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Building Resilience after Disasters through the Youth Leadership Program: The Importance of Community and Academic Partnerships on Youth Outcomes

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Abstract

Background: The Youth Leadership Program (YLP) was created as a school community–university partnership after the devastating effects of Hurricane Katrina. The YLP goal was to support youth and improve by engaging them in disaster recovery initiatives.

Objectives: The purpose of the study was to describe the development of the St. Bernard Parish YLP and evaluate if the program was associated with increasing self-efficacy and decreasing trauma symptoms. Specifically, this study explored how a mental health intervention related to hurricane recovery influenced students' perceived ability to achieve goals, fostering post-disaster self-efficacy.

Methods: The YLP began in 2006, with two major initiatives; data were analyzed before and after YLP activities. Students completed disaster screenings annually, with measures of trauma symptoms and self-efficacy.

Results: Findings from this study showed that students who participated in the YLP, compared with peers who did not

participate, scored significantly higher on self-efficacy. In addition, an interaction effect revealed that gains in self-efficacy also resulted in reduced trauma symptoms for both groups of students.

Conclusions: The YLP demonstrated how disaster response interventions supporting resilience-based leadership and empowerment influenced students' perceived ability to achieve goals fostering post-disaster resilience. Successful initiatives, such as the YLP, emphasize the importance of parallel and interactive individual, family and community support processes to enhance the recovery experience for both individuals and communities.

Keywords

Schools, child development, academic medical centers, statistics, evaluation studies

The conceptual frameworks for understanding, intervening, and supporting children and adolescents in the aftermath of disasters include a perspective from developmental psychopathology and a resilience framework for research and practice.^{1–3} How children respond after such catastrophic events depends on many factors, including their direct experience with the disaster, exposure to multiple traumas, preexisting behavioral health problems, family and community support, and recovery-related experiences.^{4–8} Masten and colleagues⁹ have elaborated that recent theory and research suggest vulnerability factors may also be indicators of

sensitivity or plasticity, such that responses to experiences can lead to poor outcomes in an adverse environment and positive outcomes in a more favorable one.^{10,11} Despite evidence of higher incidences of post-traumatic stress disorder (PTSD) and depression in the aftermath of disasters, a very important lesson learned is that most children will be resilient.

RESILIENCE AND SELF-EFFICACY

Resilience is the capacity to effectively recover from significant disturbances that threaten adaptive functioning and development.⁹ The importance of recognizing and

responding to the needs of children and families and ways to support resilience as a disaster response initiative has received increased attention in recent years.^{9,12,13} These efforts focus on characterizing children's resilience after a disaster and identifying response factors that foster adaptive reactions. Further innovative efforts emphasize building interventions that support resilience.^{5,9,13-16} In learning more about fostering resilience after disasters, it is important to consider the work of Bandura and his colleagues, who have conceptualized stages of change in building self-efficacy. A central tenant of perceived self-efficacy is a person's belief in his or her capacity to achieve defined goals and being able to influence events that affect one's life.¹⁷ Consistent with an understanding of resilience, beliefs differ across domains, in their degree of generalizability, and vary in strength and level.¹⁸ Sources of self-efficacy beliefs and the processes through which they operate can result in diverse effects. Self-regulation skills, another important protective factor for resilience and component of self-efficacy, are often disrupted in the aftermath of disasters owing to the lack of routines, and continual changes in living arrangements, school, and caregiving. However, for those children who are able to adapt more easily, these skills are often present. Recent literature has focused on expanding the traditional risk model of disaster recovery (i.e., trauma symptoms) for a more whole person approach to well-being, which includes resilience and self-efficacy.³

COMMUNITY PARTNERSHIPS

For children and adolescents to show resilience and self-efficacy after disasters, there must be protective factors in place despite the disruption or confusion.⁶ Protective factors can include adults in the community who, even with the uncertainty, can create a reasonable amount of stability and support.¹⁹ Schools are frequently called on in disaster recovery situations to serve as a protective factor. Schools can help to foster return to routines and provide behavioral health services owing to the supportive relationships with classmates, teachers, and school staff.²⁰⁻²² Fostering resilience is crucial to this work; however, post-disaster schools often have diminished resources.^{1,9,15} Partnerships between schools and universities can assist schools with increasing their resources through research, grant writing, and providing behavioral health interventions. These collaborations are

crucial to addressing complex needs, which in turn supports community recovery.

The principles of protective factors and individual and community resilience were demonstrated in the recovery efforts after Hurricane Katrina. St. Bernard Parish is the second largest county in Louisiana and is part of the New Orleans metropolitan area. The lower portion of the parish suffered a direct hit from Hurricane Katrina and all buildings were damaged to some degree owing to the storm flooding. From the 2000 to 2010 census reports, the population dropped close to one-half owing, in large part to, residents not being able to move back. Despite the population decrease, the parish has rebuilt and is an example of long-term recovery success. The recovery is in part due to the reestablishment of critical infrastructure, such as schools. In addition to educating their youngest residents, school officials keenly emphasized the recovery patterns of the children and the life stressors influencing these patterns.⁵

St. Bernard school administrators understood the difficult road ahead for community youth and proactively reached out, through previously established relationships, and created networks of stakeholders to aid in their recovery initiatives. Community advisory board groups and coalitions recruited by school administrators were comprised of staff, parents, community members, students and university faculty; this group facilitated the collaborations after Hurricane Katrina.²³⁻²⁵ This approach supports the process of participatory action research principles.²⁶⁻²⁸ Participatory action research emphasizes that school administrators and teachers are the experts on their school community, as are the youth. This expertise is invaluable in developing interventions that address racial, cultural, and community values and traditions, as well as socioeconomic issues and disparities in care.^{9,19} These community partnerships targeted behavioral health services to address both trauma symptoms and to recognize strengths by youth.

Given the long-term life stressors associated with Hurricane Katrina and the differences in individual and environmental supports, children and adolescents showed diverse recovery patterns.¹³ In one study, 72% of the children and adolescents were classified as stress resistant or experienced normal response and recovery.¹³ This finding is consistent with other literature, but unexpected given the extent of the devastation, slow recovery, and conditions under which much

of the population lived after Katrina. The data are consistent with Bonanno and Mancini,¹⁴ who estimated that about one-half of all children and adolescents will show no immediate or long-term psychological sequelae after trauma. It is also likely that the level of structure, organization, and creation of “normality” in an abnormal environment, provided by the rapidly reorganized St. Bernard Parish Schools, contributed significantly to the children’s positive recovery.

Although much has been written on children’s trauma exposure and negative mental health symptoms, relatively little is known about how these factors determine a child’s perceived ability to achieve future goals. Yet, the experienced administrators, principals, and teachers at the St. Bernard Parish School System intuitively knew that the focus should not only be on recovery, but also on what the future holds for children impacted by the disaster. The St. Bernard Parish School Board opened the St. Bernard Unified School less than 3 months after Hurricane Katrina, becoming the first school to open in the flood zone. The school district opened one unified school despite being told they would have to wait 6 months or more by federal officials and school administrators sought bridge funding to open sooner. The quick response made it possible for many residents to return and begin rebuilding their homes. Although residents often had to continue their employment in other communities, they did not have to send their children away to school. Class sizes doubled weekly as children returned with their families and temporary buildings were needed until original schools were repaired or new structures were built. As a testament to their dedication, many teachers commuted more than 2 hours per day to be part of the community rebuilding.

In an effort to help rebuilding the schools after Hurricane Katrina, school officials collaborated with the Louisiana State University Health Sciences Center (LSUHSC) Department of Psychiatry and developed the YLP as part of the St. Bernard Family Resilience and Recovery Project.²⁹ The St. Bernard Family Resilience and Recovery Project was developed as a part of the mission of the school system in promoting a positive and healthy recovery environment for their students. In collaboration with public school officials, LSUHSC faculty and national experts in resiliency and self-efficacy designed the YLP. Despite community-wide devastation, clinicians working with schools noted significant resilience in children,

families, and teachers. Although the program received a number of awards supporting the strength-based collaborative and work in the schools,²³ there are relatively few studies testing the impact that empowerment based supportive services can have on recovery after disaster.³ To further understand empowerment-based supportive services, or the strengths youth bring to disaster recovery, a 3-year longitudinal study of 387 students ranging in age from 9 to 18 years examined not only the symptomatology, but also self-efficacy, reported by children living in St. Bernard Parish. The purpose of the study was to describe the YLP and test the effectiveness of the program in increasing self-efficacy and decreasing trauma symptoms. Specifically, this study evaluated the YLP goals and explored how mental health and hurricane recovery can influence students’ perceived ability to achieve goals fostering post-disaster resilience.

METHODS

This secondary analysis of screening used data on children age 14 to 18 in May 2006 and March 2008, before and after the YLP. Owing to the secondary nature of the data, this study was deemed exempt by the LSUHSC Institutional Review Board.

YLP

An overview of the YLP program is presented in Table 1. The YLP is designed to benefit the community at the macro and micro levels by developing future leaders, improving the mental well-being of students, and engaging community members in youth activities and direct outcomes from community projects. The mission of the leadership program YLP was on leadership through action and began by engaging youth in disaster recovery initiatives. The YLP was facilitated jointly by a teacher and a mental health professional. Including mental health as part of the program allowed the focus to go beyond traditional leadership groups and to incorporate stress reduction and self-awareness activities to improve student well-being. The addition of mental health strategies was especially important in the early years after Hurricane Katrina.

Students met weekly during their lunch period and over the course of the project, with 100 students participating annually and approximately 20 students attending each meeting. Meetings focused on increasing self-efficacy through active participation in school and community service activities. At

Table 1. YLP Program Overview

<p>YLP Collaboration</p> <p>Community collaborative group comprised of staff, parents, community members, students, university faculty, etc. Provide insight into cultural guidance, resources, and programing that fit with the school or community environment.</p> <p>Study YLP</p> <p>School administration reached out using pre-disaster relationships to initiate collaboration.</p> <p>The collaboration selected age groups to target, initiated recruitment, facilitated teacher involvement, assisted with problem-solving, and program monitoring.</p>
<p>YLP Curriculum</p> <p>Goals of leadership, resilience, self-efficacy, and mental health.</p> <p>Study YLP</p> <p>Facilitators received training in resiliency building and self-efficacy theory.</p> <p>Facilitators met weekly with mental health professionals to discuss the program.</p> <p>Students chose volunteer projects that focused on both logistics and activities.</p> <p>Students met weekly during their lunch period for planning, with a portion of the time dedicated to a mental health topic.</p> <p>Used a variety of interactive sessions to educate about different leadership positions and styles, mental health and well-being, and resilience.</p>
<p>YLP Development</p> <p>The most important tenant in the YLP program is that it is youth led.</p> <p>Youth are responsible for deciding on programming, with guidance.</p> <p>Study YLP</p> <p>2006 Summer Intensive</p> <p>Twenty-two 10th and 11th graders participated in a month long summer program.</p> <p>Initiated three self-selected projects.</p> <p>Goal of empowering students to help rebuild their community.</p> <p>2008 Leadership Summit</p> <p>One hundred fifteen 7th- to 12th-grade students.</p> <p>Planned and implemented a leadership summit with community and national experts presenting on leadership topics.</p>
<p>YLP Sustainability</p> <p>Implementation is flexible and programs can be tailored to resources and needs of community.</p> <p>Effects of youth involved in recovery are important by understudied.</p> <p>YLP can fulfill after school enrichment or combine with other leadership initiatives.</p> <p>Study YLP</p> <p>Funded by post-disaster grants, continued with limited funding for more than 10 years.</p> <p>Projects included volunteering at animal shelters, cultural events, planting trees to rebuild the wetlands, and school-sponsored activities such as hosting exchange students, helping with drama productions, and the graduation ceremony.</p>

Abbreviation: YLP, Youth Leadership Program.

the beginning of the school year, students chose volunteer projects that focused on both logistics (i.e., how to be optimally productive with limited meeting time) and activities (e.g., implementing recycling and environmentally-friendly school activities). Weekly meetings allow for planning, with a portion of the time dedicated to a mental health topic. YLP projects have included volunteering at animal shelters, community cultural events, planting trees to rebuild the wetlands, and school-sponsored activities such as hosting exchange students, helping with drama productions, and the graduation ceremony. In the first 2 years of the YLP, activities focused

on post-disaster efforts, which included a Summer YLP and Leadership Summit. A total of 133 diverse students (including previous school dropouts and other students not accustomed to participating in leadership roles) participate. The primary goals included supporting improved self-efficacy and reducing hurricane-related symptoms in students.

Summer YLP. Twenty-two incoming 10th and 11th graders self-selected to participate in a month-long summer program. The teachers and administrators recommended working with this age group so that they would be able to participate in the program for several years. During June 2006, less than

1 year after Katrina, students committed to participating 5 days a week from 9:00 AM to noon. Three staff members (who were former principals until the schools were devastated) were selected to facilitate the program based on their previously demonstrated leadership abilities and child-focused approach to teaching. Although the facilitators had previous training in leadership, they received further training in resiliency building and self-efficacy theory. Facilitators met weekly with mental health professionals from the LSUHSC Department of Psychiatry to discuss the program and ensure that the goals of leadership, resilience, and self-efficacy remained the central focus. During the summer, participants initiated three self-selected projects, with the goal of empowering students to help rebuild their community.

YLP Leadership Summit. On March 18, 2008 (3.5 years after Hurricane Katrina) 115 students in grades 7 through 12 participated in a Leadership Summit. Consistent with the goals of the program and to foster self-efficacy in students, the school-based YLP helped to plan and implement the program. The Leadership Summit used a variety of interactive sessions to educate students about different leadership positions and styles, allowing them to understand that leadership takes a variety of forms. Community leaders participated in the program to share information and their experiences, and included judges, doctors, religious leaders, mental health professionals, artists, volunteers, and business executives. They discussed the following topics: the roles of elected leaders, substance abuse, leadership through lifelong service organizations, self-care, crisis management, youth leadership development, the importance of the faith community, volunteerism, and leadership in business and industry.

Research

As part of the St. Bernard Family Resilience and Recovery Project, schools conducted annual mental health screenings beginning in May 2006 to assess need and link students with heightened symptoms or a request for help to mental health services. Screenings were administered confidentially, but not anonymously, so that it was possible to provide further evaluation for students who reported high trauma symptoms and respond to those who requested a meeting with a counselor. Letters were sent home describing the screenings and requesting parents to notify the school if they did not want

their child to participate. Students were also given the opportunity to refuse participation on all or parts of the screen at their discretion. YLP involvement was encouraged regardless of screening participation. Reports were also sent to school administrators to provide them with more information to understand school climate and to develop informed school based services with feedback from the administration, teachers, parents, and students. As a school-initiated process, the screening content was deemed necessary in helping to meet the post-disaster educational needs. Parents and guardians provided annual consent for assessments that help to enhance the education environment. LSUHSC provided expertise in analytics and reports to translate the raw data into useable information and clinical follow-up for students who met criteria on the hurricane recovery measure.

Measures

Measures for the screening instrument were selected based on ease of administration and information requested by the schools. For high school students, part of the screening included a measure of self-efficacy and hurricane recovery to address where resiliency and leadership programs would be most beneficial. School administrators and LSUHSC faculty collaborated to select the main components of the measure, which included trauma symptoms, self-efficacy, and hurricane experiences.

Self-efficacy. The Status Questionnaire for Students is a measure of self-efficacy developed by Drs. Ann Masten, an expert on child resilience,³⁰ and Charles Benight, an expert on self-efficacy and disasters,³¹ specifically for the YLP in collaboration with school administration. The Status Questionnaire was based on self-efficacy factors that contribute to resilience.³² Students responded to each of the 61 items on an 11-point scale where 0 represents cannot do at all, 5 represents moderately certain can do, 10 represents highly certain can do. Sample items include: figure out how to improve my life, trust my friends, stay motivated to achieve in school, be a positive role model for adults in my community, make a plan to achieve my goals, and get school teachers and administrators to listen to my ideas.³³ A composite score is created and higher total scores represent greater self-efficacy.

Trauma symptoms. Trauma symptoms of anxiety and depression were measured using the National Child

Traumatic Stress Network.^{34,35} The Disaster Interview was created as a nondiagnostic measure to assess mental health needs in youth after a disaster. The interview includes a symptom scale based on the University of California Los Angeles Posttraumatic Stress Disorder Reaction Index, a well-validated instrument to assess traumatic stress in youth that has been widely used for more than 20 years.³⁶ To improve the use of the University of California Los Angeles Posttraumatic Stress Disorder Reaction Index after a disaster, the Reaction Index was modified to include questions on disaster and depressive symptoms. The National Child Traumatic Stress Network Disaster Interview was modified after Hurricane Katrina based on feedback from school administrators and students to aid in the students' ability to complete the scale. The modification included changing the original 5-point Likert scale to a 4-point Likert scale where, 1 = not at all, 2 = a little bit, 3 = quite a bit, and 4 = very much. The 4-point scale has successfully screened more than 50,000 youth after Hurricanes Katrina, Rita, Gustav, and Isaac; the 2010 Chilean Earthquake; the Gulf Oil Spill; Hurricane Sandy; and the great floods of 2016. In addition, the scale demonstrated good reliability and validity as a measure of post-disaster distress.^{4,5,13,24}

Hurricane Experiences. Students provided yes or no responses to question about hurricane experiences. A hurricane experiences index was created where 1 point was given for each experience the child reported the following: transferred to a new school, saw neighborhood destroyed or damaged, injured, toys destroyed/damaged, separated from caregiver, parent unemployed owing to hurricane, witness injury, home damaged, lived in temporary housing (i.e., FEMA trailer, hotel, shelter, or friends or relatives house), housed others because of the storm, family members/friends injured/killed, parent helped in recovery efforts, and had to be rescued. The minimum number of experiences was 3 and the maximum was 12 ($M = 7.3$, $SD = 1.7$).

Additional mental health variables included yes or no responses to whether students had experienced additional trauma or requested to speak with a counselor. Teachers and school administrators were worried about social support for their students and asked to add a question on whether the students felt lonely. YLP participants were also asked to provide a brief statement on what the YLP meant to them.

Participants

Participants were included in the analysis if they were between the ages of 15 and 17, because only high school students completed the measures for self-efficacy and for sample consistency with target grades for the first YLP. Inclusion was also based on completing the mental health hurricane recovery screen at two time points between May 2006 and October 2008. A total of 212 students were included in the analysis; 71 (32%) participated in the YLP. Owing to the limited sample size in the first YLP initiative and to minimize type II errors, the two YLP initiatives were aggregated into one group.

Analysis

Bivariate analyses were conducted to assess associations among variables. Owing to the number of preliminary analyses, Bonferroni correction was used and alpha was set at .001. There were χ^2 analyses conducted on demographic and hurricane experiences by group (YLP vs. non-YLP). An independent samples t -test was conducted to assess if differences exist on age by group (YLP vs. non-YLP). Preliminary analyses (point-biserial and Pearson correlations) were conducted to assess associations among self-efficacy, trauma symptoms, demographics, hurricane experience, time between screenings, and reported additional trauma and loneliness. Mixed methods multivariate analysis of variance was used to assess self-efficacy and trauma symptoms over time (time 1 vs. time 2) and by YLP (YLP vs. non-YLP). Levene's test and Box's M were not significant; all other assumptions were met.

RESULTS

The mean age of students was 15.7 years ($SD = 0.7$); 56% were female and 44% were male. The majority of students identified as Caucasian (81%), 8% African American, 5% Hispanic, and 4% identified as other.

Bivariate

Table 2 presents the demographic and hurricane experiences by group. A mean difference, $t(1, 212) = 8.19$, $p < .001$, revealed that students in the YLP group ($M = 16.21$, $SD = 0.47$) were slightly older than students in the non-YLP group ($M = 15.48$, $SD = 0.67$). Weak positive associations suggest that as trauma symptoms at time 1 increased hurricane experience increased ($r = .23$) and students were more

Table 2. Demographics and Hurricane Experiences by Group (YLP vs. Non-YLP)

Reported	Non-YLP (%)	YLP (%)	Total (%)	χ^2	<i>p</i>
Demographics					
Female	58	50	56	1.21	.272
Caucasian	78	87	81	2.53	.112
Hurricane experience					
Transferred to a new school	100	100	100	—	—
Toys destroyed/damaged	98	99	98.1	0.00	1.00*
Home damaged/destroyed	95	100	96.7	2.21	.137*
Saw neighborhood destroyed or damaged	93	99	94.9	1.99	.158
Temporary housing	69	72	70.1	0.15	.696
Parent unemployed due to storm	56	54	55.1	0.11	.737
Guests in home due to storm	50	58	52.3	1.25	.264
Parent helped in recovery efforts	50	54	50.9	0.28	.594
Additional trauma	50	39	46.3	1.99	.158
Family members/friends injured	39	37	37.9	0.07	.794
Caregiver separation	32	45	36.4	3.41	.065
Loneliness	25	23	24.3	0.18	.672
Witnessed injury	18	18	18.2	0.00	.982
Requested to speak with a counselor	11	11	11.2	0.00	.986
Injured	6	7	6.5	0.00	1.00*
Rescued	6	6	6.1	0.00	1.00*

Abbreviation: YLP, Youth Leadership Program.

Note. Total (*N*) = 212.

*Expected cell counts were less than 5; Yates Continuity Correction was used.

(—) Variable is a constant; all children transferred to at least 1 school.

likely to report loneliness ($r = .32$) and request to speak with a counselor ($r = .20$). Weak positive associations also suggest that as trauma symptoms at time 2 increased, students reported that their friends/family members were injured/killed during Katrina ($r = .23$) and they experience loneliness ($r = .29$). Further, female students had higher self-efficacy scores at time 1 ($r = .20$) and students who reported more hurricane experiences also reported loneliness ($r = .20$) and requested to speak with a counselor ($r = .21$). No other associations were revealed.

Multivariate

Results and descriptive statistics are presented in Tables 3 and 4, respectively. Results suggest that, for students who participated in the YLP program, their self-efficacy scores significantly increased over time [$t(70) = -3.42$; $p < .001$]. There was no change in self-efficacy scores for students who did not participate [$t(142) = -0.62$; $p = .542$]. A significant self-efficacy by trauma symptoms within subjects' effect was revealed, suggesting that decreases in trauma symptoms were contingent on increased self-efficacy. This interaction effect

was demonstrated in both groups (YLP and non-YLP) as evident by the significant overall interaction effect and significant post hoc tests for YLP group [$t(70) = 4.11$; $p < .001$] and for non-YLP group [$t(142) = 4.96$; $p < .001$].

Community-level Effects

In addition to the individual level outcomes, the YLP coordinated the communities Hurricane Katrina Remembrance Day and school wide substance abuse prevention which coincided with the safe and drug free schools week. The YLP program ran a dog adoption program at the community festival; through this event, the students reported feeling pride and empowerment when they united four dogs with new families. Students decided to create a school mural to commemorate their community recovery and created a pamphlet for their peers to encourage hurricane preparedness. Students also worked together to plant a flower garden; the students reported that they wanted to create a garden that would beautify the school, as well as demonstrate cohesion within the unified school community that had lost all of their individual school campuses. In achieving this goal, they used flowers with

Table 3. Multivariate Analysis of Self-efficacy by Trauma Symptoms by YLP (YLP vs. Non-YLP)

	F	p	η^2	1- β
Self-efficacy	3453.36	.001	.942	1.00
Self-efficacy $\times$ YLP	5.69	.018	.026	0.66
Trauma symptoms	0.01	.917	.000	0.05
Trauma symptoms $\times$ YLP	3.42	.066	.016	0.45
Self-efficacy $\times$ trauma symptoms	30.43	.001	.126	1.00
Self-efficacy $\times$ trauma symptoms $\times$ YLP	5.30	.022	.024	0.63

Abbreviation: YLP, Youth Leadership Program.

Note. *df* (degrees of freedom) = 1, 212.

Total (N) = 220; 71 YLP (32%) and 143 non-YLP (67%). Mean squared error = 39.26.

Dependent variables are self-efficacy and trauma symptoms. Independent variable is YLP group (YLP vs. non-YLP).

Table 4. Self-efficacy by Trauma symptoms by YLP

Table 4. Self-efficacy by Trauma symptoms by YLP						
Dependent Variables	Independent Variable				Total	
	Non-YLP		YLP			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Self-efficacy time 1	49.22	10.56	44.35	12.57	47.61	11.47
Self-efficacy time 2	49.83	9.22	48.67	10.27	49.44	9.57
Trauma symptoms time 1	4.35	5.12	5.18	5.61	4.63	5.29
Trauma symptoms time 2	2.03	2.68	2.39	3.85	2.15	3.11

Abbreviations: M, mean; YLP, Youth Leadership Program; SD, standard deviation.

Note. *df* (degrees of freedom) = 1, 212. Mean squared error = 39.26.

Total (N) = 212; 71 YLP (32%) and 143 non-YLP (67%). Dependent variables are self-efficacy and trauma symptoms. Independent variable is YLP group (YLP vs. non-YLP).

colors of the three high schools that were integrated into the same school after the hurricane.

Students reported that they felt that the program had long-term benefits, not for just themselves but also for their community. For example, students noted that the project, “made me a more willing person. I want to help others even more. I also know how to take control, be organized, and be a great leader now,” and “I have helped my community.” Another stated that participation in YLP, “has helped me meet new friends, post storm. It has given me a stronger sense of self and more confidence in a post Katrina society.” The school administration was encouraged about the growth in the students after the YLP program and worked to include the program as a regular extra-curricular program available to students attending the school.

DISCUSSION

Understanding how resilience and self-efficacy may operate in individuals, families, and groups after disasters can

contribute a great deal to supporting a full array of recovery efforts. Findings from this study indicated that students who participated in the YLP, compared with peers who did not participate, scored significantly higher on a measure of self-efficacy, which assessed the students’ beliefs that they are capable and able to accomplish their goals. In addition, gains in self-efficacy coincided with reduced trauma symptoms for both groups of students. Anecdotally, several students reported that they felt that they were stronger and more self-confident, and others stated that the program decreased their fears of public speaking and, thus, helped them academically. “Being in this group has made me feel so much better about myself. I have had the opportunity to help others and it makes me feel so good inside.” Another student noted that, “it [YLP] has helped me grow as a person, and I became a better person.”

The statistical findings suggest that self-efficacy and trauma symptoms are interrelated and that programs, such as the YLP, supporting improved self-efficacy and trauma

symptoms can theoretically lead to post-disaster resilience. This contribution is novel; most disaster response behavioral health interventions focus on traditional therapeutic treatment aimed at decreasing trauma symptoms, with less emphasis paid to supportive services that focus on protective factors, including self-efficacy. Findings from this study suggest that empowerment services aimed at rebuilding, community action, and self-efficacy should accompany the traditional disaster response interventions. As Masten and colleagues note,^{3,6} models for understanding disasters can include both a resilience perspective and one that acknowledges the important effect of traumatic exposure on outcomes for children and youth.

After disaster-related displacement, families and friends may be separated owing to circumstances of the evacuation including separations for reasons of safety, living in crowded shelters, and economic necessity. All of these factors can interfere with effective caregiving and gaining support from family, friends, and community. Supportive schools and teachers are a protective factor; however, with displacement, children will often be in new schools with different teachers. For example, after Hurricane Katrina, children who evacuated from areas heavily impacted by the storm attended an average of two schools with some children attending as many as nine schools in 1 year.^{4,5} All students in this study reported at least one school transfer and a previous study found that relocation significantly contributed to longer term trauma symptoms.²⁰ Loneliness, a primary concern of the school administration, was associated with higher trauma symptoms and hurricane experience. This finding suggests that programs such as the YLP, which supports social interaction, are an important contribution to community connectedness and consideration for disaster response programs.

These findings from the YLP highlight the importance of providing leadership opportunities to help students' individual growth and resilience through active contributions to the school and community after a disaster. Results have been shared with the school administrators and with students; outcomes from the student-level community projects have also been shared with the community. For example, students visited community leaders, parish (county) officials, and community sites to learn about their parish and see the progress being made; the students then decided to make a DVD to

thank people in their community and those outside who had helped to rebuild their parish. The video has been shown at a number of community events and national conferences, where many of the students from the original YLP have also presented on the program and results.

Limitations and Future Research

Although these results are promising as a disaster recovery initiative for youth, they are not without limitations. The lack of randomization warrants that other preexisting conditions may have caused improved self-efficacy, rather than the YLP. The dependent variable in the study assessed self-efficacy as a contributing factor in resilience; however, more studies are needed that measure additional components of resilience. Further, results cannot be generalized directly to other populations or disasters. However, the participatory action principle of YLP development allow differing communities to tailor the program to meet their identified needs. This approach is particularly important, because the workforce delivering services in the acute phases after disasters are often not familiar with the traditions and characteristics of the affected communities.^{6,19} Future research should use qualitative methodology to gain a deeper understanding of how these initiatives improved disaster recovery and seek ways to improve parental involvement. Collaboration with local community members, including youth, in developing interventions that address racial, cultural, and community values and traditions, as well as socioeconomic issues and disparities in care, is very much needed.

Community and University Partnerships

One of the reasons the YLP has been so successful is the dedication of the school community and school and university partnership. The amount of stability and support that can be provided relates to the availability of community, school, and social supports.^{37,38} Successful intervention strategies emphasize the importance of parallel and interactive individual, family and community recovery processes to support recovery experience. Families struggling with recovery may need assistance to recognize their personal strengths under conditions of adversity to address challenges. They may also be able to contribute to enhancing community resources. This bidirectional process of accepting assistance while also sharing

strengths is recognized as a crucial aspect for reestablishing competency and a sense of mastery. Accomplishing these tasks provides the basis for achieving individual, family, and community resilience. However, collaborations based on supportive services can be challenging after a disaster, with the first line of defense focusing on basic needs. It is important to recognize that school systems are often overwhelmed helping students and families to meet these basic needs. The YLP collaboration was fostered by existing pre-Katrina funds that allowed for traditional mental health services and additional grant-based funding to support the creation of the YLP supportive services.

Implications for Practice

The YLP program helped to encourage the leadership potential in young leaders and actively involved youth in rebuilding their community. Response and recovery expansion using a whole communities (systems interactions of child, family, school) approach is needed to ensure that communities are addressing the unique needs of children and families as highlighted in the National Commission on Children and Disasters Report (2010). This was evident in the YLP as the school, students, and university partnerships were imperative to its success. Connectivity to social groups, trust in the local government and the integrity of local leaders further empowered individual recovery that, in turn, further enhances community cohesion and recovery. It is important to underscore the building of community as well as individual resilience to improve well-being across multiple systems.^{39–42} The YLP demonstrated how disaster response interventions supporting resilience-based leadership and empowerment influenced students' perceived ability to achieve goals, which fostered post-disaster resilience for both individuals and communities.

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