Journal of Traumatic Stress, Vol. 23, No. 6, December 2010, pp. 708–715 (© 2010)

Attention to Process and Clinical Outcomes of Implementing a Rural School-Based Trauma Treatment Program*

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The Louisiana Rural Trauma Services Center was established to provide, improve, and enhance urgently needed assessment, treatment, crisis management, and consultation services for children and adolescents exposed to traumatic events in three rural southeastern Louisiana parishes. The purpose of this study is to describe the process of implementing the rural school-based trauma treatment program and to evaluate its effectiveness in 115 students. Through attention to process including the three-tiered approach of relationship building, trauma training, and trauma services, the school-based trauma treatment program proved effective in reducing trauma symptoms. This study is important to support the widespread implementation of school-based mental health services.

Emotional well-being in children is associated with positive social and academic development. Although children with positive emotional functioning are more likely to thrive, children diagnosed with mental health problems including depression, anxiety, and attention deficit hyperactivity disorder are at increased risk (Fergusson & Woodward, 2002; Fletcher, 2008; Fletcher & Wolfe, 2009; Saluja, et al., 2004; Weissman, et al., 1999). Psychological trauma is one of the most common factors associated with mental health problems in children (van der Kolk, 2005). Children who have experienced trauma are more likely to demonstrate higher incidences of emotional, behavioral, developmental, academic, and physical difficulties following trauma exposure (Cicchetti & Toth, 1997; DeBellis & Van Dillen, 2005; Fullerton & Ursano, 2005; Goenjian, et al., 2005; Osofsky, 1997, 1999, 2004; Pynoos, Steinberg, & Piacentina, 1999). It is important to recognize that though most children and families cope successfully and demonstrate adaptive skills following traumatic exposure, some children display significant levels of symptomatology following a traumatic event (Osofsky, Osofsky, Kronenberg, Brennan, & Hansel, 2009).

Students exposed to trauma may experience behavioral problems and academic difficulties sufficient enough for their parents or teachers to suggest referral for mental health services (Stuber et al., 2002). Being referred or identified as needing mental health interventions, however, often does not translate into receiving direct services. When left untreated, these students are placed on a trajectory of increased risk for continued emotional and behavioral difficulties and psychopathology into adulthood (Heim & Nemeroff, 2001). Recent research has revealed that approximately 80% of children with mental health problems do not receive appropriate treatment (Kataoka, Zhang, & Wells, 2002). Disparities in mental health care are related to demographic factors including poverty, race, ethnicity and geographic location (Kataoka et al., 2002; New Freedom Commission, 2003).

Specifically, The President's New Freedom Commission on Mental Health (2003) highlighted mental health disparities for individuals living in rural areas. These individuals are more likely to have lower incomes and to lack insurance than individuals living in urban areas. Furthermore, access to mental health services is limited in rural areas due to a paucity of mental health providers, and rural schools are less likely than urban schools to offer school-based mental health services (Slade, 2003). For example, in Louisiana—the state in which this study took place—government officials have noted that a shortage of mental health professionals is of particular concern in rural areas (Bureau of Primary Care and Rural Health, 2003). With regard to trauma exposure, children living in rural areas are equally or more likely than their urban counterparts to be exposed to trauma (Mink, Moore, Johnson, Probst, & Martin, 2005).

Even for the minimal mental health services that exist in rural communities, barriers deter individuals from accessing these services. Underutilization of mental health services is associated with lack of transportation, finances, insurance, and community mental health providers; as well as with the stigma attached to receiving

*This article was edited by the journal's Editor-Elect, Daniel S. Weiss.

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 DOI: 10.1002/jts.20595

mental health services (New Freedom Commission, 2003). School-based mental health programs were created with the goal of increasing access and decreasing barriers to mental health care. Although few studies have reported the prevalence of counseling for trauma related problems, when counseling takes place, it frequently occurs in schools (Pfefferbaum, Call, & Sconzo, 1999; Stuber et al., 2002). The school is a convenient choice for implementing mental health services on a consistent basis, as children who are regularly transported by bus can be seen onsite during the school day, thereby eliminating the barrier of lack of transportation that otherwise would have precluded them from accessing the services they urgently need (Ehntholt, Smith, & Yule, 2005).

Not only is school accessible for both children and parents, it is also a familiar environment that normalizes the setting and minimizes the stigma related to accessing mental health services through community clinics. Stigmatization of community clinics often poses even greater challenges for treatment compliance among rural families who may be deterred by concerns of being recognized by familiar members of their small, tight-knit communities (Hoyt, Conger, Valde, & Weihs, 1997; Pfefferbuam et al., 2003). Studies have shown that the implementation of school-based mental health clinics increase utilization of mental health services, especially among the most needy who do not have the means to seek services outside their rural communities (Guo, Wade, & Keller, 2008; Wade et al., 2008).

Research has revealed that clinical interventions in schools have long-term efficacy in reducing psychological symptoms in children and adolescents (Hoagwood & Erwin, 2005; Reddy, Newman, De Thomas, & Chun, 2009). School-based interventions have been found to be effective in reducing numerous symptoms in school aged children including hyperactivity, impulsivity, aggression, and disruptive behavior problems (Owens, Murphy, Richerson, Girio, & Himawan, 2008; Wilson & Lipsey, 2007). In addition to studies on efficacy related to school-based treatment for externalizing problems, research has also focused on school-based treatment for symptoms related to trauma exposure. Researchers have noted that cognitive–behavioral interventions that target trauma symptoms have been found to be effective in reducing symptoms of PTSD and depression (Goenjian et al., 2005; Layne et al., 2008; Stein et al., 2003).

School-based mental health programs provide a method of addressing the much-needed services for children exposed to trauma that would otherwise not receive the appropriate treatment. However, the availability of these programs remains lacking in many schools. The purpose of this study is to describe the process of implementing a rural school-based trauma treatment program and to evaluate the effectiveness of this program for the children and adolescents served. The study aims to support the widespread implementation of school-based mental health services by demonstrating the effectiveness of these services in reducing trauma symptoms.

The Louisiana Rural Trauma Services Center was established to provide, improve, and enhance urgently needed assessment, treatment, crisis management, and consultation services for children and adolescents exposed to traumatic events in three underserved communities located in rural southeastern Louisiana. The services center is funded by a grant and staffed by faculty members from the Louisiana State University Health Sciences Center Department of Psychiatry. The services center received initial federal funding from the Substance Abuse and Mental Health Services Administration beginning in September of 2003 and ending in 2007. Service programs were established and developed in St. James, St. John, and West Feliciana parishes (counties). The school-based mental health services increased access to care for many children and families who would have not otherwise received necessary treatment.

Significant difficulties and lack of resources routinely encountered, for families in these rural parishes, include high poverty rates and low socioeconomic status, no reliable means of transportation (public or private), and great distances to the nearest treatment centers (Bureau of Primary Care and Rural Health, 2003). Parish Public School Reports suggest that 73% of the students in St. James, 78% in St. John and 46% in West Feliciana parishes are eligible for free or reduced lunch (Bureau of Primary Care and Rural Health, 2003). Percentages of families below the poverty level with children under the age of 18 years were 19% for West Feliciana, 25% for St. James, and 18% for St. John (US Census, 2000). The three parishes served were members of the Delta Regional Authority, a federal and state partnership designed to alleviate severe and chronic economic distress by stimulating economic development. These statistics highlight the extent of poverty and lack of resources available to this rural population, further warranting the need for the provision of mental health support services to these communities.

Considering the unique challenges associated with residing in rural areas, the availability of easily accessible mental health services presents great difficulties for traumatized youth who desperately need but are often unable to access specialized services. In an effort to meet the needs of the rural children and families, the Louisiana Rural Trauma Services Center (trauma services center) used a three-tiered approach to implementing a rural school-based mental health program. The first tier centered on building relationships. The second tier involved educating the community on traumatic exposure and response. The third included implementing therapeutic services to youth exposed to trauma. These three tiers were ongoing throughout the 4-year grant.

The process of providing school-based treatment began by working within the school and community culture. Based on recommendations from the Louisiana State Office of Mental Health and Department of Education, superintendents from rural parishes were contacted and those that requested participation became a designated site. Initial collaborations—facilitated by the superintendents—with stakeholders including teachers, school and hospital administrators, parents, students, first responders, and juvenile court personnel proved crucial to networking within and understanding the needs of the community.

Parish and state advisory boards were held quarterly with membership including all relevant stakeholders. These advisory boards were critical to gaining access into the schools and developing community support. Most importantly, staff viewed the parish community members as experts on their communities and gathered knowledge from them both through formal focus groups with state and parish advisory board members as well as through informal conversations in teacher's lounges. The initial collaborations provided invaluable information related to the unique needs, cultural constraints, and barriers for seeking mental health services, specific to these rural areas.

In addition to the initial rapport-building phase, the trauma services center developed collaborative relationships with outside agencies concerning traumatized youth. For example, at the request of a juvenile court judge, staff assisted in identifying and intervening with underlying mental health issues for children, adolescents, and families presenting before the criminal and truancy courts. Many of these children had a long history of complex trauma. As a result of this relationship, the judge came to recognize the value of providing mental health services to children and families as a viable alternative to incarceration in the local youth detention center, which had previously served as the primary response to disruptive conduct (Kliebert et al., 2006).

The trauma services center was able to use the insight gained from the initial rapport building phase and subsequent community relationships to tailor assessments, treatment, and a consultation-liaison model to fit the specific needs identified by the rural communities. Consistent with the literature, these crucial relationship building efforts have been noted by members of the trauma services center as the most important aspect of implementing a school-based mental health program (Armbruster, 2002; Rones & Hoagwood, 2000). Through the building of strong relationships and community collaboratives, staff was able to assimilate into the school and community culture, which served as the conduit to providing the much needed trauma services.

Following the relationship-building efforts, it became clear that there was a need for both general trauma education and training on the role of the trauma services center in the schools. Trainings were initiated and conducted by service center staff, but school administration and community members also requested trainings. Topics included the following: red flags of trauma; posttraumatic stress disorder; complex traumas; grief, loss, and bereavement; vicarious traumatization; psychopharmacology; conflict resolution; classroom de-escalation; bullying; and self-care. The length of trainings and consultation sessions ranged anywhere from formal day-long sessions to onsite crisis management intervention following traumatic events. It was also important to provide continued training on the role of the trauma services in the schools including the specifics related to the program's inclusion and exclusion criteria, the limitations in providing services to acute patients within the confines of the school environment, and the provision of alternate (nontrauma services) referrals both within and outside the school system. Initial trainings tended to be more formal and included educating school personnel on trauma and on the process for referring students into treatment. Both the formal trainings and informal as-needed consultations proved critical to enhance the knowledge of school administration. This fostered the ability of the school, as well as the community at large, to better deal with traumatic experiences or crises as they occurred.

Over the 4-year granting period, the trauma services center provided psychotherapeutic and psychiatric services to 193 students in 1st through 12th grades. Students were referred into treatment through school personnel, the judicial court system, and peer, parent, or self-referral. Students were seen once per week for approximately 55 minutes depending on the school schedule. When possible, students were removed from noncore academic classes and were also seen over the summer break for continuity. Clinicians tailored individual treatments to meet the needs of each presenting client. All clinicians were trained on trauma-focused cognitive–behavioral therapy (TF-CBT) and used a modified TF-CBT as a guiding model for service intervention (Cohen, Deblinger, Mannarino, & Steer, 2004; National Child Traumatic Stress Network, 2004). Specifically, clinicians reported using TF-CBT informed coping skills and trauma narratives. Students were treated for posttraumatic stress disorder (PTSD) and other trauma-related symptoms including depression, anxiety, and disruptive behaviors. The trauma services center was viewed as an extension of the schools, and services were provided in empty classrooms, administrative offices, or other unused space appropriate for counseling sessions. In addition, the trauma services center provided psychiatric treatment that included evaluations and medication management conducted onsite at the school. Once a medication was established, the psychiatrist would work with the student's treating pediatrician to take over management of the medication, thus increasing sustainability in the community.

Although numerous comments and praise from advisory board members and school administrators on the success of the program were made, the direct effect on the individual children and adolescents served was not known. This yielded our research question: What effect did school-based mental health treatment for students exposed to traumatic events have on self-reported trauma symptoms? We hypothesized that trauma symptoms would significantly decrease after receiving mental health treatment.

METHOD

Participants

All 193 participants receiving psychotherapeutic, psychiatric, or both forms of mental health services over the course of the 4-year grant were given the option not to participate in the data collection efforts; 36 (18.6%) declined participation. The study procedures were reviewed and approved by the Louisiana State University Health Sciences Center Institutional Review Board. Parents or

guardians and the child or adolescent receiving treatment were informed of the study procedures, risks, and benefits. Parental consent and adolescent assent was given prior to participation.

Students were included in the outcome study if level of trauma symptoms was assessed both at the initial assessment (baseline) and at follow-up. Follow-up assessments were conducted posttreatment either due to completion of services or case transfer (i.e., student moves out of school district). Participation in the outcome study was optional. Of the 157 who participated at baseline, only 115 (73%) of the students receiving treatment had data available at baseline and follow-up. Of those 115 students, 104 (67%) completed a posttraumatic stress measure and 65 (56%) completed a general trauma symptom measure at both time points. Sample size differences are attributed to students not being available for follow-up (i.e., Hurricane Katrina displacement or school transfer), developmental appropriateness of screeners (norms limited to specific ages), and students opting not to complete the measures. The mean age of students at baseline was 13.96 (SD = 3.16). Sixty (52.2%) of the students were male and 55 (47.8%) were female. The minimum number of months that a student received treatment was 1 and the maximum was 38 with a mode of 3 months ($M = 9.80$, $SD = 8.60$). The minimum number of sessions a student received was 2 and the maximum was 83 with a mode of 9 sessions ($M = 19.30$, $SD = 14.63$). The majority of clients received only psychotherapeutic services ($n = 72$, 62.6%); 29 (25.2%) received both psychiatric and psychotherapeutic, and 14 (12.2%) received only psychiatric services.

Students in treatment reported experiencing the following traumas: traumatic loss/bereavement (62.7%), domestic violence (39.1%), impaired caregiver (28.2%), natural disaster (20.0%), community violence (10.9%), school violence (10.0%), sexual assault/rape (9.1%), emotional abuse (9.1%), neglect (9.1%), serious injury/accident (6.4%), sexual abuse (5.5%), physical abuse (4.5%), illness/medical trauma (3.6%), extreme personal violence (3.6%), and forced displacement (0.9%). The majority of students in treatment reported more than one traumatic exposure (67.3%).

Measures

Trauma symptoms were assessed using the University of California Los Angeles Post Traumatic Stress Disorder Index for Diagnostic and Statistical Manual IV (Rodriguez, Steinberg, & Pynoos, 1999) and the Trauma Symptom Checklist for Children (Briere, 1996). A composite score was also created for degree of trauma exposure; one point was given for each trauma.

The University of California Los Angeles Post Traumatic Stress Disorder Index for Diagnostic and Statistics Manual IV (UCLA PTSD) is a 17-item self-report questionnaire. Respondents indicate symptom frequency using a 5-point Likert scale ranging from *never* (0) to *very often* (4). The UCLA PTSD Index provides total and cutoff scores for PTSD and the three subscales of intrusion, avoidance/numbing, and arousal. Cutoff scores are based on endorsement of *often* or *very often* for one intrusion item, three avoidance items, and two arousal items. The current sample total and scale scores were internally consistent ($\alpha = .68$–$.92$).

The Trauma Symptom Checklist for Children is a self-report measure of posttraumatic stress and related symptomatology in children 8–16 years who have experienced traumatic events. Each symptom item is rated according to its frequency of occurrence using a 4-point scale ranging from (0) *never* to (3) *almost all of the time*. The Trauma Symptom Checklist includes two validity scales (Underresponse and Hyperresponse) and clinical scales of Anxiety, Depression, Anger, Posttraumatic Stress, and Dissociation (Overt and Fantasy). The current sample scale scores were internally consistent ($\alpha = .79$–$.96$).

Data Analysis

The UCLA PTSD and Trauma Symptom Checklist scores were used to test the research hypothesis—trauma symptoms decrease after receiving mental health treatment. Paired sample t tests were conducted to assess the change over time. Bonferroni correction was used to account for repeated tests on correlated variables ($p < .004$). For significant results, reliable change indices (Jacobson & Truax, 1991) were conducted to assess the extent of change. Moderation analyses were also conducted to assess the effect of age, gender, length of treatment, and degree of trauma exposure on the reduction of trauma symptoms.

RESULTS

Baseline and follow-up trauma symptoms were compared using total and subscales from the UCLA PTSD and Trauma Symptom Checklist; results are presented in Table 1. Results from the UCLA PTSD scores revealed that students' follow-up scores were statistically significantly lower on total PTSD, intrusion, avoidance/numbing, and arousal compared to baseline scores. Results from the Trauma Symptom Checklist scores revealed that students' follow-up scores were statistically significantly lower on anxiety, depression, and posttraumatic stress compared to baseline scores. Results also revealed that students' follow-up scores were statistically significantly higher on underresponse; however, both baseline and follow-up T-score means were below the normative 65 T, which would suggest underreporting of symptoms (Briere, 1996). No statistically significant differences were revealed on hyperresponse, anger, dissociation, overt dissociation, and fantasy dissociation.

Reliable change indices were calculated for significant t tests; change that exceeded the following indices can be regarded as reliable: PTSD total $\pm$13.40; intrusion $\pm$5.01; avoidance $\pm$6.23; arousal $\pm$4.82; underresponse $\pm$2.76; anxiety $\pm$5.03; depression $\pm$5.06; and PTSD $\pm$6.26. Results further suggest that between 20–40% of the participating students showed reliable improvement on the posttraumatic stress measures (see Table 2). Percentages of students meeting UCLA PTSD clinical cutoffs for baseline

Table 1. Paired Sample *t*-tests on Posttraumatic Stress Disorder (PTSD) Symptom Scales

		Baseline		Follow-up			
Measure	Scale	*M*	*SD*	*M*	*SD*	*t*	*r*[a]
UCLA PTSD Index ($n = 104$)							
	PTSD	26.10	14.73	17.87	14.56	6.30**	.59
	Intrusion	7.65	5.42	4.66	4.44	6.57**	.57
	Avoidance	8.99	6.85	6.68	6.58	3.85**	.59
	Arousal	9.43	4.55	6.47	4.75	6.13**	.44
TSCC ($n = 65$)							
	Underresponse	3.29	2.92	4.65	3.42	−3.61**	.55
	Hyperresponse	0.40	0.88	0.22	0.54	1.80	.40
	Anxiety	5.88	5.37	3.85	4.82	3.41**	.56
	Depression	6.82	5.49	4.63	5.03	3.62**	.58
	Anger	8.09	6.63	6.83	7.19	1.56	.56
	Posttraumatic stress	8.91	6.22	5.65	5.85	4.33**	.49
	Dissociation	7.15	6.09	5.45	5.49	2.68	.61
	Overt dissociation	4.71	4.34	3.40	3.79	2.67	.53
	Fantasy dissociation	2.45	2.34	2.05	2.11	1.52	.55

Note. TSCC = Trauma Symptom Checklist for Children.
[a] r = test-retest reliabilities.
** $p < .01$.

and follow-up on total PTSD: baseline 22.6%, follow-up 12.5%; intrusion: baseline 76.4%, follow-up 51.8%; avoidance/numbing: baseline 49.1%, follow-up 31.3%; arousal: baseline 79.2%, follow-up 56.3%. McNemar tests revealed a significant decrease on intrusion $\chi^2 = (1, n = 104)$ 19.78, $p < .001$, avoidance/numbing, $\chi^2 = (1, n = 104)$ 20.78, $p < .001$, and arousal, $\chi^2 = (1, n = 104)$ 1.91, $p < .001$.

Moderation analyses were also conducted for significant *t* test results to assess the extent age, gender, length of treatment, and degree of trauma exposure had on the change between baseline and follow-up scores. The minimum number of traumas reported by students in treatment was 1 and the maximum was 6, with a mean of 2.28 ($SD = 1.26$). Variables were centered prior to analysis. Results failed to reveal a statistically significant effect on

Table 2. Reliable Change From Baseline to Follow-up on Posttraumatic Stress Disorder (PTSD) Symptom Scales

		Improvement		No change		Decline	
Measure	Scale	*n*	%	*n*	%	*n*	%
UCLA PTSD Index							
	Total	35	33.7	64	61.5	5	4.8
	Intrusion	33	31.7	69	66.3	2	1.9
	Avoidance	28	26.9	68	65.4	6	7.7
	Arousal	42	40.4	55	52.9	7	6.7
TSSC							
	Underresponse	22	33.8	36	55.4	7	10.8
	Anxiety	13	20.0	49	75.4	3	4.6
	Depression	13	20.0	48	73.8	4	6.2
	PTSD	16	24.6	47	72.3	2	3.1

Note. TSCC = Trauma Symptom Checklist for Children.

trauma symptom follow-up scores for the cross-product of baseline scores and gender ($\Delta R^2 = .00–.01$, $\beta = -.01–.06$); age ($\Delta R^2 = .00–.02$, $\beta = -.07–.16$); length of treatment ($\Delta R^2 = .00–.05$, $\beta = -.24–-.03$); and total traumas ($\Delta R^2 = .00–.01$, $\beta = -.12–-.04$).

DISCUSSION

The Louisiana Rural Trauma Services Center was able to decrease many of the barriers and provide much needed mental health services to rural students exposed to trauma. The center was not only able to increase access to much needed mental health treatment, but also it appeared that the center facilitated communication on behalf of traumatized youth among the schools and outside communities, such as the juvenile court for example. The trauma services center asserts that attention to process is imperative to the implementation of a rural school-based trauma treatment program. The key steps to implementation have been outlined by staff as a three-tiered approach. The first, and perhaps the most important, tier centered on building relationships with community stakeholders. The second tier involved educating on traumatic exposure and response in children and adolescents and the third included implementing therapeutic services to trauma exposed youth. This approach enhanced the limited services by providing direct trauma treatment within the schools.

The result of the three-tiered approach proved effective in reducing trauma symptoms for some students exposed to traumatic events. Acceptance of the research hypothesis—trauma symptoms decrease after receiving mental health treatment—provides support for this claim. The reduction in symptomatology suggests that many of the negative consequences following trauma exposure, including emotional, behavioral, developmental, and academic difficulties (Cicchetti & Toth, 1997; DeBellis & Van Dillen, 2005; Fullerton & Ursano, 2005; Goenjian et al, 2005; Osofsky, 1997, 1999, 2004; Pynoos et al., 1999) could be reduced. As a group, after students received trauma treatment, their overall posttraumatic stress symptoms decreased. Specifically the symptoms of intrusion, avoidance/numbing, arousal, anxiety, and depression were reduced after treatment. As a more conservative estimate, between 20 to 40% of students showed reliable improvement. Although these percentages may seem low, given the issues associated with assessing victims of violence (Briere & Elliot, 1997) it is not unexpected. Specifically for this study, 55.6% ($n = 36$) of the students underreported (T-scores $> 65T$) on the trauma symptom checklist at either baseline or follow-up.

A case example may help further describe the impact of the program and how it reduced the negative consequences following trauma exposure. A student seen over the course of the grant was evaluated by the psychiatrist and received psychotherapeutic services. The student had experienced multiple traumas including abuse, emotional neglect, and sexual assault. At one point, the student was taken into the state's custody and placed with various family members. The trauma services center provided a constant in the student's very chaotic life, providing some measure of stability. This student graduated high school, enrolled in college courses online, and was able to maintain relationships with others. The client outcome was a success; however, this student was also in the group of underreporters where statistically significant or reliable clinical change was not demonstrated. Baseline scores on the Trauma Symptom Checklist were 0 for anxiety, depression, posttraumatic stress, and dissociation and 1 for anger. Follow-up scores were similar—0 for each subscale. This example demonstrates the potential for personal success that can accompany appropriate and effective treatment.

Providing trauma treatment at school addresses the need for increased access to services; however, there are a number of challenges to school-based treatment. Staff clinicians have noted that due to the overcrowding of schools, the lack of appropriate space that is private and conducive to treatment is difficult to find. It has also been noted that some of the more intense therapeutic techniques such as constructing a trauma narrative also prove difficult when children have to return to class. A sensitive issue that was also noted is the method of retrieving students from class. These issues support reasons why rapport building and collaboration are imperative to the success of providing evidence-based treatments. Staff clinicians have noted that when school administrators and staff value the importance of trauma work, they are more willing to make accommodations to the location of where services are provided, to allow students to be taken out of class at the end of the day or rest after sessions, and to help in developing the most minimally intrusive method for retrieving students for services.

Although the results support the effectiveness of the school-based trauma treatment program, they are limited to this study's findings. The primary limitations to this study were sampling and lack of a control group. Participation in the outcome study was optional, thus only 115 of the students receiving treatment had data available. Also, Hurricane Katrina occurred in the middle of the grant cycle; although having services readily available to deal with the traumatic response of the natural disaster was a positive, it did affect the ability to locate follow-up data due to increased fluidity of migration among Louisiana parishes. Additional limitations include the lack of a systematic examination of whether all three tiers are needed and the lack of data describing specifics of the treatment provided. Though not conclusive, the lack of gender, age, length of treatment, and degree of trauma exposure provide additional support that the reductions in trauma symptoms were not due to demographic factors; however, these or unknown factors may have contributed to the effectiveness of the trauma treatment.

This research supports the literature that trauma services are needed, especially in rural populations; however, additional studies are required to further develop the implementation process and generalize the efficacy of the treatment. Future research would also prove useful to assess systematically: overall school climate, the increased efficacy of schools, movement of treatment programs

into consultative roles, and potential application in urban areas. Information that would prove valuable for future studies would be data regarding extenuating family circumstances, components of traumatic exposure and resiliency or strengths possessed by the students receiving treatment. Additional research will help to better define the process of implementing school-based trauma treatment programs and like the Louisiana Rural Trauma Services Center start moving rural traumatized students toward a state of emotional well-being which in turn is hopeful for positive social and academic development.

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