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Shane McCarty

Kyle Pacque

Alyssa J. Gatto

Kaylynn Hill

Ruby Charak

The University of Texas Rio Grande Valley, ruby.charak@utrgv.edu

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Supplementary materials

The OSF project page, *Youth-Led Resilience Promotion & Disaster Recovery*, contains the YLRP framework (with recommendations and lessons learned), intervention materials related to the YLRP program implemented at Chardon HS for recovery from a school shooting, and detailed information regarding the youth-led strategies. The project page can be at: <https://osf.io/txcb6/>

**Youth-Led Resilience Promotion during Disaster Recovery:
A Proposed Framework, Innovative Program, and Lessons Learned**

Shane McCarty¹, Kyle Pacque¹, Alyssa J. Gatto², Kaylynn Hill¹, and Ruby Charak³.

¹Promote Care & Prevent Harm

²Department of Psychology, Virginia Tech


³Department of Psychology, University of Texas Rio Grande Valley


Author Note

Shane McCarty  <https://orcid.org/0000-0001-8930-7049>

Kyle Pacque  <https://orcid.org/0000-0001-5466-8661>

Alyssa J. Gatto  <https://orcid.org/0000-0003-2671-8232>

Kaylynn Hill  <https://orcid.org/0000-0003-1368-1311>

Ruby Charak  <https://orcid.org/0000-0002-5806-6884>

Open Practices: Program materials are posted on the OSF project page at osf.io/txcb6.

Conflict of Interest: McCarty, Pacque, and Hill have been employed part-time by Promote Care & Prevent Harm, which developed and implements the Youth-Led Resilience Promotion program in schools; As a result, we note a relational conflict of interest. *Funding:* The Kevin R. Lawall Fellowship and the Chardon Healing Fund (United Way Services of Geauga County) funded the implementation of the YLRP Program at Chardon High School.

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Correspondence: Shane McCarty, Executive Director and Research Scientist at *Promote Care & Prevent Harm*, can be reached at: shane@promotecarepreventharm.org.

Abstract

Objective: Disasters, such as a school shooting or a global pandemic, harm psychological health and necessitate recovery. To complement adult-led disaster recovery and trauma-specific approaches, we propose a Youth-Led Resilience Promotion (YLRP) framework focusing on: 1) multi-tiered change, 2) resilience goals, 3) a promotion mindset, 4) youth strengths, 5) prosocial behaviors, and 6) capacity building through partnerships. The YLRP framework guided the development of a YLRP program in the aftermath of the Chardon High School shooting in Chardon, Ohio, which is detailed in a case study. **Method:** As part of a Community-Academic Partnership, twenty college student trainers delivered a multi-tiered, multicomponent resilience promotion intervention: universal resilience promotion to 1,070 high school students; targeted resilience promotion to 200 student leaders through workshops; and indicated resilience promotion to 30 student leaders through mentoring. **Results:** Student leaders formed a youth-led, after-school club to advance relational resilience through prosocial strategies. Lessons learned from implementing the YLRP program for six years (2012 – 2017) are provided to guide YLRP program developers and program implementers. **Conclusion:** A youth-led program equipping youth leaders to engage in prosocial strategies may contribute to the psychological resilience and recovery of students after a school shooting, the COVID-19 pandemic, and other potentially traumatic events.

Keywords: resilience promotion, disaster recovery, youth leadership, school shooting, COVID-19

Clinical Impact Statement

Disaster recovery after a school shooting or global pandemic must address the psychological trauma and bereavement of students in schools. However, under-resourced schools and under-ratioed, school-based mental health professionals limit mental health care. Cognizant of these constraints, we propose a Youth-Led Resilience Promotion (YLRP) *framework and program*. The lessons learned from implementing the YLRP program after a school shooting may complement adult-led recovery and extend to psychological recovery after the COVID-19 pandemic or other potentially traumatic events.

**Youth-Led Resilience Promotion during Disaster Recovery:
A Proposed Framework, Innovative Program, and Lessons Learned**

Natural, technological hazards, and human-caused threats are potentially traumatic events (PTEs). The *National Response and Disaster Recovery Frameworks* guide disaster response and recovery after traumatic events (U.S. Department of Homeland Security, 2016; 2019). The recovery process begins in conjunction with the response phase and refers to activities taken to recover effectively from an incident. In schools, administrators develop emergency operations plans to address hazards and threats that vary in probability, magnitude, warning, duration, and risk priority (U.S. Department of Education, 2013; 2019).

A *human-caused disaster*, such as a school shooting, is statistically improbable, but the impact is severe and includes a lengthy psychological recovery process for students and staff (Borum, Cornell, Modzeleski, & Jimerson, 2010; Vona, Jaycox, Kataoka, Stein, & Wong, 2017). A *biological disaster*, such as the COVID-19 pandemic, is also a low-probability event with severe psychological impact on the global population (Xiong et al., 2020). Although the causes and duration of a school shooting differ from a pandemic, these PTEs are both low-probability, high-impact disasters requiring psychological recovery. Given scant research connecting the COVID-19 crisis to school-based disaster recovery, this article aims to: 1) propose a framework to guide youth leaders promoting psychological resilience during disaster recovery; 2) present a case study of an innovative youth-led resilience promotion program after a school shooting; and 3) provide lessons learned from implementing a youth-led program.

Disasters have a host of negative consequences in addition to cascading into psychopathology, such as Posttraumatic Stress Disorder (Bromet et al., 2017). Appropriate disaster management must include psychological recovery efforts because the mental health decline significantly impacts survivors (Norris, Friedman & Watson, 2002; Weiss, Saraceno, Saxena, & Van Ommeren, 2003). Additionally, a school shooting creates additional impacts on survivors by affecting learning and academic performance (Beland & Kim, 2016).

The mechanisms of stress response can be maladaptive or adaptive, leading to psychopathology or post-traumatic growth (Christopher, 2004; Vieselmeier, Holguin, & Mezulis, 2017). Following a disaster, individuals experience one of four prototypical trajectories: chronic, delayed, recovery, or resilience (Bonanno, 2004). Recovery and resilience trajectories are better for long-term psychological health. The recovery trajectory involves “observable elevations in psychological symptoms coupled with relatively poor functioning that endures for at least several months before gradually returning to baseline, pre-trauma levels” (Westphal & Bonanno, 2007, p. 421). Resilience is characterized by adaptive functioning after a traumatic event by adjusting to the stressor or aftermath of the traumatic situation, establishing stable psychological functioning despite the risk for psychological impairment (Weber et al., 2020).

School-based disaster recovery may benefit from existing trauma-informed approaches in schools directed at the school population (i.e., Tier 1: Universal) or students needing intensive support (i.e., Tier 2: Targeted, Tier 3: Indicated) (Chafouleas et al., 2016). Targeted and indicated trauma-specific interventions are administered by clinicians who address psychosocial outcomes effectively (Chafouleas et al., 2019). However, treatment is limited, because the focus is on psychosocial dysfunction for specific students rather than the mental well-being of the student population. To reach all students, students can develop their own universal and targeted strategies to promote resilience and reduce toxic stress within their school climate. Or as an individual, a student can provide social support to a peer, which is an effective method of promoting resilience against stress (Ozbay et al., 2007). In a study of students exposed to a school shooting, 54% identified “friends and fellow students” as the “most important help and was perceived as a healing element,” while only 25.8% of students mentioned crisis psychologists, psychiatrists, and other professionals (Turunen, Haravuori, Pihlajamäki, Marttunen, & Punamäki, 2014), suggesting bereavement support and trauma support can come from peers after a PTE. Early research on the COVID-19 pandemic shows that adolescents who reported exemplary social support were protected against declines in mental health 75% of the

time; though it was unclear whether support was provided by peers or adults (Qi, et al., 2020). However, only 24.6% reported high levels of social support, which highlights the need for adult-led support and youth-led support (Qi et al., 2020). Given the potential for youth to benefit their peers' mental health, trauma recovery and resilience are framed from a community mental health perspective (Maercker & Horn, 2013; Nelson, Kloos & Ornelas, 2014; Ungar, 2011).

Prosocial Leadership in Disaster Recovery

Prosocial leaders have emerged after PTEs as trauma-inspired or motivated by grief to create positive change for others (Williams & Allen, 2015). For example, parents have developed promotion and prevention programs for youth in schools as responses to shootings. After the shooting at Platte Canyon (CO) and Columbine High School, parents launched kindness programs within schools through the *I Love You Guys Foundation* and *Rachel's Challenge*. After the Sandy Hook Elementary School shooting, parents founded *Sandy Hook Promise*, which offers prevention programs to schools for youth to identify the warning signs and threats of violence before a tragedy occurs. Thirteen years after they survived the Columbine High School (CHS) shooting, a group of CHS survivors created the *Rebels Project* after the Aurora Movie Theater Shooting to connect mass trauma survivors. After the Virginia Tech shooting, college students developed school-based promotion and prevention programs at a VT research center while a survivor founded the Koshka Foundation for Safe Schools to train law enforcement and school staff on prevention and preparedness. However, none of the approaches are targeted toward psychological recovery for youth in schools.

Youth have been involved in disaster response and recovery contexts. In communities, youth disaster recovery opportunities are limited to a youth council, youth-led projects, or the FEMA Corps. In schools, youth involvement is recommended, but implementation is unclear. Two federal guides provide school professionals with a framework and process to prepare for a multi-hazard, multi-threat school-based response and recovery but fail to include the possibility of student involvement (U.S. Department of Education, 2013; 2019). Two FEMA Response and

Recovery training resources, *Managing the Psychological Aftermath of School Incidents* and *Planning for the Psychological Aftermath of School Tragedy*, recommend peer support from students and involvement from student leaders without specifying how students can help (FEMA, n.d.). After the Marjory Stoneman Douglas (MSD) Shooting, school district administrators, professionals, and students institutionalized a Day of Love and Service through service learning projects (Lam, 2021). However, these efforts were not necessarily part of a youth-led program for sustaining youth leadership for psychological recovery.

A youth-led program (YLP) is defined as a process by which young people “collectively engage in a planning process to create and implement a strategic plan that uses evidence-based strategies to create community-level change” (Collura et al., 2019, p. 49S). For example, students founded *March for Our Lives* as a *youth-led* response after the MSD HS shooting to develop a strategic plan for politicians to pass evidence-based policies for the *prevention* of gun violence across U.S. communities. To our knowledge, the field lacks a youth-led program to create school-level change from *resilience promotion* during disaster recovery. As a result, we proposed a framework based on youth-led concepts and resilience promotion.

A Proposed Framework for Youth-Led Resilience Promotion

Recovery is a mission area within the comprehensive national approach for “a secure and resilient nation” (U.S. Department of Homeland Security, 2019, p. 12) and safer schools (Devos, Nielsen, & Azar, 2018). The National Preparedness Goal of the U.S. government includes four mission areas that precede disaster recovery: prevention, protection, mitigation, and response. Yet missing from the national framework is a distinct mission area focused on *promotion*, which is useful prior to a disaster. Some mental health scholars view promotion as the most proactive domain for addressing mental health and the most central domain of the modified mental health intervention spectrum (Barry, Clarke, & Petersen, 2019; Math, Nirmala, Moirangthem, & Kumar, 2015). Promotion approaches have enhanced resilience (Harvey, 2007; Khanlou & Wray, 2014; Masten, 2011), psychological wellness (Cowen, 1994), psychological safety (Hobfoll,

Watson, & Bell, 2007), and mental health (Barry et al., 2019). Promotion and prevention are integrated to form a *promotion-prevention* approach within community psychology (DuBois, 2017), adolescent development (Catalano, Hawkins, Berglund, Pollard, & Arthur, 2002; Kia-Keating, Dowdy, Morgan, & Noam, 2011), schools (Wells, Barlow, & Stewart-Brown, 2003), and mental health (Barry et al., 2019). An integrated school-based, *promotion-recovery* approach could include adult-led disaster recovery and youth-led resilience promotion. Therefore, we adapted premises for ecological-resilience interventions and a resilience promotion framework (Harvey, 2007; Masten, 2011), forming a Youth-Led Resilience Promotion (YLRP) framework to promote resilience: 1) with a multi-tiered approach, 2) resilience goals, 3) a resilience promotion mindset, 4) strengths, 5) relational resilience through prosocial behaviors and 6) partnerships for capacity building.

1# Promote Resilience with a Multi-Tiered Approach

The three tiers of prevention (Bloom & Gullotta, 2003) inform a multi-tiered prevention system or multi-tiered system of support, which are characterized by the tier's goal and size of the target demographic. The goal of the multi-tiered *framework* is to support students by addressing their academic, behavioral, or social-emotional *deficits and risks* (Chafouleas et al., 2016; McIntosh & Goodman, 2016). Analogous to the multi-tiered universal, targeted, and indicated *prevention* strategies, the multi-tiered *promotion* framework could guide *promotion* strategies for further enhancing adaptive functioning (i.e., resilience promotion) for an individual through *indicated promotion*, a group through *targeted promotion*, or the school population through *universal promotion*. YLRP involves multi-tiered strategies by youth for addressing population resilience, group resilience, and individual resilience following a PTE.

#2 Promote Youth Resilience Goals

Promotion goals are focused on achieving a positive outcome (Scholer et al., 2019). Resilience promotion builds specific positive outcomes: resilience assets. During disaster recovery, resilience promotion builds resilience assets (e.g., social competencies, positive identity, positive values) and targets protective factors related to psychological trauma (e.g.,

social support, empowerment) (e.g., Sesma, Mannes, & Scales, 2013). Asset-based models guide the goals of resilience promotion, such as the “person states” model: personal control, optimism, self-esteem, belonging, and self-efficacy (Geller, 2001). YLRP involves youth setting their own promotion goals to build resilience assets and protective factors.

#3 Promote a Resilience Mindset

A promotion mindset may be especially critical after a traumatic event, because of the benefits of aspirational thinking. A promotion mindset is concerned with nurturance needs, strong ideals, and promotion goals (Higgins, 1997). Reactive approach-motivation to a threat (RAM theory) explains how approach motivation and a promotion mindset “powerfully and automatically inhibit anxiety” and relate to meaning-related constructs, such as hope, meaning presence, and meaning seeking (McGregor et al., 2012, p. 707). The rebuilding of meaning facilitates post-traumatic growth after a traumatic experience (Park, 2010). To facilitate meaning and inhibit anxiety, YLRP involves the development of a promotion mindset.

#4 Promote Youth Resilience Strengths

Post-disaster, adult-led deficit-based approaches target youth who are struggling even though a majority of students are on a resilience trajectory after a disaster (Galatzer-Levy, Huang, & Bonanno, 2018). In contrast to deficit approaches, trauma-informed youth empowerment programs build strengths, agency, and self-esteem (e.g., Bulanda & Johnson, 2016). Youth programs benefit more students when youth apply their strengths for peer social influence. Social referents, who are specific youth well-positioned within a peer social network, are effective in changing behavior and peer norms (Paluck, Shepherd, & Aronow, 2016). YLRP involves youth using strengths to influence their peers’ resilience assets and protective factors related to trauma recovery.

#5 Promote Relational Resilience through Prosocial Behaviors

Resilience is enhanced through social support, which reduces psychological distress and promotes physical health and well-being (Taylor, 2011). In a review of social support interventions, reciprocal support (giving and receiving support) is more beneficial than receiving support (Hogan, Linden, & Najarian, 2002). Reciprocal support -- a form of relational

resilience -- is achieved through helping, comforting, and other prosocial behaviors that benefit others (Jordan, 2004). After a traumatic event, people perform more altruistic prosocial behaviors (Staub & Vollhardt, 2008). In contrast to a self-help approach, YLRP involves a focus on prosocial behaviors, especially actions of reciprocal support to facilitate relational resilience.

#6 Promote Partnerships and Build Capacity to Sustain Resilience

Capacity can be cultivated from internal and external stakeholders, including higher education institutions through a Community-Academic Partnership (CAP). A CAP can improve processes and outcomes (Drahota et al., 2016); it has been used to support youth programs after traumatic events (Harden et al., 2015; Osofsky, Osofsky, Hansel, Lawrason, & Speier, 2018). A YLRP approach should benefit from a CAP and related partnerships to initiate and maintain programming. YLRP involves promotion-focused youth leaders setting resilience goals and using their strengths to develop youth-led prosocial strategies that benefit their peers' resilience.

A Case Study: Youth-Led Resilience Promotion Program after a School Shooting

After the shooting at Virginia Tech (VT) on April 16, 2007, student leaders started a prosocial movement within schools (McCarty, 2013). After the Chardon High School (CHS) shooting on February 27, 2012, a Community-Academic Partnership formed between Chardon Local Schools and the VT Center for Applied Behavior Systems to complement CHS mental health services with a YLRP approach (Teie, McCarty, & Cea, 2013). From May 2012 to December 2015, a VT doctoral student and 20 research assistants served as trainers to provide assemblies, workshops, and mentoring at CHS. Intervention materials are provided on the project page at osf.io/txcb6. They followed semi-structured discussion scripts and activity guides when delivering multi-tiered interventions. The three tiers of *prevention* were adapted for *promotion*: school-wide assemblies (*Tier 1: Universal Promotion*), workshops for student leaders (*Tier 2: Targeted Promotion*) and mentoring for leaders (*Tier 3: Indicated Promotion*).

Universal Promotion

The initial universal prosocial behavior promotion strategy consisted of an assembly and kindness wristbands. To reach the entire student body of 1,075 students and staff, VT trainers

delivered an assembly about the prosocial movement formed after the VT shooting and introduced “actively caring” wristbands as a strategy for recognizing peers’ prosocial behaviors. VT trainers provided two “actively caring” wristbands to each of the 120 CHS students who participated in a workshop after the assembly; they passed wristbands on to CHS students and staff when they observed someone displaying kindness and compassion, who then passed them on to create a chain reaction of positivity and care. Research shows social referents who recognize “friendly or conflict-mitigating behavior” with wristbands can influence peers and norms (Paluck et al., 2016, p. 568). In 2014 and 2016, two more kindness-related assemblies were provided by VT trainers and CHS students.

Targeted Promotion

A six-hour resilience workshop was facilitated by VT trainers to 120 CHS students for targeted promotion. The workshop focused on community resilience goals and how to develop prosocial strategies. VT trainers asked students to brainstorm an ideal community: “What do you see? What do you feel? What do you hear?” CHS students responded with their aspirations, which became their community resilience goals. Then VT trainers introduced the “person states” model because each person state -- personal control, optimism, self-esteem, belonging, and self-efficacy -- is a malleable person factor correlated with prosocial behavior and resilience. Trainers defined each state and then asked three questions: “What do people do that detracts from your feeling of (person state)? What do people do that enhances your feeling of (person state)? What are strategies for enhancing these person states for every member of your community?” CHS students provided a range of prosocial strategies to boost resilience.

Youth-Led Group

After the workshop, approximately 80 CHS students began to meet regularly. Three months later, students formed an after-school group with a three-committee structure to

develop and implement YLRP strategies. The *Internal Committee* focused on students and staff within the school, the *External Committee* focused on strategies to benefit the community, and the *Middle School Committee* members delivered lessons on character strengths and prosocial behaviors to students at Chardon Middle School. Students used the multi-tiered framework of universal, targeted, and indicated resilience promotion strategies. To guide the youth-led group, VT trainers provided club members with additional training on team-based prosocial problem solving and feedback delivery. Select student leaders received leadership training and shared best practices at Retreats and Cross-School Learning Summits. Each committee received customized training to better achieve their respective goals.

Youth-Led Universal and Targeted Strategies

Students developed and implemented Anniversary and Remembrance events, Kindness Campaigns, and Twitter Shout-Outs. The most notable strategy, the 27 Acts of Kindness Campaign, was launched for students and staff to engage in 27 prosocial actions throughout the month of February 2013: 26 acts for each victim of the Sandy Hook Elementary School shooting and a 27th act for the February 27th anniversary of the CHS shooting. Students developed targeted promotion strategies to benefit specific groups internal and external to the school. The *Internal Committee* identified space and held meetings for students seeking peer support. As a form of reciprocal support, students hosted Gratitude Luncheons to recognize educators for helping during the crisis. The *External Committee* organized a Valentine's Day Dance for an assisted-living community and similar prosocial activities.

Indicated Promotion

The CAP between Chardon Local Schools and VT Center provided an opportunity for indicated promotion through cross-age peer mentoring, whereby the most engaged CHS student leaders were mentored to enhance their leadership capacity. Stakeholders from the VT Center

provided administrators with prosocial leader characteristics (e.g., high engagement in past training, commitment to school-change initiatives, history of positive influence on the student body or peers) to identify the ideal prosocial leaders for indicated promotion strategies. Cross-age peer mentoring is a specific form of helping that occurs through a sustained relationship between a mentee and an older peer of at least two years of difference in age, which benefits mental health and developmental assets (DuBois & Karcher, 2014). VT trainers offered advice and support as mentors for 30 CHS student leaders during on-site visits (e.g., workshops, retreats), informal relationship-building events (e.g., recreational events, luncheons), formal communication (e.g., planning for visits), and informal communication (e.g., relational support calls). Advice from VT trainers covered interpersonal and leadership topics, such as conflict problem solving, team dynamics, prosocial strategies, and peer support ideas.

Evaluation

Given the urgent need to respond, the YLRP program was developed quickly by McCarty and Pacque using the YLRP principles and input from community stakeholders and VT trainers. A formal evaluation did not occur. Nonetheless, a retrospective analysis using the RE-AIM framework (Glasgow, Vogt, & Boles, 1999) was conducted of the YLRP program: VT trainers ($n = 20$) reached approximately 200 CHS student leaders with 20 intervention components during the five-year recovery process: three assemblies, 10 workshops, three leadership retreats, two cross-school summits, one on-site mentoring session, and one on-site feedback session. CHS student leader Kaylynn Hill was a notable student leader who contributed to the development and implementation of the 19 youth-led strategies from 2012 to 2014. The YLRP program was adopted by school administrators, who institutionalized the YLRP program within the after-school club and a leadership course. As a result, youth-led strategies lasted within the school environment for six years. Without a formal evaluation, the demographics of program participants and program efficacy were unknown. However, the Ohio Department of Education

(n.d.) provides 2011-2012 school enrollment data on demographics for the 1,075 ninth to twelfth grade CHS students: 97% of students are Caucasian; and 15% of students are economically disadvantaged. Generalizability is limited due to demographics and the rural context of CHS.

Lessons Learned from YLRP Implementation

In our post-hoc analysis, we organized lessons learned from implementation using the proposed YLRP framework to retroactively exemplify program successes and shortcomings to aid in the development of other youth-led resilience promotion programs and implementation considerations for adult stakeholders (e.g., school administrators, mental health providers).

1# Promote Resilience with a Multi-Tiered Approach

The multi-tiered framework was extended from the delivery of trauma-informed intervention to a multi-tiered resilience promotion framework to categorize our multicomponent program and youth-led strategies (Chafouleas et al., 2016). Universal, targeted and indicated promotion approaches were implemented by YLRP developers to increase program reach and provide adequate support for different groups and individuals. Assemblies were implemented 3 months, 2 years, and 4 years after the shooting for universal resilience promotion to reach all students affected by the PTE, including Chardon High School (CHS) survivors and students who were attending Chardon Middle School (CMS) on the date of the shooting because CHS and CMS were both evacuated (given the two school buildings share a campus and are approximately 1,600 feet apart). Targeted resilience promotion was geared toward student leaders who then helped others through internal, external, and middle school committees. An indicated promotion approach engaged youth leaders skills by providing *more* intensive support, such as mentoring, to the student leaders who are *most* engaged and *interested* in furthering their prosocial leadership skills. *Lesson 1: College students and high school students can use a multi-tiered framework to help others with universal, targeted and indicated promotion strategies. Adult allies and administrators should consider which students are able, interested and motivated to lead resilience promotion to complement adult-led, multi-tiered prevention and recovery efforts.*

#2 Promote Youth Resilience Goals

Students served on a middle school, internal, or external committee focused on resilience goals for each of the three primary beneficiaries: middle school students, the high school population (including students, educators, staff), and individuals external to the school (community members). Student leaders were taught to identify the needs of their respective sub-groups (e.g., middle school students, educators), identify resilience promotion goals, and respond with a prosocial strategy. For example, students noticed the need to appreciate teachers for protecting students and saving lives as first responders during the crisis, so they held an appreciation luncheon. While the students were able to build awareness and investment from the community because of their wide-reaching initiatives, the impact on school-based population recovery may have been limited. As a result, resilience goals could be narrowed to focus on the school population to enhance the quality of youth-led strategies directed toward peers at school. *Lesson 2: Students developed numerous resilience initiatives to help others, but they were not guided by a theory of change. YLRP programs should build from the existing literature on youth-led programs (e.g., Collura, Raffle, Collins, & Kennedy, 2019), especially on theory of change development to guide youth promotion strategies toward promotion goals.*

#3 Promote Youth's Resilience Mindset

We attempted to facilitate a resilience mindset by sharing stories about the resilience of the VT community after the campus shooting, stories of informal support from passing wristbands to recognize kindness, and stories about how the prosocial movement spread to other schools and college campuses. In addition to stories, workshops were designed for students to generate their own aspirational vision and their strategies to grow their peers and school. However, students were not taught how to develop a growth mindset, which could be considered as an element of future YLRP programs. A review of research indicates growth mindsets influence resilience, academic performance, and reactive aggression; all of which may be affected by the stress associated with recovery. Also, a brief growth mindset intervention

benefits mental health, reducing depressive symptoms for adolescents (Miu & Yeager, 2014; Yeager & Dweck, 2012). Miu and Yeager (2014) state: “When we emphasize people’s potential to change, we prepare our students to face life’s challenges resiliently” (p. 312). *Lesson 3: Students shared stories of resilience and heard about the growing prosocial movement to spread kindness, but the YLRP program did not focus on teaching a growth mindset, which is a potential direction for building resilience.*

#4 Promote Youth Resilience Strengths

Administrators recognized the potential for student contribution during recovery, but not all students were able to participate in intensive workshops (*targeted promotion*) and youth-led change efforts. We heard from students and adult allies that broader reach for school-wide change would require social referents, who were often involved in after-school sports, which competed with the after-school club meeting. As a result, administrators supported “in-school field trips” for half or full-day workshop sessions *during* the school day. The following statement by CHS Principal Andy Fetchik reflects his commitment to youth-led change: “It has been a big part of our recovery.... Our students identified positive qualities in our community. Their goal is to support and develop those qualities, tomorrow, next year, and in years to come” (Caniglia, 2013). *Lesson 4: More students, especially social referents, were able to contribute when administrators and educators created a better structure for student workshops -- as “in-school” field trips -- to train the influential, social referents who could use their strengths to influence their peers.*

#5 Promote Relational Resilience through Prosocial Behaviors

Within the first year of initiating the youth-led club, the lack of organizational structure led to a decline in participation. To address retention, VT trainers recommended the formation of a leadership council within the group to make decisions related to the club and youth-led strategies. Conflict arose when various cliques within the council and club members resulted in

perceived incompatibility in strategies and goals, ultimately resulting in an exodus of 30 members. To resolve the conflict, VT trainers encouraged student leaders to disband the council and form three committees. Perhaps due to the VT trainers being external to the school and club environment, the suggestion likely came too late and many high-status council members exited the group, resulting in 15 fewer members. To address the conflict and resulting attrition, we provided team-focused workshops to strengthen team cohesion. Adult allies could take a more proactive approach to enhance the three drivers of youth participation – group structure, group climate, and adult involvement – before implementing the YLRP program (Collura et al., 2019).

Lesson 5: Resilience efforts were almost exclusively directed outward to benefit others, but more effort should be placed on internal team building to prioritize relational resilience among team members.

#6 Promote Partnerships for Capacity to Sustain Resilience

A school social worker and teacher served as adult allies, working as a complementary pair to support CHS club members. The school social worker had the pulse of the student body, given her direct contact with students in need of counseling and her presence within administrator-led recovery meetings, which informed her thinking when guiding student YLRP strategies. Schonfeld and Demaria (2018) affirm school-based mental health professionals as effective social support providers for grieving students. They can support grieving students individually, which may be critical during the COVID-19 crisis, and support student leaders implementing universal YLRP strategies. *Lesson 6: Two adult allies -- a social worker and teacher -- were instrumental in identifying student needs, inviting students to join the group, institutionalizing a leadership course, and planning with the academic partner. YLRP program implementation will likely benefit from a school-based mental health professional guiding the youth-led club focused on psychological resilience and social support.*

Discussion

This article advances the academic literature and school-based practice by extending research on youth-led programs to address disaster recovery through resilience promotion. The primary aims of this article were to: 1) organize literature on resilience promotion and youth leadership into six principles for youth-led resilience promotion, 2) detail the program elements of a youth-led resilience promotion program for universal, targeted and indicated change through a case study, and 3) provide lessons learned from implementation for future program developers and implementers.

Prior to the COVID-19 pandemic, Gen Z youth were experiencing more stress than other generations (American Psychological Association, 2018). The APA survey indicates 72% of Gen Z youth perceive the possibility of a school shooting as a significant source of stress. Projected increases in global health threats, from pandemics (World Health Organization, n.d.) to flood hazards in coastal counties (Marsooli, Lin, Emanuel, & Feng, 2019), only exacerbate the current mental health crisis because disasters are potentially traumatic events. Given the prevalence of stress reported by youth, the COVID-19 pandemic recovery, and the prevalence of disasters affecting psychological health, a framework and universal promotion program could be refined and expanded to complement existing adult-led, multi-hazard, multi-threat interventions (e.g., U.S. Department of Education, 2013; 2019). For example, the framework and program could apply beyond school settings to build resilience capacity proactively through a Youth Resilience Corps (Acosta et al., 2016) and inform the FEMA Corps for an integrated resilience promotion and disaster recovery approach. Future research could evaluate the YLRP framework by identifying the number of principles applied as program components within YLRP programs and determining their relative impact on youth resilience and related outcomes.

This program, as in the case of many unexpected disasters, was quickly developed in response to the needs of the community; as such, there are inherent limitations with the program. In hindsight, the YLRP program described in the case study excluded essential

program elements and considerations, which could strengthen the existing and future YLRP programs. The YLRP program focused on prosocial strategies to benefit *peers* rather than strategies for the *self* (to improve one's own resilience) through psychoeducation. YLRP programs could infuse elements from other leadership programs that teach youth about *resilience* after a disaster (Osofsky et al., 2018) and *trauma* related to community violence (Harden et al., 2015). Providing psychoeducation and engaging adolescents to use their strengths may appear on the surface to be in opposition, but a problem-based learning (PBL) method may facilitate motivation to learn and develop a wide range of skills (Wilder, 2015). Additionally, the program focused on resilience promotion in the context of *trauma* without adequate attention to *bereavement*. As mentioned previously, the YLRP program should adjust program elements to facilitate a growth mindset, which has been linked to resilience (Yeager & Dweck, 2012). Both school-based mental health professionals (Schonfeld & Demaria, 2018) and peer support can benefit grieving students (Coalition to Support Grieving Students, 2021). Future program refinements could include a focus on the self and others, a PBL method to motivate students, and peer support for trauma and bereavement.

The current YLRP program was not evaluated beyond a retrospective analysis of outputs. A rigorous summative program evaluation should be conducted to determine the efficacy of the program along with a formative evaluation to understand the implementation science challenges associated with school-based mental health programs (Forman, 2015). The program should be tested in communities beyond a rural community in Northeast Ohio. Also, the program may benefit psychological recovery beyond school shootings. As a result, the program could be applied and evaluated after the COVID-19 crisis and to recover from other hazards and threats.

The availability of social workers, psychologists, and counselors in schools is limited; in fact, school-based mental health providers are below recommended ratios in most U.S. states (Mann et al., 2019). As such, the YLRP program provides an opportunity for student leaders to support the largest population within a school – students – by providing dyadic help for

individual students and school-wide campaigns for the school population. Our YLRP program provides another example of how Community Psychology moves beyond the amelioration of mental health challenges (through adult-led trauma recovery) to include youth in transformative change (through youth-led resilience promotion) by: 1) centering values of care and compassion, 2) considering the social context, 3) empowering students and their peers, 4) providing informal social support, 5) including collaborative partners, and 6) emphasizing strengths (Nelson, Kloos, & Ornelas, 2014). In summary, we can develop more aspirational, promotion-focused, strengths-based, and relationally-resilient students, schools, and communities with youth-led resilience promotion.

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