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## Teacher Referral Following Natural Disasters

Melissa Anne Quincer

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TEACHER REFERRAL FOLLOWING NATURAL DISASTERS

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A Dissertation

Submitted to the Graduate Faculty

of the

University of North Dakota

in partial fulfillment of the requirements

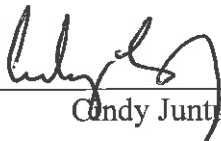
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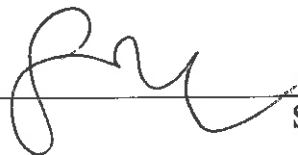
This dissertation, submitted by Melissa A. Quincer in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and his hereby approved.



Cindy Juntunen, Ph.D., Chairperson



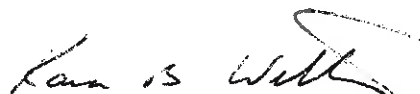
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July 20, 2016  
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## PERMISSION

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Melissa Quincer  
August 2016

## TABLE OF CONTENTS

LIST OF FIGURES .....	vii
LIST OF TABLES .....	viii
ACKNOWLEDGEMENTS .....	ix
ABSTRACT .....	xi
CHAPTER	
I.    INTRODUCTION .....	1
Bronfenbrenner’s Ecological Model .....	3
An Application of Bronfenbrenner’s Ecological Model to Disaster Response .....	4
Biophysical .....	6
Rural .....	8
School .....	8
Microsystem .....	9
Family .....	9
School .....	10
Exosystem .....	11
Macrosystem .....	12
Chronosystem .....	13
Age .....	13

	Time Elapsed .....	15
	Mesosystem.....	16
	Identification .....	17
	Intervention .....	19
	Referral .....	22
	Teachers Referring Following Disasters.....	24
	Purpose of Current Study .....	26
II.	METHODS .....	28
	Participants.....	28
	Measures .....	29
	Procedures.....	31
III.	RESULTS .....	33
	Rural Challenge or Non-Rural Challenge Scenario.....	33
	Vignette Responses.....	33
	Rural vs. Urban School Setting an Rural Challenge vs. No Rural Challenge .....	36
	Disaster .....	39
	Rurality .....	41
	Teacher Comments .....	42
IV.	DISCUSSION .....	46
	Hypothesis 1.....	46
	Hypothesis 2.....	47
	Hypothesis 3.....	48

Limitations .....	49
Implications for Practice .....	50
Future Research Directions.....	52
Conclusion .....	53
APPENDICES .....	54
REFERENCES .....	68

## LIST OF FIGURES

Figure	Page
1. Illustration of Bronfenbrenner’s Ecological Model .....	6
2. Disaster Type Experienced by Respondents while Employed in a School Setting.....	29



## LIST OF TABLES

Table		Page
1.	Comparison of Items by Scenario.....	34
2.	Teacher Responses to Items.....	35
3.	Means and Standard Deviations for Vignette Items.....	37

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know you have impacted me in ways too numerous and grand to mention and for that I will always be grateful.

## ABSTRACT

Previous research has shown that teachers are common referral points for children experiencing mental health difficulties. This is especially true in rural communities and a major time of intervention has been following natural disasters, when there are not enough mental health services in an area, or they are too taxed. This study sought to explore teachers' referral habits and determine if there is any difference when rural challenges are present or if the teacher has previously experienced a disaster. To this end, teachers were recruited, presented with vignettes that either contained rural challenges or did not contain rural challenges and then were asked questions about referring the students presented in the vignettes. No differences were found between responses of those who received the rural challenge or no rural challenge vignettes. Nor were there differences between those who had or had not experienced a disaster. The study highlighted teachers' reliance on school counselors, their willingness to work collaboratively with mental health providers and a level of uncertainty about what constitutes a normal response to a disaster versus what illustrates mental health symptoms of post traumatic stress disorder.

## **CHAPTER I**

### **INTRODUCTION**

Imagine you came home one day and discovered a nearby river overflowing its banks had flooded your neighborhood. What would your first concerns be? The safety of your family, a place to spend the night and wondering when you would be allowed to attempt recovery of your possessions would likely be at the top of your list. As time went on, those concerns would likely shift. While resuming your responsibilities at work, you would also be dealing with your insurance company, orchestrating various repairs on your home or possibly searching for a new home. You may also be involved in community recovery, helping to restore local parks and recreation areas that were destroyed in the flooding. If you have children or a spouse, their emotional needs would be high on your list of priorities as well. This list of demands represents just a fraction of the stresses faced by individuals in the aftermath of a natural disaster. Unfortunately, in 2010 and 2011, 450 million people faced the reality of natural disasters worldwide (IMF, 2012).

The impact of disasters is pervasive, impacting individuals, families, schools, companies, communities, governments and relationships. Following a disaster, each of these represents both a point of conflict and a point of potential intervention. Given the widespread influence a disaster can have in any individual's life, researchers have turned to using an ecological model to illustrate the effect of disasters and disaster recovery on each level of a complex and intertwined system (Hoffman & Kruczek, 2011).

The ecological model, as initially proposed by Bronfenbrenner (1979), offers an excellent framework from which to explore the impact of natural disasters on rural communities. Associations with disaster response and referral in rural communities can be made at each level of this model. Rural communities are faced with different challenges than their urban counterparts. Rural communities often lack mental health resources, which are vital in disaster recovery (Doherty, 2004). Unfortunately, even when mental health services are available following disasters, citizens of rural communities are less likely to seek help due to a cultural stigma associated with mental health issues (Arden, et al., 2011). Further, multiple relationships abound in rural communities (Brock & Clark, 2003). These multiple relationships can make it more difficult for individuals seeking services. If the only mental health provider is a close friend of the individual seeking services, ethical behavior would dictate that the professional not counsel their friend. Also, people in small communities may be aware that the mental health provider has also suffered in the wake of a disaster. Multiple relationships can also complicate the process of referring a individual in need to mental health services. If a teacher believes their student, who happens to be the child of a close friend, needs services, they may be more hesitant to refer them.

All of these challenges associated with disaster relief in rural communities both create a need for an alternative process of providing mental healthcare and complicate that very process. Because of the lack of mental health resources, detection of emotional distress following a disaster often falls to other professionals in the community, one of the most common being employees of the school system (Farmer et al., 2003). Numerous studies have found that teachers are capable of providing effective treatments and

referrals for students who have experienced traumas (Alisic, 2012). This study examined the factors that influence the response of a rural teacher following a natural disaster, Specifically, it is expected that the lack of mental health resources, the presence of stigma and the multiple relationships associated with rural communities will decrease the likelihood of a teacher referring a student following a disaster, even when symptoms are present.

### **Bronfenbrenner's Ecological Model**

The challenges of responding to a natural disaster can be viewed through Bronfenbrenner's ecological model (Bowman & Roysircar, 2011; Hoffman & Kuczek, 2011). Bronfenbrenner emphasizes that humans are impacted by the context in which they develop. He defines four levels of groups which people are members of: microsystem, mesosystem, exosystem and macrosystem. The microsystem level is comprised of those whom an individual interacted with on a regular basis. This encompasses the individuals' immediate family, close friends; others at work or school with whom there are regular interactions, etc. The mesosystem level is comprised of multiple microsystems interacting with one another. For example, a woman's family attending a company picnic would be an interaction of two microsystems. The exosystem is the environment that indirectly impacts a person's life. For example, local curfew laws impact the life experience of a fourteen year old. Finally, the macrosystem encompasses the broad and often invisible forces that influence individuals' culture, belief systems and political systems for example (Bronfenbrenner, 1979).

In response to challenges from the field, Bronfenbrenner refined his model. He clarified that at the center of each microsystem is an individual. The factors which impact

an individual, including genetic traits passed on from the parents, were defined as the biophysical system. He also added a chronosystem, which accounts for the passing of time (Bronfenbrenner & Ceci, 1994).

### **An Application of Bronfenbrenner's Ecological Model to Disaster Response**

Rural disaster recovery offers a set of unique challenges which impact individuals, families, communities and cultural structures in distinctive manners. Disaster researchers have used Bronfenbrenner's ecological model in the past to illustrate the pervasive impact a disaster has all levels of the bioecological system (Bowman & Roysircar, 2011; Hoffman & Kuczek, 2011).

Researchers have applied each level of the ecological model to disaster response. As far as the biophysical system, each individual reacts differently to disaster. Hoffman and Kuczek (2011) applied Bronfenbrenner's model to mass trauma. In the biophysical system, they identified the diathesis stress model as a possible explanation for how people react to the disaster, including the different exhibitions of post traumatic stress disorder (PTSD) and whether the individual chooses a "fight or flight" response to the disaster. Within the microsystem, Hoffman and Kuzek discuss how the reaction of the family to trauma can impact how the individual experiences the disaster. Additionally, trauma symptoms may be "contagious," moving from one to another in the close dyads and triads within the microsystem. The exosystem is often the source of aid following disasters, with organizations such as the American Red Cross and Federal Emergency Management Agency (FEMA) (Bowman & Roysircar, 2011). The macrosystem encompasses the cultural beliefs held about disasters; for example if a natural disaster is culturally seen as a punishment from a higher power, it may impact individuals



differently than others with different cultural views. The chronosystem accounts for the age of an individual who is experiencing a disaster, as well as the process that is disaster recovery. The impact of the disaster is different the day after the event than the month or year after the event (Hoffman & Kuczek, 2011). The mesosystem captures the interaction of the other levels. This means trouble in one level can have a ripple effect and impact other levels.

Taken a step further, Bronfenbrenner's ecological model can be applied to rural communities as related to mental health and disaster recovery. On the biophysical level, individuals in rural communities may be more likely to express signs of mental distress in a physical manner, including somatic complaints (Barbopoulos & Clark, 2003). They are likely to idealize hard work and controlling one's own destiny (Bock & Campbell, 2005). These factors may inhibit them from seeking mental health assistance following a disaster. In rural communities, one's microsystem is likely to encompass a larger percentage of the community, which means a disaster impacting one family may actually impact a large portion of the population (Brock & Clark, 2003). The exosystem encompasses the entire rural community. Following a disaster rural communities often lack the mental health resources to serve the individuals impacted by the disaster. Because of this lack of resources, individuals often turn to established support systems in the community, for example primary care, religious institutions and schools (Doherty, 2004). The macrosystem includes the cultural values of rural communities. Unfortunately, within rural communities, stigma surrounding mental health promotes a culture of secrecy and shame concerning seeking help (Arden, et al., 2011). The chronosystem illustrates how members of a rural community who experience a disaster at

different ages are impacted differently. The mesosystem encompasses communication between teachers and their students, students' families and mental health professionals following disasters.

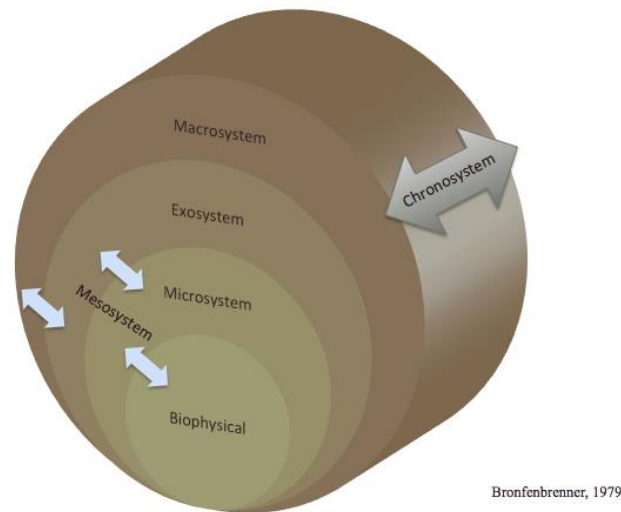


Figure 1. Illustration of Bronfenbrenner's ecological model.

These examples of each level will be expanded in the following sections. Sections are organized by levels of Bronfenbrenner's ecological model (See *Figure 1*). When appropriate, the levels of the model will be broken down to address various aspects of the disaster response and referral systems, as they are experienced in the schools.

### **Biophysical**

The biophysical level encompasses the individual's reaction to disaster. Twenty-five percent of disaster survivors develop a mental health issue in the wake of the disaster. Responses include fixation on the disaster, development of PTSD, depression, or generalized anxiety. (Howard & Goelitz, 2004). A meta-analysis of disaster literature reported that PTSD is the most commonly occurring and most severe mental health issue following a disaster (Norris, Friedman, Watson, Byrne, Diaz & Kaniasty, 2002). Though

prevalence rates varied from disaster to disaster, the National Institute of Mental Health states that 7.7 million, or 3.1% of the general population experience PTSD in a given year. The average age of onset is 23 years old in adults (NIMH, 2005). Four percent of 13 to 18 year olds will experience PTSD in their lifetimes. It is more common in girls than boys in this age range (NIMH, 2010). These are total statistics accounting for all causes of PTSD, not just disasters.

To be diagnosed with PTSD, an individual must meet criteria specified by the *Diagnostic and Statistical Manual of Mental Disorders*, fifth edition, (2013). An individual must experience a traumatic event and feel threatened by it, physically, emotionally or both. He or she must re-experience the event through memories, dreams or feelings that the event is still occurring and/or psychological distress or reactivity to cues that serve as reminders of the disaster. Individuals may also avoid reminders of the trauma and display symptoms of increased arousal. These symptoms must last for longer than a month and cause a disturbance, which significantly impacts their ability to function on a day-to-day basis. Depending on the time frame of onset and duration of these symptoms, individuals may be diagnosed with acute, chronic or delayed onset PTSD (American Psychiatric Association, 2000).

As demonstrated by the diagnostic criteria for PTSD, individuals experience PTSD differently. This is partially due to the type of traumatic event an individual has experienced and partially due to factors within the individual, which would qualify as their biophysical differences. McKeever & Huff (2003) propose a diatheses stress model of PTSD that includes biological factors that would predispose an individual to a higher likelihood of developing PTSD following a disaster. These biological factors include

genetics, neuro-structural alterations and neuro-chemical disruptions. These and other individual factors cause the presentation of PTSD to vary in different populations.

## **Rural**

PTSD and other mental health conditions are also known to present differently in people from different areas. One reason for this may be the type of treatment sought. Rural individuals have been found to be less likely to seek mental healthcare because of an emphasis on controlling one's own destiny. This results in all kinds of concerns including delaying treatment until mental health symptoms are much more severe and avoiding treatment all together (Bock & Campbell, 2005). If treatment is not sought, on a biophysical level, PTSD is thought to cause changes to the brain structure. Changes have been observed in the thalamus, hippocampus, amygdala, posterior cingulate, parietal and motor cortexes. This results in changes in short term memory, verbal memory and encoding (Nemeroff, Bremner, Foa, Mayberg, North & Foa, 2006). Additionally, rural individuals are more likely to report feeling psychosomatic symptoms than their urban counterparts (Barbopoulos & Clark, 2003). Again, this is likely partially related to a cultural stigma around mental health (which will be discussed as part of the macrosystem).

## **School**

One study by Felton, Cole and Martin (2013) illustrates how existing traits such as rumination and mental health issues prior to disasters impact individual students' responses to disasters. Following the 2010 Nashville floods, researchers conducted a longitudinal study of students ages 5 to 8, applying response styles theory. Response styles theory states that by ruminating on a disaster, the student is passively preserving

their depressive symptoms. Students responded to the Response Style Questionnaire (RSQ), the Children's Depression Inventory (CDI) and the Flood Events Questionnaire (FEQ) six months prior to the disaster as well as six months after school resumption (Felton, Cole & Martin, 2013).

Felton et al (2013) found that higher pre-flood levels of rumination predicted higher levels of depression following the flood. Additionally, those who ruminated more before the flood also ruminated more than their peers following the flood. Those with emotional issues prior to the flood also exhibited higher levels of depression following the flood.

This study was limited by the constraints of using a school population. Specifically, the timing of the flood was such that a second follow up wasn't possible due to summer vacation. Additionally, the initial purpose of the study was not to examine flood experience, so the measure of flood experience (FEQ) was rapidly assembled and not validated before it was presented to the students (Felton et al., 2013). Despite its limitations, this study exhibits how individual traits of students impact their response to disasters.

### **Microsystem**

An individual's microsystem encompasses those with whom they have regular, personal interactions. For the purposes of this dissertation, an emphasis will be placed on family and school microsystems.

### **Family**

Throughout the rural mental health literature, there is a strong theme of the importance of family. A meta-analysis of rural mental health literature repeatedly cites

family as an important factor in rural wellbeing (Philo, Parr & Burns, 2003). Following a disaster, the family system is often in a state of disorganization. One study found that 28.3% of families who experienced a disaster received a score of “dysfunction” on the Family Adjustment Device (FAD). The FAD included items about problems solving, communication, roles, responsiveness, affective involvement and behavioral control. This is twice the rate of dysfunction when compared to a sample that had not experienced a disaster. Interestingly, rates of dysfunction did not vary between levels of disaster exposure (McDermott & Cobham, 2012).

In rural communities, the small population often results in greater interconnectedness, and the chances increase of knowing one’s neighbors and generally being acquainted with a higher percentage of the town (Bock & Campbell, 2005). This interconnectedness means that when a disaster impacts an individual, it is likely to impact a high percentage of microsystems in the community.

### **School**

There is no doubt that school is an important part of a child’s microsystem following a disaster. Students are shown to provide and accept social support in school settings following disasters. They also report feeling a stronger sense of community (Bokszczanin, 2012).

After disasters, emotional well-being concerns have been reported in schools. Teachers have stated they are uncertain how to best aide students who are experiencing emotional difficulty following the event (DeVaney, Carr & Allen, 2009). It is recommended that all school psychologists have the ability to diagnose and treat PTSD

(Cook-Cottone, 2004). Unfortunately, the reality is many rural schools do not have a school psychologist so treatment of PTSD must fall to others in the community.

### **Exosystem**

The exosystem encompasses the entire rural community following a disaster. There are often fewer resources in rural communities initially and what resources remain accessible following disasters are taxed. Specifically, there is a shortage of formal disaster recovery services, including mental health providers (Doherty, 2004). Half the counties in America have no mental healthcare providers and the majority of these counties are rural (Philo, Parr & Burns, 2003). This means that others are left to fill in services. Physicians (Polusny, Ries, Schultz, Calhoun, Clemensen & Johnsen, 2008), clergy, nurses (Doherty, 2004) and teachers (Alisic, 2012) are common professions, which are called upon to fill the gaps. This is due to their status as helping professionals and their regular contact with large numbers of people who have been exposed to the disaster.

The lack of mental health services in rural communities is a prominent finding in the literature. In conducting a review and critique of rural mental health literature, Philo, Parr and Burns (2003) identified three broad themes: rural incidence, rural lifeworlds and rural services. Rural incidence focuses on the prevalence of mental illness in rural communities. Rural life worlds encompass the day-to-day experience of rural individuals. Rural services, the most salient for the current topic, refer to the mental health services available in rural communities.

The literature review presented a lack of mental health services in rural communities. Other major points included the physical distance rural residents often had

to travel to receive mental health services. There is also evidence supporting the difficulty of providing crisis services for those in rural areas. This includes both mass crisis service and individual crisis (Philo et al., 2003). All of these barriers to rural mental health services are salient following disasters. Of particular note for the current study, this lack of services is salient for teachers who would refer students out for specialized mental health care.

### **Macrosystem**

The macrosystem includes the cultural values of communities. Rural communities hold strong values regarding self-reliance and independence (Doherty, 2004). Studies have found that rural adults have less positive perspectives on receiving mental healthcare (Hayslip, Maiden, Thomison & Temple, 2010). Unfortunately, this often creates a culture of secrecy and shame around seeking mental health assistance (Jones, Cook & Wang, 2011).

Differing mental health attitudes between urban and rural populations have been observed in number of studies. For example, a study of 107 older adults sought to determine differences between urban and rural adults' attitudes toward mental health treatment. Participants ages 60 to 98 years old completed measures examining the breadth of mental health concerns, openness to seeking mental health services and biases about mental health (Hayslip et al., 2010).

The authors found that only 13% of rural elderly adults sought mental health services, compared to 30% of urban elderly adults. Rural elderly adults also scored lower on the openness to seeking mental health help scale. This is not surprising given that fewer rural elderly adults had sought treatment and the study found that those who sought



treatment subsequently had more positive views of mental health services (Hayslip et al., 2010).

Its population limits this study; there may be strong cohort effects among the participants, ages 60 to 98, which were not explored. Additionally, this same study may look very differently if conducted on a younger population. Data was self-report and given the stigma in rural communities, mental health issues or seeking of services could have been under reported (Hayslip et al., 2010). Even with these limitations, this study is representative of the body of literature about rural attitudes toward mental health seeking. The take away message is that attitudes toward mental health in rural areas tend to be more negative than those in urban areas.

### **Chronosystem**

The chronosystem accounts for the passage of time in the ecological model. This system includes consideration for age, developmental stages and major historical events as well as how long individuals are in certain situations (Bronfenbrenner, 1979). Each of these factors can influence an individuals' response to a disaster.

### **Age**

Multiple studies have found that age at onset of disaster impacts an individual's response to the disaster. Age differences have been found in identity distress following disaster (Wiley, Berman, Marsee, Taylor, Cannon & Weems, 2011). Differences have also been found in posttraumatic symptoms in various age levels of children (Dogen-Ates, 2010) and specifically age differences have been found in those who re-experience the trauma (Dell'Osso, Carmassi, Massimatti, Conversano, Emidio, Stratta & Rossi, 2009).

Following Hurricane Katrina, Wiley and colleagues (2011) sought to apply Erikson's stages of identity development to survivors. They examined the relationship between age, posttraumatic stress symptoms and identity distress. Identity distress refers to an individual's difficulty in organizing aspects of themselves into a coherent sense of self. The study examined 401 participants from areas impacted by Hurricane Katrina. Participants ranged from ages 18 to 86. The researchers found that, among those experiencing moderate to low levels of PTSD, as participants' age increased, they exhibited less disruption in their normal progression through the developmental stages as defined by Erikson. However, age did not impact symptom display among individuals who experienced high levels of PTSD symptoms. In this case, older individuals reported the same levels of distress as younger individuals. This study was limited by the fact that it was self-report. Additionally, given the unexpected manner of the disaster, no pre-tests were conducted so it cannot be conclusively stated that the conditions observed in the study were not preexisting (Wiley et al., 2011).

A review of disaster literature highlights the differences in response to disaster between preschool aged, school aged and adolescent children. The literature states that preschoolers are highly dependent on their parents' reaction to the disaster (Swenson, Saylor, Powell, Stokes, Foster, & Belter, 1996). Common exhibitions of symptoms include emotional dysregulation, crying and temper tantrums,, fears directly related to the trauma, toileting problems and changes in social behaviors (Dogen-Ates, 2010). School age children are more likely to experience somatic symptoms, such as headaches and stomach aches. They are also likely to exhibit fears, decreased school performance and PTSD symptoms (Brown, 2005). Adolescents are most likely to exhibit PTSD symptoms

such as those that would be seen in adults, including emotional distress and behavioral changes (Eth & Pynoos, 1985). Additionally, emotional concerns such as anxiety and depression are prevalent among adolescents (Kar & Bastia, 2006). Symptoms reflect the developmental stage of the children given their capacity to handle change and the common manners in which they attempt to cope (Dogen-Ates, 2010).

The differences in disaster reaction do not end after puberty. An Italian study examined the response of high school students and their parents to an earthquake. The study included 939 participants; participants were divided by age. Groups were defined as people over the age of 40 and people under the age of 40, which roughly aligned with a group of students and a group of parents. The study measured the impact of the event, as well as PTSD symptoms. Researchers found that women from both age groups were more likely to exhibit PTSD symptoms at a higher rate than their male counterparts. In addition, men from the younger group were more likely to develop maladaptive behaviors, such as substance use. There is also a higher rate of re-experiencing the trauma in the older participants (Dell'Osso et al 2009).

### **Time Elapsed**

As one might imagine, an individual's reaction to a disaster changes as time passes following the disaster. A study of 658 participants ages 18 and up was conducted following Hurricane Ike (Cerde, Bordelois, Galea, Norris, Tracy & Koenen, 2012). This study was conducted over eighteen months and included three interviews with participants during that time. The researchers found that directly after the disaster, participants were most likely to experience acute distress associated with the events of the disaster itself. As the date of the hurricane grew farther away, the stress became more

chronic as participants dealt with the aftermath of the disaster. These stressors include recovery and financial strain. The stressors associated with later stages of the hurricane recovery result in increased posttraumatic stress symptoms and a wide range of functional impairments, such as financial difficulties and relational problems. Limitations of this study include the reliance on self-report measures for some dimensions of the study (Cerda, Bordelois, Galea, Norris, Tracy & Koenen, 2012).

Researchers have also looked at the intersection of age and time elapsed following a disaster (Pietrzack, Van Ness, Fried, Galea & Norris, 2013). A longitudinal study followed 206 adults between ages 60 and 92 ( $m = 69$ ) following Hurricane Ike. Participants were asked to complete measures of exposure to the disaster and disaster related stressors as well as PTSD symptoms. The majority of participants (78.7%) were found to have no PTSD symptoms. Some (16%) experienced chronic PTSD, which began directly after the disaster, while others (5.3%) experienced a delayed onset of symptoms, which didn't begin until about six months following the disaster. Researchers found a number of mediating factors, such as socioeconomic status and education level, which impacted the onset and severity of the PTSD symptoms. Limitations of this study include use of self report, a higher concentration of "young old people" ages 60 to 69, and potentially reduced statistical significance given the number of analyses run on this data (Pietrzack, Van Ness, Fried, Galea & Norris, 2013).

### **Mesosystem**

As previously stated, the mesosystem is comprised of interactions between microsystems (Bronfenbrenner, 1979). Following a disaster, there are many existing groups and agencies that provide support and relief effort. For example the Red Cross

offers a broad range of disaster services. For these services to be maximally effective, use of the mesosystem in the form of collaborations between the Red Cross and existing entities, such as churches and schools, is necessary. For the purposes of this study, the most salient mesosystem interactions include how teachers interact with students, parents and mental health professionals in helping students following disasters. The literature regarding teachers following disasters seems to focus on instances in which communities lack other resources (Krishanswamy, Subramaniam, Indran & Low, 2012, Wolmer, Hamiel and Laor, 2011, and Rothi, Leavey and Best 2008). Often this occurs in rural communities, however a lot of the literature focuses on third world countries, which also lack resources. This may include identifying concerns, intervening following a disaster with the help of mental health professionals or referring students to mental health professionals for more specialized help.

### **Identification**

The first step to intervention or referral is identification. Teachers are often called upon to identify potential mental health concerns in their students (Widyatmoko, Tan, Seyle, Mayawati & Silver, 2011). The Surgeon General has recognized that many children are dealing with undiagnosed mental illness (US Public Health Service, 1999). In response, Jensen, Goldman, Offord, Costello, Friedman, Huff & Roberts (2011) have examined 6,000 cases of children between age seven and seventeen. From those cases they have created “symptom profiles” which they believe can be applied to children in order to facilitate the correct identification of mental illness. They state these symptom profiles can be used by many professionals, including teachers, in the identification of

childhood mental illness (Jensen et al., 2011). These symptom profiles are for all types of childhood mental health issues and are not presently being presented to teachers.

Teachers are also commonly asked to identify symptoms in students following disasters. One qualitative study questioned teachers from 16 elementary schools following an earthquake in Indonesia. Teachers were given a questionnaire containing open-ended, qualitative questions regarding student's behavioral issues following the earthquake. Responses were translated into English and analyzed by the study's authors (Widyatmoko, Tan, Seyle, Mayawati & Silver, 2011). Researchers found 205 children in the sample were identified by teachers as displaying behavioral issues (4.5%). The majority of the behavioral issues exhibited were consistent with traditional western symptoms of PTSD (85.1%) such as school problems, fear, and emotional problems. Additionally, 2.9% exhibited the western symptom of decreased self-esteem, which is not traditionally associated with posttraumatic stress. There were also symptoms that appeared to be unique to Indonesian culture including day dreaming and ndomblong (a blank stare) (Widyatmoko et al., 2011).

This study demonstrated that teachers are an effective assessment force with access to a large population of children. Furthermore, they are able to identify culturally specific signs of trauma in addition to traditional western presentation of posttraumatic stress. This study was limited in that the teachers were most aware, naturally so, of symptoms which were interfering with school, while other symptoms, such as sleep problems, may have been present but not observed in class. Also, the response rate for the survey was lower than fifty percent (56.8% did not respond) (Widyatmoko et al., 2011).

Even given these limitations, this study still illustrated that teachers can be effective in identifying some aspects of posttraumatic response following a disaster.

### **Intervention**

Teachers are frequently called upon to not only identify mental health issues following disasters, but also to facilitate interventions to alleviate students' symptoms or refer students to mental health service (Krishanswamy, Subramaniam, Indran & Low, 2012, Wolmer, Hamiel and Laor, 2011, and Rothi, Leavey and Best 2008). In areas where mental health services aren't available or are overwhelmed by demands stemming from the disaster, teachers are often trained to intervene with their students themselves. One such intervention took place in Penang, Malaysia following a tsunami. Teachers, spiritual leaders and other community leaders were trained to provide interventions to both adults and children following trauma. These volunteers were trained in interviewing techniques which were designed to allow families the opportunity to express their grief and anguish over the disaster (Krishanswamy et al., 2012).

Researchers found in following up with households who had been visited by the trained community and teacher volunteers that only 1% of the participants were showing any mental health symptoms. This number is significantly lower than average rates of mental illness following a disaster. Unfortunately, because of the urgency of the situation, no premeasures were taken prior to the intervention so it is difficult to assess the true success in this instance (Krishanswamy et al., 2012). This intervention demonstrates that in a situation where few mental health professionals are available, teachers may be able to provide interventions following disasters.

Researchers have also followed teachers who provide interventions in the school setting. Wolmer, Hamiel and Laor (2011) trained both school counselors and teachers to provide manualized stress inoculation training. They paired schools by exposure to a series of rocket attacks in Israel. The test group received training prior to the rocket attacks (Wolmer et al., 2011). The study found that students in the control group had a higher incidence of posttraumatic stress symptoms following the disaster (57% more cases detected). This would indicate that this preventative intervention presented by teachers was effective in this case. It also offers interesting implications about the value of similar preventative interventions in other settings at risk for a disaster. This study was limited by a lack of baseline measures for students in both the control and experimental groups. Additionally, the study did not control for what other interventions students might be experiencing from parents or other community sources for either group (Wolmer et al., 2011). Even given these limitations, the findings make a strong case for preventative interventions in school settings.

There is also evidence that teacher-led interventions can have lasting impacts on students following disasters. Following an earthquake in Turkey, teachers were provided with psychoeducation and intervention techniques concerning common responses to trauma. That intervention successfully lowered incidence of PTSD from 32% to 17%. This study sought to determine if there were lasting results three and a half years following the intervention (Wolmer, Laor, Dedeoglu, Siev & Yazgan, 2005). The study found that students who were in classes that received the intervention showed continuing benefits. These included lower scores on a PTSD measure than did the control group. Further, students in the intervention group were evaluated in academic performance,



social behavior, and general conduct by their current teachers who did not know which students were in the control or experimental groups. Those in the experimental group were evaluated as higher functioning by their current teachers compared to their peers in the control group. Unfortunately only 33% of the original sample could be found for this follow up study, which somewhat limits the applicability of the study's results (Wolmer et al., 2005). Despite the high attrition in this study, an important point about the lasting impacts of an intervention following disaster is made. This study demonstrates the need for early intervention in order to minimize long lasting negative effects of posttraumatic stress.

Using teachers for intervention in the communities they live and work in can be complicated. The shared traumatic reality of a disaster impacts the teacher as well as the student. For example, researchers evaluated an intervention in Israel that connected undergraduate students going into helping professions with local high school students. The undergraduate students were asked to provide support and friendship to the high school students (Nuttman-Shwartz & Dekel, 2008). This intervention was complicated by the shared traumatic reality to the point that it interfered with the ability of the undergraduate students to effectively interact with the high school students. Researchers stated that supervision sessions with the undergraduates, which were meant to identify challenges the high school students were experiencing, turned into support sessions for undergraduate students instead. Indeed, the researchers found that they as facilitators ended up providing the services to the undergraduate students that they envisioned the undergraduate students providing for the high school students (Nuttman-Shwartz & Dekel, 2008).

The issue of shared traumatic reality is important to keep in mind when discussing teachers as intervention or referral points following disasters. Most of the time teachers live and work in the same communities as their students and therefore are likely to have experienced the same disaster their students experienced. Depending on the teachers' experience of the disaster, an intervention or referral may not be a realistic task. The proposed study assessed whether teachers personally experienced a disaster and test to see if those who experienced a disaster respond differently to the vignettes than those who have not experienced a disaster.

### **Referral**

Following the identification of a mental health issue, teachers may either refer the student to outside mental health services or provide an intervention themselves. Teachers are common referral sources for children under the age of eighteen and many studies have examined the referral tendencies of teachers (Pearcy, Cloton & Pope, 1993; Rothi, Leavey and Best, 2008; Soodak & Podell, 1993). In a study measuring referrals from teachers to a particular community mental health center in an urban area, it was found that teachers most commonly refer students for hyperactivity. It was discovered the referrals for hyperactivity decreased as the students age increased. That same study found that teachers were less likely to detect emotional problems unless the students present act out (Little & McLennan, 2010). Similarly, a vignette study found there were no differences in referrals for gender or internalizing/externalizing mental health issues. However, when asked about actual referral patterns, the same group of teachers indicated that significantly fewer internalizing issues were referred to further mental health services (Pearcy et al., 1993).

Research on the broad issue of teacher referrals is vast, covering a range of topics well beyond the scope and relevance of the present study. However, much can be discerned from a more recent study in which Rothi, Leavey and Best (2008) attempted to connect information from current teachers to the larger body of literature. They administered a semi-structured interview to 32 teachers from across the country. Teachers were asked to what extent they felt it was their responsibility to identify mental health issues and if they felt they had the knowledge and ability necessary to do so (Rothi et al., 2008).

The main themes that emerged from these interviews included: responsibility for mental health, mental health training, language used to discuss mental health, and recognizing mental illness indicators. Teachers generally accept that, to some degree, responsibility for mental wellbeing of their students rests on their shoulders. However, most teachers also expressed feelings of inadequacy when it came to handling mental health issues. They report the need for more training in order to best meet student mental health needs, but agree that it would be difficult to add mental health requirements to teacher training. Positively, teachers are aware of stigma in their communities and therefore avoided labeling students whom they believed had mental health issue, though they were much more comfortable in labeling students with educational issues. Finally, teachers expressed concern about their abilities to recognize mental illness as opposed to learning difficulties or situational reactions. This was particularly salient when discussing the differences between internalizing and externalizing issues, with teachers reporting more difficulty in identifying disorders which are more likely to exhibit internalizing behaviors (Rothi et al., 2008).

Rothi's team called for more interdisciplinary collaboration and a reexamination of teacher responsibility for students' mental health. This includes implementation of school-based mental health interventions, which involve the education of teachers. This study was limited by the ability to generalize the results because it is a qualitative study that was conducted in England. The factors impacting the teachers that responded are grounded in the culture they are working in, so it may change from location to location. Additionally, the study was advertised to 100 schools and only 32 teachers participated in it. One can assume that multiple teachers at each school were solicited, so the response rate was likely fairly low (Rothi et al., 2008). Despite these limitations, this study pointed out several salient themes from referral literature including the stigma surrounding mental illness and the pressure placed on teachers to work in an area in

Certain personal factors of the teachers seem to impact the referrals they make. In a vignette study, researchers asked teachers to review descriptions of students with learning or behavioral problems. Teachers were also asked to fill out measures of personal and teaching efficacy. The study found that those teachers who scored high on both personal and teaching efficacy were less likely to refer students to out of classroom services, opting to deal with the learning and behavioral issues in their classroom instead (Soodak & Podell, 1993).

### **Teachers Referring Following Disasters**

Following disasters, teachers are the front lines in detecting behavioral changes in their students. That being said, several studies have indicated that teachers feel unprepared to take on this role. In a study following hurricane Katrina, researchers ask schools to complete the Hurricane Katrina Impact Survey: One Year Follow-Up. One

hundred and nine teachers completed the survey. They were asked questions about their roles, working with displaced students, work-related problems and support they received from their schools (DeVaney, Carr & Allen, 2009).

Teachers indicated that emotional well-being issues were second only to enrollment issues as a source of concern. They stated that they felt unsure how to help the students who were dealing with these emotional issues. The need for more school counselors to assist in this issue was also a prevalent theme, as were feelings of burnout due to teachers' own mental health needs not being met. This study was limited in that it used a self-report scale, as well as being a sample of convenience. Respondents were chosen based on their enrollment in graduate programs at an area university (DeVaney et al., 2009). Despite the limited sample, the theme of under-preparedness in handling student emotional issues following a disaster remains salient, as was the idea of shared traumatic reality.

A more broadly defined study examining teachers' experiences in interacting with children who had experienced trauma had similar results. Participants were selected for a qualitative study with the goal of sampling diverse populations as defined by gender, school type (public, private, religious etc.) and amount of teaching experience.

Researchers interviewed 21 teachers who had interacted with students who met DSM-IV-TR definitions for exposure to a traumatic event. Interviews focused on experiences, strategies, and feelings of teachers when working with traumatized children (Alisic, 2012).

It was found that teachers felt unsure of their role in assisting the student who had experienced the trauma. They were unsure when more specialized care was necessary and

when to handle the student difficulties in their classroom. They reported a tension between helping one student while they have obligations to the rest of the class. Additionally, the experience left them emotionally drained and the teachers indicate a need for more information on what to expect when working with a traumatized child (Alisic, 2012).

Alisic called for further research in the shared traumatic reality teachers are working in following disasters, as well as providing a framework for training teachers in the future. The study carried the usual limitations experienced in qualitative research, including an inability to generalize the results (Alisic, 2012). This study of teachers working with children who have experienced trauma reiterates many themes highlighted in the literature regarding teacher referrals. From both emerge strong themes of a need for more information, how to recognize signs of mental health issues and when to refer to specialists. The disaster and trauma referral literature also highlights a need for teachers to care for themselves during times of disaster and when working with traumatized children.

### **Purpose of Current Study**

Because of the lack of available mental health services in rural areas, an exosystem issue, there is a greater likelihood of mental health challenges being identified elsewhere. This is strengthened by the stigma associated with mental health in rural areas, a macrosystem issue, as individuals are more likely to turn to other helping professions. Education is already the largest referral source to mental health services for individuals under the age of eighteen (Farmer, Blums, Phillips, Angold & Costello, 2003).

The preceding studies illustrate the unique challenges of teachers working in rural communities. The current study sought to identify the extent to which rural challenges impact teachers' tendency to refer students following disaster. Disaster scenarios were presented which occurred in either rural or urban setting. Teachers were asked to keep these in mind when presented with various cases involving students who have experienced disasters. The goal of the vignettes was to illustrate some typical challenges of working in a rural community in the context of disaster referral. Both teachers who have and have not experienced working in a school following a disaster were sampled. Comparisons were made to determine if there is a difference in the tendency of teachers who have and have not experienced disasters in rural communities to refer students.

The study examined the following hypotheses:

1. Overall, rural issues presented in the vignettes would reduce the chance of teachers providing a referral. Rural issues include multiple relationships, rural attitudes toward mental health and access to mental health services.
2. Participants who have experienced a disaster would differ from those who have not in their referral habits.
3. Participants who have worked in a rural setting before, having encountered the rural barriers firsthand, would be less likely to refer students.

## **CHAPTER II**

### **METHODS**

The hypotheses of this study were tested using mainly quantitative methods, and additional qualitative data was gathered through the use of several open-ended questions, which were analyzed to address any additional considerations teachers take when determining if they should refer a student for further mental healthcare. Analysis sought to compare the responses to rural challenge and no rural challenge vignettes. The participant's rurality and whether they had experienced a disaster were also considered.

#### **Participants**

Participants were recruited on social media, through snowball sampling and contacting state organizations. The sample consisted of 83 teachers teaching across Kindergarten through 12<sup>th</sup> grade. Teachers were specifically sought from North Dakota, Minnesota and Wisconsin. Other areas were also likely to be represented given the nature of social media. There was a broad range of reported community populations ranging from less than 100 to 600,000 ( $M = 36,550.36$ ,  $SD = 111,323.73$ ).

Respondents were largely female (80.7%), and identified as Caucasian/White (98.8%), with one participant identifying as Asian American (1.2%). Teachers were also asked to identify how long they've been teaching ( $M = 16.17$ ,  $SD = 11.49$ ) and how many years they taught in rural ( $M = 11.23$ ,  $SD = 11.66$ ) and urban ( $M = 4.53$ ,  $SD = 8.09$ ) settings. In an effort to understand the sample's training, participants were also asked to



indicate if they had experience working as a special education paraprofessional ( $n = 7$ ), special education teacher ( $n = 21$ ), school counselor ( $n = 4$ ) or administrator ( $n = 8$ ).

It was also important to note if the teachers had been teaching in schools when they experienced natural disasters, given the nature of the study. Just over half of the participants (53%) stated that they have been employed at a school when a disaster impacted that community. The most frequent disaster experienced was a tornado ( $n = 21$ ) (See figure 2). Half of the respondents were personally impacted by the disaster (50%) in various ways including damage to their homes, their schools and exposure to the disaster resulting in emotional distress.

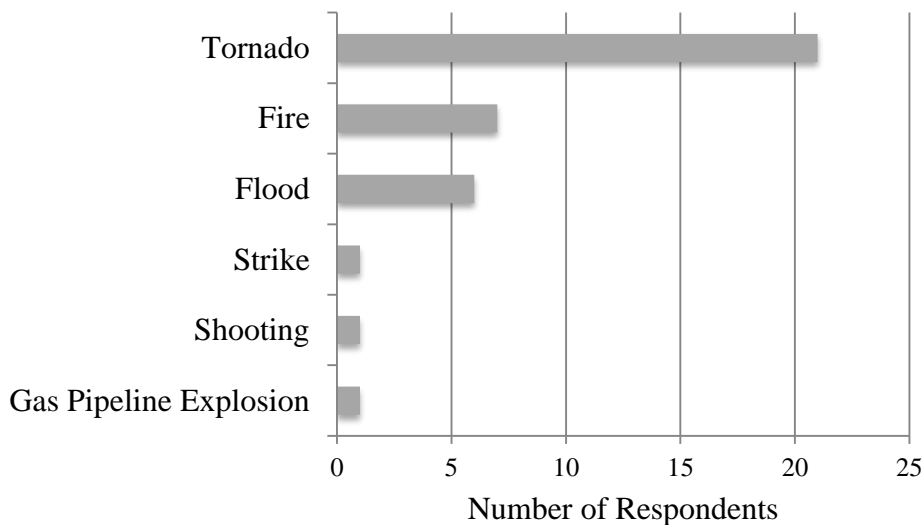


Figure 2. Disaster type experienced by respondents while employed in a school setting.

### Measures

**Demographic.** Demographic information was collected from each participant. This included traditional demographic information such as age, gender and ethnicity. Additionally, it included questions specific to the participant’s teaching experience. These questions focused on amount of experience, the rurality of the participants’ current

and past teaching positions, and any special positions held. Finally, questions regarding the participants' experience with disasters were also included (See Appendix A).

**Condition.** Participants received either a condition with a rural challenge or no rural challenge. The rural challenge condition contained a description of a community loosely based on the community of Wadena, Minnesota. The rural community reflected the demographics of Wadena in population and number of mental health providers accessible. The rural challenges included lack of available services, a personal connection to the students' family and a community with large amounts of stigma. The non-rural challenge condition reflected the demographics of Grand Forks, North Dakota. Again, this means the population and number of mental health services reflected conditions in Grand Forks.

Participants within each condition were asked to review three vignettes describing students who had been impacted by a disaster. Participants then answered a series of questions about each vignette before moving on to the next one. Participants chose a point on a six-point likert-type scale ranging from strongly disagree to strongly agree. For each vignette, they responded to the following statements: (1) I feel I would be able to help this student in the classroom if no other services are utilized. (2) I believe I could work in conjunction with other mental health services to improve this student's functioning. (3) I believe this student's reaction is more than a usual reaction to a disaster. (4) Given what I know about this situation, I would feel hesitant to refer this student to mental health services. (5) This student should be referred on to further mental health services (See Appendix B). Item 4 was reverse scored for computation of the regressions. Teachers were also given the opportunity to share qualitative responses to

each vignette with the prompt “Please share any other thoughts you have about how you would handle this situation or comments you have about this student.” The use of multiple varying vignettes loosely replicated the method used by Soodak and Podell (1993) in their study on teacher efficacy and special education referral. This study asks different questions which were not included in Soodak and Podell’s study, but were specifically developed for this study. No reliability or validity statistics were run on the vignettes and questions in the previous study.

**Scale.** The dimensionality of the 15 items from the vignettes was analyzed using a varimax rotation factor analysis. The scree plot indicated that there were a total of 5 factors. In total, the five factors account for 75.46% of the variance. The factor loadings roughly align with the 5 items asked for each of the vignettes. For each of the subscales, a coefficient alpha was computed for each item. For item 1, Cronbach’s Alpha was .89, this is considered a good reliability score. For item 2, Cronbach’s Alpha was .81, this is also considered a good reliability score. Cronbach’s Alpha for item 3 was .83, this also places this item’s reliability in the “good” range. For item 4, Cronbach’s Alpha was .68, this is in an acceptable reliability score. Finally, for item 5, Cronbach’s Alpha was .66, again this is considered an acceptable reliability score. Overall, the items were reliable across vignettes, though items 4 and 5 could be strengthened further.

### **Procedures**

As previously mentioned, participants were recruited through snowball sampling using social media, listservs and by contacting state organizations. Permission was requested to post on listservs and access state organizations’ constituents using a form letter (See Appendix C). If administrators agree to send out the study, they are asked to

pass on a recruitment paragraph containing a link to the electronic survey (See Appendix D). Those recruited on social media were recruited using the recruitment paragraph and a link.

Once the link was clicked, an informed consent page appeared (See Appendix E). Participants clicked a box indicating they accepted the risks and benefits of the study; if this box was not clicked, the participants were thanked and the survey shut down.

If participants agreed to the informed consent, participants next completed demographics items. This form included both personal information (age, ethnicity, etc.) as well as information about their teaching experience (years of experience, rurality of experience, etc.). Additionally, this form assessed whether or not the participants have had experience working in a school at the time of a disaster.

For the experimental portion of the study, participants were first asked to read a description of a community. Half received the rural challenge condition and half received the no rural challenge condition. They were asked to assume this community is the setting for the vignettes that followed. The participants were then presented with each of the three vignettes individually. Following each vignette participants were asked respond to several question about the student's situation and referring them to mental health services. Additionally, teachers had the opportunity to respond to a qualitative prompt "Please share any other thoughts you have about how you would handle this situation or comments you have about this student."

## **CHAPTER III**

### **RESULTS**

#### **Rural Challenge or Non-Rural Challenge Scenario**

Independent sample t-tests were used to determine if there was any difference in reporting between rural challenge and non-rural challenge scenarios. For the initial analysis, items were totaled across scenarios. For example, the responses to question 1 for the first, second and third scenario were added together, creating an item 1 total. Using this data, there was no difference in the responding pattern of the teachers. Additionally, in an effort to detect any differences, the non-total items were also analyzed individually using independent t-tests. Again there were no significant differences between the rural challenge and no rural challenge scenarios. The results of these t-tests are displayed in Table 1.

#### **Vignette Responses**

Across all vignettes and conditions, teachers had mixed feelings about handling the symptoms displayed by the children in the vignettes. The modal answer was that teachers “slightly agree” that they would be able to help these students in the class (29.3%). Of the teachers who responded, 59.5% expressed some level of agreement that they could help the student in the classroom. See Table 2 for complete breakdown of responses.

Teachers were more confident in their ability to work with mental health services, with the modal response to this item being “agree” (58.2%). Of the teachers who responded, 99.2% believed they could work successfully in conjunction with mental health services. See Table 2 for complete breakdown of responses.

Table 1. Comparison of Items by Scenario.

Item	Rural		No Rural		t
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
1. “I feel I would be able to help this student in the class room if no other services are utilized”	10.63	3.34	11.42	3.42	1.044
Rob1	3.73	1.13	3.89	1.22	.582
Sarah 1	3.42	1.27	3.76	1.28	1.191
Shelby 1	3.47	1.35	3.81	1.16	1.22
2. “I believe I could work in conjunction with other mental health services to improve this student’s functioning.”	15.45	1.66	15.14	1.71	-.820
Rob2	5.21	.57	5.11	.68	-.710
Sarah 2	5.13	.62	5.09	.67	-.299
Shelby 2	5.11	.65	4.95	.72	-.990
3. “I believe this student’s reaction is more that a usual reaction to a disaster.”	9.59	4.04	10.16	3.27	.694
Rob3	3.16	1.46	3.44	1.16	.975
Sarah 3	3.29	1.41	3.33	1.43	.140
Shelby 3	3.24	1.53	3.30	1.47	.196
4. “Given what I know about this situation, I would feel hesitant to refer this student to mental health services.”	6.82	2.06	7.40	2.78	1.054
Rob 4	2.32	.77	2.42	1.19	.471
Sarah 4	2.34	1.02	2.33	1.00	-.039
Shelby 4	2.16	.86	2.63	1.29	1.90
5. “This student should be referred to further mental health services.”	14.39	2.27	14.45	1.99	.121
Rob 5	4.68	.84	4.60	.96	-.420
Sarah 5	4.74	1.03	5.00	.77	1.33
Shelby 5	4.97	.88	4.76	.96	-1.024

\* Indicates significance at  $p < .05$

Teachers “disagree” that they would hesitate to refer these students to services (56.2%). Most teachers “disagree” that the student’s reaction is more than a usual reaction to the disaster, though the mean score indicates an average response of “slightly disagree” (31.3%). Of the respondents, 44.7% of teachers agreed at any level that the symptoms displayed in the vignettes are indicative of mental health concerns. See Table 2 for complete breakdown of responses. Only 12.4% indicated any agreement that they would hesitate to refer the student to services. See Table 2 for complete breakdown of responses.

Table 2. Teacher Responses to Items.

Item	N	Responses	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
1. “I feel I would be able to help this student in the class room if no other services are utilized.”	87	247	3.2%	17.7%	19.3%	29.3%	25.7%	4.0%
2. “I believe I could work in conjunction with other mental health services to improve this student’s functioning.”	87	247	0%	0%	.8%	14.5%	58.2%	25.7%
3. “I believe this student’s reaction is more than a usual reaction to a disaster.”	87	246	6.8%	31.3%	16.5%	17.3%	23.3%	3.6%
4. “Given what I know about this situation, I would feel hesitant to refer this student to mental health services.”	87	247	13.7%	56.2%	15.3%	7.2%	6.4%	.4%
5. “This student should be referred to further mental health services.”	87	246	.4%	1.6%	6.4%	20.5%	50.6%	19.3%

Finally, teachers “agree” that these students should be referred for mental health services (50.6%). In fact, 91% of the teachers surveyed agreed that they would refer the

student to some form of mental health services. See Table 2 for complete breakdown of responses.

This data would indicate that teachers are in agreement that the students modeled in the vignettes need some sort of intervention, whether that be in classroom or outside mental health services. However, there is also so indication that teachers may not independently identify the problem behaviors after a disaster as symptoms of a mental health issue.

### **Rural vs. Urban School Setting and Rural Challenge vs. No Rural Challenge**

Items were totaled across the 3 vignettes, resulting in 5 item totals, one for each question. A 2 X 2 ANOVA was completed looking at impact of the rurality of the teachers' settings and if they were placed in the rural or no rural challenge scenario condition on each question that followed the vignettes. Means and standard deviations are reported for all ANOVA's in Table 3 for each item. When Item 1 "I feel I would be able to help this student in the classroom in no other services are utilized" was the dependent variable, the main effect of scenario was not statistically significant,  $F(1, 77) = 1.078, p = .302$ , partial  $h^2 = .014$ . The main effect of school setting was also not statistically significant,  $F(1, 77) = .023, p = .879$ , partial  $h^2 = .000$ . The interaction between scenario and school setting is also not significant,  $F(1, 77) = .052, p = .821$ , partial  $h^2 = .001$ . This indicates no statistical difference in reporting on item 1 when considering the teachers' settings and scenario they received.

When a 2 X 2 ANOVA was performed on Item 2 "I believe I could work in conjunction with other mental health services to improve this student's functioning" was the dependent variable, the main effect of scenario was not statistically significant,  $F(1,$



77) = .872,  $p = .353$ , partial  $h^2 = .011$ . The main effect of school setting was also not statistically significant,  $F(1, 77) = .081$ ,  $p = .777$ , partial  $h^2 = .001$ . The interaction between scenario and school setting is also not significant,  $F(1, 77) = .222$ ,  $p = .639$ , partial  $h^2 = .003$ . This indicates no statistical difference in reporting on item 2 when considering the teachers' settings and scenario they received.

When a 2 X 2 AVOVA was performed on Item 3 "I believe this student's reaction is more than a usual reaction to a disaster" was the dependent variable, the main effect of scenario was not statistically significant,  $F(1, 76) = .245$ ,  $p = .622$ , partial  $h^2 = .003$ . The main effect of school setting was also not statistically significant,  $F(1, 76) = .1737$ ,  $p = .191$ , partial  $h^2 = .022$ .

Table 3. Means and Standard Deviations for Vignette Items.

Item	Scenario	School Setting	N	Mean	SD
1. "I feel I would be able to help this student in the class room if no other services are utilized."	Rural Challenge	Rural	26	10.73	3.47
		Urban	12	10.42	3.18
	No Rural Challenge	Rural	30	11.40	3.67
		Urban	13	11.46	2.90
2. "I believe I could work in conjunction with other mental health services to improve this student's functioning."	Rural Challenge	Rural	26	15.42	1.84
		Urban	12	15.50	1.24
	No Rural Challenge	Rural	30	15.23	1.85
		Urban	13	14.92	1.38
3. "I believe this student's reaction is more than a usual reaction to a disaster."	Rural Challenge	Rural	25	9.88	3.86
		Urban	12	9.00	4.51
	No Rural Challenge	Rural	30	10.60	2.95
		Urban	13	9.15	3.85
4. "Given what I know about this situation, I would feel hesitant to refer this student to mental health services."	Rural Challenge	Rural	26	6.92	2.27
		Urban	12	6.58	1.56
	No Rural Challenge	Rural	30	7.57	2.67
		Urban	13	7.00	3.08
5. "This student should be referred to further mental health services."	Rural Challenge	Rural	26	14.12	2.53
		Urban	12	15.00	1.48
	No Rural Challenge	Rural	29	14.41	1.99
		Urban	13	14.45	2.07

The interaction between scenario and school setting is also not significant,  $F(1, 76) = .103, p = .749, \text{partial } h^2 = .001$ . This indicates no statistical difference in reporting on item 3 when considering the teachers' settings and scenario they received.

When a 2 X 2 AVOVA was performed on Item 4 "Given what I know about this situation, I would feel hesitant to refer this student to mental health services" was the dependent variable, the main effect of scenario was not statistically significant,  $F(1, 77) = .780, p = .380, \text{partial } h^2 = .010$ . The main effect of school setting was also not statistically significant,  $F(1, 77) = .570, p = .452, \text{partial } h^2 = .007$ . The interaction between scenario and school setting is also not significant,  $F(1, 77) = .036, p = .851, \text{partial } h^2 = .000$ . This indicates no statistical difference in reporting on item 4 when considering the teachers' settings and scenario they received.

When a 2 X 2 AVOVA was performed on Item 5 "This student should be referred to further mental health services" was the dependent variable, the main effect of scenario was not statistically significant,  $F(1, 76) = .025, p = .875, \text{partial } h^2 = .000$ . The main effect of school setting was also not statistically significant,  $F(1, 76) = .957, p = .331, \text{partial } h^2 = .012$ . The interaction between scenario and school setting is also not significant,  $F(1, 76) = .543, p = .464, \text{partial } h^2 = .007$ . This indicates no statistical difference in reporting on item 5 when considering the teachers' settings and scenario they received.

Overall, there were no differences found when considering scenario and school setting. Thus hypothesis 1 was not supported. This indicates that teachers across settings, and whether or not rural challenges were in place, reported they would respond similarly

when it comes to mental health referrals following a disaster. A post-hoc power analysis was conducted in an effort to determine if a sufficient number of participants had been recruited to find a significant difference between those presented with a rural scenario and those presented with an urban scenario. The post-hoc power analysis revealed on the basis of the mean between-groups effect size comparison observed in the present study ( $d = 0.23$ ) that the power to detect an effect under the present conditions was 0.293, critical  $t(92) = 1.66$ , observed  $t(92) = 1.044$ . This indicates that significant differences may have been present, but this study design lacked the power to detect them.

### **Disaster**

It was hypothesized that the response patterns would differ for those who were working in a school when a disaster occurred. To test this, a series of t-tests was completed on the totals of each item across vignettes. For item 1 “I feel I would be able to help this student in the class room if no other services are utilized,” the test was not significant,  $t(78) = 1.130$ ,  $p = .262$ . Teachers who had not experienced a disaster ( $M = 11.46$ ,  $SD = 3.65$ ) did not answer the question any differently than teachers who had experienced a disaster ( $M = 10.60$ ,  $SD = 3.11$ ). This indicates that there is no difference in teachers’ beliefs about if they can help the student in the classroom if no other services are utilized whether they’ve experienced a disaster or not.

For item 2 “I believe I could work in conjunction with other mental health services to improve this student’s functioning,” the test was not significant,  $t(78) = -1.833$ ,  $p = .071$ . Teachers who had not experienced a disaster ( $M = 14.92$ ,  $SD = 1.62$ ) did not answer the question any differently than teachers who had experienced a disaster ( $M = 15.60$ ,  $SD = 1.71$ ). This indicates that teachers who have and have not experienced a

disaster did not respond any differently when discussing their belief that they could work with mental health services to help the students in the vignettes.

For item 3 “I believe this student’s reaction is more that a usual reaction to a disaster,” the test was not significant,  $t(77) = .005$ ,  $p = .996$ . Teachers who had not experienced a disaster ( $M = 9.84$ ,  $SD = 3.59$ ) did not answer the question any differently than teachers who had experienced a disaster ( $M = 9.83$ ,  $SD = 3.68$ ). This illustrated that teachers did not respond differently about their beliefs that the students in the vignettes reactions to the disaster were a mental health concern, despite having experienced or not experiencing a disaster.

For item 4 “Given what I know about this situation, I would feel hesitant to refer this student to mental health services,” the test was not significant,  $t(78) = 1.261$ ,  $p = .211$ . Teachers who had not experienced a disaster ( $M = 7.51$ ,  $SD = 2.88$ ) did not answer the question any differently than teachers who had experienced a disaster ( $M = 6.81$ ,  $SD = 2.06$ ). The readiness of teachers to refer the students to mental health did not appear to be impacted by the teachers’ experiences with disasters.

For item 5 “This student should be referred to further mental health services,” the test was not significant,  $t(77) = -1.613$ ,  $p = .111$ . Teachers who had not experienced a disaster ( $M = 14.00$ ,  $SD = 2.39$ ) did not answer the question any differently than teachers who had experienced a disaster ( $M = 14.77$ ,  $SD = 1.84$ ). This would indicate that whether or not a teacher has experienced a disaster does not appear to impact if they feel that students should be referred to mental health services. Based on these findings, hypothesis 2 was not supported.

## Rurality

In an effort to determine if the rurality of a teacher's setting impacts referrals, a more sensitive analysis was also applied. A bivariate linear regression was conducted to explore the relationship between the population of the city the teachers teach in and the totaled responses for each item. For item 1 "I feel I would be able to help this student in the class room if no other services are utilized," the population of the teacher's town explained .02% ( $R^2 = .002$ ) of the variance ( $F(1,79) = .125, p = .724$ ). This indicates that the population of the teachers' communities did not have a significant relationship with teachers' responses for item 1.

For item 2 "I believe I could work in conjunction with other mental health services to improve this student's functioning," the population of the teacher's town explained .04% ( $R^2 = .004$ ) of the variance ( $F(1,79) = .305, p = .582$ ). This indicates that the population of the teachers' communities did not have a significant relationship with teachers' responses for item 2.

For item 3 "I believe this student's reaction is more than a usual reaction to a disaster," the population of the teacher's town explained 2.9% ( $R^2 = .029$ ) of the variance ( $F(1,78) = 2.305, p = .133$ ). This indicates that the population of the teachers' communities did not have a significant relationship with teachers' responses for item 3.

For item 4 "Given what I know about this situation, I would feel hesitant to refer this student to mental health services," the population of the teacher's town explained 3.6% ( $R^2 = .036$ ) of the variance ( $F(1,79) = 2.917, p = .092$ ). This indicates that the population of the teachers' communities did not have a significant relationship with teachers' responses for item 4.

For item 5 “This student should be referred to further mental health services,” the population of the teacher’s town explained 0.01% ( $R^2 = .001$ ) of the variance ( $F(1,78) = .074, p = .787$ ). This indicates that the population of the teachers’ communities did not have a significant relationship with teachers’ responses for item 5. Overall, the population of the teachers’ community did not appear to have any significant relationship with any of the items. Thus, hypothesis 3 was not supported.

### **Teacher Comments**

A total of sixty comments were made following vignettes, with an average of twenty comments per vignette. Across vignettes and scenarios, the qualitative responses elicited from teachers displayed four common themes: talking to the student’s parents, talking to the school counselor, the teacher’s relationship with the student and in-classroom interventions they would try. Also, unique to the rural challenge vignettes, teachers discussed consulting with peers and more experienced faculty members in addition to the aforementioned themes. It should be noted that some comments contain more than one theme.

**Parents.** The most common theme was talking to parents. Twenty-one comments focused on parent and family contributions. Teachers suggested using parents to get collaborative information. “I would probably call the family to see what they have noticed at home with the behavior.” The teachers also spoke of having the parents seek further services, rather than making a formal referral. “I would work with the parents about my concern and suggest to them mental health providers they could seek.” “I would probably refer the family to their pediatrician about the situation, especially if they were seeing the behavior at home and not just at school.” Some who received vignettes with

the rural challenge specifically relating to a multiple relationship with the student's mother spoke of using this relationship to their advantage. "Being a friend of the mother I think I may also discuss the possibility of the mother seeking mental health help for her daughter."

**School Counselor.** Teachers described the school counselor as an important resource. In fact, 12 comments alluded to contacting the counselor. Some discussed using the counselor as a resource to use as they moved forward with the students. One teacher commented "I would seek out advice from the counselor or other mental help staff to determine if the student is acting normally or is in need of additional services." Others spoke of using the counselor as a source for possible outside referrals. "I would first contact the counselor for suggestions and a referral." Teachers highlighted their lack of mental health knowledge, and even doubt that the vignettes were related to mental health concerns. "Again, making judgments about area that is not my expertise, jumping pretty quickly to mental health issues." This may be why teachers are so reliant on the school counselor for information and referrals.

**Relationship.** Five comments highlighted how their relationship with the student would impact how they would interact with the students in the vignette. One teacher commented "...The teacher needs to make him feel comfortable with him/her to talk about what happened. Many of my students still talk about our tornado and it will be 4 years in June." Another suggested, "I would have the general conversation about school, the new house, friends and get a feel for his thoughts and feelings and willingness to share, etc on these subjects. I would seek to build a relationship with him before discussing anything personal and consult with support staff and mental health providers."

Some offered themselves a supplemental support to formal services. “I would tell her she could talk to me about anything, but would encourage her to speak to our school counselor outside of class in a quiet, confidential setting away from other students.”

**Classroom Intervention.** Finally, across vignettes teachers mentioned ways that they may try to help the student in their classroom. Eight comments mentioned some sort of in classroom intervention. Some of these were targeted specifically at helping the student emotionally. “I might have him do some drawing or journaling depending on his age.” Other interventions were more focused on schoolwork. “Make adjustments like repeating questions for him, extra time during the school day for giving lessons.” “Engage the class in this plan, extra time to make up work, classmate to work with her.”

**Consultation.** Only teachers who received a rural challenge vignette also discussed consulting with their colleagues who had more experience. Four comments pertained to consulting another trusted professional. “I would talk to other trusted staff in my school building about their experiences with students in their class, especially as related to mental health referrals.” They also spoke of using others in the school system to help treat the specific concerns the student was experiencing. “I would talk to the school nurse or administration to see if there was a time her daily schedule (such as a study hall) where she could take a power nap if needed until she can get the help she needs to stop the nightmares.”

With the exception of the consultation piece, there were few differences in the comments on the rural challenge and no rural challenge vignettes. Contacting the parents was the most common suggestion in both groups. The number of comments regarding the



school counselor, classroom interventions and relationships were mentioned at seemingly similar rates, no more than a difference of three comments.

## **CHAPTER IV**

### **DISCUSSION**

#### **Hypothesis 1**

The first hypothesis, that the vignettes that presented rural challenges would elicit lower rates of referrals, was not supported. There was no statistical difference between the group that received the rural challenge vignettes and the group that received no rural challenge vignettes. It is important to note that even if differences were present, the post hoc power analysis suggested that the size of this sample may have been insufficient to detect such differences. Qualitative results would suggest that teachers accessed their mesosystems more frequently than anticipated. This could possibly be because all schools have some sort of access to a school counselor. The teacher's qualitative answers indicated they rely heavily on the school counselor for the mental health needs of their students, both in terms of asking questions and as a potential referral resource.

There are multiple studies that highlight the efficacy of a collaborative relationship between teachers and school counselors. School counselors may serve in a training role, providing psychoeducation to teachers. For example, one study found that a group of teachers trained by school counselors in Rational Emotive Behavior Therapy displayed increased personal well-being and improved relationships with their students (Warren, 2013). School counselors may also play a consultative role. One such model, introduced by Clemens (2007) utilizes a developmental counseling and therapy model in which teachers consult with school counselors and school counselors assess the teacher's

conceptualization of a student, and respond to stress that the teacher believes is connected to the behavior of the student. This was found to indirectly impact the student's behavior in the classroom. Finally, a meta analysis reviewing the impact of school counselors on the educational process emphasized the benefit of an effective educational partnership between teachers and school counselors (Sink, 2008). This study suggest that through this collaboration learning skills are more effectively promoted and test scores are positively impacted.

It is interesting that teachers who were presented with the vignettes containing rural challenges mentioned consulting others in the school, outside of the school counselor. This could be because in rural areas, the school counselor may be shared between several schools, or being the only mental health professional in town, the school counselor may be unable to meet with every referral in a timely manner. It has been found that school counselors, particularly in rural areas, are often asked to assist in areas of special education, clerical, secretarial, and disciplinary duties in addition to their guidance and mental health duties (Monterir-Leitner, Anser-Self, Milde, Leitner & Skelton, 2006). This might lead teachers to check with others prior to speaking with the school counselor, making use of the resources they do have. This peer consultation is common for many areas of teaching and has proven to be an effective strategy for teachers to improve their performance in other areas (Heppner & Johnston, 1994). This is a potential model for future teacher education.

## **Hypothesis 2**

The second hypothesis, that those who have experienced a disaster will exhibit a different referral pattern when compared to those who have not, was also not supported

by this data set. No differences between the two groups could be detected. This may be because disaster experience is so individualized (McKeever & Huff, 2003). Dependent on the age of the participant when the disaster hit and how long it has been since the disaster, those teachers who have experienced disasters are likely to have had unique experiences (Pietrzack, Van Ness, Fried, Galea & Norris, 2013). This lack of uniformity in disaster experiences, coupled with the assumption that the group that had not experienced a disaster was likely to have differing ideas about disasters, likely contributed to the lack of statistically significant differences between the two groups.

Additionally, there was variation in the sample group of this study of the type of disaster experienced by the community. Some were and some were not personally impacted by the disaster, and among those who were impacted, differing levels of physical damage and emotional distress was reported. These factors are likely to further influence how disaster experience impacts the referral process and creates groups that are no longer dichotomous (have or have not experienced a disaster), but rather continuous in varying levels of impact.

Finally, the vast majority of teachers felt that the students in the vignettes needed to be referred to mental health services. Across the board teachers showed concern for the students' wellbeing in the qualitative portion of the survey, suggesting that this concern is likely universal and not impacted by teachers' personal experiences with disasters.

### **Hypothesis 3**

The final hypothesis, that teachers currently teaching in rural settings would respond differently than those teaching in urban settings to the vignettes, was not supported; there was no statistically significant difference between the two groups. Part

of the lack of significance may be due to sampling issues. Specifically about twice as many rural teachers responded to the study, resulting in unequal cell sizes and reducing the power of the study.

In addition, similarities in teachers' exosystems and macrosystems may have contributed to the lack of significant differences between settings. It is likely teachers have had similar training experiences regardless of their eventual work settings, which may contribute to a lack of differences between rural and urban teachers. Because teachers have to pass standardized tests, and teaching programs must be accredited and thereby meet common standards, it stands to reason that the knowledge base teachers attain is similar across settings.

### **Limitations**

Sampling issues limited this study. Because snowball and convenience sampling were used to recruit participants, and because the researcher had more ties to rural areas, there is an imbalance in rural and urban teachers who completed this study. Additionally, there is the possibility of oversampling several schools and not getting a diverse look at this issue, as teachers were asked to pass the survey along to other teachers they knew. One would assume at least some of the teachers passed the survey to others in their same district.

The small, uneven sample sizes also lead to a study design that may have lacked the power to detect a significant difference. This may be remedied by increased sample size in future studies. Additionally, controlling recruitment and condition assignment resulting in groups with similar numbers of participants, further increasing the ability to detect significant differences.

Furthermore, a measure of implicit stigma could have been a useful tool in fully exploring teachers' thoughts and feelings about referral. In this instance, teachers were asked to predict what they would likely do in the stated situations. Their actual actions in a similar situation may not reflect their responses on this survey at all. An implicit measure may have helped to highlight unconscious decision-making processes that may not be captured by this study.

### **Implications for Practice**

Despite none of the hypotheses being confirmed, the data collected for this study still provided some important insight into teacher's comfort with referring students following natural disasters. It is important to note that while most teachers agreed students in the vignettes needed further assistance and would refer the student to mental health services, most teachers also indicated that they did not feel the vignettes reflected a mental health issue. However, the vignettes describe very common trauma reactions in children. This may indicate that further education on mental health symptoms related to trauma would be useful for teachers.

It is encouraging that such a large percentage of teachers feel they could work in conjunction with mental health to provide services, as well as the high percentage that would refer this student to mental health services. What is concerning is how few teachers would identify the symptoms displayed in the vignettes as more than a usual disaster reaction. This indicates that intervention with teachers may need to focus on education about disaster reactions and mental health symptoms.

The American Psychological Association is working closely with teachers to identify how psychologists can support teachers. A teacher-needs survey conducted in

2005-06 identified classroom management skills, skills to motivate student learning and ways to discuss problematic behavior with parents and students (Miller, 2013). As a result, a series of online modules has been created targeting those concerns and others. Because this set of modules is use with some frequency, over 7,500 page views (Miller, 2013), it may be beneficial to add modules specifically for those who have experienced a disaster or modules that identify behavioral problems in the classroom as potential signs of mental health issues. Additionally, it is exciting to note that psychologist and deans of education programs have been working together to use psychological principles to improve teacher education. This is done specifically through curriculum development and evaluation (Uscher, 2011). This is a further point of intervention in providing teachers with resources in identifying mental health concerns of their students.

Teacher's willingness to work with mental health providers could be capitalized on further. This means that mental health professionals may be missing out on a viable partner in interventions. A closer association between therapist and teacher may allow for improved treatment of students' mental health concerns. Qualitative findings also illustrate that that teachers are willing to work with the school counselors. This could provide another point of educational intervention for teachers.

Teachers' willingness to work with school counselors can also capitalized upon to provide services for students. Because of the lack of mental health services in rural areas, some programs have been utilizing existing community resources, specifically teachers, as a point of intervention. Some examples of collaborative interventions were provided about. One intervention specifically targeting areas impacted by disaster is taking place in Moberly, Missouri. Teachers there are provided with crisis management training, an

effort is made to integrate community mental health resources into schools, families are trained to spot mental health symptoms and teachers have access via telehealth to consultation with psychologists at the University of Missouri-Columbia (Chamberlin, 2006). A similar model using targeted training and telehealth consultation could be arguably implemented in any rural community that experiences a disaster.

### **Future Research Directions**

In the future, it would likely be beneficial to expand the sample of this study in order to increase generalizability and gather more participants from urban areas. The study could also be improved by adding more measures for validity and norming the vignettes.

The scale and vignettes used for this study could be used and improved upon in future research. Reliability of items 4 and 5 could be improved through expert review of the items and the vignettes themselves. Additionally, some of the factor loadings on the third vignette discussing the student Shelby were not as clear cut as they could've been. Careful review of this vignette is called for before it's used in future research.

Qualitative results indicated that teachers are willing to provide interventions in the classroom. This calls for careful collaboration between teachers, school counselors and mental healthcare providers. The functionality of this relationship could be explored in future research. It would be helpful to identify factors that encourage and complicate this relationship.

The study also calls for some practical applications, such as further education for teachers on the identification of mental health symptoms. This is reinforced by the large percentage of teachers who didn't identify the symptoms displayed in the vignettes as



more than a normal disaster reaction. Additionally, research on the outcomes of any interventions recommended above would be useful additions to the field and further the useful link between scientists and practitioners.

### **Conclusion**

Teachers are a frequent source of referrals for mental health issues (Widyatomoko, et al., 2011, Percy, Cloton & Pope, 1993, Farmer et al., 2003). This is especially true in rural communities, where other services are scarce (Rothi et al., 2008). A disaster in such a community can highlight the lack of resources and place teachers in a high-pressure position to react and handle mental health concerns of their students. This study highlighted that this is true for teachers across settings, regardless of the rurality of the community or if a teacher has experienced a disaster personally. It is important to highlight that teachers in this study were very willing to collaborate with school counselors and other mental health professionals to provide services to their students. This is a great strength that can be called upon in the future to provide students with the highest level of mental healthcare.

Additionally, this study highlighted a potential lack of understanding of PTSD symptoms in children following disasters. This identified an area for future opportunities for mental health professionals to provide education and information to teachers in their communities to assist teachers in identifying these behaviors as mental health symptoms. This study illustrates the importance of teachers as early intervention points, partners in the referral process, and willing collaborators in treatment

## **APPENDICES**

**APPENDIX A**  
**DEMOGRAPHICS**

Your sex:

- Male
- Female
- Transgender
- Other \_\_\_\_\_

Your age:

\_\_\_\_\_

Your race/ethnicity:

- African American/Black
- American Indian/Native American
- Asian American
- Biracial/Multiracial
- Caucasian/ White
- Hispanic/Latnino
- International
- Other \_\_\_\_\_

Your highest completed education level:

- Middle School
- High School
- Associate's Degree
- Trade School
- Bachelor's Degree
- Master's Degree
- Doctoral Degree

What is your current employment status?

- Employed
- Unemployed

How many years have you been teaching (total)?

\_\_\_\_\_

How many years have you been teaching at your current school?

\_\_\_\_\_

Please check all positions which you presently or have previously worked in:

- Special education paraprofessional
- Special education teacher
- School counselor
- Administrative position

How many years (total) have you taught in a rural setting?

How many years (total) have you taught in an urban setting?

\_\_\_\_\_  
Please choose one: My current school is in a:

Rural setting

Urban setting

What is the population of the community in which your community is located?

\_\_\_\_\_  
Have you ever been employed at a school when a disaster hit that particular community?

No

Yes

If yes, what type of disaster did your community experience?

\_\_\_\_\_  
Were you personally impacted by the disaster?

No

Yes

If yes, please briefly describe the disaster's impact on you personally.

\_\_\_\_\_

## APPENDIX B

### VINGETTES

#### No Rural Challenge

**Instructions: Please read this description of a community that has experienced a disaster. Keep this community in mind when reading the descriptions of three students and answering the questions that follow each vignette.**

Imagine you are teaching in a community with a population of about 50,000. There are about fifteen mental health providers in the area and you are familiar with several who cater to clients your students' age. In early summer of 2013 your community was hit by an EF3 tornado. The tornado caused considerable damage to a residential area near your school. You are aware that many of your students' homes were damaged or lost and even more had a friend or family member impacted by the tornado. Thankfully there were no lives lost in the storm, but the impact can still be felt throughout the community. Barely a day goes by without some mention of the disaster on the local radio, the local news channel or in the local newspaper.

It has now been about three and a half months since the tornado, but you notice many of your students are not behaving as you would expect. Generally, there have been more behavior issues throughout the student body and you've heard of other teachers who have needed to refer their students to the school counselor or to outside mental health providers.

**Described below are three students from your class, please read each situation and answer the questions following it.**

Rob has had difficulty concentrating in class. In the past several weeks you've had to repeat direct questions to him and you've noticed he doesn't seem to be listening to you during the lesson. His grades have dropped from A's and B's to mainly C's from last year to this. You are aware his family lost their home in the tornado last spring, but you think he should be back to functioning normally at school. He doesn't talk about the tornado much, but you know his family has moved into their new house. In talking to his sister's teacher, you've discovered she is doing fine in class and performing as would be expected.

I feel I would be able to help this student in the classroom if no other services are utilized

Strongly Disagree    Disagree    Slightly Disagree    Slightly Agree    Agree    Strongly agree

I believe I would work in conjunction with other mental health services to improve this student's functioning

Strongly Disagree      Disagree      Slightly Disagree      Slightly Agree      Agree      Strongly agree

I believe this student's reaction is more than a usual reaction to disaster.

Strongly Disagree      Disagree      Slightly Disagree      Slightly Agree      Agree      Strongly agree

Given what I know about this situation, I would feel hesitant to refer this student to mental health services.

Strongly Disagree      Disagree      Slightly Disagree      Slightly Agree      Agree      Strongly agree

This student should be referred on to further mental health services

Strongly Disagree      Disagree      Slightly Disagree      Slightly Agree      Agree      Strongly agree

Please share any other thoughts you have about how you would handle this situation or comments you have about this student:

Sarah has been falling asleep in class. This is very unlike her and her behavior has been disrupting class. You've tried to be subtle about waking her, but, to her embarrassment, her classmates are starting to notice. After the third time you had to wake her, she came to you and apologized for falling asleep. She stated since the tornado last summer she has had difficulty sleeping. She reports she has vivid dreams about a tornado coming and blowing her house away. You know her family's house sustained some damage in the tornado, but know little else about her experience of the storm. Unfortunately, Sarah continues to fall asleep in class and you are worried it could begin to impact her grades.

I feel I would be able to help this student in the classroom if no other services are utilized

Strongly Disagree      Disagree      Slightly Disagree      Slightly Agree      Agree      Strongly agree

I believe I would work in conjunction with other mental health services to improve this student's functioning

Strongly Disagree      Disagree      Slightly Disagree      Slightly Agree      Agree      Strongly agree

I believe this student's reaction is more than a usual reaction to disaster.

Strongly Disagree    Disagree    Slightly Disagree    Slightly Agree    Agree    Strongly agree

Given what I know about this situation, I would feel hesitant to refer this student to mental health services.

Strongly Disagree    Disagree    Slightly Disagree    Slightly Agree    Agree    Strongly agree

This student should be referred on to further mental health services

Strongly Disagree    Disagree    Slightly Disagree    Slightly Agree    Agree    Strongly agree

Please share any other thoughts you have about how you would handle this situation or comments you have about this student:

Shelby has been cranky for the past couple of weeks. This is out of character for her and you are concerned about her. She is irritable and jumpy. When a classmate approaches her from behind she jumps and becomes angry. After several instances in which you notice her being short with her classmates and yourself, you have to intervene as she yells at the classmate for scaring her. You know Shelby has been influenced by the tornado. She told you following the tornado she had to crawl into her elderly neighbor's window to help the confused woman out of her house. This story was well received and praised by her classmates, but you can't help but wonder if the storm is affecting this change in attitude could cost Shelby some of her friends.

I feel I would be able to help this student in the classroom if no other services are utilized

Strongly Disagree    Disagree    Slightly Disagree    Slightly Agree    Agree    Strongly agree

I believe I would work in conjunction with other mental health services to improve this student's functioning

Strongly Disagree    Disagree    Slightly Disagree    Slightly Agree    Agree    Strongly agree

I believe this student's reaction is more than a usual reaction to disaster.

Strongly Disagree    Disagree    Slightly Disagree    Slightly Agree    Agree    Strongly agree

Given what I know about this situation, I would feel hesitant to refer this student to mental health services.

Strongly Disagree      Disagree      Slightly Disagree      Slightly Agree      Agree      Strongly agree

This student should be referred on to further mental health services

Strongly Disagree      Disagree      Slightly Disagree      Slightly Agree      Agree      Strongly agree

Please share any other thoughts you have about how you would handle this situation or comments you have about this student:

### Rural Challenge

**Instructions: Please read this description of a community that has experienced a disaster. Keep this community in mind when reading the descriptions of three students and answering the questions that follow each vignette.**

Imagine you are teaching in a community with a population of about 4,000. There are two mental health providers in the area, but you commonly have to refer to mental health services in a community about forty-five minutes from your town for providers that work with individuals the age of your students. In early summer of 2013 your community was hit by an EF3 tornado. The tornado caused considerable damage to a residential area near your school. You are aware that many of your students' homes were damaged or lost and even more had a friend or family member impacted by the tornado. Thankfully there were no lives lost in the storm, but the impact can still be felt throughout the community. Barely a day goes by without some mention of the disaster on the local radio, in the local newspaper or being discussed at the local cafe.

It has now been about three and a half months since the tornado, but you notice many of your students are not behaving as you would expect. Generally, there have been more behavior issues throughout the student body and you've heard of a couple other teachers who have referred their students to outside mental health providers, but you don't really discuss mental health concerns. You are aware of a stigma toward mental health treatment in the area and have heard the local adults making jokes about those who have needed to seek services following the tornado. You believe if you refer your students to out of town service there is a chance that they will have to miss class, possibly alerting their classmates that they are receiving services.

**Described below are three students from your class, please read each situation and answer the questions following it.**

Bobby has had difficulty concentrating in class. In the past several weeks you've had to repeat direct questions to him and you've noticed he doesn't seem to be following you during the lesson. His grades have dropped from A's and B's to mainly C's. You are



aware his family lost their home in the tornado last spring, but you think he should be back to functioning normally at school. He doesn't talk about the tornado much, but you know his family has moved into their new house. In talking to his sister's teacher, you've discovered she is doing fine in class and performing as would be expected.

I feel I would be able to help this student in the classroom if no other services are utilized

Strongly Disagree      Disagree      Slightly Disagree      Slightly Agree      Agree      Strongly agree

I believe I would work in conjunction with other mental health services to improve this student's functioning

Strongly Disagree      Disagree      Slightly Disagree      Slightly Agree      Agree      Strongly agree

I believe this student's reaction is more than a usual reaction to disaster.

Strongly Disagree      Disagree      Slightly Disagree      Slightly Agree      Agree      Strongly agree

Given what I know about this situation, I would feel hesitant to refer this student to mental health services.

Strongly Disagree      Disagree      Slightly Disagree      Slightly Agree      Agree      Strongly agree

This student should be referred on to further mental health services

Strongly Disagree      Disagree      Slightly Disagree      Slightly Agree      Agree      Strongly agree

Please share any other thoughts you have about how you would handle this situation or comments you have about this student:

Sarah has been falling asleep in class. This is very unlike her and has been disrupting class. You've tried to be subtle about waking her, but, to her embarrassment, her classmates are starting to notice. After the third time you had to wake her, she came to you and apologized for falling asleep. She stated since the tornado last summer she has had difficulty sleeping. She reports she has vivid dreams about a tornado coming and blowing her house away. You know her family's house sustained some damage in the tornado, but know little else about her experience of the storm. Unfortunately, Sarah continues to fall asleep in class and you are worried it could begin to impact her grades.

I feel I would be able to help this student in the classroom if no other services are utilized

Strongly Disagree      Disagree      Slightly Disagree      Slightly Agree      Agree      Strongly agree

I believe I would work in conjunction with other mental health services to improve this student's functioning

Strongly Disagree      Disagree      Slightly Disagree      Slightly Agree      Agree      Strongly agree

I believe this student's reaction is more than a usual reaction to disaster.

Strongly Disagree      Disagree      Slightly Disagree      Slightly Agree      Agree      Strongly agree

Given what I know about this situation, I would feel hesitant to refer this student to mental health services.

Strongly Disagree      Disagree      Slightly Disagree      Slightly Agree      Agree      Strongly agree

This student should be referred on to further mental health services

Strongly Disagree      Disagree      Slightly Disagree      Slightly Agree      Agree      Strongly agree

Please share any other thoughts you have about how you would handle this situation or comments you have about this student:

Shelby has been cranky for the past couple of weeks. This is out of character for her and you are concerned about her. She is irritable and jumpy. When a classmates approach her from behind she jumps and becomes angry. After several instances in which you notice her being short with her classmates and yourself, you have to intervene as she yells at the classmate for scaring her. Because you are friends with Shelby's mother you have heard more about her experience of the disaster than many of your other students. Her mother has told you following the tornado Shelby had to crawl into her elderly neighbor's window to help the confused woman out of her house. Her mother praised Shelby for her bravery in the situation, but you can't help but wonder if the storm is sticking with Shelby. Her classmates are becoming tired of Shelby's short temper and you worry this change in attitude could cost Shelby some of her friends.

I feel I would be able to help this student in the classroom if no other services are utilized

Strongly Disagree      Disagree      Slightly Disagree      Slightly Agree      Agree      Strongly agree

I believe I would work in conjunction with other mental health services to improve this student's functioning

Strongly Disagree    Disagree    Slightly Disagree    Slightly Agree    Agree    Strongly agree

I believe this student's reaction is more than a usual reaction to disaster.

Strongly Disagree    Disagree    Slightly Disagree    Slightly Agree    Agree    Strongly agree

Given what I know about this situation, I would feel hesitant to refer this student to mental health services.

Strongly Disagree    Disagree    Slightly Disagree    Slightly Agree    Agree    Strongly agree

This student should be referred on to further mental health services

Strongly Disagree    Disagree    Slightly Disagree    Slightly Agree    Agree    Strongly agree

Please share any other thoughts you have about how you would handle this situation or comments you have about this student:

## **APPENDIX C**

### **RECRUITMENT LETTER**

Date

To whom it may concern:

I am a student at the University of North Dakota in the Department of Counseling Psychology and Community Services. I am conducting a study exploring referral processes of teachers following natural disasters in rural and urban settings.

The study consists of 3 vignettes and a series of questions following each vignette. It should take participants 15 to 20 minutes. Participants need not have experienced a disaster and must be currently teaching. Additionally, participants must be 18 years of age or older.

If you are willing to participate in the study, please respond to this email in the affirmative and I will provide you with a link to the online survey containing an informed consent, demographic and the survey.

Thank you for your time and help in furthering my dissertation,

Melissa Quincer, MA, LAPC  
Department of Counseling Psychology and Community Services  
University of North Dakota

## **APPENDIX D**

### **RECRUITMENT PARAGRAPH**

If you are a teacher or have ever been a teacher, please consider taking this short survey looking at teacher referrals following natural disasters. You'll be asked to read several brief examples and respond to a series of questions about the examples. Follow the link below for more information and to participate in this study.

## APPENDIX E

### INFORMED CONSENT

You are invited to participate in a study seeking to explore teachers' mental health referrals following natural disasters. **(If you are under 18 years of age, please do not proceed with the rest of this study.)**

The study is being conducted by Melissa Quincer, a graduate student, and Cindy Juntunen, a professor, in the Department of Counseling Psychology and Community Services at the University of North Dakota (UND). Questions about the study may be directed to Melissa Quincer at [melissa.quincer@my.und.edu](mailto:melissa.quincer@my.und.edu), or her professor, Cindy Juntunen, Ph.D, at 701-777-0410. For other questions or concerns, please call the office of Research Development and Compliance at the University of North Dakota, at 701-777-4279.

If you decide to participate, the online survey consists of descriptions of made up students who have experienced disasters. You will be asked how you would respond if such a student was in your classroom.

You will not be asked to provide any identifying information such as your name, date of birth, or place of employment on this survey. The researcher will record your survey responses in an anonymous manner as part of this research process. The information you provide will therefore be completely devoid of any identifying information.

Your participation in this study is on a voluntary basis. If you decide not to participate, there is no penalty or loss of benefits to which you are otherwise entitled. Your decision to participate or not participate will not affect your relationship with the University of North Dakota.

All information collected will be anonymous. In any report about this study that might be published, you will not be identified. The surveys will be stored on a secure server until the researcher analyzes data at the Department of Counseling Psychology and Community Services at UND. After data entry, and a period of at least three years, the electronic data from the surveys will be deleted. Only the researcher and people who review research procedures to ensure that rules are being followed (i.e., Institutional Review Board) will have access to this data. Results will be reported in group form only, meaning that there will be no way to connect your answers to your identity.

Benefits to you for your participation in this study include increased understanding teachers' referral process following disasters. This survey could potentially bring up

memories of a disaster if you have experienced one. If completing this survey leads to distress or discomfort for you, you are encouraged to take advantage of counseling or support services in your community. Neither the researcher nor the University of North Dakota is responsible for the expense of those services.

Please save a copy of this Informed Consent for your records.

**By completing this survey, you are agreeing that you have read and understand all the above information, are at least 18 years of age, and give your consent to participate in this study.**

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