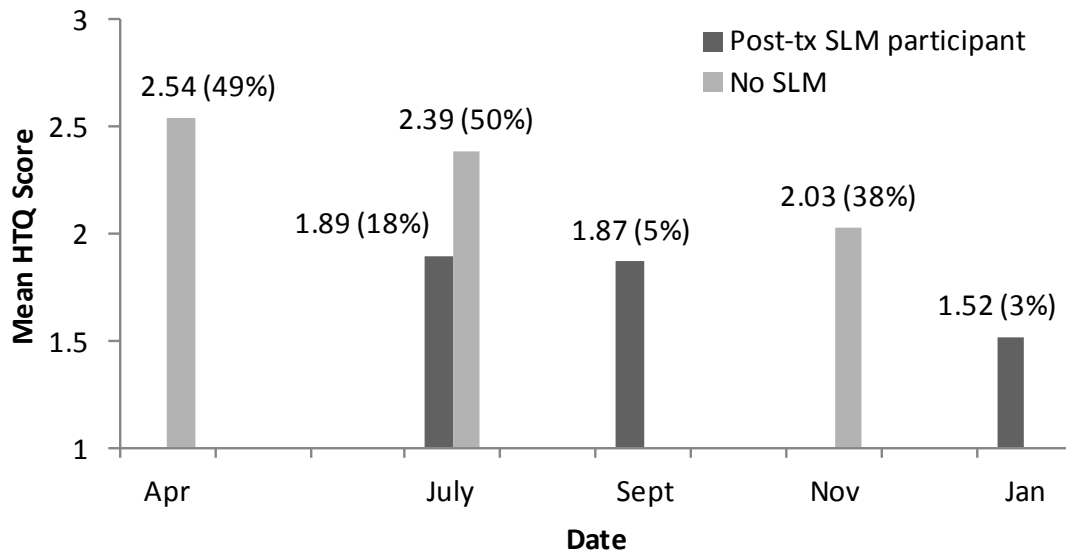
Note: Y-axis represents mean scores on the Harvard Trauma Questionnaire (HTQ), using a 4-point response scale (1 = “not at all”; 4 = “extreme”). Only participants with paired (both pre- and post-SLM) data are presented here. Paired-samples t-test significance levels are represented by asterisks: *** $p < .001$ ** $p < .01$. Sample sizes are as follows. Study 1: $n = 17$; Study 2: $n = 13$; Study 3: $n = 30$.

Figure 3.2. Interaction of intervention and gender on posttraumatic distress among SLM participants.



Note: Figure is derived from aggregate within-subject data from Studies 1-3 ($n = 60$); the Y-axis represents mean Harvard Trauma Questionnaire (HTQ) scores collapsed across these three studies), using a 4-point response scale (1 = “not at all”; 4 = “extreme”).

Figure 3.3. Posttraumatic distress of SLM participant and non-participant IDP camp residents over time.



Note: Y-axis represents mean scores on the Harvard Trauma Questionnaire (HTQ), using a 4-point response scale (1 = “not at all”; 4 = “extreme”). Percentages meeting PTSD criteria according to ≥ 2.5 HTQ score cut off (Mollica et al., 1992) are presented in parentheses. Sample sources and sizes for non-SLM participant data are as follows¹: April: Study 1 ($n = 89$); July: Study 1 non-SLM participants/Study 2 ($n = 199$); November: Study 3 ($n = 36$); Sample sources and sizes for post-treatment SLM participant data: July: Study 1 ($n = 46$); September: Study 2 ($n = 37$); January: Study 3 ($n = 30$).

¹ To allow for between subject comparisons, pre-SLM data for participants who later went on to complete SLM are not included in these samples. Subjects with missing data are also not included.

Table 3.1

Means and standard deviations of outcome and demographic variables by study¹

	<i>n</i> <i>Total (#, % female)</i>	<i>Age</i> <i>Mean (SD)</i>	<i>HTQ score</i> <i>overall</i> <i>Mean (SD),</i> <i>%PTSD²</i>	<i>HTQ score</i> <i>women</i> <i>Mean (SD),</i> <i>%PTSD²</i>	<i>HTQ score</i> <i>men</i> <i>Mean (SD),</i> <i>%PTSD²</i>
<i>Study 1</i>					
April 2010	106 (63, 59%)	35.76 (11.81)	2.58 (.58), 60%	2.67 (.54), 65%	2.45 (.62), 54%
July 2010 (total)	163 (81, 50%)	32.26 (12.26)	2.13 (.55), 28%	2.11 (.55), 30%	2.14 (.56), 28%
Non-participants	117 (50, 43%)	37.45 (13.75)	2.20 (.52), 32%	2.20 (.48), 34%	2.20 (.56), 31%
Participants (post-SLM) ³	32 (21, 70%)	30.27 (11.30)	1.80 (.56), 18%	1.79 (.63), 14%	1.82 (.44), 9%
<i>Study 2</i>					
July 2010	109 (68, 62%)	34.7 (11.89)	2.52(.52), 51%	2.57 (.52), 54%	2.45 (.53), 44%
September 2010: Participants (post-SLM) ⁴	37 (28, 76%)	39.17 (12.21)	1.87 (.42), 5%	1.92 (.44), 8%	1.73 (.38), 0%
<i>Study 3</i>					
Nov 2010 (total)	66 (32, 49%)	27.96 (8.23)	2.00(.42), 17%	2.14 (.41), 24%	1.88 (.41), 8%
Non-participants	36 (12, 30%)	28.0 (8.81)	2.03 (.38), 14%	2.23 (.28), 25%	1.93 (.39), 8%
Participants (pre-SLM)	30 (20, 60%)	27.83 (7.52)	1.97 (.48), 20%	2.08 (.48), 25%	1.75 (.43) 10%
Jan 2011: Participants (post-SLM)	30 (20, 60%)	27.83 (7.52)	1.52 (.50), 3%	1.56 (.44), 5%	1.46 (.32), 0%

¹ For participants with complete data only. See footnotes in Methods section for demographic information and means for participants with missing data.

² PTSD percentages were calculated using a cutoff score of HTQ score ≥ 2.5 (per Mollica et al., 1992). Cutoff criteria are not validated for this population so should be interpreted as a marker of severity of distress rather than as diagnostic of PTSD.

³ Post-SLM data for participants with both pre and post SLM HTQ scores are not included here (allowing for a between-subject comparison between participants and non-participants). See Study 1 Results sections for means for paired data.

⁴ See Study 2 Results section for means for paired data.

Table 3.2

Mean pre-post difference scores, significance levels, and effect sizes by study

	Study 1 (<i>n</i> = 17, 14 female)	Study 2 (<i>n</i> = 13, 10 female)	Study 3 (<i>n</i> = 30, 20 female)	Aggregate data (<i>n</i> = 60, 44 female)	η^2 (partial eta squared) ¹
	Mean difference \pm <i>SE</i>	Mean difference \pm <i>SE</i>	Mean difference \pm <i>SE</i>	Mean difference \pm <i>SE</i>	
HTQ (total)	.54 \pm .14**	.80 \pm .54***	.45 \pm .11***	.49 \pm .10***	.370
Re-experiencing	.70 \pm .18***	1.15 \pm .15***	.51 \pm .12***	.65 \pm .10***	.437
Avoidance	.57 \pm .20*	.43 \pm .20 [†]	.42 \pm .14**	.42 \pm .13***	.168
Hyperarousal	.39 \pm .17*	1.05 \pm .18***	.42 \pm .15**	.45 \pm .12***	.207
HTQ (total) women	.65 \pm .17**	.89 \pm .18***	.53 \pm .15**	.69 \pm .10***	.517
HTQ (total) men	.05 \pm .17	.50 \pm .24	.29 \pm .12*	.28 \pm .10*	.083

Note. ****p* < .001 ***p* < .01 **p* < .05 [†]*p* < .06. Mean differences refer to change from pre- to post-SLM on the Harvard Trauma Questionnaire (HTQ), using a 4-point response scale (1 = “not at all”; 4 = “extreme”). Mean differences, standard errors, and significance levels are derived from paired sample t-tests for Studies 1-3 and from repeated measures ANOVAs (with gender and Study as between subject factors) for aggregate data. Effect sizes (partial eta squared) for aggregate data are also derived from repeated measures ANOVAs. Please see Results sections of Studies 1-3 for effect sizes (Cohen’s *d*) for change in total HTQ from pre- to post-SLM for each study.

¹ Partial eta squared represents the percentage of variance (effect + error) accounted for by the within-subject variable. Although there are not firmly established norms for what constitutes small, medium, or large effect sizes for partial eta-squared, a rule of thumb can be based on recommendations by Cohen (1988) of 0.01, 0.06, and 0.15 for the three cut-points for regular eta-squared.

CHAPTER IV

“Even as I’m helping people, I help myself also”: A mixed-methods assessment of the experiences of lay mental health workers in post-earthquake Haiti

In January 2010, a massive earthquake struck Haiti, resulting in unprecedented death and displacement. Earthquake trauma and the chronic stress associated with survival in camps for internally displaced peoples (IDPs), compounded by a long preexisting history of poverty, natural disasters, political corruption and violence, and social injustice, have resulted in significant mental health and psychosocial need among displaced Haitians (Haiti Earthquake PDNA, 2010; IASC, 2010; WHO, 2010/PAHO, 2010). Sadly, by broad consensus, Haiti lacks the resources or infrastructure needed to provide mental health and psychosocial care (Budosan & Bruno, 2011; Raviola, Eustache, Oswald, & Belkin, 2012; Sontag, 2010; WHO/PAHO, 2010).

In such low-resource and emergency contexts, in which the local mental health system is struggling and trained professionals are rare, there is growing support for a “task shifting” approach in which local non-specialists undergo brief mental health training (Kakuma et al, 2011). More specifically, local and foreign mental health professionals may train non-specialist healthcare providers, lay workers, and affected individuals from the community to take on roles such as raising awareness about common somatic and emotional responses, identification and referral of individuals with

clinical levels of distress, and direct provision of mental health services. By employing local lay workers, this approach addresses both the problem of insufficient human resources, and concerns about the dangers of importing foreign mental health professionals who lack cultural knowledge and sensitivity (e.g. Almedom & Summerfield, 2004; Drozdek, 2007). Evidence suggests positive outcomes for patients treated using this approach (Kakuma et al., 2011); however, little is known about the effects on the non-specialist workers who implement these services, including those who are themselves mental healthcare consumers or disaster survivors.

The current paper begins to fill this gap through investigation of the experiences of lay mental health workers employed to implement a small-scale, grass-roots intervention to aid IDP camp residents in metropolitan Port-au-Prince. This intervention, called *Soulaje Lespri Moun* (SLM; “Relief for the Spirit” in Haitian Creole), was developed through Haitian and US collaboration, with support from the Aristide Foundation for Democracy in Port-au-Prince and the University of Michigan. SLM is delivered by Haitian young people with no prior mental healthcare experience, who are themselves community members and earthquake survivors. Their involvement capitalizes on a cultural value placed on education, social and community action, and service among Haitian youth.

SLM utilizes a train-the-trainer model, popular in post-disaster contexts due to its time and cost efficiency (IASC, 2007). This approach creates a spreading activation effect in which professionals teach skills and techniques to trainees, who go on to train others, so reaching an enormous number of participants (Baron, 2006). For SLM, a Haitian-US team of mental health professionals and project managers trained eight lay

mental health workers to implement a culturally-adapted group seminar series at IDP camps beginning several months after the earthquake. Seminars are conducted for one or two months in each camp and provide evidence-informed education about common responses to stress and trauma, teach physiological relaxation and other coping skills, afford a space for sharing and story-telling, and promote the development of ongoing social networks. IDP participants who complete the seminar series are encouraged to share knowledge and provide support to other camp residents through peer-led groups to continue after the lay mental health workers move on to new camps (see Chapter II for a thorough account of SLM's theory and content). While positive effects of SLM on camp residents are presented elsewhere (see Chapter III), the current paper focuses on the experiences of the core group of lay mental health workers.

Effects of work with trauma survivors

Significant anecdotal and empirical evidence speaks to the psychological effects of working with trauma survivors, including in disaster settings. One branch of scholarship focuses on *compassion fatigue* – the potentially negative effects of interacting with traumatized populations on the mental health of clinicians or other helpers (Figley, 1995; Stamm, 2010). A variety of (sometimes overlapping) subconstructs describe symptomatic, cognitive, interpersonal, and occupational effects of working with trauma survivors. *Secondary traumatic stress* refers to posttraumatic stress disorder (PTSD) symptoms developed as a result of helpers' empathetic exposure to the traumatic experiences of patients (Collins & Long, 2003; Figley, 1995). This includes intrusive thoughts about the people one is working with and their traumatic experiences, as well as feelings of being on edge, exhausted, and overwhelmed by their trauma, avoiding

reminders of their trauma, and difficulty sleeping and concentrating (Stamm, 2010). The *Vicarious traumatization* is often used similarly, although sometimes emphasizes altered beliefs, meanings, and world- and self-views rather than clinical levels of symptoms (Sabin-Farrell & Turpin, 2003). *Burnout* is a gradual process consisting of emotional exhaustion, unhappiness, disconnectedness, cynicism, and feelings of reduced personal accomplishment and self worth, related to work stress rather than specific traumatic content (Collins & Long, 2003; Maslach, 2001; Stamm, 2010).

For disaster helpers, amplified risk of secondary traumatization and burnout are associated with closer physical and social proximity to an affected population, longer hours, and less experience (Eidelson et al., 2003; Lahad, 2000; Killian, 2008; Pearlman & MacLan, 1995). Although there is consensus that these are legitimate and concerning outcomes, findings are inconsistent regarding the frequency and intensity of these responses, and generalizability is limited by focus on mostly US populations and on mental health professionals (e.g. social workers and psychologists) rather than lay workers (for reviews, see Collins & Long, 2003; Sabin & Turpin, 2003).

There is also a compelling flip side to compassion fatigue. *Compassion satisfaction* is the sense of reward, competence, invigoration, and efficacy gained from one's role as a helper (Figley, 2002; Stamm, 2010). Factors that predict positive responses among helpers include social support, having a chance to process distressing aspects of work, working fewer hours per week with traumatized populations, and having greater perceived control and efficacy about one's work (Conrad & Keller-Guenther, 2006; Killian, 2008).

Interviews with clinicians have also revealed *vicarious posttraumatic growth*, the experience of positive change in areas such as self-perception, relationships, and life philosophy among therapists working with trauma survivors (Arnold, Calhoun, Tedeschi, & Cann, 2005). Such research builds from a significant body of work on *posttraumatic growth*, which documents comparable positive changes among trauma survivors themselves, often co-existing with PTSD (Calhoun & Tedeschi, 1999). Similarly, the concept of *vicarious resilience* refers to processes of positive transformation and resilience that result from learning about coping through work with trauma survivors (Hernandez, Gansei, & Engstrom, 2007). Qualitative interviews with US and Columbian clinicians working with torture survivors suggest that these positive effects can stem from recognition of survivors' resourcefulness and capacity to thrive in the face of enormous adversity, as well as altered perspective on one's own life, including putting troubles into perspective and focusing on positive elements of life (Engstrom, Hernandez, & Gangsei, 2008; Hernandez, Gansei, & Engstrom, 2007).

Helping effects on “survivors”. The influence of a helper’s prior exposure to trauma and stress and/or status as a disaster survivor is not yet entirely clear. While there is evidence to suggest that helpers with a history of personal trauma may be more at risk for secondary traumatic stress (e.g., Figley, 1995; Killian, 2008; Pearlman & MacIain, 1995), other work has identified no additional distress among clinicians with histories of victimization (e.g., Schauben & Frazier, 1995). Helpers who have worked through their own traumatic events may in fact bring useful coping strategies and confidence, which could protect against compassion fatigue. Further, the act of reengaging with a traumatic

context in an empowered role, equipped with skills that can aid others, can have therapeutic potential (e.g., Herman, 1997).

A related rationale is adopted by the recovery movement, which promotes employment of individuals “in recovery” from substance use and psychiatric disorders in peer-support roles. Support by others who have “been there, done that” can have significant mental health benefits for recipients (such as through increased empathic connection, decreased pathologizing, and increased focus on social and political context), as well as for peer-leaders themselves (Mead, Hilton, & Curtis, 2001). Mental health service consumers working as peer-providers reported increased confidence, coping self-efficacy, self-esteem, sense of empowerment, and hope, as well as a reduction in use of crisis services (Solomon, 2004, for a review). The “helper-therapy principle” attributes the benefits of helping to interaction with others with similar problems, as well as gains in interpersonal competence, personally relevant knowledge, and social approval (Reissman, 1965).

Train-the-trainer programs. A small body of published research speaks to the specific effects of participation in train-the-trainer programs. There is anecdotal support for positive effects of participation in such programs on disaster survivors-turned-helpers, including among Thai tsunami survivors trained to provide educational and mental health intervention to the community (Ayalon, 2006), and Israeli teachers participating in workshops aimed at developing resilience among students exposed to terrorist attacks (Baum, 2005). A few empirical studies reveal similar findings. Among US clinicians, participation in trauma training after the 9/11 attacks was associated with increased reports of compassion satisfaction and self-competency (Ansel, Neria, Marshall, & Shu,

2005; Greenwald, Stamm, Larsen & Griffel, 2003). Sri Lankan education and mental health volunteers who participated in a training course to enhance psychological resiliency among child tsunami survivors showed improved perceived self-efficacy to help tsunami survivors, self-mastery, optimism about their own future, and ability to use cognitive coping strategies compared to those in a control program (Gelkopf, Ryan, Cotton, & Berger, 2008). While such findings are heartening, these studies fail to provide a longitudinal account of the experience of trainees over time as they engage in the helping roles for which they have trained.

The current study

As described, existing research depicts both positive and negative effects of work with trauma survivors, and while significant work examines effects on clinicians, little is known about the experience of implementing a mental health and psychosocial intervention on lay people who are themselves disaster survivors. Moreover, while limited research speaks to the effects of participating in train-the-trainer programs, even less is known about the impact of helping behavior over time. Research in this area is critical in order to assess the feasibility of a “task-shifting” approach to disaster mental healthcare in low-resource contexts.

The current study is a multi-method assessment of the experience of working as a lay mental health worker on a small sample of Haitian young adults. Despite potential risk factors such as challenging IDP camp settings and the staff’s own exposure to earthquake trauma, we hypothesized that implementing SLM would not have excessively negative effects on the lay mental health workers, and rather, would have potentially therapeutic effects. In doing so, we adopt a theoretical perspective informed by helper

therapy (Reissman, 1965), the survivor mission (Herman, 1997), posttraumatic growth (Calhoun & Tedeschi, 1999), and vicarious resilience (Hernandez, Gansei, & Engstrom, 2007), and predict that reengaging with a potentially traumatic context in an empowered role, equipped with skills that can aid others, can boost efficacy and purpose, and decrease distress. Further, in light of measures taken by SLM to teach self-care and provide group processing and debriefing, limit work hours, promote social bonding, boost morale, and allow for creative control (discussed further in the General Discussion), we hypothesized that lay mental health workers would not experience excessive amounts of compassion fatigue. Thus, more specifically, we predicted low rates of PTSD, as well as relatively low levels of compassion fatigue (secondary traumatic stress and burnout) and relatively high levels of compassion satisfaction and posttraumatic growth. These hypotheses were tested through analysis of quantitative and qualitative data collected over 18 months after the earthquake as part of SLM's efforts to monitor the mental health of its staff.

Method

Participants

Lay mental health workers were recruited in collaboration with the Aristide Foundation for Democracy (AFD) in Port-au-Prince (an organization devoted to empowerment and education of youth and women, as well as varied earthquake relief projects). The director of the AFD selected 10 individuals who had been previously involved with youth programming at the AFD or courses at UniFA (the University of the Aristide Foundation) based on positive feedback from his staff. Two dropped out soon after training due to conflicting obligations.

The remaining eight workers, called “Ajan Sante Mantal” in Haitian Creole (“Ajan” for short) were half male and half female, with a mean age of 25 (range = 22–31). All had graduated from secondary school and some had taken college or professional school courses. None had prior mental health experience, although all had between 2 and 18 months of experience working with children or adults in a helping role ($M = 7.42$ months). All were residents of metropolitan Port-au-Prince and therefore were necessarily earthquake survivors. Two reported that their homes had sustained significant damage in the earthquake, while one reported that it had been entirely destroyed. All Ajan reported knowing people who were wounded ($M = 7.20$ people, range = 2-30) and killed ($M = 4.10$ people, range = 1-10) in the earthquake.

In June 2011, two Ajan left the project to pursue other positions. Data is presented for the full sample of 8 at initial time points (April and July 2010, January 2011). In order to preserve degrees of freedom, the last data point available for the two Ajan who left the project (January 2011), is carried over to the two final time points (June and October 2011).¹

Training

In April 2010, a Haitian-U.S. team made up of a clinician from the State University of Haiti, three clinicians from the University of Michigan and the Ann Arbor VA PTSD clinic, and a Haitian project manager, conducted training for the Ajan over the course of one week. Trainings were conducted in line with established guidelines, including the development of a supportive environment, grounding in a theoretical

¹ Analyses were also conducted without these two subjects and did not significantly differ from analyses presented here.

perspective, skill practice, role play, field practice, training in self-care, and once developed, distribution of a manual (Baron, 2006; Weine et al., 2002; Young et al., 2006).

Specifically, training began with introductions, ice-breakers, and a discussion of basic ethical issues such as confidentiality and project aims and expectations. Particular attention was paid to emphasizing the role of the Ajan as more teacher than therapist, trained to provide skills training to IDPs experiencing non-clinical levels of distress and make referrals for seriously mentally ill individuals. The Ajan then signed employment contracts for a trial two-month “internship” (new contracts were developed for each camp to follow).

Next, they were introduced to SLM content by serving as participants in a sample seminar run by the trainers. This seminar, developed collaboratively by the trainers, was informed by established guidelines for disaster mental health (e.g., Brymer, et al., 2006; IASC, 2007; Weine et al., 2002; WHO, 2003; Young et al., 2000), qualitative interviews conducted with camp residents regarding primary mental health concerns (Kolbe et al., unpublished data), and discussion with Haitian clinicians about their experience treating IDP camp residents. Involvement in the seminar provided an opportunity for the Ajan to adopt participant roles, which entailed sharing their own somatic and emotional responses and learning and practicing coping skills. This experiential portion was followed by a processing session, including discussion of therapeutic techniques modeled by the leaders.

After an introduction of the psychological theoretical perspective in which the content is based, the Ajan were provided with a skeleton outline of the seminar series,

and instructed to read, practice, and to consider how best to adapt and communicate content to IDP camp residents. Ajan were instructed to lead seminars in conversational Haitian Creole and to avoid technical or unfamiliar language, to put concepts in their own words, and to use examples from their own experience, with the aim of enhancing cultural relevance by filtering the content through local perspectives. Successful examples developed by the Ajan were in turn integrated into increasingly formalized seminar protocol. In some cases, Western psychological and Haitian techniques were merged, as in the case of relaxation exercises presented to the rhythm of local songs. In the following days, Ajan role-played content in pairs and groups, with close supervision by the training team, and finally engaged in supervised field trials at a small nearby camp.

Implementation

Between April 2010 and January 2012, the Ajan were paid a monthly stipend to lead seminars for one to two months in each IDP camp, with periodic supervision by the training team. Contact with IDP camps was managed by SLM project managers and approval was secured with camp leadership contingencies known as “committees”. Although seminar structure and content evolved as time passed to accommodate shifting conditions post-earthquake, in general, pairs of Ajan ran three two-hour seminars per week, with approximately 12 participants in each group.

Additionally, the Ajan met for one hour per week for “processing” with the SLM project manager and psychology consultant. This meeting provided a venue to discuss problems and successes in administering the class, as well as emotional reactions to the work and self-care strategies.

Measures

Quantitative measures. In order to monitor well-being and allow for the project psychology consultant to attend to any negative psychological effects, Ajan independently completed paper versions of three instruments (described below) at multiple time points. They were assured that responses on these measures would be kept confidential and would be entered and linked to their identities only by University of Michigan research assistants who were not personally involved in the project. De-identified responses would then be used to monitor the well-being of the team as a whole. Thus, responses would have no bearing on their employment or reputation with the SLM project.

Symptoms of posttraumatic stress disorder (PTSD) were measured using the Harvard Trauma Questionnaire (HTQ), created by the Harvard Program for Refugee Trauma to assess the mental health of survey and interview respondents who have experienced displacement, disaster, and war (Mollica et al., 1992). The HTQ was specifically designed to be used across cultures and has been used in a wide variety of settings, including among Cambodian, Laos, and Vietnamese torture survivors, Bosnian refugees, trafficked women, and Australian asylum seekers (Mollica et al., 1992, 2004). The HTQ consists of four parts: 1) an assessment of trauma exposure; 2) a description of one's most traumatic experience; 3) an assessment of the likelihood of head injury, and 4) a measure of trauma symptoms. Data collected for this study used only the fourth section, which includes 16 questions modeled after the posttraumatic stress disorder (PTSD) diagnostic criteria of the DSM-IV. The HTQ, like the DSM-IV symptom model of PTSD, consists of three criteria: reexperiencing/ intrusion (sample item: "Recurrent

thoughts or memories of hurtful or terrifying events”), avoidance/numbing (sample item: “Avoiding activities that remind you of the traumatic or hurtful event”), and hyperarousal (sample item: “Feeling on guard”) (APA, 2000). Four answer categories range from ‘not at all’ (score = 1) to ‘extreme’ (score = 4). Scores for the 16 items are averaged, with scores of 2.5 or above meeting cut-off criteria for PTSD. Importantly, because these criteria have not been validated with a Haitian population, HTQ scores should be interpreted as a marker of severity of distress, rather as diagnostic of PTSD. This study used a Haitian Creole version of the HTQ, originally developed by Kolbe and colleagues (unpublished) through translation and back-translation.

Compassion fatigue was assessed using a French translation of the *Professional Quality of Life Scale Version 5* (ProQOL-V) beginning after training². The ProQOL is a 30-item scale, consisting of three subscales that measure both positive (*compassion satisfaction*, sample item: “I get satisfaction from being able to help people”) and negative (*burnout*, sample item: “I feel worn out because of my work as a helper”; *secondary traumatic stress*, sample item: “I feel as though I am experiencing the trauma of someone I have helped”) effects of working with a population that has experienced severe stress (Stamm, 2010). Respondents were asked to rate how frequently they experienced each item over the last 30 days using a 5-point response scale ranging from “never” (score = 1) to “very often” (score = 5). While no normative data exists as yet for the Haitian population involved in this research, the ProQOL has been shown to have

² Data collected at the first two time points used an earlier version, the PROQOL-IV, which used slightly different question phrasings and a 6 point response scale ranging from 0 to 5. Scores collected using this earlier version were standardized to allow comparison to PROQOL-V scores, per Stamm, 2010. French translations of both versions were downloaded from <http://www.proqol.org>.

satisfactory psychometric properties using a large international normative sample (Stamm, 2010).

Finally, posttraumatic growth was assessed using the Posttraumatic Growth Inventory (PTGI), beginning with the July time point (Tedeschi & Calhoun, 1996). This instrument was used both to assess whether the Ajan experienced growth related to their own potentially traumatic experiences during the earthquake, and as a proxy for vicarious posttraumatic growth gained through their work with SLM (Arnold, Calhoun, Tedeschi, & Cann, 2005). The PTGI is a 21-item measure of positive effects of trauma, including factors of *new possibilities, relating to others, personal strength, spiritual change, appreciation of life*. Respondents indicated the degree of positive change compared to their lives before the earthquake using a 4-point responses scale ranging from “not at all” (score = 1) to “extremely” (score = 4). The PTGI was translated into Haitian Creole by the SLM project manager, then back-translated by team members and revised for clarity. Although the PTGI has not been validated with a Haitian population, several studies have been done using translations of the PTGI into other languages, demonstrating that posttraumatic growth is relevant across cultures (although factor structures have sometimes differed from that originally developed by Tedeschi & Calhoun, 1996) (Splevins, Cohen, Bowley, & Joseph, 2010; Taku et al., 2007).

Qualitative measure. In June of 2011, Ajan were invited to complete an open-ended 10-item questionnaire on a voluntary basis. Six of these items focused specifically on the emotional and psychological effects of working as lay mental health workers (See Appendix A). All eight Ajan gave oral informed consent to participate. To protect anonymity, Ajan completed the questionnaire on computers and printed copies were

provided to a secretary who passed them on to the project leader for translation without identifying information. Translated responses were then coded for content by the author and research assistants at the University of Michigan.

Results

Quantitative measures

Ajan completed the Harvard Trauma Questionnaire (HTQ) at six time points: before and after one week of training in April 2010, then again in July 2010, January 2011, June 2011, and September 2011. Internal consistency was acceptable (mean $\alpha = .78$). Prior to training in April 2010, mean HTQ score was 1.89 ($SD = 0.60$, range 1.25-2.94), and two Ajan met criteria for PTSD using the cut-off of 2.5 (Mollica et al., 1992). HTQ scores dropped by a marginally significant amount one week later, after Ajan had completed SLM's training ($M = 1.46$, $SD = 0.46$, range 1-2.44, 0 met PTSD criteria), $t(7) = 2.25$, $p = .059$. In the following four time points, mean scores ranged from a low of 1.19 to a high of 1.41. Interestingly, scores spiked slightly for HTQs collected in January 2011, almost exactly one year after the earthquake, suggesting that the anniversary may have triggered increased distress. A repeated measures ANOVA with a Greenhouse-Geisser correction (for violation of the sphericity assumption), revealed a significant decrease in HTQ score over the six time points, $F(2.17, 15.17) = 4.66$, $p = .024$.

Repeated measures ANOVAs were also conducted for each of the three subscales of the HTQ, representing PTSD symptom clusters as defined by the DSM-IV (APA, 2000). Results revealed a significant effect of SLM on re-experiencing symptoms, $F(5, 35) = 7.95$, $p < .001$, a marginally significant effect on hyperarousal symptoms (with Greenhouse-Geisser correction), $F(2.04, 14.28) = 3.38$, $p = .062$, but no significant effect

on avoidance symptoms, $F(5, 35) = 1.47, p = .226$. See Figure 3.1 for a graphical representation of HTQ scores (overall and symptom clusters) over time.

Ajan completed the *Professional Quality of Life Scale* (ProQOL) at five time points beginning after training in April 2010. Items formed reliable subscales (mean α across time points: compassion satisfaction = .72; burnout = .76; secondary traumatic stress = .70). Raw scores were standardized and compared to cut-off points specified by *The Concise ProQOL Manual* (Stamm, 2010)³. To approximate severity levels, Stamm (2010) provides cut-off points developed from a data bank of 1,289 cases from multiple studies. In comparison to this reference population, mean levels of compassion satisfaction among the Ajan across the five time points ranged from the 62nd to 77th percentile, signifying “above average” to “high” levels of compassion satisfaction. Mean levels of burnout were in the “low” range, spanning from the 9th to 24th percentiles, and mean levels of secondary traumatic stress ranged from the 51st to 66th percentiles, signifying “moderate” levels. See Figures 3.2-4 for graphical representations of mean standardized scores over time compared to cut-off levels.

Ajan completed the *Posttraumatic Growth Inventory* (PTGI) at 4 time points, beginning in July 2010. Internal consistency for the full scale was good at all time points (mean $\alpha = .931$). Mean item endorsement was quite consistent across time points, ranging between 3 (“quite a bit”) and 4 (“extremely”) (July $M = 3.35, SD = .74$; January $M = 3.26, SD = .70$; June $M = 3.37, SD = .71$; October $M = 3.36, SD = .70$). Scores were comparable for the five subscales of the PTGI: *new possibilities, relating to others,*

³ Cutoff scores have not been validated for this population and should not be used diagnostically, but rather as a marker of severity of distress.

personal strength, spiritual change, appreciation of life. See Figure 3.5 for a graphical representation of PTGI scores (overall and subscales) over time.

Relationships among measures

In order to examine correlations among measures, measures were collapsed across time to form one average score. Although the small sample size limits interpretability, correlation coefficients and significance levels are provided as a preliminary representation of relationships among constructs (See Table 3.1). PTSD symptomology as measured by the Harvard Trauma Questionnaire did not significantly correlate with other measures. Compassion Satisfaction and Burnout, both measured by the PROQOL, were negatively correlated at the trend-level, $r(6) = -.66, p = .076$. Compassion Satisfaction was positively correlated with Posttraumatic Growth, as measured by the PTGI, $r(6) = .72, p = .045$, and in particular, with PTGI subscales measuring new possibilities, $r(6) = .64, p = .087$, and relating to others, $r(6) = .70, p = .055$. Likewise Burnout was negatively correlated with Posttraumatic Growth overall, $r(6) = -.91, p = .002$, and in particular with the new possibilities, relating to others, personal strength, and appreciating life subscales (all $r_s \leq -.81$, all $p_s \leq .015$).

Qualitative Results

Open-ended items focused on perceived challenges and successes in the Ajan's work with IDP camp residents, as well as on the effects of their work on their own well-being. A primary challenge described by Ajan was that, despite efforts to clarify SLM's aims from the start, participants often expected that they would receive aid items such as food, water, and tents, and were initially discouraged when they realized that SLM provided only mental health services:

What was most difficult for me was that many people in the camps thought that we brought them food, water, tents and more. During the first days of work, we worried that they were not really interested in the project but several days after, they came back because what we're doing, it's for their life.

A few Ajan also wrote about the initial difficulty of witnessing the pain of participants, particularly seeing them cry, but specified that this became easier as they gained experience. Several discussed challenges in managing their own responses to content shared by participants:

The first thing I learn in SLM is to take care of myself. This gives me a way to not show my sadness when I'm with a group of participants. Even if sometimes [their stories] hurt me inside, I listened without showing that. I control myself when they explain the bad part of their story.

When they explain a story I felt bad, then I did a relaxation exercise to feel better, but I don't let them see that.

When asked about the best or most rewarding elements of their work, every respondent described observing the positive effects of the SLM program and their own efforts on participants.

With my skills and my love for SLM, I could make the people feel good. The most interesting thing was that they could easily understand and learn everything that we taught them. The way we worked with them could make them change totally and they showed that too – they showed that they were much better. What could be better for someone than to see the results of his job having positive effects on people?

In particular, several Ajan mentioned the conclusion of the SLM seminars, when participants informally provided feedback about how the seminars have influenced them.

What was good for me was when the people explained how the program helped them in their life every day, and if we did not come, how much worse it could be for them. They said that because of us they became different people... When the time arrived to leave them, to go into another camp, some people felt like crying. Some said "please don't go". The reaction of the people to the program made me feel great!!!

The following three prompts focused more directly on the emotional and psychological experience of the Ajan. When asked about their well-being prior to working with SLM, all respondents described some distress associated with the earthquake, most commonly fear and anxiety, insomnia, startle response, and intrusive thoughts and nightmares about the earthquake. For example:

I had so much problems that I couldn't sleep at home because it's made of concrete. When I had to enter my room, I always ran. Just after the earthquake, I couldn't even eat, I could just take some water. I was jumpy and I was so stressed that I lost weight. This took me some time to recover from because I've lost two friends and their bodies couldn't be found for their funerals. All [of] these problems bothered me and affected me.

Difficulties described by the Ajan were similar to those covered in SLM's curriculum and commonly reported by IDP camp participants. Some respondents compared their own responses to those of the IDPs in their seminars:

I wasn't different than the people I'm helping. I was traumatized and fragile. I did not think about my future.

Ajan were also asked to describe their current emotional and psychological state, and to consider the effects of working with SLM on their mental health. All reported that their well-being had improved compared to how they had been prior to working with SLM, although several admitted that they still struggled with certain issues:

Psychologically, I'm pretty good. Emotionally, I'm good but sometimes I'm out of control, especially with my boyfriend when I make my fits of jealousy. Sometimes I feel nervous or I'm yelling at people – the earthquake has nothing to do with it, because I'm like that since my childhood. Now, I'm doing my best to control all my emotions. After all that, I'm good.

Several Ajan described a return to their state of mind pre-earthquake:

Psychologically and emotionally, I feel like I'm the person that I was before, I feel like that I can't be afraid anymore. I feel like I'm prepared for any kind of disaster.

However, some also described a sense of taking on new qualities and skills, and feelings of having a new life direction and sense of purpose:

Today I'm psychologically and emotionally another person. I feel I'm ready. I'm going in a new direction. I feel like life has another plan for me.

Indeed, almost every respondent described an enhanced sense of self-worth, confidence, and life purpose. In some cases, they also reported a direct benefit from helping others.

Some responses implied that this benefit was associated both with learning new coping skills and developing desirable qualities, perhaps from exposure to SLM's skills training.

Work as an Ajan Santé Mantal did impact my life positively. I believe more in my life and I believe that I can do more. This work helped me in my mental health. Even as I'm working helping people, I help myself also. It's helped me to have better behavior than before. I have more temperance, I'm more wise, and it helps me to relax. It helps me to cope not negatively but positively.

Almost every Ajan, echoing responses some had made earlier when asked about the best or most rewarding elements of their work, described a sense of satisfaction and fulfillment resulting from observing improvements in the lives of those they helped.

This job is so beautiful and so important that it can affect me a lot. I didn't think that it would be able to affect me. I felt positive changes through myself when I saw the fulfillment of the job and that the people who benefit from it felt much better in their lives.

Finally, many of the Ajan described social connection and support gained from working with the SLM team.

I could find relief with the collaboration of all the Ajan. I felt like being in a family and I felt safe.

In sum, qualitative responses suggested that Ajan did initially experience earthquake-related distress, as well as distress associated with witnessing the pain of their participants. However, they also described significant benefit associated with their work

with SLM, echoing elements of posttraumatic growth endorsed on the PTGI, particularly in the domains of “new possibilities”, “personal strength”, and “relating to others”.

Discussion

A mixed-method assessment of the experiences of eight lay mental health workers (“Ajan Sante Mantal”) implementing a psychosocial intervention for displaced earthquake survivors in Port-au-Prince revealed largely beneficial outcomes associated with their work. Quantitative results showing decreased PTSD symptoms, consistently high compassion satisfaction, low burn-out, moderate secondary trauma scores, and significant posttraumatic growth, which was reinforced by qualitative accounts from the Ajan regarding their work experience. In particular, Ajan described a sense of having a new direction and purpose

Quantitative and qualitative data suggests that the Ajan were experiencing earthquake-related distress when they joined SLM. Whereas two of the eight Ajan met cut-off criteria for PTSD using the HTQ (Mollica et al., 1992) prior to working with SLM, none did so following participation in a one-week training. HTQ scores stayed consistently low throughout the next 18 months, with one small peak in January of 2011, perhaps related to the anniversary of the earthquake. When examined separately, the Ajan demonstrated significant or trend-level decreases for the re-experiencing and hyperarousal symptom clusters, but not for the avoidance symptom cluster. Although this was not hypothesized, it may be explained by SLM’s more direct focus on strategies for reducing re-experiencing and hyperarousal symptoms (e.g. processing trauma memories; relaxation techniques), than on decreasing avoidance symptoms. Further, avoidance and numbing symptoms (e.g. avoiding thoughts and situations, emotional numbing, social

detachment, perceiving a foreshortened future) have been found to vary more across cultures, and to be less easily assessed using DSM-IV criteria than other symptom clusters (Drozdek, 2007; Hinton & Lewis-Fernandez, 2010). Additional work is needed to further assess the applicability of avoidance symptoms for this population, and how best to approach their treatment.

On the PROQOL, Ajan endorsed extremely low levels of burnout and only moderate levels of secondary traumatic stress – a set of symptoms that might be expected to be much higher considering that the Ajan are themselves earthquake survivors who had suffered significant losses, and some were struggling with their own distress symptoms when they joined the SLM team. Thus, these findings appear in opposition to considerable research interpreted as evidence that prior trauma exposure can increase responsiveness to subsequent trauma through a “sensitization” or “kindling” process (see Breslau, 2009; Brewin, Andrews, & Valentine, 2000, for reviews). However, recent research suggests that it is not trauma exposure that increases risk, but rather prior unresolved PTSD (Breslau, Peterson, & Schultz, 2008). Janoff-Bulman (1992) theorizes that whether or not a trauma survivor will be more or less vulnerable to psychological distress following a traumatic event depends on the extent to which one has successfully “reestablished a stable, nonthreatening, integrated, inner world” following initial traumas (p. 90). Although this work refers to the development of primary PTSD, the same may also hold for the development of secondary traumatic stress. It is possible that the SLM training (as well as social support and other elements associated with the project) helped the Ajan to resolve pre-existing PTSD symptoms, so decreasing the risk of developing secondary traumatic stress. Anecdotally, Ajan often included discussion of

their own losses, struggles with trauma and stress responses, and idiosyncratic coping strategies in their seminars, with the aim of building trust and strengthening alliance with their participants. As suggested by recovery theory (e.g., Mead, Hilton, & Curtis, 2001), their own familiarity with the experiences of their participants may in fact increase their therapeutic effectiveness.

Data also revealed high endorsement of posttraumatic growth items on the PTGI. The positive relationship between posttraumatic growth and compassion satisfaction and negative relationship with burnout suggest that posttraumatic growth may be one avenue by which the Ajan maintained a positive, efficacious relationship with their work and resisted exhaustion and cynicism. Further, themes identified in the qualitative data replicated some of those endorsed on the PTGI, and those described in the posttraumatic growth, vicarious posttraumatic growth, vicarious resiliency literatures (e.g. Arnold, Calhoun, Tedeschi, & Cann, 2005; Hernandez, Gangsei, & Engstrom, 2007; Tedeschi & Calhoun, 1996, 2004). In particular, Ajan spoke of growth in regards to “new possibilities”, “relating to others” and having an increased sense of “personal strength”.⁴

A particularly common theme was the experience of pleasure and satisfaction due to observing improvement in the lives in their participants and being the object of their approval and gratitude. Similar mechanisms are identified by the “helper therapy principle”, which attributes gains to increased interpersonal competence resulting from improving another’s well being, receiving social approval from people who have been helped, as well as learning personally-relevant knowledge (Reissman, 1965). Similarly, in describing the therapeutic experience of the “survivor mission”, Herman (1997)

⁴ Interestingly, although Ajan endorsed increased spirituality on the PTGI, they did not mention spiritual change on their qualitative reports, perhaps because religiosity is already very well established, creating a sort of “ceiling effect” (e.g. Splevins, Cohen, Bowley, & Joseph, 2010).

emphasizes the empowering transition from “victims” to “survivors” as a result of using one’s own survival expertise to help others.

While these processes undoubtedly contributed to the positive outcomes displayed by the Ajan, the SLM program also incorporated a series of concrete, evidence-informed components designed to further facilitate resilience among its lay mental health workers. First, the Ajan worked limited hours (six hours per week in IDP camps) to limit exposure to stressful work environment (Killian, 2008). Second, they were provided with education about self-care strategies during training and engaged in formal and informal “processing” or “debriefing” practices on an ongoing basis (Killian, 2008). They met for one hour per week with the project psychology consultant and project manager to discuss problems and successes in administering seminars, as well as their own emotional reactions to the work. In addition to discussion of distress reactions and strategies for relief, processing entailed sharing lessons learned from participants, including examples of remarkable or unique instances of survival and coping. This element focused attention to instances of resiliency, with the aim of enhancing the likelihood that the Ajan would experience vicarious resilience (Hernandez, Gangsei, & Engstrom, 2007).

An additional emphasis was on building social support and morale, both associated with decreased burn-out (Killian, 2008). Work was balanced with group activities such as going out to eat and to the beach, to promote bonding among the Ajan and to express appreciation for their services. Indeed, the qualitative data contains multiple references to the SLM “family”, and the importance of these relationships in navigating work challenges. As further recognition of their efforts, the Ajan also received certificates documenting their training and work experience during periodic ceremonies.

New materials such as t-shirts and folders aimed to enhance pride and identification with the project.

Finally, Ajan had considerable creative control over their work, an important factor in light of the relationship between perceived control and efficacy and compassion satisfaction (Killian, 2008). Not only did they run their own seminars, but their input was sought after and valued in developing and revising the curriculum. The project managers were also Haitian non-professionals, and decisions regarding the project were typically made by consensus on the ground rather than dictated from outside. In addition to being the most practical approach to project management, SLM's prioritization of local leadership and decision-making aimed to create a sense of investment in project outcomes, important for ongoing morale and the long-term sustainability of the project.

Further, in addition to empowering the Haitian members of the SLM team, this practice drew on their expertise regarding cultural and situational factors. Thus, they continually adapted the model (rooted in Western psychology) to the Haitian culture and IDP camp context, with the aim of increasing accessibility and effectiveness for participants.

Limitations and future directions

This study entails multiple limitations associated with data collection in a post-disaster intervention context, in which sample size, research design, and the availability of culturally and situationally tailored instruments are necessarily constrained. A primary limitation is the very small sample of lay mental health workers examined in this study. Inadequate power discouraged investigation of relationships between Ajan characteristics

and outcomes, and limited interpretability of longitudinal outcomes and correlations between measures.

Moreover, the quantitative instruments used to assess distress and well-being were not validated for use in Haiti or with displaced earthquake survivors, and the small sample size made it impossible to determine whether the factor structures described in the HTQ and PTGI literature could be replicated for this population. Similarly, the validity of the cut-off scores described in the HTQ and PROQOL literature could not be evaluated.

Additional limitations result from the lack of a randomized controlled design. Effects cannot be attributed solely to work with SLM, but rather may be influenced by other shifting circumstances in the lives of the Ajan and in Port-au-Prince more generally.

Although these limitations are somewhat ameliorated through the presentation of qualitative data which replicates themes identified in the quantitative data, readers must be cautious in drawing conclusions based strictly on quantitative outcomes

Finally, the potential for demand characteristics must be considered. To reduce this threat, Ajan were assured that responses on the measures would be kept confidential and would not affect their employment, and qualitative data collection used methods that required no identifying information. However, despite these safeguards, it is possible that desire to support the SLM project (and so elongate employment) affected responses.

Future work is needed to more rigorously assess the effects of working with SLM, as well as to investigate hypothesized mechanisms by which positive change and ongoing maintenance of work satisfaction are achieved. In particular, research is needed to assess potential mechanisms associated specifically with helping behavior (e.g. increased efficacy, sense of purpose, social support and recognition) and with exposure to SLM's

content (e.g. learned coping skills). Additional research is also needed to assess alternative explanations for improvement, such as receiving a financial stipend for their work.

Conclusion

This paper contributes to a very small body of literature on the experience of local non-professionals working in the field of disaster mental health. Specifically, it provides preliminary evidence that lay workers who are themselves disaster survivors can provide mental health services to other survivors with limited costs to their own well-being – and rather, significant benefits. Such findings are of critical importance for the future of disaster mental healthcare, particularly in low-resource and non-Western contexts where securing sufficient human resources and developing culturally-appropriate services are extremely challenging. Combined with evidence that lay workers do in fact provide culturally-appropriate and effective services that significantly improve outcomes among disaster survivors (Chapter III of this dissertation; Kakuma et al., 2011), these results suggest that a task-shifting approach is a viable option for meeting mental health and psychosocial need.

References

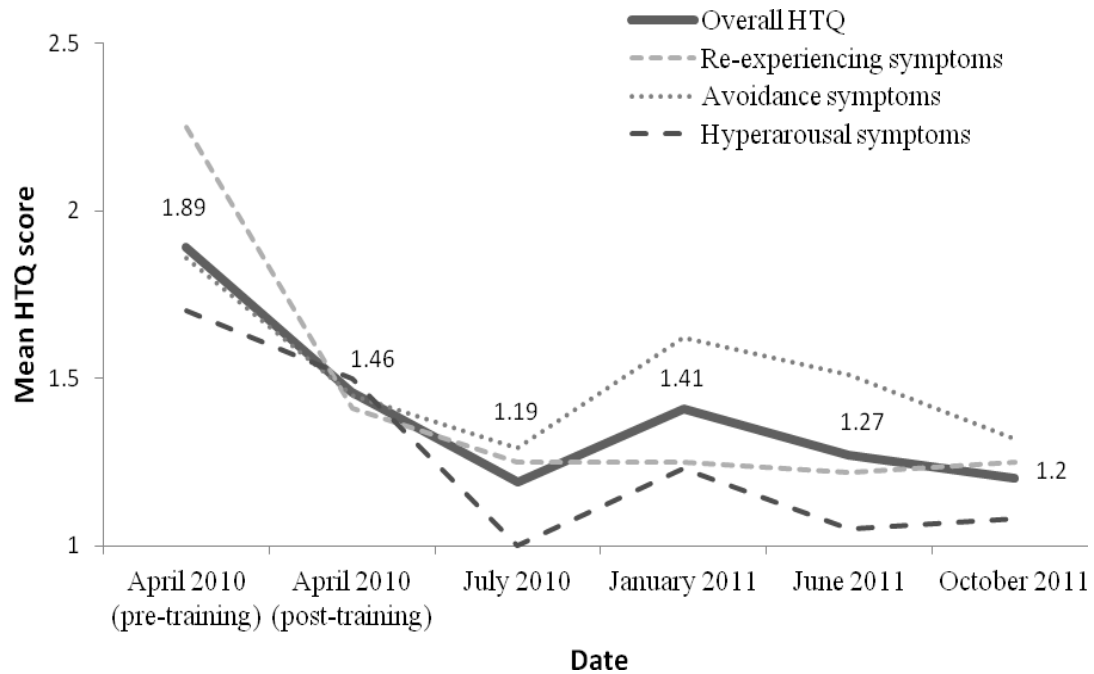
- Almedom, A. & Summerfield, D. (2004). Mental well-being in settings of 'complex emergency': An overview. *Journal of Biosocial Science*, 36, 433-443.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental Disorders (4th ed., text revision)*. Washington, DC: Author.
- Ansel, L. V., Neria, Y., Marshall, R. D., & Shu, E. J. (2005). Training therapists to treat the psychological consequences of terrorism: Disseminating psychotherapy research and researching psychotherapy dissemination. In Y. Daniely, D. Brom, & J. Sills (Eds.), *The trauma of terrorism: Sharing knowledge and shared care, an international handbook* (pp. 663–647). New York: Haworth Press.
- Arnold, D., Calhoun, L. G., Tedeschi, R., & Cann, A. (2005). Vicarious posttraumatic growth in psychotherapy. *Journal of Humanistic Psychology*, 45, 239-263.
- Baron, N. (2006). The 'TOT': a global approach for the training of trainers for psychosocial and mental health interventions in countries affected by war, violence and natural disasters, *Intervention*, 4, 109 -126.
- Baum, N. L. (2005): Building Resilience: A school-based intervention for children exposure to ongoing trauma and stress. *Journal of Aggression, Maltreatment & Trauma*, 10, 487-498.
- Breslau, N. (2009). The epidemiology of trauma, PTSD, and other post trauma disorders. *Trauma, Violence, and Abuse*, 10, 198-211.
- Breslau, N., Peterson, E. L., & Schultz, L. R. (2008). A second look at prior trauma and the posttraumatic stress disorder effects of subsequent trauma: A prospective epidemiological study. *Archives of General Psychiatry*, 65, 431-437.
- Brewin, C. R., Andrews, B., & Valentine, J. D. (2000). Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. *Journal of Consulting and Clinical Psychology*, 68, 748–766.
- Brymer, M., Jacobs, A., Layne, C., Pynoos, R., Ruzek, J., Steinberg, A.,... Watson, P., (National Child Traumatic Stress Network and National Center for PTSD) (2006). *Psychological First Aid: Field Operations Guide, 2nd Edition*. Available on: www.nctsn.org and www.ncptsd.va.gov.
- Budosan, B. & Bruno, R. F. (2011). Strategy for providing integrated mental health/psychosocial support in post earthquake Haiti. *Intervention*, 9, 225-236.
- Drozdek, B. (2007). The rebirth of contextual thinking in psychotraumatology. In B.

- Drozdek & J. P. Wilson (Eds.), *Voices of Trauma: Treating Survivors across Cultures* (pp. 1-25). New York: Springer.
- Figley C.R. (1995) Compassion fatigue as secondary traumatic stress disorder: an overview. In C. R. Figley (Ed.) *Compassion Fatigue: Coping with Secondary Traumatic Stress Disorder in Those Who Treat the Traumatized*, pp. 1–20. Brunner/Mazel, New York.
- Engstrom, D. W., Hernández, P., & Gangsei, D. (2008). Vicarious resilience: A Qualitative investigation into its description. *Traumatology, 14*, 13-21.
- Gelkopf, M., Ryan, P., Cotton, S., & Berger, R. (2008). The impact of a ‘training of the trainers’ course for helping tsunami-survivor children on Sri Lankan disaster volunteer workers. *International Journal of Stress Management, 15*, 117–135.
- Greenwald, R., Stamm, B. H., Larsen, D., & Griffel, K. (2003, October). *The impact of child trauma therapy training on participants*. Poster session presented at the annual meeting of the International Society of Traumatic Stress Studies, New Orleans.
- Hagh-Shenas, H., Goodarzi, M. A., Dehbozorgi, G., & Farashbandi, H. (2005). Psychological consequences of the Bam earthquake on professional and nonprofessional helpers. *Journal of Traumatic Stress, 18*, 477–483.
- Haiti Earthquake Post Disaster Needs Assessment (PDNA): Assessment of damage, losses, general and sectoral needs. (2010). Retrieved August 15, 2011 from http://www.refondation.ht/resources/PDNA_Working_Document.pdf
- Herman J. (1992) *Trauma and Recovery*. Basic Books, New York.
- Hernandez, P., Gangsei, D., & Engstrom, D. (2007). Vicarious resilience: A new concept in work with those who survive trauma. *Family Process, 46*, 229-241.
- Hinton, D. E., & Lewis-Fernandez, R. (2010). The cross-cultural validity of posttraumatic stress disorder: Implications for DSM-5. *Depression and Anxiety, 0*, 1-19.
- Interagency Standing Committee (IASC). (2007). *IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings*, Geneva, IASC.
- Interagency Standing Committee (IASC) Mental Health and Psychosocial Support (MHPSS) Reference Group. (2010). Haiti Earthquake Emergency Response. Retrieved September 15, 2010 from http://www.who.int/hac/crises/hti/haiti_guidance_note_mhpss.pdf
- Kakuma, R., Minas, H., van Ginneken, N., Dal Poz, M. R., Desiraju, K., Morris, J. E.,

- Saxena, S., & Scheffler, R. M. (2011). Human resources for mental health care: current situation and strategies for action. *Lancet*, *378*, 1654–63.
- Killian, Kyle D. (2008). Helping till it hurts? A multimethod study of compassion fatigue, burnout, and self-care in clinicians working with trauma survivors. *Traumatology*, *14*, 32-44.
- Kolbe, A., Hutson, R., Shannon, H., Trzcinski, E., Miles, B., Levitz, N., Puccio, M., James, L., Noel, J., Muggah, R. (2010). Unpublished raw data.
- Maslach, C. (2001). *The Truth About Burnout*. Jossey Bass: San Francisco.
- Mead, S., Hilton D., & Curtis, L. (2001). Peer support: A theoretical perspective. *Psychiatric Rehabilitation Journal*, *25*, 134–141.
- Mollica, R.F., Caspi-Yavin, Y., Bollini, P., Truong, T., Tor, S., & Lavelle, J. (1992) The Harvard Trauma Questionnaire: Validating a cross-cultural instrument for measuring torture, trauma, and posttraumatic stress disorder in Indochinese refugees. *Journal of Nervous and Mental Disease*, *180*, 111-116.
- Mollica, R. F., Cardozo, B. L., Osofsky, H. J., Raphael, B., Ager, A., & Salama, P. (2004). Mental health in complex emergencies. *Lancet*, *364*, 2058-67.
- Pearlman, L. A. & MacIain, P. S. (1995). Vicarious traumatization: an empirical study of the effects of trauma work on trauma therapists. *Professional Psychology: Research and Practice*, *558–565*.
- Raviola, G., Eustache, E., Oswald, C., & Belkin, G. S. (2012). Mental health response in Haiti in the aftermath of the 2010 earthquake: A case study for building long term solutions. *Harvard Review of Psychiatry*, *20*, 68-77.
- Reissman, F. (1965). The “helper-therapy” principle. *Social Work*, *10*, 27-32.
- Sabin-Farrell, R., & Turpin, G. (2003). Vicarious traumatization: Implication for the mental health of health workers. *Clinical Psychology Review*, *23*, 449-480.
- 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*, 49–64.
- Solomon, P. (2004). Peer support/peer provided services: Underlying processes, benefits, and critical ingredients. *Psychiatric Rehabilitation Journal*, *27*, 392-401.
- Sontag, D. (2010, March 20). In Haiti, mental health system is in collapse. Retrieved March 1, 2011 from <http://www.nytimes.com/2010/03/20/world/americas/20haiti.html>

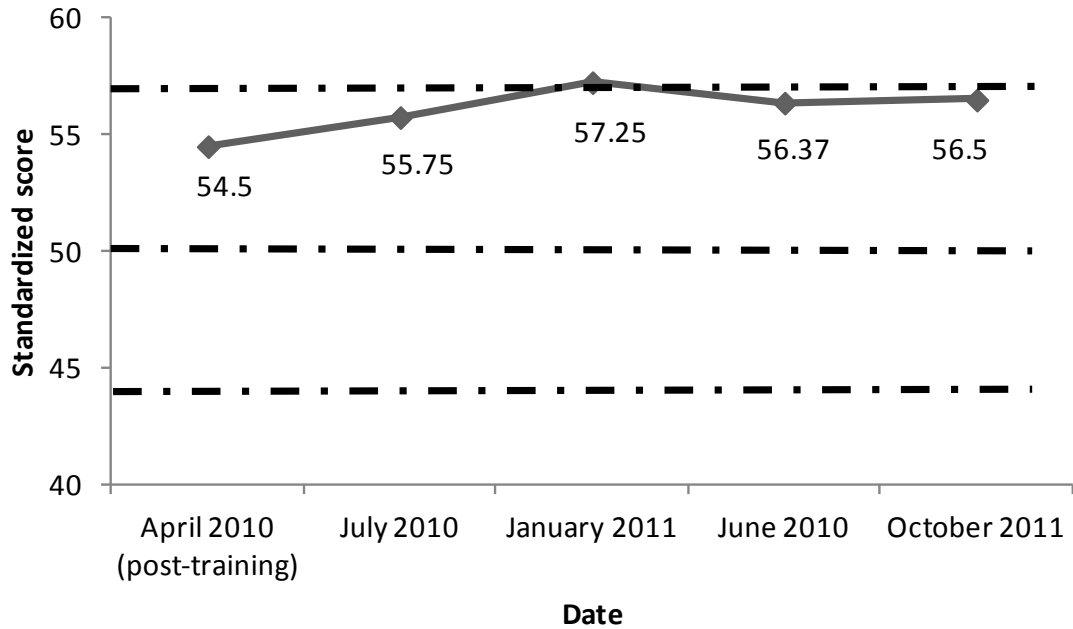
- Splevins, K., Cohen, K., Bowley, J., Joseph, S. (2010). Theories of posttraumatic growth: Cross-cultural perspectives. *Journal of Loss and Trauma: International Perspectives on Stress and Coping*, 15, 259-277.
- Stamm, B.H. (2010). *The Concise ProQOL Manual*. Pocatello, ID: ProQOL.org.
- Steed L. G. & Downing, R. (1998) Vicarious traumatization amongst psychologists and professional counsellors working in the field of sexual abuse/assault. *The Australasian Journal of Disaster and Trauma Studies*, 1–9.
- Taku, K., Calhoun, L. G., Tedeschi, R. G., Gil-Rivas, V., Kilmer, R. P., & Cann, A. (2007). Examining posttraumatic growth among Japanese university students. *Anxiety Stress and Coping*, 20, 353–367.
- Tedeschi, R. G., & Calhoun, L. G. (1996). The Posttraumatic Growth Inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress*, 9, 455–471.
- Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry*, 15, 1–18.
- Weine, S., Danieli, Y., Silove, D., van Ommeren, M., Fairbank, J. A., & Saul, J. (2002). Guidelines for international training in mental health and psychosocial interventions for trauma focused populations in clinical and community settings. *Psychiatry*, 65, 156–164.
- World Health Organization (WHO) / Pan American Health Organization (PAHO). (2010). *Culture and Mental Health in Haiti: A Literature Review*. Geneva: WHO. Retrieved April 20, 2010, from http://www.who.int/mental_health/emergencies/culture_mental_health_haiti_eng.pdf
- World Health Organization (WHO). (2003). *Mental health in emergencies: Psychological and social aspects of health of populations exposed to extreme stressors*. Geneva: World Health Organization. Available online at: http://www.who.int/mental_health/media/en/640.pdf
- Young, B. H., Ruzek, J. I., Wong, M., Salzer, M. S., & Naturale, A. J. (2006). Disaster Mental Health Training: Guidelines, considerations, and recommendations. In E. C. Ritchie, P. J. Watson & M. J. Friedman (Eds.) *Interventions Following Mass Violence and Disasters: Strategies for Mental Health Practice*. Guilford Publications.

Figure 4.1. Posttraumatic distress (overall and symptom clusters) of lay mental health workers over time.



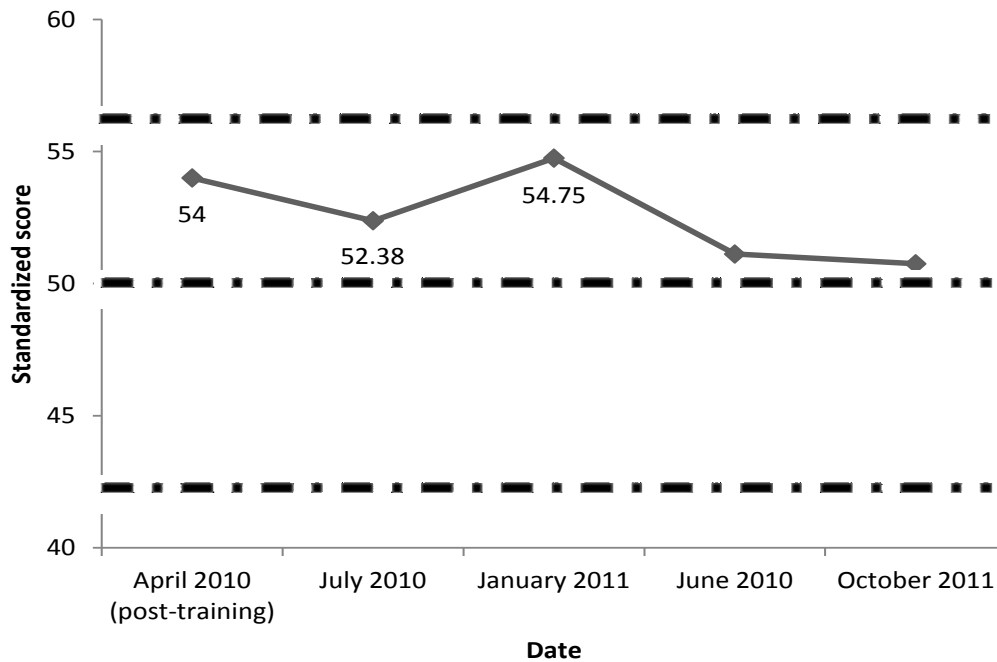
Note: Y-axis represents mean score on the Harvard Trauma Questionnaire (HTQ) (overall and symptom clusters) based on a 4-point response scale (1 = “not at all”; 4 = “extreme”). Data labels represent overall HTQ means.

Figure 4.2. Compassion Satisfaction among lay mental health workers over time



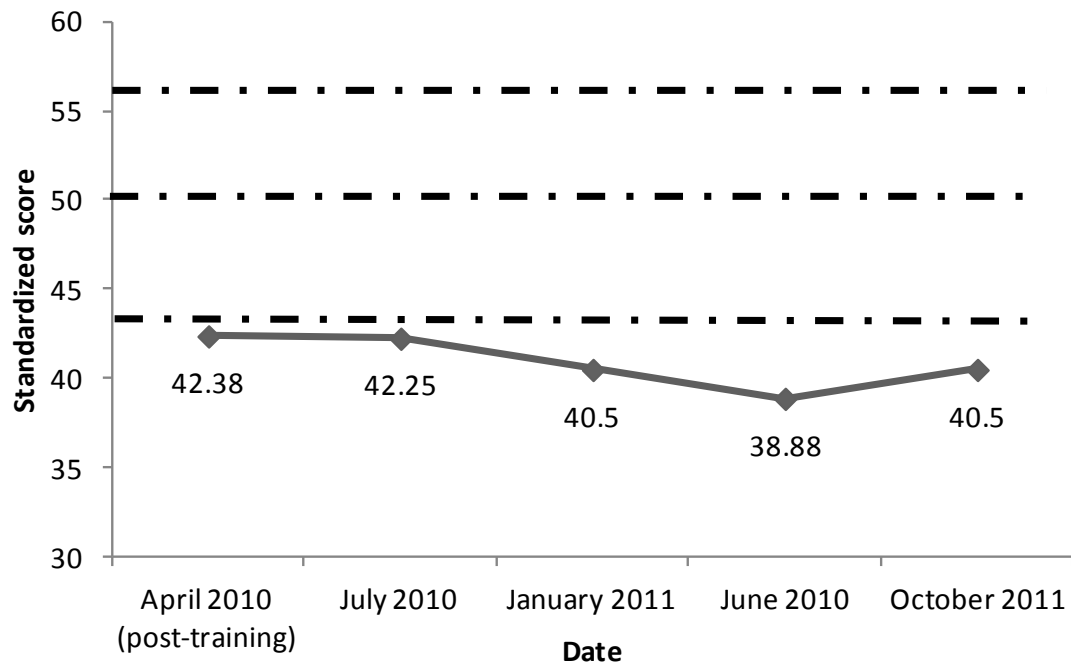
Note. Y-axis represents mean standardized score on the Compassion Satisfaction subscale of the Professional Quality of Life (PROQOL). Dotted lines represent the 75th (score = 57), 50th (score = 50), and 25th (score = 44) percentiles, designating high, medium, and low levels of compassion satisfaction (Stamm, 2010).

Figure 4.3. Secondary traumatic stress among lay mental health workers over time.



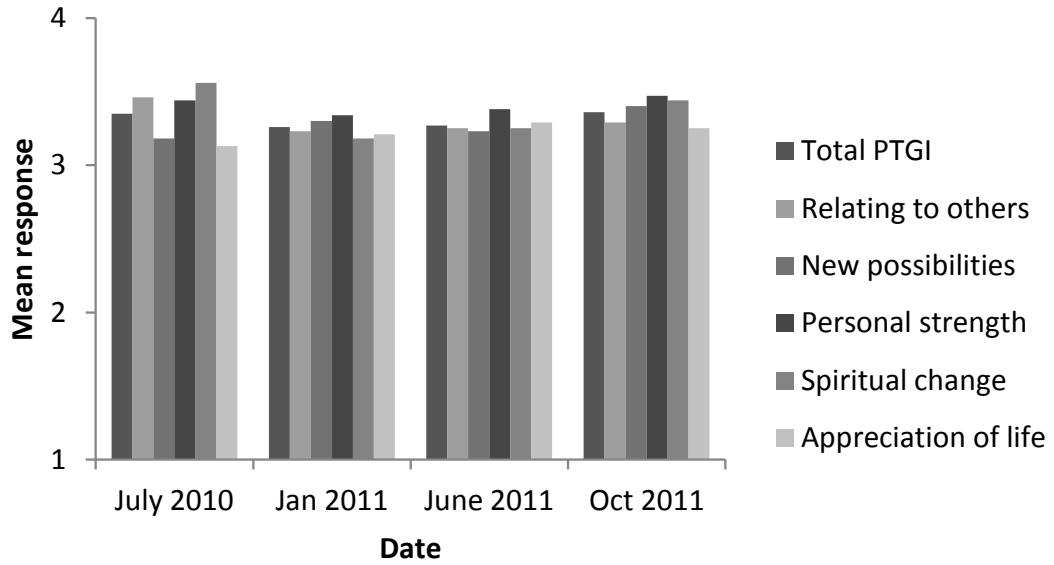
Note. Y-axis represents mean standardized score on the Secondary Traumatic Stress subscale of the Professional Quality of Life (PROQOL). Dotted lines represent the 75th (score = 56), 50th (score = 50), and 25th (score = 42) percentiles, designating high, medium, and low levels of secondary traumatic stress (Stamm, 2010).

Figure 4.4. Burnout among lay mental health workers over time.



Note. Y-axis represents mean standardized score on the Burnout subscale of the Professional Quality of Life (PROQOL). Dotted lines represent the 75th (score = 56), 50th (score = 50), and 25th (score = 43) percentiles, designating high, medium, and low levels of burnout (Stamm, 2010).

Figure 4.5. Posttraumatic growth (overall and five factors) among lay mental health workers over time.



Note: Y-axis represents mean endorsement of items on the Posttraumatic Growth Inventory (PTGI). Response scale ranged from 1 = “not at all” to 4 = “extremely”.

Table 4.1 *Intercorrelations of measures*

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. PTSD symptoms overall (HTQ)	-												
2. Re-experiencing symptoms (HTQ)	.977**	-											
3. Avoidance symptoms (HTQ)	.860**	.835**	-										
4. Hyperarousal symptoms (HTQ)	.340	.452	.599	-									
5. Compassion Satisfaction (PROQOL)	-.409	-.448	-.055	.316	-								
6. Secondary Traumatic Stress (PROQOL)	.238	.057	.398	-.153	.225	-							
7. Burnout (PROQOL)	.081	.037	-.107	-.438	-.658†	.287	-						
8. Posttraumatic Growth overall (PTGI)	.030	.023	.357	.466	.717*	.064	-.905**	-					
9. New Possibilities (PTGI)	.043	.033	.306	.362	.640†	.018	-.922**	.984***	-				
10. Relating to others (PTGI)	-.032	-.033	.274	.429	.696†	-.024	-.931**	.983**	.972**	-			
11. Personal Strength (PTGI)	.108	.074	.335	.262	.533	.112	-.847**	.931**	.968**	.940**	-		
12. Spiritual Change (PTGI)	.355	.379	.675	.656†	.349	.232	-.533	.737*	.703†	.652†	.694†	-	
13. Appreciation of Life (PTGI)	.350	.369	.627	.628†	.482	.028	-.811*	.928**	.909**	.885**	.856**	.843**	-

Note: For ease of presentation, scores for each measure were collapsed across time points to create a composite score, which was then compared to those of other measures. † $p < .10$, * $p < .05$, ** $p < .01$

Appendix

Lay mental health worker experience survey items

1. What has it been like for you to work as an Ajan Sante Mantal (Lay mental health worker)?
2. What have been some of the hardest or most challenging parts?
3. What have been some of the best or most rewarding parts?
4. How were you doing psychologically (emotionally) before you came to work as an Ajan?
5. How are you doing psychologically (emotionally) today?
6. How did working as an Ajan affect your mental health? Did you notice a positive or negative change in your mood, attitude, or behavior working as an Ajan?

CHAPTER V

Ongoing Research: Instrument development and evaluation trial

Across three manuscripts, this dissertation has introduced a theoretical model, described its implementation, and presented preliminary evidence of its benefits for both participants and implementers. While these papers provide a comprehensive account of SLM's activities over the first year after the earthquake, considerable additional research was conducted in the following year that has yet to be presented. This section will outline methods conducted as part of a two-phase research program: 1) a quantitative and qualitative needs assessment used to inform the development of a tailored measure of distress and coping, and 2) a quasi-experimental assessment of SLM's effects using this tailored measure. While both stages have been completed, results will be presented primarily for the evaluation trial, so keeping with this dissertation's focus on SLM outcomes.

Study I: Needs Assessment and measure development

Study aims

Approximately one year after the earthquake, the SLM team conducted a multi-method assessment of distress and functioning among IDP camp residents. Quantitative and qualitative data were collected both from lay mental health workers who had worked with IDPs for the past eight months, and from IDP camp residents themselves. Primary

aims were to develop a tailored instrument to assess IDP well-being, as well as to determine whether a continuation of the SLM program was needed, and if so, to inform program revisions.

The former aim was motivated by concerns about the ability of a standardized PTSD checklist, such as that used in prior studies (see Chapter III), to adequately capture the experience of IDP camp residents. While most trauma and disaster measures have focused on PTSD, some researchers argue that this preoccupation has obscured other, perhaps more significant, responses (Bonanno et al., 2010). Moreover, endorsement of PTSD symptoms may not mean the same thing in all contexts, and PTSD diagnosis does not necessarily predict functionality or need for treatment across cultures (Summerfield, 1999). Thus, there is widely proclaimed need for culturally-validated instruments with the ability to detect local formulations of mental health conditions in addition to Western diagnoses, as well as risk and resiliency factors, natural coping strategies, and local options for help-seeking (Weiss et al., 2003). In regards to SLM, it is critical to understand what constitutes optimal and maladaptive functioning in the very unique context of a Haitian IDP camp in order to fully capture the effects of the intervention.

Method

Funding and human subjects review. The following research is funded by a grant from the University of Michigan Center for Global Health which allowed for employment of the Haitian team, compensation for interview participants, purchase of research supplies including a laptop computer, and travel for the PI (James). This research has received approval by the University of Michigan Institutional Review Board.

Ajan Sante Mantal data collection. In January 2011, study aims and methods were explained to the eight Ajan Sante Mantal (lay mental health workers) employed by the SLM Haiti team at the Aristide Foundation for Democracy in Port-au-Prince in an in-person meeting with the PI (see Chapter IV of this dissertation for additional information about the “Ajan”). An oral informed consent script was read aloud in French, and given to the Ajan in hard-copy. After providing oral informed consent, the Ajan were provided with a paper survey (in French). Surveys included: 1) open-ended items asking about perceived emotional and psychological responses of adult and child IDPs; 2) the Harvard Trauma Questionnaire (Mollica et al., 1992) as well as several additional items (e.g., asking about depression), with instructions to use examples to explain how items are interpreted by IDPs and to estimate the percentage of IDPs who have this problem; and 3) open-ended items asking about the feelings, thoughts, and behaviors of IDPs who are functioning “very well” (see Appendix A for an English version of the survey).

The Ajan were given instructions for completing the survey and the opportunity to ask clarifying questions. They then took the surveys home to compose responses at their leisure. At a time of their choosing within the next three weeks, the Ajan returned to the Aristide Foundation to enter their own responses (in either French or Haitian Creole) into an Excel file on a secure project laptop. Responses were translated to English by the Haiti SLM project manager. Both the Creole/French and the English versions were emailed to the PI for analysis at the University of Michigan (hard copies were collected several months later). Responses were received from all eight Ajan.

IDP camp resident data collection. Also in January, 2011, Ajan were offered a temporary contract with stipend payment to conduct interviews with IDP camp residents. All Ajan accepted this offer. Each was asked to complete 12 interviews, for a total of 96 interviews to be conducted across four camps – a sample size deemed feasible in light of financial and time constraints, and large enough to accommodate potential missing data and allow for subgroup analyses by gender, age, camp, disaster exposure, income, and other demographic variables. Permission was secured from “camp committees” (leadership contingencies in each camp) to conduct this research at four camps in which SLM had been run in the past year. A fifth camp, where SLM had also been conducted, was considered but not included due to recent reports of gang violence.

The Ajan were carefully trained by the PI and the project manager in two face-to-face meetings at the Aristide Foundation in early January. During the remainder of January, two Ajan conducted interviews in each camp over the course of several visits (scheduled from 3-5pm on Tuesdays, Thursdays, and Saturdays). The interview script included open- and closed-ended items in the following domains: 1) demographic factors, e.g., employment, and disaster exposure; 2) mental health concerns; 3) preferred coping strategies; 4) specific coping strategies associated with spiritual and religious beliefs and practices (both Christianity and Voodoo) and social support; 5) explanations for and perceived control over the earthquake, one’s current situation, and one’s emotional state; 6) prior participation in SLM; 7) endorsement and examples of Harvard Trauma Questionnaire items (Mollica et al., 1992); 8) images of the self in the future, hope and certainty about reaching goals and strategies to do so; and 9) posttraumatic growth. See Appendix B for an English version of the interview schedule.

Participant recruitment was designed to make the sample as random as possible and to protect participants' rights. Ajan recruited six male and six female participants from all parts of the camp and did not interview multiple members of the same family or tent, or close neighbors. To identify participants as randomly as possible, interviewers started on opposite ends of the camp and approached the first adult visible outside of a tent (and then outside of every 5-10 tents following). Interviewers used a Creole recruitment script to assess interest in participation. All participants approached expressed interest.

Participants who met recruitment criteria (age 18 or over, currently residing in the camp, and in Haiti at the time of the earthquake) and agreed to participate provided oral informed consent. Participants received a bottle of water and a small token gift (e.g. granola bar, hand sanitizer, pair of socks) at this time. After the interview (approximately 45 minutes), participants were debriefed, provided with information about SLM and other psychological services, and given a ticket that could be exchanged for food at the Aristide Foundation for Democracy (approximate US value \$15).¹ After each completed interview, the interviewer walked down 5-10 tents (depending on size of the camp), and recruited the nearest adult of the opposite sex of the adult last interviewed.

Ajan entered participant responses (initially documented in hard copy) into an Excel document on a project laptop kept at the Aristide Foundation. Responses were then translated by the Project Manager or Staff Supervisor and both the Creole and English

¹ Participants were not informed about this compensation prior to the interview in order to decrease the possibility of coercion. Use of a voucher aimed to prevent problems resulting from distributing food or money at the camp itself.

versions were emailed to the PI at the University of Michigan for analysis. Hard copies were collected several months later, and used to spot-check entered data for accuracy.

Participants. Data were analyzed for 84 participants, collected by seven of the eight Ajan. Data collected by one interviewer was not analyzed due to suspicion by the Haiti project manager that it had been fabricated and did not reflect valid participant responses. For the 84 respondents (42 female, 42 male) included in the study, ages ranged from 18-83 ($M = 32.35$, $SD = 11.06$), and most reported that they were married (79%), and had at least one child (74%) ($M = 1.98$ children, $SD = 2.04$). Most respondents also reported being the primary caretaker for other people (83%) ($M = 3.91$ others, $SD = 2.60$). When asked about daily activities, 43% responded that they do “nothing” or “stay at home”. A quarter (25%) reported that they are working, while 7% reported being in school.

Earthquake exposure was very high. The vast majority (88%) reported that they knew someone who was wounded or killed in the earthquake. Two thirds of respondents (66%) reported that their houses had been destroyed in the earthquake, while a third (34%) reported that they were damaged; most (85%) had lived in the current IDP camp for the entire past year.

Results

Due to the enormous quantity of data collected in this Study and in the interest of time (both that of the reader and of the writer), results presented here will be limited to discussion of the development of a tailored instrument based on collected data.

Instrument development

An instrument was constructed based on responses from lay mental health workers and IDP camp residents, and revised following discussion with the SLM team. This instrument, referred to as the Haiti IDP (HIDP) measure, consists of 48 closed-ended survey items and three open-ended items, all presented in Haitian Creole. See Appendix C for an English version of this instrument.

The first portion of the HIDP (section A) focuses on causes and manifestations of distress. It begins with an open-ended item to assess spontaneous, unbiased assessment of primary difficulties, followed by 26 closed-ended items. For these items, respondents indicate how much each has bothered them in the last week, using a scale ranging from 1 (“I do not have this problem”) to 5 (“This problem interferes with my life a lot”). Six initial items aim to capture resource and environment difficulties (e.g., “problems with water and/or food”). Although these items are not themselves measures of mental health, they were included in order to allow IDPs an opportunity to indicate that concrete needs are unmet, and so to have those needs acknowledged and validated, before being asked about more “intangible” psychological responses. Additionally, including these items allows for evaluation of relationships between environmental difficulties and distress responses – a critical element of a holistic (as opposed to simply biomedical) assessment of well-being.

A subsequent set of items focus on chronic stress responses associated with the challenges of life in an IDP camp setting (items 7-17; e.g., “headaches or other pain in my body when thinking about the problems in my life”), and responses specifically associated with earthquake trauma (items 18-26; e.g., “distressing memories about the

earthquake”). By including both of these types of responses, the HIDP measure expands upon the posttraumatic stress instruments that are commonly often used after disasters, and that focus only on trauma-related symptoms, while ignoring other potentially debilitating mental health effects of post-disaster displacement (e.g., Bracken, Giller, & Summerfield, 1995; Summerfield, 1999).

Next, Section B consists of three items that aim to directly assess IDP functioning at home, school/work, and socially – an element also commonly missing from measures of disaster-related distress. This section is especially important in light of potential cultural differences in the degree to which mental health symptoms impact functioning (e.g., Summerfield, 1999). Respondents indicate to what extent symptoms endorsed in Section A affect their functioning in these three areas using a 1 (“not at all”) to 5 (“a lot”) response scale.

Finally, in Section C, 18 items ask about coping strategies, including both psychosocial strategies explicitly taught in SLM (e.g. “relaxation exercises”), and pre-existing cultural and religious strategies described in IDP interviews (e.g. “tell myself that God will provide”). Respondents indicate what they “did to feel better in the last week”, using a response scale ranging from 1 (“I do not do this”) to 5 (“I do this, it helps a lot”). They are then given space to write in additional coping strategies, and to note things that they are doing to improve their situation (both as an acknowledgement of these efforts, and to allow the SLM team insight into what sorts of social and economic actions might be possible). Finally, the HIDP instrument collects demographic information theorized to contribute to risk and resiliency, such as gender, age, family,

education, employment, income, and earthquake exposure (e.g., Bonanno et al., 2007; Norris, Friedman, & Watson, 2002).

Assessment of measure characteristics. A trial run to assess item distributions, internal scale reliability, rates of missing data, and participant feedback was conducted at an IDP camp in the Croix-de-Bouquets neighborhood of metropolitan Port-au-Prince in June 2011 (before SLM was run in this camp). Along with paper version of HIDP measure in Haitian-Creole, respondents were also given a short feedback form, which asked about: 1) unclear items; 2) important items that were not included on the measure; 3) unimportant items that were included; and 4) other suggested changes.

Fifty-seven residents (28 female, 27 male, 2 missing gender information) completed the HIDP. First, response distributions for HIDP items were examined in order to test for undesired unbalanced or skewed distributions (which may result in floor or ceiling events), and to assess whether, as desired, items possess a wide range of distributions (Clark & Watson, 1995). For 19 items measuring stress and trauma responses, means were in the mid and mid-high range of the scale (between 2.39 and 4.19) and standard deviations were decently sized (between .99 and 1.57), suggesting that items are tapping into issues that are common (but not universal), and that distributions are sufficiently balanced and wide. Internal reliability for chronic stress items was good² ($\alpha = .81$), although items asking about trauma responses did not scale as well ($\alpha = .63$). Internal reliability was strongest when all 19 distress responses were examined together ($\alpha = .83$), suggesting that they might best be analyzed as a single scale.

² One item, asking about disrupted menstrual cycle, was omitted due to only applying to women.

The three items in Section B, measuring functioning at home, school/work, and in relationships, had means ranging from 2.63 to 3.11 (on a 4-point scale), with standard deviations from 1.13 to 1.26, signifying a balanced and wide distribution. However, items did not scale well together ($\alpha = .38$), perhaps because many participants were not working or in school at the time, or (in the case of men) had few responsibilities at home. It was determined that these items should be analyzed separately rather than as a scale.

For Section C, measuring coping strategies, item means ranged from 2.17 to 4.62 and standard deviations from .62 to 1.50. Items with the highest means and lowest standard deviations were those measuring alcohol and drug use (reverse-coded), both of which had a very low rate of endorsement. Because the team determined that these items were important to assess in order to tailor SLM's content appropriately, they were not removed from the measure, but when analyzed, were averaged together to form a single item, to avoid skewing the scale mean. Distributions for remaining items had sufficient balance and width, and internal reliability for this scale was adequate ($\alpha = .66$).

Overall, missing data across the measure was relatively low (no items were missing more than 5.3% of cases). For three items with more than 5% of responses missing, phrasing was edited for clarity.

Only 15 respondents completed the feedback form. Most of these indicated that the HIDP measure was clear and covered important items. A few suggested additional items (e.g., "feeling that there is no peace"), and these were discussed with the SLM team, but were not added to the instrument due to overlap with existing items.

Discussion

A mixed-method needs assessment, incorporating perspectives of both lay mental health workers and IDP camp residents, was conducted one year after the 2010 earthquake. Open-response items allowed for spontaneous responses, unaffected by biases introduced by standardized instruments that focus only on certain kinds of symptoms. Results were used to inform the development of a tailored measure of distress and coping. In a pilot assessment, the new measure demonstrated adequate item distribution and internal consistency, low rates of missing data, and positive participant reactions.

While this study focused on instrument development as a primary result, an additional outcome was the revision and standardization of the SLM curriculum. Using interviews conducted in this needs assessment, as well as additional data collected from the Ajan, a program manual was developed through close collaboration between the PI and SLM's Haitian psychology consultant. A complete account of this process will be presented in future reports.

Moreover, although these primary aims of Study 1, instrument development and program revision and standardization, were achieved, much of the data collected in the needs assessment have not yet been fully analyzed. One objective is to directly assess the appropriateness of a PTSD measure (e.g. the Harvard Trauma Questionnaire) for capturing distress in this post-disaster setting. As observed by Summerfield (1999), endorsement of PTSD items says very little about how these items are interpreted across cultures and whether they are in fact significant concerns. As most measures are completed independently by participants rather than in an interview setting,

interpretations of items are not always consistent. Thus, Ajan and IDPs were asked to provide an example of each symptom so that interpretations can be assessed, and in the case of IDPs, asked to report how often they experience each HTQ symptom and how many other people they know with this symptom (Ajan were asked to estimate rates of symptoms among IDPs). We hypothesize that PTSD symptoms are in fact relevant to the IDP experience, but, in line with existing literature and our own anecdotal experience, that some symptoms (e.g., re-experiencing and hyperarousal symptoms) are more relevant than others (e.g., avoidance symptoms) (e.g., Hinton & Lewis-Fernandez, 2010).

An additional aim is the assessment of potential risk and resiliency factors, including demographics (e.g., income, employment, and disaster exposure), coping strategies, and beliefs. Factors of interest include explanations for and perceived control over the earthquake and current situation and emotional state, images of the self in the future, hope and certainty about reaching goals and strategies to do so, and posttraumatic growth (e.g., Bonanno et al., 2007; Norris, Friedman, & Watson, 2002). Such individual and social predictors of risk and resiliency may moderate intervention effects, and their identification and study may inform the development of innovative intervention methods.

Study 2: Evaluation trial with tailored instrument

Once finalized, the HIDP instrument developed in Study 1, as well as a newly developed SLM program manual (also informed by this needs assessment), were put to immediate use in an evaluation trial. Study aims were to assess the effects of SLM participation on both distress and coping using this tailored instrument through a randomized waitlist-control group evaluation. This design would address limitations in prior studies by controlling for the effect of time and other shifting environmental factors

on participant distress, as well as for selection bias due to use of volunteer participants. Because this methodology had not yet been attempted by the SLM team, a core objective was to assess the feasibility of this approach in the often unpredictable IDP camp setting, so as to inform future evaluation methods.

Hypotheses

Primary hypotheses were that SLM participation would be associated with decreased symptoms of distress, and an increase in overall usage of and benefit from coping strategies. A secondary aim concerns the hypothesis introduced in Chapter II: that teaching new coping strategies will not necessarily interfere with existing coping strategies. Thus, while coping strategies associated with the psychosocial model adopted by SLM were predicted to increase, pre-existing strategies associated with Haitian culture and religion were predicted to stay constant. Additionally, in light of documented gender differences in distress after disasters (Galea, Nandi, & Vlahov, 2005; Norris et al., 2002), and prior studies showing greater benefit of SLM for women than men (see Chapter III), gender effects were also examined in the following analyses. We hypothesized greater baseline distress among women, but, because of increased emphasis on connecting with male participants, no gender difference in benefit from SLM.

Method

Procedure

In August 2011, the Haiti SLM team facilitated contact with the Toto IDP camp in Tabarre. In September, the PI visited this camp with the project manager to meet with the camp committee, explain the research design, and secure permission to conduct the intervention and the proposed research. The committee agreed to recruit approximately

100 adults with interest in participating in SLM and invite them to attend an information session scheduled for the next week.

On this date, the SLM team described the project and research methods to participants gathered at a centralized location. Approximately one hundred participants who met recruitment criteria (age 18 or over, a resident of the Toto camp, and in Haiti at the time of the earthquake) and volunteered to participate were given two hard copies of an informed consent document in Creole. This document was also read aloud. As part of this document, participants were informed that they would be randomly assigned to participate in SLM either immediately or after one month, and in both cases, would be expected to complete a survey at three time points: at this meeting, after one month, and after two months. Participants completing all surveys would receive a small gift (approximate US value \$10). Additionally, all participants would be provided with certificates documenting their participating in the workshops which are often valued in securing employment. Informed consent documents also contained a “participant number” and either the letter “A” or the letter “B”. Participants who consented to participate were asked to keep one copy and to return another copy with their signature to SLM staff.

Next, participants completed a paper version of the HIDP instrument and noted their participant number at the top of the form. When all had completed, participants with the letter “A” on their form were asked to return to the camp the next week to begin SLM seminars, while participants with “B” were asked to return on a specified date one month later.

However, while Group A participants completed SLM as scheduled, staff were unable to contact the majority of the original Group B (waitlist-control) participants. Moreover, conflict among camp committee members resulted in loss of the committee liaisons who had been working with SLM. As a result, after negotiating with new committee members, new IDP camp residents were recruited to replace lost participants. Consequently, a quasi-experimental design was adopted, rather than the randomized controlled trial originally intended.

Participants

Twenty-seven Group A participants (15 female, 12 male, $M_{age} = 27.74$, $SD = 6.86$, range = 18 - 46) completed SLM as scheduled, with both pre and post data. Eighteen of these (10 female, 8 male) also completed two-month follow-up data. Because, as noted above, the original Group B participants could not be re-contacted, 24 IDP camp residents (17 female, 7 male, $M_{age} = 30.13$, $SD = 10.35$, range = 18 - 57), were recruited to replace lost participants. These participants completed SLM one month later and provided both pre- and post-SLM data.

Measure

Assessments used a measure of distress and coping developed by the SLM team, referred to as the Haiti IDP (HIDP) measure (see Study 1). Items aim to capture resource and environment difficulties, chronic stress responses, responses specifically associated with earthquake trauma, participant functioning, and coping strategies. For this study, focused on distress and coping, only items measuring stress and trauma responses (Section A, items 7-26) and coping strategies (Section C, items 1-18) were analyzed. For distress responses, respondents indicated how much each item has bothered them in the

last week, using a scale ranging from 1 (“I do not have this problem”) to 5 (“This problem interferes with my life a lot”). For the coping strategies section, participants indicated what they did to feel better in the last week, using a response scale ranging from 1 (“I do not do this”) to 5 (“I do this, it helps a lot”). See Appendix C for an English version of the full instrument.

Results

Distress symptoms

Ten items associated with stress³ and nine items associated specifically with earthquake trauma demonstrated good internal consistency so were examined together as one scale (mean α across time points = .85). A paired samples t-test revealed a significant decrease in distress symptom scores for Group A participants from pre- ($M = 3.02$, $SD = .71$) to post-SLM ($M = 2.21$, $SD = .81$), $t(26) = 6.26$, $p < .001$. At two month follow-up, the mean symptom score for 18 participants dropped slightly further to 2.13 ($SD = .77$), but was not significantly different from post-SLM scores, $t(17) = .53$, $p = .603$. Group B participants also showed a significant decrease from pre ($M = 3.13$, $SD = .87$) to post SLM ($M = 2.51$, $SD = .74$), $t(23) = 3.72$, $p < .001$. As a partial control for the effect of time passing, Group A post-SLM scores were compared to Group B pre-SLM scores collected at the same time-point. Scores for SLM participants (Group A) were significantly lower than scores of those who had not yet participated (Group B), $t(49) = 3.90$, $p < .001$. See Figure 5.1 for a graphical representation.

Next, to assess aggregate effects, and because a comparison between pre-SLM Group A and pre-SLM Group B scores collected two months later suggested no

³ For ease of analysis, one item asking about disrupted menstrual cycle was not included here because it applied only to female participants.

significant effect of time on distress, $t(49) = .487, p = .628$, analyses were conducted on pre- and post-SLM scores collapsed across Group. A repeated measures ANOVA was used to compare pre- and post-SLM distress symptom scores, with gender and Group (A or B) included as between-subject variables. Results revealed a significant main effect of SLM, $F(1, 47) = 36.36, p < .001$. There was also a main effect of gender, $F(1, 47) = 13.04, p = .001$, such that women reported more distress overall, but no main effect of Group $F(1, 47) = .042, p = .838$. Interactions between SLM and gender, and SLM and Group were non-significant (all $F_s \leq 2.38$, all $p_s \geq .130$), suggesting that SLM was equally effective in decreasing distress across genders and Groups.⁴ See Table 5.1 for mean pre-post differences and effect sizes.

Coping strategies

Total coping strategies. Parallel analyses were conducted for coping strategy items in Section C. The 18 coping strategies (with alcohol and drug use reverse coded) together formed a reliable scale (mean $\alpha = .87$). Group A participants demonstrated a significant increase in use of coping strategies from pre ($M = 3.59, SD = .58$) to post-SLM ($M = 3.91, SD = .53$), $t(26) = 3.92, p = .001$, and scores remained constant at two-month follow-up ($M = 4.0, SD = .56$). Likewise, Group B participants also increased use of coping strategies from pre- ($M = 3.61, SD = .46$) to post-SLM ($M = 4.13, SD = .31$), $t(23) = 6.84, p < .001$. Group A post-SLM coping symptom scores were also significantly higher than Group B pre-SLM scores collected at the same time-point, $t(49) = 2.1, p < .05$. See Figure 2 for a graphical representation.

⁴ There was, however, a trend-level three-way interaction, such that men in Group A showed a greater decrease in distress than did men in Group B, $F(1, 47) = 2.97, p = .091$.

Analyses were also conducted to assess the overall effect of SLM on pre and post coping strategies data collapsed across Groups. A repeated measures ANOVA with SLM as a within-subject predictor and gender and Group as between subject predictors revealed a significant main effect of SLM, $F(1, 47) = 53.15, p < .001$. There were no main effects of gender or Group, interaction between SLM and gender, or three way interaction (all $F_s \leq .89$, all $p_s \geq .311$). However, there was a trend-level interaction between SLM and Group, such that Group B showed a greater increase in coping skills than did Group A from pre to post SLM, $F(1, 47) = 3.61, p = .063$. See Table 1 for pre-post mean differences and effect sizes.

Psychosocial coping strategies vs. Cultural/religious. A second set of analyses were conducted to disentangle the effects of SLM on psychosocial coping strategies explicitly taught in SLM seminars, from effects on cultural and religious coping strategies that are common in Haitian society, and were validated, but not taught in SLM. Strategies were rated as either psychosocial or cultural/religious by the Ajan, and items that were unanimously placed in one or the other category were chosen to represent that category. Eight items associated with psychosocial coping (e.g. “relaxation techniques”) formed an acceptable scale (mean $\alpha = .62$), as did seven items associated with cultural and religious coping (e.g. “tell myself that God will provide”) (mean $\alpha = .77$). See Appendix 5.C for all items.⁵

A repeated measures ANOVA with SLM participation as the within-subject variable, and gender and Group as between-subject variables, revealed a significant main

⁵ Psychosocial items: #2, 7, 8, 10, 12 15, 16, 17. Items 7 & 12 assessing drug and alcohol use as coping strategies were reverse coded, and because endorsement of these items was extremely low, were averaged into one item so as not to skew means. Cultural/religious coping items: #1, 3, 4, 5, 6, 9, 13. Three items that were not particularly associated with SLM or with Haitian culture were disincluded from these analyses (e.g. “sleeping”): #11, 14, 18.

effect of SLM on psychosocial strategies, $F(1, 47) = 84.34, p < .001$. While there were no main effects of gender or Group, interaction between SLM and gender, or three-way interaction (all F s $\leq .83$, all p s $\geq .368$), there was a significant interaction between SLM and Group, such that Group B participants reported a greater increase in strategy use than did Group A, $F(1, 47) = 6.23, p = .016$. A parallel analysis conducted on cultural/religious strategies also revealed a significant main effect of SLM, $F(1, 47) = 9.66, p = .003$. There were no other main effects or interactions (all F s $\leq .99$, all p s $\geq .324$). See Table 5.2 for pre-post mean differences and effect sizes, and Figure 5.3 for a graphical representation.⁶

Association between distress and coping. A bivariate correlation analysis on combined Group A and Group B data was used to assess the relationships between participants' distress symptom severity and their use of coping strategies. Results revealed a significant negative correlation between post-SLM distress and post-SLM psychosocial coping strategies, $r(49) = -.303, p = .031$. There were no significant associations between post-SLM distress and cultural/religious coping strategies, or between distress and coping at pre-SLM time points (all r s $\leq .115$, all p s $\geq .421$).

Discussion

A quasi-experimental trial assessed the impact of SLM on participant distress and use of coping strategies using a culturally and situationally tailored measure. Results revealed significant decrease in severity of stress and trauma responses, and a significant increase in use of coping strategies associated with participation in the SLM intervention. Importantly, while research conducted in the first year after the earthquake revealed some

⁶ Results of analyses on psychosocial and cultural/religious strategies conducted separately for Group A and B were not significantly different from those presented here.

natural resolution of distress as time passed (see Chapter III), in this study, conducted nearly two years after the quake, distress for pre-SLM respondents appeared stable across time-points. This stability suggests that intervention may be particularly important for IDPs who continue to experience distress for an extended period after a disaster.

Additionally, analyses conducted on coping strategies revealed that while the use of psychosocial coping strategies explicitly taught in SLM increased with participation, cultural and religious coping strategies (which were not a direct focus of SLM) increased as well. These results provide preliminary evidence that SLM can increase coping skills associated with a psychological perspective based in Western culture, without interfering with use of indigenous strategies. In fact, as evident by the negative association between psychosocial coping strategies and distress, these learned psychosocial strategies may be one mode by which SLM impacts participant well-being.

As in prior studies (see Chapter III), women reported more distress than men at pre-SLM time points. However, there were no gender differences in SLM's impact on distress or on coping strategies, suggesting that it is equally effective for both men and women. While there were no differences by seminar grouping regarding distress, Group B did report a larger increase in coping strategy usage than Group A. While this difference was not hypothesized, it could potentially be due to seminar order; Group B was second to receive the content and the Ajan may have been more skilled in its delivery the second time around.

While primary hypotheses were explored in this study, several additional analyses will also be conducted to supplement those presented here. A first step is assessment of the influence of participant characteristics (aside from gender), such as age,

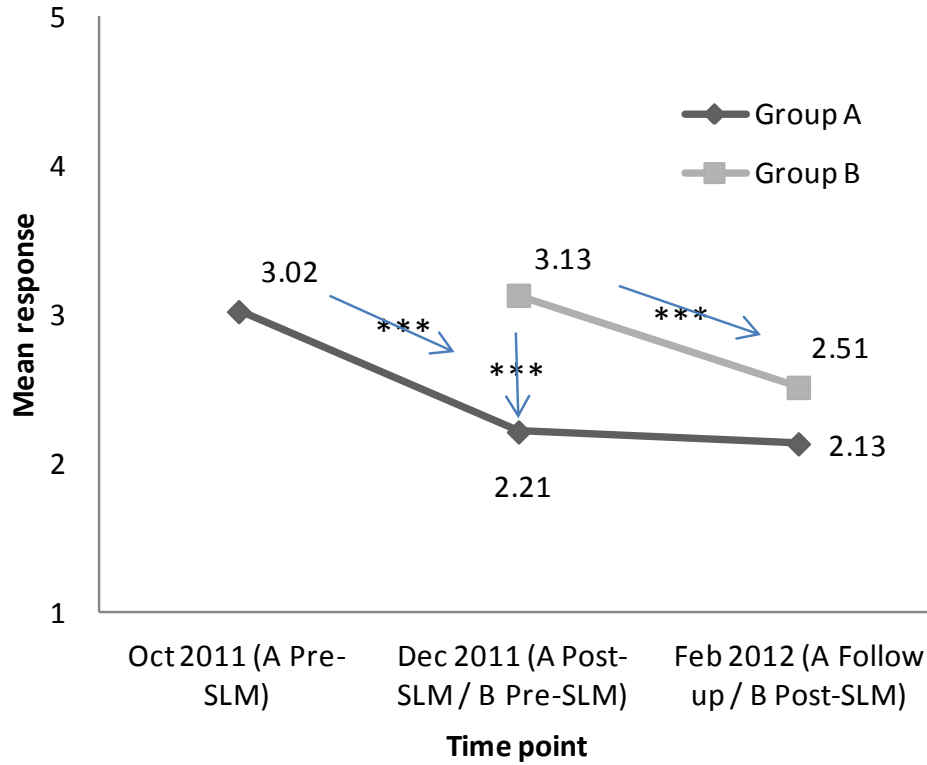
education/employment, and disaster exposure, on outcomes and response to SLM. More work is also needed to examine the relationship between perceived resource need (e.g. food and water) measured in the first six items of the HIDP, and participant distress and response to SLM. Finally, items measuring functioning, and responses to open-ended items also require further attention.

An underlying aim of the current study was to assess the feasibility of a randomized controlled trial in the IDP camp setting. While certain methods appeared very effective (e.g., the randomization of participants using letters written on their informed consent documents), circumstances in the IDP camp resulted in loss of the initial waitlist control group. Although the SLM team met to debrief regarding lessons learned from this setback, there were few suggestions (aside from choosing more stable settings in which to work) as to how this could have been prevented. An additional trial will be scheduled as funding permits. However, because some environmental disruption is inevitable, the development of innovative research methods that are feasible in an unpredictable and sometimes volatile context is an ongoing priority.

References

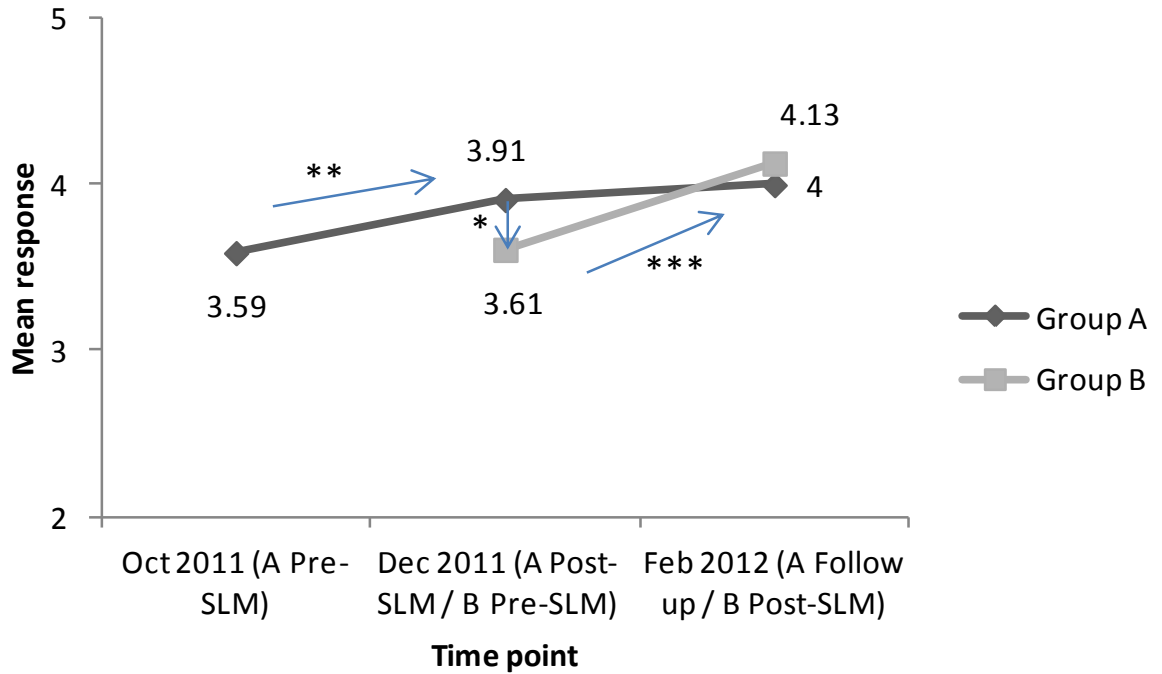
- Bonanno, G. A., Galea, S., Bucciarelli, A., Vlahov, D. (2007). What predicts psychological resilience after disaster? The role of demographics, resources, and life stress. *Journal of Consultation and Clinical Psychology, 75*, 671–682.
- Bracken, P. J., Giller, J. E., & Summerfield, D. (1995). Psychological responses to war and atrocity: The limitations of current concepts. *Social Science & Medicine, 40*, 1073–1082.
- Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment, 7*, 309-19.
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (second ed). Lawrence Erlbaum Associates.
- Hinton, D. E., & Lewis-Fernandez, R. (2010). The cross-cultural validity of posttraumatic stress disorder: Implications for DSM-5. *Depression and Anxiety, 0*, 1-19.
- Mollica, R. F., Caspi-Yavin, Y., Bollini, P., Truong, T., Tor, S., & Lavelle, J. (1992). The Harvard Trauma Questionnaire: Validating a cross-cultural instrument for measuring torture, trauma, and posttraumatic stress disorder in Indochinese refugees. *Journal of Nervous and Mental Disease, 180*, 111-116.
- Neria, Y., Nandi, A., & Galea, S. (2008). Post-traumatic stress disorder following disasters: A systematic review. *Psychological Medicine, 38*, 467–480.
- Norris, F. H., Friedman, M. J., Watson, P. J., Byrne, C. M., Diaz, E., & Kaniasty, K. (2002). 60,000 disaster victims speak: part I. An empirical review of the empirical literature, 1981–2001. *Psychiatry, 65*, 207-39.
- Summerfield, D. (1999). A critique of seven assumptions behind psychological trauma programmes in war-affected areas. *Social Science & Medicine, 48*, 1449–1462.
- Weiss, M. G., Saraceno, B., Saxena, S., & van Ommeren, M. (2003). Mental Health in the Aftermath of Disasters: Consensus and Controversy. *The Journal of Nervous and Mental Disease, 191*, 611-615.
- Young, A. (1995). *The Harmony of Illusions: Inventing Posttraumatic Stress Disorder*, Princeton: Princeton University Press.

Figure 5.1. Change in stress and trauma symptom severity from pre- to post-SLM



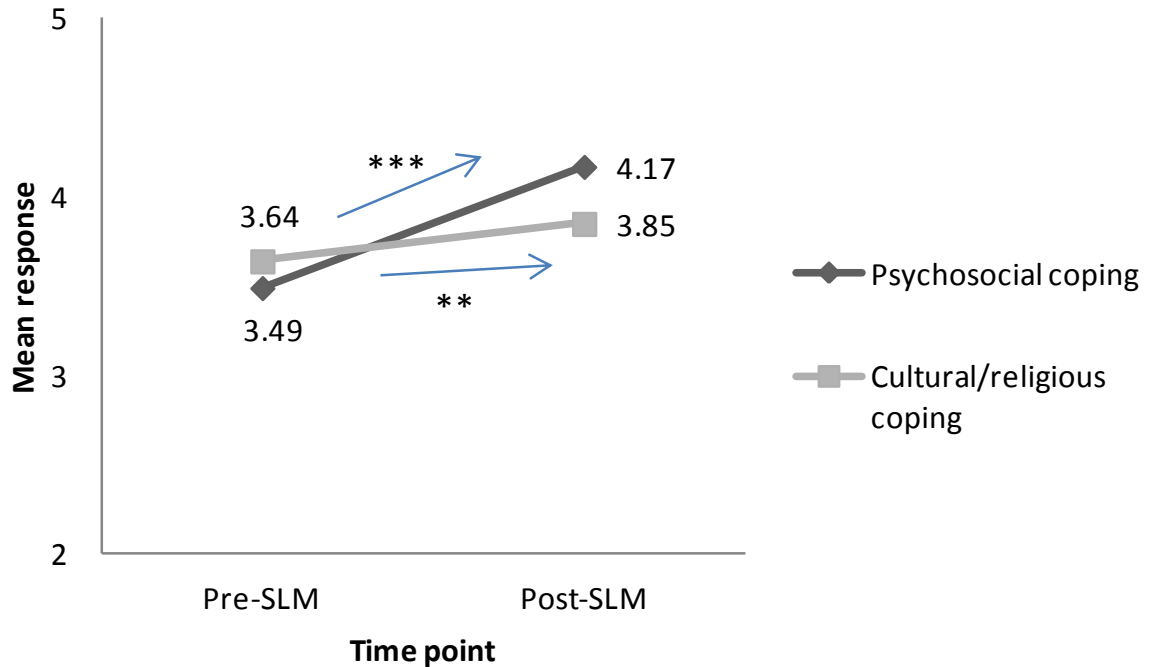
Note. *** $p < .001$. Significance levels refer to paired samples t-tests assessing change in symptom severity from pre- to post-SLM for both Groups A and B, and to between subject t-test assessing the difference between Groups at the Dec. 2011 time point. Y-axis represents mean endorsement of 19 distress items on the Haiti IDP (HIDP) measure, using 5-point response scale (1 = “I do not use this”; 5 = “I use this and it helps a lot”).

Figure 5.2. Change in use of coping strategies from pre- to post-SLM



Note. *** $p < .001$. Significance levels refer to paired samples t-tests assessing change in total use of coping strategies from pre- to post-SLM for both Groups A and B, and to a between subject t-test assessing the difference between Groups at the Dec. 2011 time point. Y-axis represents mean endorsement of 18 coping skills items on the Haiti IDP (HIDP) measure, using 5-point response scale (1 = “I do not use this”; 5 = “I use this and it helps a lot”).

Figure 5.3. Change in use of psychosocial and cultural/religious coping skills from pre- to post-SLM



Note. *** $p < .001$, ** $p < .01$. Significance levels are derived from repeated measures ANOVAs (with gender and Group as between-subject predictors) assessing change in use of coping skills from pre- to post-SLM in a combined sample of Group A and B. Y-axis represents mean endorsement of 8 psychosocial and 7 cultural/religious coping skills items on the Haiti IDP (HIDP) measure, using 5-point response scale (1 = “I do not use this”; 5 = “I use this and it helps a lot”).

Table 5.1

Mean pre-post difference scores, significance levels, and effect sizes

	Mean difference \pm SE	η^2 (partial eta squared) ¹
Distress symptoms	.65 \pm .11***	.436
Coping strategies (total)	.43 \pm .06***	.531
Psychosocial strategies	.80 \pm .09***	.642
Cultural/religious strategies	.23 \pm .08**	.171

Note. *** $p < .001$ ** $p < .01$. Mean differences, standard errors, and significance levels are taken from repeated measures ANOVAs (with gender and seminar grouping as between subject factors).

¹ Partial eta squared represents the percentage of model variance (effect + error) accounted for by the within-subject variable. Although there are not firmly established norms for what constitutes small, medium, or large effect sizes for partial eta-squared, a rule of thumb can be based on recommendations by Cohen (1988) of 0.01, 0.06, and 0.15 for the three cut-points for regular eta-squared.

Appendix A

Ajan interview script

PART I. (*Symptoms*)

1. We are interested in learning about how people living in the IDP camps are doing currently. In your experience, are people currently experiencing emotional and psychological problems?
2. If yes to 1: Approximately what percentage of adult camp residents are experiencing problems?
3. If yes to 1: What percentage of child camp residents are experiencing problems?
4. What are the most common emotional and psychological problems that people living in the IDP camps are experiencing?

PART II. (*HTQ*)

Now I am going to read you a list of problems that people sometimes have after experiencing hurtful or terrifying events. The items on this list mean different things to different people. After I read each item on the list, I would like you to 1) use examples to tell me how you think it is interpreted by camp residents and 2) approximate what percentage of people in the camps who have this problem.

1. Recurrent thoughts or memories of hurtful or terrifying events.
2. Feeling as though the hurtful or terrifying event is happening again
3. Recurrent nightmares
4. Feeling detached or withdrawn from people
5. Unable to feel emotions
6. Feeling jumpy, easily startled
7. Difficulty concentrating
8. Trouble sleeping
9. Feeling on guard
10. Feeling irritable or having angry outbursts
11. Avoiding activities that remind you of the traumatic or hurtful event.
12. Inability to remember parts of the most traumatic or hurtful event.
13. Less interest in daily activities
14. Feeling as if you don't have a future
15. Avoiding thoughts or feelings associated with the experience
16. Sudden emotional or physical reaction when reminder of the event
17. They feel depressed or sad
18. They use alcohol to excess
19. They use drugs (note what drug)
20. They feel like life has no meaning or makes no sense
21. They feel hopeless or like it would be better to be dead
22. They have a plan to injure or kill themselves
23. What problems are missing from this list that are big problems for camp residents?

PART III. (*optimal functioning*)

1. Are there any camp residents who you would say are “doing very well” emotionally and psychologically while living in the camps?
If “yes” continue below, if “no”, skip to question 7.
2. How would you describe a camp resident who is “doing very well”?
3. How does someone like this *feel*?
4. What do they *think* about their situation?
5. How do they *behave*?
6. What percentage of camp residents are this way?
7. If no, how would you imagine a camp resident who is doing very well would feel, think, and behave?
8. If you were to capture the emotional and psychological experience of a camp resident by asking 5 questions, what would they be?

Appendix B

Camp resident interview script

Date _____ Name of camp _____ Ajan _____

PART I (*demographics, open-ended symptoms & coping*)

1. Male / Female?
2. How old are you?
3. Are you married?
4. How many children?
5. How long have you lived in this camp?
- 5a. Who lives with you?
6. How many family members are you responsible for taking care of?
7. Approximately how much money does your family make each month?
- 7a. How many people live off this money?
- 7b. Do you have any relatives who send you money?
8. How much education have you completed?
9. What is your religion?
10. Where did you live prior to the earthquake?
11. Was your property damaged or destroyed? (choose one)
12. Was anyone you know killed or injured?
- If no, skip to question 10. If yes, continue:
- 12a. How many people?
- 12b. Who?
13. What do you do during a typical day?
- 13a. Are you currently working?
- 13b. If yes, what is your job?

Symptoms

14. Sometimes people experience emotional and psychological problems after an earthquake and when they are living in really difficult situations. Do you experience any problems?
- If no, skip to question 15. If yes, continue:
- 14a. If so, what kinds of problems?
- 14b. How do these problems affect your everyday life?
- 14c. What is the biggest problem for you?
- 14d. Have these problems gotten better or worse since the earthquake happened?
- 14e. What is the biggest problem you see in other adults in the camp?
- 14f. What is the biggest problem you see in children in the camp?

Coping

15. What have you done to try to feel better?
- 15a. What has been helpful?
- 15b. What has not been helpful?
- 15c. Do you have other people in your life who support you?
- 15d. If yes, how many people?
- 15e. Who?

Religiosity

16. Have you used your religion to help you feel better?

If no, skip to question 17. If yes, continue:

16a. How?

16b. Did you participate in religious practices before the earthquake?

16c. How have religious practices (e.g. prayer, church services, traditional healing) changed since the earthquake?

16d. Do you practice Voudou?

If no, skip to question 17. If yes, continue:

16e. Has this helped you to feel better?

16f. How so?

Explanatory style

17. Why do you think the earthquake happened?

18. How much control did you have over the earthquake happening? 0 – 100%

19. Why do you think you have the problems that you have now?

20. How much control do you have over improving your situation? 0 – 100%

SLM participation

21. Did you participate in a class run by an Ajan Sante Mantal?

If no, skip to next page. If yes, continue:

21a. On what date (approximate)?

22b. How helpful was this on a scale of 1-10 (1, not at all helpful, 10 extremely helpful)?

23c. What was helpful about the class?

23d. What was not helpful?

23e. What would you change?

PART II. (HTQ)

Now I am going to read you a list of problems that people sometimes have after experiencing hurtful or terrifying events. The items on this list mean different things to different people. After I read each item on the list, I would like you to tell me what it means to you. Please explain this problem to me, using examples, as though I am a child who does not know what it means.

Interviewer instructions

After reading item: I'd like you to decide how much this problem bothered you in the past week.

1 – not at all 2 – a little 3 – quite a bit 4 – extremely

If participant responds 1, move on to next problem. If participant responds, 2, 3, or 4: How does this problem affect your everyday life? Please provide an example.

How many other people do you know who have this problem?

1. Recurrent thoughts or memories of hurtful or terrifying events.

1a. 1 – not at all 2 – a little 3 – quite a bit 4 – extremely

1b. Example:

1c. How many others:

2. Feeling as though the hurtful or terrifying event is happening again

1 – not at all 2 – a little 3 – quite a bit 4 – extremely

Example:

How many others:

3. Recurrent nightmares

1 – not at all 2 – a little 3 – quite a bit 4 – extremely

Example:

How many others:

4. Feeling detached or withdrawn from people

1 – not at all 2 – a little 3 – quite a bit 4 – extremely

Example:

How many others:

5. Unable to feel emotions

1 – not at all 2 – a little 3 – quite a bit 4 – extremely

Example:

How many others:

6. Feeling jumpy, easily startled

1 – not at all 2 – a little 3 – quite a bit 4 – extremely

Example:

How many others:

7. Difficulty concentrating

1 – not at all 2 – a little 3 – quite a bit 4 – extremely

Example:

How many others:

8. Trouble sleeping

1 – not at all 2 – a little 3 – quite a bit 4 – extremely

Example:

How many others:

9. Feeling on guard

1 – not at all 2 – a little 3 – quite a bit 4 – extremely

Example:

How many others:

10. Feeling irritable or having angry outbursts

1 – not at all 2 – a little 3 – quite a bit 4 – extremely

Example:

How many others:

11. Avoiding activities that remind you of the traumatic or hurtful event.

1 – not at all 2 – a little 3 – quite a bit 4 – extremely

Example:

How many others:

12. Inability to remember parts of the most traumatic or hurtful event.

1 – not at all 2 – a little 3 – quite a bit 4 – extremely

Example:

How many others:

13. Less interest in daily activities

1 – not at all 2 – a little 3 – quite a bit 4 – extremely

Example:

How many others:

14. Feeling as if you don't have a future

1 – not at all 2 – a little 3 – quite a bit 4 – extremely

Example:

How many others:

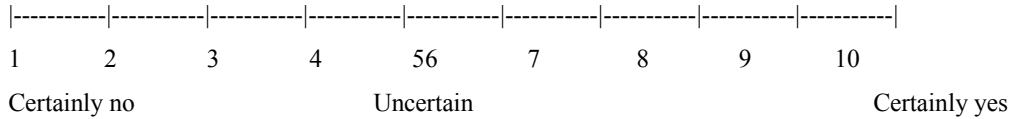
15. Avoiding thoughts or feelings associated with the experience

1 – not at all 2 – a little 3 – quite a bit 4 – extremely

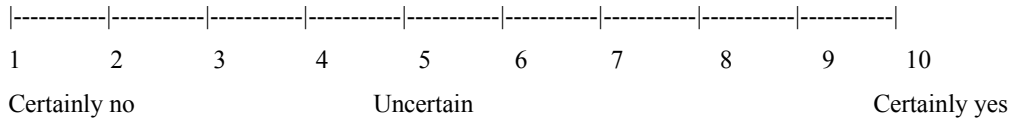
Example:

How many others:

3. Do you think that *you are the kind of person who can make these changes?*



4. Do you think that *the world is the kind of place where you can make these changes?*



5. Please tell me some steps you can take to make these changes happen.

6. About how much time do you plan to spend over the next week working on the things you described?

PART IV. (PTGI)

People have different reactions to difficult events in their lives. Comparing now to the time before January 12th, please tell me how true these statements are for you:

1 – not at all 2 – a little 3 – quite a bit 4 – extremely

1. I have new opportunities which would not have been available otherwise.
2. I accept better the way things turn out.
3. I can do more good with my life.
4. I know that I can deal with problems better.
5. I discovered that I am stronger than I thought I was.
6. I established a new path for my life.
7. I have more self-confidence.
8. I understand spiritual matters better.
9. I am more willing to express my feelings.
10. I appreciate the value of my life more.
11. I appreciate each new day more.
12. I try to have the best relationships to others.
13. I developed new interests.
14. I know that I can count more on people when I am in trouble.
15. I have more compassion for others.
16. I try more to change things which need changing.
17. I accept more that I need other people.
18. I learned a lot about how wonderful people are.
19. I believe more strongly in God.
20. I feel closer to others.
21. My aims in life changed.

Appendix C Haiti IDP (HIDP) measure

Subject # _____ Date _____
 Camp Name _____ Months living in this camp _____

A. What are your biggest problems? _____

How much have the following bothered you in the <i>past week</i> ?	I do not have this problem	This problem interferes with my life...			
		Not at all	A little	Somewhat	A lot
First, some questions about problems in your life now:					
1. Problems with water and/or food					
2. Problems with housing and/or toilets					
3. Problems with job and/or school					
4. Problems with violence					
5. Problems with sexual assault					
6. Fear that I will be forced to leave the camp					
7. Headaches or other pain in my body when thinking about the problems in my life					
8. Feeling sad/crying about my problems					
9. Thinking about my problems so much that I cannot think about other things					
10. Feeling irritable or angry about things that did not used to make me angry					
11. Being unable to sleep or relax					
12. Not feeling close to other people					
13. Having sexual difficulties or disinterest					
14. If female, not having my menstrual period (but are not pregnant)					
15. Difficulty concentrating/trouble remembering					
16. Feeling that I am crazy or losing control					
17. Feeling hopeless or like I want to die					
Now, some questions about how the 2010 earthquake is affecting you now:					
18. Distressing memories of the earthquake					
19. Distressing dreams about the earthquake					
20. Headaches or other pain in my body when thinking or talking about the earthquake					
21. Feeling sad/crying about people who died					
22. Thinking about things lost in the quake					
23. Feeling guilty					
24. Feeling startled, increased heart-rate, or like I want to run (e.g. when something unexpected happens)					
25. Avoiding doing things that might remind me of the earthquake (e.g. going to where I was when it happened)					
26. Worrying that I will not be prepared for another disaster					

27. What other problems do you have that we have not asked about? _____

B. How much do the thoughts and emotions you've reported affect you:	Not at all	A little	Somewhat	A lot
1. Ability to manage daily responsibilities				
2. Ability to work or go to school				
3. Family and friend relationships				

C. What have you done to feel better in the last week?	I do not do this	I do this, it helps...			
		Not at all	A little	Somewhat	A lot
1. Joke, laugh or play					
2. Discuss problems with friends or family					
3. Help or share with other people (e.g. money, food, teach things)					
4. Pray, read the bible, attend church					
5. Tell myself that God will provide					
6. Sing, dance, or listen to music					
7. Drink alcohol					
8. Relaxation techniques (e.g. slow breathing)					
9. Participate in festivals, rituals, or holidays					
10. Tell myself that my reactions are normal					
11. Think about and plan for the future					
12. Use drugs					
13. Talk to a voodoo doctor or other traditional healer					
14. Work and/or keep myself busy					
15. Try to accept the things that I cannot change					
16. Visit a doctor or mental health worker					
17. Take steps to improve my situation					
18. Sleep					

19. What else do you do to feel better? _____

20. If you are taking steps to improve your situation, what are you doing? _____

Thank you! Just a few more questions....

Gender M/F Married Y/N Years of education _____

Age _____ Number of children _____ Yearly income _____

Do you currently have a job? Y/N If yes, what job _____ Are you currently in school? Y/N

Were you injured in the earthquake? Y/N Was anyone you know injured? Y/N Was anyone you knew killed? Y/N

CHAPTER VI

Conclusion

Across three manuscripts and a fourth chapter documenting ongoing work, this dissertation has described the development of a theory-based approach to disaster mental health, and provided evidence of its benefits for both participants and lay mental health workers using a range of methods and outcome measures. Results suggest that a grass-roots model, implemented by local young people and integrating psychological and indigenous (e.g., cultural and religious) perspectives can decrease distress and enhance the use of coping strategies among participants. The feasibility of the model is further supported by evidence that the lay earthquake survivors implementing it experienced limited compassion fatigue, and rather, elements of posttraumatic growth.

These studies have considerable implications for the fields of disaster mental health and for culturally-competent practice more generally. First, SLM incorporates a range of innovative methods, including a task-shifting approach employing local lay disaster survivors, a two-level train-the-trainer format, an emphasis on community-building and helping behavior, and use of culturally-tailored psychosocial techniques. These components not only allow for culturally and situationally appropriate care, but also provide low-cost, time-efficient dissemination of services, while sidestepping the problem of insufficient human resources common to many developing contexts (e.g.

Kakuma et al., 2011). In this sense, SLM is both theoretically and logistically well-suited to low-resource, post-disaster scenarios. This dissertation provides a concrete and detailed illustration of how this approach can be applied in a particularly acute post-disaster context – as well as support for its effectiveness.

This work also contributes to a broader theoretical and empirical debate regarding the implementation of cross-cultural mental health care. Using a tailored outcome measure created for this purpose, the evaluation trial in Chapter V provides preliminary evidence that increasing one’s psychosocial coping skills does not necessarily disrupt use of pre-existing cultural and religious strategies. Results support SLM’s position that psychological content can be very effectively incorporated into cross-cultural intervention, if done so in a strategic and collaborative fashion.

Further, results imply that, rather than being passive recipients easily converted by an imported belief system, participants in mental health interventions may be able to maintain both pre-existing and imported perspectives (and their respective coping strategies and treatment modalities) in mind simultaneously, and access each as needed. In other words, exposure to a wide range of explanatory models and coping and treatment strategies may in fact create a more comprehensive “tool belt” of skills to reduce distress. These tools, along with a flexible approach to their use, may be a key element of resilience (e.g., Bonanno, Pat-Horenczyk, & Noll, 2011; Fresco, Williams, & Nugent, 2006).

Future directions

While these studies are a promising start, as they say in Haiti, “kaka poul blan pa ze” (white chicken poop isn’t an egg) – things may look pretty but there is much work to

be done. In addition to the planned analyses described in Chapter V, much new research is needed to assess and modify SLM, and to explore applicability to novel contexts. First, a second try is needed to correct methodological challenges encountered in executing a randomized waitlist control trial (as described in Chapter V), and to implement an active control group as a basis of comparison.

Moreover, as of yet, the peer-led groups implemented by SLM graduates are understudied. Following a formal assessment of the extent to which SLM graduates go on to run such groups, as well as their attendance, format, and content, research is needed to evaluate effects on participants and implementers. Of particular interest is whether, as hypothesized, providing peer-leadership has therapeutic effects on SLM graduates above and beyond that of simply participating in the seminars run by the Ajan. Ideally, the community building and social action elements of both these peer-led groups and SLM more generally might be expanded in future iterations, perhaps through collaboration with existing community and political organizations. Other directions include the development of a parallel children's model incorporating story-telling through artwork and a social action and helping component, as well as collaboration with traditional and religious healers.

Additionally, a future aim is to apply core components of the SLM model to new contexts. In this sense, study of resiliency, coping, and healing in non-US settings may in fact inform the treatment of survivors of disasters and other forms of trauma in unique cultures and contexts located both in exotic locales and in our own backyard. Some aspects of this model have already been applied to my collaborative work in developing a recovery-oriented meaning-making treatment for veterans with PTSD at the Ann Arbor

VA, providing peer-therapy training to female inmates who were sexually assaulted by prison guards at an Ypsilanti prison, and designing peer-led support groups for sexual assault survivors in the DR Congo.

Although I have no intention of developing a universal intervention model meant to be imported as-is across cultures and circumstances, ideally these experiences in Haiti and other settings can inform the development of a set of concrete guidelines regarding how to ethically and efficiently develop a unique model tailored to emergent contexts. In particular, guidelines might concern needs assessment, collaboration with local mental health providers, survivors, and lay people, and the development and evaluation of culturally-appropriate intervention methods. Fundamentally, such guidelines would be grounded in the appreciation of individuals' ability to simultaneously benefit from a variety of different kinds of explanatory, coping, and treatment models – both indigenous and psychological – to address distress.

References

- Bonanno, G., Pat-Horenczyk, R., & Noll, J. (2011). Coping flexibility and trauma: The Perceived Ability to Cope with Trauma (PACT) scale. *Psychological Trauma: Theory, Research, Practice, and Policy*, 3, 117-129.
- Fresco, D. M., Williams, N. L., & Nugent, N. R. (2006). Flexibility and negative affect: Examining the associations of explanatory flexibility and coping flexibility to each other and to depression and anxiety. *Cognitive Therapy and Research*, 30, 201-210.
- Kakuma, R., Minas, H., van Ginneken, N., Dal Poz, M. R., Desiraju, K., Morris, J. E., Saxena, S., & Scheffler, R. M. (2011). Human resources for mental health care: current situation and strategies for action. *Lancet*, 378, 1654–63.