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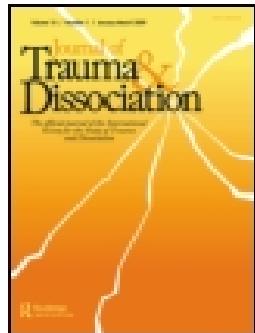
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## Poly-victimization, Trauma, and Resilience: Exploring Strengths That Promote Thriving After Adversity

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### ABSTRACT

Although it is well known that victimization is associated with higher trauma symptoms, there is still limited information on the protective factors that can help people thrive after adversity. Using the Resilience Portfolio Model as a framework, this study explores a range of psychological and social strengths in a community sample of youth from the southern U.S.

A sample of 440 youth aged 10 to 21 (average age 16.38, SD = 3.04) was recruited from youth-serving organizations. They completed a survey on trauma symptoms, victimization, other adversities, and 16 psychological and social strengths.

Almost 9 in 10 (89.3%) youth reported one or more victimizations, with peer victimizations most common. Adult-perpetrated offenses were reported by almost half of youth (47.1%). Although several psychological and social strengths were inversely correlated with trauma symptoms at the bivariate level, hierarchical regressions indicated that a sense of purpose was the only strength that uniquely contributed to more resilient mental health in a model with all strengths and controlling for victimization, other adversities, poverty, age, and gender (total  $R^2 = .33$ ). The variance explained by strengths (17%) was similar to the variance explained by adversities (15%).

In this highly victimized sample of youth, many strengths were associated with lower trauma symptoms for youth, with a sense of purpose showing the most promise. Prevention and intervention programs may benefit from efforts to increase a sense of purpose or other meaning making activities, in addition to efforts that specifically target incidents of trauma.

### ARTICLE HISTORY

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### KEYWORDS

Trauma; poly-victimization; resilience; sense of purpose; adolescence

The association between a history of victimization and later trauma symptoms is one of the best-established findings in research on violence and trauma. This link has been established for many types of victimization (e.g., Aspelmeier, Elliott, & Smith, 2007; Elklit, 2002; Flannery, Wester, & Singer, 2004; Spilsbury et al., 2007). More recently, it has been discovered that the cumulative burden of

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victimization and other adversities, more than any one type, is most closely associated with current levels of trauma. This has been established in multiple avenues of research, including research on poly-victimization (Finkelhor, Shattuck, Turner, Ormrod, & Hamby, 2011) and adverse childhood experiences (Brockie, Dana-Sacco, Wallen, Wilcox, & Campbell, 2015). The best predictors of trauma symptoms take a comprehensive approach to victimization and include victimizations by caregivers, adults, and peers, as well as direct and indirect exposures (Finkelhor, Shattuck, Turner, & Hamby, 2013). This research has also been extended to numerous countries around the world (Aho, Gren-Landell, & Svedin, 2016; Chan, 2013; Cyr et al., 2013; Pereda, Guilera, & Abad, 2014; Radford, Corral, Bradley, & Fisher, 2013; Soler, Paretilla, Kirchner, & Forns, 2012). However, research on factors that can ameliorate trauma symptoms has not kept pace with research on rates and consequences of adversity. The range of potential protective factors that have been studied is still relatively small and most research on resilience and protective factors has not yet incorporated the insights from research on poly-victimization. Further, most work on this topic has been relatively atheoretical. Using the Resilience Portfolio Model (Grych, Hamby, & Banyard, 2015; Hamby et al., 2018) as a framework, this study explores psychological and social strengths in three domains, self-regulation, meaning-making, and interpersonal strengths, for their potential in alleviating trauma symptoms after victimization and other adversities.

Victimization (intentionally causing unwanted and unnecessary harm) and other adverse childhood experiences, such as family dysfunction and severe life challenges that are not intentionally caused (such as illness or natural disasters), are extremely common phenomena, even among youth. Prior estimates range from 64% to 98% in several countries (Aho et al., 2016; Chan, 2013; Cyr et al., 2013; Felitti et al., 1998; Gonzalez-Mendez, Ramírez-Santana, & Hamby, 2018; Hamby, Grych, & Banyard, 2018; Pereda et al., 2014; Soler et al., 2012). The long-term mental health effects of adversity are remarkable in their strength and duration, with evidence of increased trauma symptoms often lasting years after exposure (Shonkoff et al., 2012). We now understand that most health impacts of adversities are due to the total cumulative burden, versus the impact of any one incident (Felitti et al., 1998; Finkelhor et al., 2011; Gilbert et al., 2015; Shonkoff et al., 2012). Notably, even forms of youth victimization that have historically been considered the most extreme, such as caregiver maltreatment and sexual victimization, predict current mental or physical health status less well than the total “dose,” or number of victimizations (Hamby & Grych, 2013).

### ***Resilience after trauma***

Despite the well-documented harms of childhood adversities, researchers have also recognized that some people are resilient despite high burdens of adversity (Luthar, Cicchetti, & Becker, 2000). Even people who have been

through the most extreme adversities often find paths to well-being, and some of the most high-achieving members of society have substantial trauma histories (Hamby et al., 2018). Resilience is a process that makes it possible for people to use their assets and resources to overcome diverse social, economic, and environmental challenges. Despite decades of intervention and prevention programs for violence and other adversities, scientists have only recently turned to exploring thriving after adversity. What factors – individual, familial, and social – most help people achieve resilience? Recent work indicates that supporting a strong “portfolio” of strengths is important for promoting well-being (Hamby et al., 2018). The Resilience Portfolio Model focuses on understanding how different strengths, especially related to self-regulation, meaning making, and the interpersonal context, contribute to well-being after adversity.

There is a consensus that we need to identify protective factors associated with resilience (Bonanno, 2004; Goodman, Disabato, & Kashdan, 2018; Luthar et al., 2000), but less consensus about which factors are most important. The resilience portfolio approach addresses several key limitations of prior work, including the small number of strengths examined in many prior studies. That approach has limited potential for identifying which strengths are most important to thriving after adversity (Hamby et al., 2018). Most providers have limited time and resources, and they need to know the most important strengths to target, not the full list of possible strengths. The Resilience Portfolio framework also prioritizes measurement of malleable factors rather than static demographic characteristics. Only malleable factors can be the targets of prevention and intervention programs. The model also focuses on characteristics that represent true strengths. Many so-called protective factors are just the inverse of well-studied risk factors, such as calling a variable school retention instead of school dropout. This too, limits the potential for informing practice.

Prior work with the Resilience Portfolio Model in an older sample (average age 30 years) and in Spanish adolescents aged 14 to 18 has suggested that meaning making strengths, which are ways that individuals seek fulfillment by connecting to something larger than themselves, are particularly important for resilient mental health outcomes (Gonzalez-Mendez et al., 2018; Hamby et al., 2018). Other researchers have also found that meaning making is connected to well-being (e.g., McLean & Pasupathi, 2009). Compared to self-regulation, which includes various aspects of self-control, and interpersonal strengths, such as relational skills, meaning making strengths have received the least consideration in work on resilience after trauma. However, there has been theoretical work on the role of meaning making in related topics such as post-traumatic growth, which also emphasizes the role of cognitive and affective processing of prior trauma via “reflective pondering” as a pathway to meaning and thus healing (Joseph, Murphy, &

Regel, 2012). There has been some discussion of the relationship between the amount of trauma and the capacity for post-traumatic growth (Joseph et al., 2012; Sales, Merrill, & Fivush, 2013), with some authors questioning whether processing for meaning is always advantageous. The poly-victimization approach of measuring cumulative trauma has the potential to provide some fresh insights in this area.

This study will extend this prior work to a wider age range (10 to 21 years) of U.S. youth. Prior work on resilience has also rarely compared these kinds of individual strengths with strengths based in other aspects of the social ecology. In particular, although factors such as school climate, teacher engagement, and connections to groups such as sports teams or community youth groups have long been identified as important in the broader literature on educational environments, these social resources have only recently been incorporated into work on resilience after trauma and have seldom been studied in the context of other strengths. The model also suggests that not only are individual strengths important, but also the total number of different strengths that someone has, a concept we refer to as *poly-strengths* (Hamby et al., 2018).

### ***Current study***

The current study examines poly-victimization, trauma symptoms, and a range of psychological and social strengths in a sample with a high proportion of youth from low-income communities in the southern U.S. Using the Resilience Portfolio Model as a framework, we employ an expanded set of 16 psychological and social strengths to both explore potentially important new protective factors and explore which are most related to low trauma symptoms among youth, after controlling for victimization, other adversities, and demographics. The set of strengths is developed from mixed methods work, incorporating findings from focus groups and interviews to help identify protective factors that might be missing from prior research, with a particular focus on expanding indicators of the social ecology beyond the individual level and on measures of meaning making (Hamby, Taylor, Smith, & Blount, 2018; Hamby et al., 2019). We anticipate, based on prior research in this and other regions, that rates of victimization will be high, that poly-victimization will correlate positively with trauma symptoms, and that individual strengths will be inversely correlated at the bivariate level with trauma symptoms. Given past work, we anticipate that a sense of purpose will emerge as a significant predictor in multivariate analyses. We will also explore whether other strengths, including several understudied aspects of the social ecology, have unique associations with resilient mental health.

## Method

### **Participants**

Participants were 440 youth from four states in the southern United States (AL, GA, MS, TN). The sample included youth from 10 to 21 years of age ( $M = 16.38$ ,  $SD = 3.04$ ), and was 61.1% female. The sample identified as 69.9% White or European American (non-Latino), 17.1% Black or African American (non-Latino), 5.6% multiracial, 3.9% Latino, 1.9% American Indian or Alaska Native (non-Latino), and 1.6% Asian (non-Latino). More than half of the sample (61%) lived in a rural area (27.4%) or small town (33.6%), with populations under 20,000. Other participants reported living in larger towns (10.5% in towns 20,000–100,000), smaller cities (18.2% in cities up to 300,000 people), and large cities or suburbs (9.9% in metro areas over 300,000 people).

### **Procedure**

Participants were recruited through youth-serving organizations in 2017 and 2018. The survey was administered as a computer-assisted self-interview, using SNAP11 software on computer tablets. On average, the survey took approximately 22 minutes to complete. Organizations received a stipend of \$20 per participant. Informed consent, including parental consent for minors, was obtained for all participants. All procedures were IRB approved. The overall completion rate was 92%, which is an excellent result by current survey standards, with some survey completion rates often under 70% (Abt SRBI, 2012; Galesic & Bosnjak, 2009).

## **Measures**

### ***Development and validation of measures***

Given that our sample included significant numbers of young adolescents, it was essential that the reading level be appropriate for all participants. Brevity was also a priority. As noted in the Introduction, a key goal of the study was expanding the number of protective factors assessed and developing measures for constructs that might be most relevant for youth resilience. Toward this end, to enhance existing measures and provide strong content validity, additional measures were developed through a 3-stage mixed methods process, with common and salient strengths first identified in focus groups, then vetted in cognitive interviews, and then refined and incorporated into the survey (Hamby, Taylor, Smith, et al., 2018). The 8 focus groups consisted of asking participants to “identify strengths and the help they get from family, friends, neighbors, and communities when they are coping with problems.” Participants were instructed to reflect upon their experiences with coping

with challenges and asked what they thought were the most helpful when dealing with problems. Using grounded theory analysis (Corbin & Strauss, 1990; Walker & Myrick, 2006), the focus groups allowed us to identify several factors that had not received much prior study and to find out how community members define key constructs. To further establish content validity, cognitive interview participants (24 total participants) received a similar prompt and were asked to review draft questionnaire items resulting from the focus groups. Factor analysis in the main survey sample was used to further clarify constructs. Validity was established with moderate correlations with related constructs and was consistent with previous work on poly-victimization and resilience portfolio measures (Hamby et al., 2018; also see Table 2). The Flesch-Kincaid reading level of the final survey was 5.3.

Unless specified, response categories were on a 4-point Likert scale with 1 denoting “Not true about me” and 4 denoting “Mostly true about me.” Standardizing response categories across items reduces respondent burden, shortens survey time, minimizes method variance, and is common for large scale community surveys (Turner, Shattuck, Hamby, & Finkelhor, 2013). Missing data were imputed based on responses to other items on same scale. For all variables, higher scores represent higher levels of strengths, psychological functioning, and adversity. Further details on each measure are below. Full items for all scales can be obtained at <https://www.lifepathsresearch.org/strengths-measures/>.

**Adversities** included three broad domains – interpersonal victimization, other adverse life events, and poverty. *Poly-victimization* was assessed with the Juvenile Victimization Questionnaire (JVQ) – Key Domains Short Form, which includes 10 items assessing lifetime history of a range of interpersonal victimizations adapted from the full JVQ (Finkelhor, Turner, Ormrod, & Hamby, 2009; Hamby et al., 2018). A sample item is “During your childhood, did one of your parents threaten to hurt another parent and it seemed they might really get hurt?” Following the standard approach in poly-victimization research, dichotomous items (“yes” or “no”) were summed to create a poly-victimization index. Alpha is .73 in this sample. *Adverse Life Events*. A 6-item scale, adapted from prior work (Turner et al., 2013) to better focus on youth, that measures several major life challenges that are not intentional victimizations. Responses were dichotomous, and “yes” answers were summed to create a total score. A sample item is “At any time in your life, has a family member or close friend died?” Because endorsing one event does not necessarily imply experiencing another event, no internal consistency is reported. *Poverty*. Because youth are unlikely to have detailed information on family income, we used two proxies for low income. One indicator was individual self-report of “Did you ever get free or reduced lunches at school?” Over half (51.3%) of the sample reported receiving free or reduced lunches at school. The second indicator was county income (obtained from the U.S. Census Bureau, <https://www.census.gov/data/datasets/2016/demo/saipe/2016-state-and-county.html>). Average median household income for participants’ county of

residence was \$48,233.73 ( $SD = 11900.49$ ) in 2016 (most recent information at time of data collection). This is 18% lower than the \$59,039 average for the U.S. More than 8 out of 10 youth (83.3%) came from counties with median household incomes below the national average.

**Regulatory strengths** assess different aspects of self-control, especially when confronting challenges. These scales were developed or adapted via the mixed-methods process described above (Hamby, Taylor, Smith, & Blount, 2018). The *Psychological Endurance Scale* is a simplified, 5-item version of a measure (Hamby et al., 2018) to assess one's ability to persevere despite challenges (internal consistency assessed by coefficient  $\alpha = .69$ ). A sample item is "When hard times come around, I face them head-on." *Recovering Positive Affect* is 6 items ( $\alpha = .81$ ) that assess the ability to return to a good mood after distress. A sample item is "I can cheer myself up after a bad day." *Self-reliance* measures the ability to cope by using one's own resources (3 items,  $\alpha = .81$ ). A sample item is "I like to solve problems on my own." *Impulse Control* assesses behavioral self-regulation (5 items,  $\alpha = .63$ ). A sample item is "I stop to think before I act."

**Meaning making strengths** assess ways that individuals seek fulfillment, often by connecting to something larger than themselves (Hamby et al., 2018). *Purpose* (6 items;  $\alpha = .88$ ) involves feeling like one has a sense of meaning in life and a reason for living. Adapted for youth from a previous version (Hamby et al., 2018). A sample item is: "My values give my life meaning." *Mattering* (5 items;  $\alpha = .86$ ) measures the extent to which participants felt appreciated and valued by others. Sample item: "I feel appreciated by my family and friends." *Future Orientation* (6 items;  $\alpha = .79$ ) measures the desire for self-improvement. Sample item: "The choices I make today are important for my future." *Relational Motivation* (3 items;  $\alpha = .70$ ) refers to feeling inspired by important people in one's life. Sample item: "I want the people in my life to be proud of me." *Religious Meaning-making* (6 items;  $\alpha = .94$ ) assesses individuals' engagement in faith and religious/spiritual practices and was adapted for youth from a previous version (Hamby et al., 2018). Sample item: "When dealing with a problem, I ask others to pray for me."

**Interpersonal strengths** include participants' relational skills and measures of support from the broader social environment. *Community Support* (Roberts, Hamby, Banyard, & Grych, 2015) is six items that assess the degree to which one's neighbors get along and help one another ( $\alpha = .80$ ). A sample item is "People in my neighborhood offer help to one another." *Compassion* (Hamby et al., 2018) measures how people engage with others in a caring and helpful way (4 items,  $\alpha = .80$ ). A sample item is "When others feel sad, I try to comfort them."

The remaining scales were developed via the mixed-methods process described above and were designed to capture additional aspects of youths' social ecology (Hamby, Taylor, Smith, & Blount, 2018; Hamby et al., 2019).

*Group Connectedness* (6 items,  $\alpha = .80$ ) assesses feelings of closeness and support from peer groups. A sample item is “I have belonged to a group or team with people who stand up for me.” *School Climate* (6 items,  $\alpha = .78$ ) measures characteristics of healthy school environments, such as “My school building is in good condition.” *Social Support Received* (6 items,  $\alpha = .80$ ) assesses help or encouragement provided in times of distress. A sample item is “Someone was there for me when I was having a hard time.” *Social Support Seeking* (6 items,  $\alpha = .89$ ) assesses youth’s efforts to attain help. A sample item is “I talk to someone to help me solve problems.” *Teacher Engagement* (5 items,  $\alpha = .86$ ) assesses youths’ experiences with enthusiastic, caring teachers. A sample item is “I had a teacher who wanted me to do well in school.”

Following prior work (Hamby et al., 2018), we defined “*poly-strengths*” as the total number of strengths each youth reported at above average levels ( $> .5$  SD). Thus, poly-strengths is an indicator of the diversity of a person’s portfolio of strengths. In this sample, the range was from 0 to 16 (total number of protective factors we surveyed), with a mean of 6.85 (SD 4.13).

**Trauma Symptoms** (8 items,  $\alpha = .91$ ) assessed a range of feelings of dysphoria, anxiety, or guilt that are common with posttraumatic stress disorder and other anxiety and mood disorders (adapted from Briere, 1996; Finkelhor et al., 2009 and other scales, with simplified language for our sample;). A sample item is “Feeling worried or anxious in the last month.” Higher scores indicate more symptoms. Following prior work using the Resilience Portfolio Model, we also created a dichotomized score to indicate **resilient mental health**, which was scored as  $\leq .5$  standard deviations below the standardized mean, to identify the highest functioning subgroup of youth in this sample with the fewest trauma symptoms.

### **Data analysis**

Our data analytic approach is based on procedures that we previously established in prior work on the Resilience Portfolio Model (Banyard, Hamby, & Grych, 2017; Hamby et al., 2018). For data analysis, all scale scores were standardized by converting to Z-scores (mean converted to 0 with a standard deviation of 1). Correlation analyses were conducted to explore the relationships between trauma symptoms and the other measures. Hierarchical logistic regression was used to explore the unique contribution of adversities and strengths on trauma symptoms, transformed into a dichotomous variable to emphasize factors that contribute to above-average mental health. Prior efforts to identify protective factors for victimization indicated that different variables may distinguish between poor and average functioning versus average and high functioning (Hamby, Roberts, Taylor, Hagler, & Kaczkowski, 2017), and our goal is to identify the most promising factors for promoting thriving. In the first block, we entered age and gender. The second block consisted of the adversity and

economic status indicators. Lastly, in the third block, we included poly-strengths and the sixteen psychological and social strengths to see if they made a unique contribution to trauma symptoms after controlling for adversities and demographic variables.

## Results

### ***Rates of victimization and other adversities***

Rates of children's lifetime exposure to violence were high in this sample from predominantly low-income communities. Almost 9 in 10 youth (89.3%) reported one or more lifetime victimization experiences. Peer victimizations were most common, but adult-perpetrated offenses (physical assault, caregiver psychological abuse, exposure to parent threatening another parent, neglect) were also reported by almost half the sample (47.1%). Poly-victimization (experiencing multiple forms of violence) was also common. The median number of victimizations reported by youth was 3, with a mean of  $M = 3.40$  ( $SD = 2.43$ ). More than 3 out of 4 youth in this sample (75.9%) reported two or more forms of victimization. See **Table 1**.

Non-victimization adversities were even more common, with at least one type of victimization or adversity reported by almost every youth in their lifetime (99.5%). This was largely due to the high percentage of youth reporting the death (89.2%) or serious illness (92.8%) of a friend or family member.

### ***Overview of current mental health***

Symptoms of anxiety and dysphoria were very common in this sample, despite the young age of participants. More than 4 in 5 (81.6%) participants reported some anxiety in the past month and more than 3 in 4 (77.3%) reported sadness in the past month. These are higher reports of negative

**Table 1.** Prevalence of victimization.

Victimization type	Prevalence rate (%)
Social exclusion by peers	62.8%
Relational aggression by peers	58.0%
Witnessed assault	48.0%
Assault by anyone	32.7%
Cyberbullying/online harassment	30.3%
Psychological/emotional abuse by caregiver	26.1%
Physical assault by caregiver	24.0%
Exposed to parent threatened by another parent	22.2%
Neglect	20.1%
Cyber-theft (money or information)	19.5%
Any victimization	89.3%
Poly-victimization index	$M = 3.40$ , $SD = 2.43$ Median = 3; range = 0–10

Note. N = 440.

emotions than a nationally representative sample of U.S. youth, in which 75% reported some anxiety and 58% reported experiencing sadness in the past month (National Survey of Children's Exposure to Violence, unpublished data). One in three youth (33%) met our criterion for resilient mental health (trauma symptom scores  $\leq .5$  SD below the standardized mean).

### ***Bivariate analyses***

A correlation table for all variables is in [Table 2](#). Poly-victimization was moderately correlated ( $r = .42$ ) with trauma symptoms. There was a substantial difference in trauma symptoms, approaching 1.5 standard deviations, between the least and most highly victimized youth. See [Figure 1](#).

Trauma symptoms were significantly inversely correlated with several strengths, including three regulatory strengths: endurance, impulse control, and recovering positive affect; and three meaning making strengths: future orientation, mattering, and purpose. Trauma symptoms were inversely correlated with only one interpersonal strength, school climate. Trauma symptoms were also inversely correlated with poly-strengths. Recovering positive affect and sense of purpose had the highest magnitude, with correlations above .30. These results offer partial support of our hypotheses.

### ***Predictors of resilient mental health***

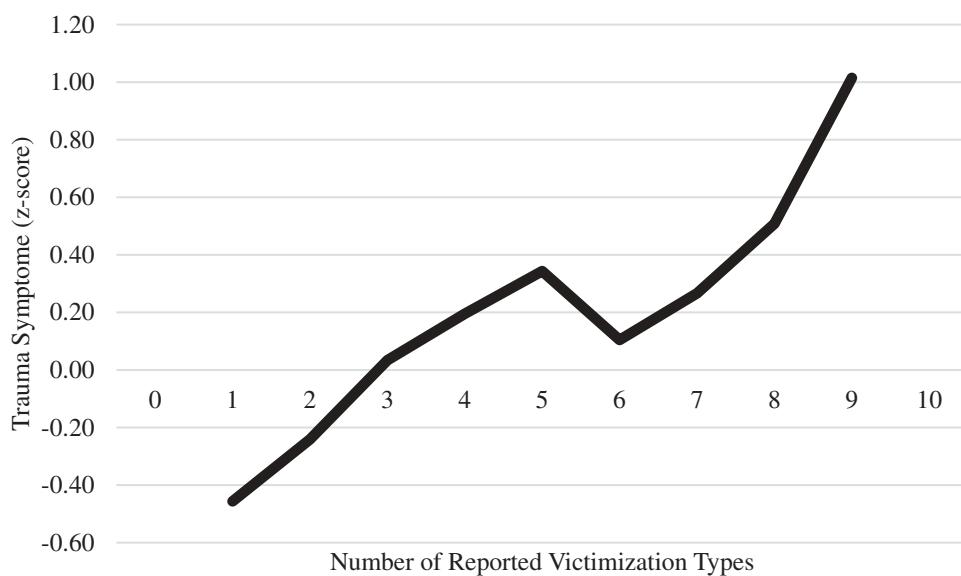
A hierarchical logistic regression was conducted, with resilient mental health, as indicated by low trauma symptoms in the month prior to the survey, as the outcome. In Block 1, age and gender of the youth was entered. Block 2 included victimization, other adversities, and two indicators of economic status, whether the youth received free lunches at school and the median household income for the youth's county of residence. In the final block, the strengths were added. See [Table 3](#). Results are given in odds ratios, which show the change in likelihood for every one-unit increase in a variable. For example, as sense of purpose increases by one unit, youth are 2.32 times more likely to be in the resilient mental health group.

Higher exposure to poly-victimization was significantly associated with poorer mental health in multivariate analyses, indicating that highly poly-victimized youth were less likely to be in the resilient mental health group. Other adversities were not significant. Older youth were more likely to report poorer mental health than younger youth. In this multivariate analysis, a sense of purpose was the only strength that was uniquely and positively associated with a greater likelihood of being in the resilient mental health group. Poly-strengths approached significance ( $p < .10$ ). Contrary to prediction, higher relational motivation was significantly associated with a greater likelihood of poorer mental health. The full model accounted for 33% of the

**Table 2.** Correlations among all variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1. Trauma Symptoms	—	.12	.12	<b>.42</b>	-.06	.00	.04	<b>-.19</b>	<b>-.16</b>	<b>-.17</b>	<b>-.32</b>	.04	-.10	<b>-.28</b>	<b>-.31</b>	-.03	-.08	-.09	.03	-.04	<b>-.15</b>	-.02	-.09	
2. Age	—	<b>.18</b>	-.06	<b>.23</b>	<b>-.33</b>	<b>.34</b>	<b>.15</b>	<b>.10</b>	<b>.18</b>	<b>-.04</b>	<b>.06</b>	<b>.13</b>	<b>.08</b>	<b>.02</b>	<b>.09</b>	<b>.17</b>	<b>.06</b>	<b>.17</b>	<b>.08</b>	<b>.19</b>	<b>.05</b>	<b>.12</b>	<b>.12</b>	
3. Gender	—	—	<b>.15</b>	<b>-.21</b>	<b>.19</b>	<b>.12</b>	<b>-.05</b>	<b>.12</b>	<b>-.14</b>	<b>.07</b>	<b>.11</b>	<b>.03</b>	<b>.00</b>	<b>.10</b>	<b>.00</b>	<b>.02</b>	<b>.22</b>	<b>.05</b>	<b>.06</b>	<b>.07</b>	<b>.07</b>	<b>.10</b>		
4. Poly-victimization	—	—	<b>.01</b>	<b>.17</b>	<b>.01</b>	<b>-.22</b>	<b>-.04</b>	<b>-.22</b>	<b>-.21</b>	<b>.03</b>	<b>-.08</b>	<b>-.40</b>	<b>-.24</b>	<b>-.19</b>	<b>-.10</b>	<b>-.19</b>	<b>-.05</b>	<b>-.14</b>	<b>-.26</b>	<b>-.12</b>	<b>-.12</b>	<b>-.15</b>		
5. Other Adverse Life Events	—	—	—	<b>-.12</b>	<b>.06</b>	<b>-.01</b>	<b>.11</b>	<b>-.03</b>	<b>.04</b>	<b>.02</b>	<b>.03</b>	<b>-.03</b>	<b>.03</b>	<b>.01</b>	<b>.04</b>	<b>.08</b>	<b>-.02</b>	<b>.14</b>	<b>-.01</b>	<b>.03</b>	<b>.06</b>			
6. Receive Free Lunches	—	—	<b>-.35</b>	<b>-.20</b>	<b>-.03</b>	<b>-.16</b>	<b>-.05</b>	<b>-.01</b>	<b>-.09</b>	<b>-.20</b>	<b>-.10</b>	<b>-.22</b>	<b>-.10</b>	<b>-.22</b>	<b>-.02</b>	<b>-.22</b>	<b>-.22</b>	<b>-.06</b>	<b>-.28</b>	<b>-.11</b>	<b>-.16</b>	<b>-.20</b>		
7. County Median Household Income	—	—	<b>.03</b>	<b>-.02</b>	<b>.06</b>	<b>-.10</b>	<b>-.03</b>	<b>.10</b>	<b>.10</b>	<b>.00</b>	<b>.12</b>	<b>-.08</b>	<b>.03</b>	<b>.14</b>	<b>.08</b>	<b>.08</b>	<b>.14</b>	<b>.08</b>	<b>.07</b>	<b>.07</b>	<b>.07</b>	<b>.03</b>	<b>.06</b>	
8. Poly-strengths	—	—	<b>.54</b>	<b>.55</b>	<b>.54</b>	<b>.40</b>	<b>.55</b>	<b>.59</b>	<b>.63</b>	<b>.52</b>	<b>.47</b>	<b>.49</b>	<b>.51</b>	<b>.45</b>	<b>.57</b>	<b>.53</b>	<b>.57</b>	<b>.57</b>	<b>.57</b>	<b>.57</b>	<b>.57</b>	<b>.56</b>		
9. Endurance	—	—	<b>.39</b>	<b>.47</b>	<b>.35</b>	<b>.50</b>	<b>.37</b>	<b>.49</b>	<b>.27</b>	<b>.40</b>	<b>.32</b>	<b>.30</b>	<b>.34</b>	<b>.28</b>	<b>.26</b>	<b>.33</b>	<b>.32</b>							
10. Impulse Control	—	—	<b>.31</b>	<b>.27</b>	<b>.40</b>	<b>.35</b>	<b>.37</b>	<b>.37</b>	<b>.18</b>	<b>.29</b>	<b>.34</b>	<b>.25</b>	<b>.46</b>	<b>.27</b>	<b>.29</b>	<b>.37</b>								
11. Recovering Positive Affect	—	—	—	<b>.27</b>	<b>.32</b>	<b>.47</b>	<b>.55</b>	<b>.31</b>	<b>.36</b>	<b>.31</b>	<b>.22</b>	<b>.30</b>	<b>.34</b>	<b>.27</b>	<b>.31</b>	<b>.31</b>								
12. Self-reliance	—	—	<b>.27</b>	<b>.19</b>	<b>.22</b>	<b>.33</b>	<b>.21</b>	<b>.10</b>	<b>.27</b>	<b>.22</b>	<b>.25</b>	<b>.19</b>	<b>.20</b>											
13. Future Orientation	—	—	<b>.42</b>	<b>.53</b>	<b>.42</b>	<b>.34</b>	<b>.29</b>	<b>.44</b>	<b>.36</b>	<b>.29</b>	<b>.30</b>	<b>.41</b>	<b>.40</b>											
14. Mattering	—	—	<b>.70</b>	<b>.48</b>	<b>.37</b>	<b>.40</b>	<b>.37</b>	<b>.40</b>	<b>.37</b>	<b>.44</b>	<b>.46</b>	<b>.46</b>	<b>.41</b>	<b>.42</b>										
15. Purpose	—	—	—	<b>.43</b>	<b>.50</b>	<b>.36</b>	<b>.33</b>	<b>.45</b>	<b>.35</b>	<b>.44</b>	<b>.46</b>	<b>.44</b>	<b>.44</b>	<b>.44</b>										
16. Relational Motivation	—	—	<b>.32</b>	<b>.29</b>	<b>.46</b>	<b>.31</b>	<b>.29</b>	<b>.22</b>	<b>.39</b>	<b>.19</b>	<b>.32</b>	<b>.33</b>	<b>.36</b>	<b>.31</b>										
17. Religious Meaning-making	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
18. Community Support	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
19. Compassion	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
20. Group Connectedness	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
21. School Climate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
22. Social Support Received	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
23. Social Support Seeking	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
24. Teacher Engagement	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

Note: Italics indicates significance at .05 level. Bold indicates significance at .01 level. Higher scores represent higher levels of each named variable, except for gender, which was dichotomized with a higher value corresponding to "female."



**Figure 1.** Trauma symptoms by number of youth victimizations (poly-victimization).  
Note: Lined smoothed with rolling averages.

variance in resilient mental health, with approximately equal amounts due to adversities (15%) and strengths (17%).

## Discussion

This study explored ways that the high burden of victimization experienced by U.S. youth might be alleviated. As has been found in past research, high numbers of youth reported victimization in their lifetime, with almost 9 in 10 reporting at least one victimization type, and more than 3 in 4 reporting two or more types of victimization (poly-victimization). Virtually every participant reported some history of significant adversity, when other events such as bereavement were included. The high rate is probably due, in part, to our broad measure that assessed victimization in a variety of settings, including home, school, community, and “cyber” or digital victimization. As has also been well-established in past research (e.g., Finkelhor et al., 2009; Radford et al., 2013), victimization was strongly correlated with recent trauma symptoms (past month). Nonetheless, not all youth reported high levels of trauma symptoms, and this study extends prior research by adding to our knowledge about factors that can promote resilient outcomes, despite high burdens of adversity. At the bivariate level, strengths in two of the three resilience portfolio domains showed the most promise, regulatory and meaning-making strengths. In multivariate analyses, a sense of purpose was the only strength that showed a unique association with resilient mental health, after controlling for victimization, other adversities, age, gender, and other strengths. Poly-strengths, an indicator of the diversity of

**Table 3.** Hierarchical regression of adversities and strengths as predictors of resilient mental health (Low trauma symptoms).

	Resilient Mental Health	
	Odds Ratio	95% CI
Age	.73 *	.55-.97
Gender	1.00	.76-1.31
<i>R</i> <sup>2</sup> Demographics Only	.02	
<i>Adversities</i>		
Poly-victimization	.48 ***	.35-.66
Other Adverse Life Experiences	1.18	.90-1.54
Receive Free Lunches	1.14	.86-1.51
County Median Household Income	1.05	.79-1.40
Δ <i>R</i> <sup>2</sup> Adversities Added	.15 ***	
Poly-strengths	1.52 †	.93-2.48
<i>Regulatory Strengths</i>		
Recovering Positive Affect	1.30	.92-1.83
Endurance	1.28	.88-1.86
Impulse Control	1.05	.76-1.46
Self-reliance	.82	.63-1.09
<i>Meaning-making Strengths</i>		
Purpose	2.32 **	1.38-3.88
Mattering	1.27	.80-2.01
Future Orientation	.93	.64-1.35
Religious Meaning-making	.86	.63-1.17
Relational Motivation	.68 *	.48-.96
<i>Interpersonal Strengths</i>		
Teacher Engagement	1.17	.82-1.66
School Climate	1.11	.78-1.58
Community Support	.82	.60-1.13
Social Support Seeking	.81	.57-1.15
Social Support Received	.80	.57-1.12
Group Connectedness	.79	.57-1.10
Compassion	.75 †	.53-1.05
Δ <i>R</i> <sup>2</sup> Resilience Portfolio strengths added	.17 ***	
<i>Final R</i> <sup>2</sup> Full Model	.33	

Notes: † $p < .10$ ; \* $p < .05$ ; \*\*\* $p < .001$ . Resilient mental health was defined as having few trauma symptoms ( $\leq .5$  SD on standardized trauma scale). Odds ratios represent the constant effect of each predictor on the likelihood that a youth will be in the resilient mental health group. Odds ratios  $> 1$  indicate greater likelihood of resilient mental health. See text for further interpretation.

strengths each youth possesses, approached significance. These findings extend prior research (Hamby et al., 2018) to a younger sample (ages 10–21) from a wider array of communities in the southern U.S.

Another key finding of this study is that the block of psychological and social strengths accounted for a similar amount of variance in resilient mental health as victimization, other adversities, and poverty (17% versus 15%). Although this pattern is not well known in the fields of violence and trauma research, it is consistent with some prior research (Howell & Miller-Graff, 2014; Howell, Thurston, Schwartz, Jamison, & Hasselle, 2018; Luthar, 1991), albeit some of that research used more limited measures of trauma and adversities than included here. As Ann Masten has termed it (2001),

resilience is “ordinary magic.” Virtually everyone has the potential to thrive despite experiencing adversity, and it is essential to broaden our understanding of what helps youth overcome trauma.

One surprising result of this study was that, counter to prediction, many of the interpersonal strengths were not correlated with trauma symptoms, even at the bivariate level. Although the social ecology is doubtless important to youth’s functioning – here school climate emerged as the most salient factor among interpersonal resources – the social ecology may also have underappreciated complexities, and not all strengths are necessarily associated with well-being (Goodman et al., 2018). For example, in the interpersonal domain, peer social support could be harmful if peers are supporting delinquency (Deković, 1999).

In this study, relational motivation, a construct primarily categorized as meaning making (because of its motivational component) that also has an interpersonal element, was associated with worse mental health in the multivariate analysis, despite a nonsignificant bivariate correlation near zero ( $-.03$ ). This was an unexpected result and could indicate a suppressor effect. The relational motivation concept emerged from our qualitative work, when several youth – and even more caregivers, teachers, and coaches – mentioned that one reason youth kept working to overcome trauma was to please their parents, live up to the expectations of key adults in their lives, or give back some of what they thought they had received from adults. However, like many aspects of interpersonal relationships, it is possible that there are underlying complexities in this construct. Some youth may experience guilt or shame if they do not live up to what they believe are the standards of key adults. Some important adults may be offering support conditionally in ways that are harmful instead of inspirational. These results suggest we may need to do more to untangle these complexities to better support youth resilience.

In that regard, helping youth develop a sense of purpose shows the most promise, based on the results of this study. Being able to connect to something larger than themselves is important for psychological well-being (McLean & Pasupathi, 2009). A sense of purpose may help youth integrate adversities into their larger life narrative and give them the motivation to persevere despite setbacks and traumas. It is notable that this was true even in a highly victimized sample. Returning to the possible suppressor effect for relational motivation, taken together, these findings could indicate the importance of youth developing their own sense of purpose and not feeling that key adults are imposing priorities on them.

The differences in the bivariate and multivariate analyses further support moving beyond piecemeal approaches to assessing strengths in order to better inform prevention and intervention activities. Some frameworks in positive psychology and related fields propose dozens of key strengths, and while all of these are probably helpful in some circumstances, not all of them

are equally useful for thriving after adversity (Goodman et al., 2018). It is also important to identify which strengths have unique elements associated with well-being, beyond some general positivity, in order to determine which ones are most helpful. Most practitioners providing prevention or intervention programs will have limited time and resources and are not likely to be able to equally promote 20 or 30 strengths over the course of many weeks of programming. Thus, research is needed that moves beyond showing that a variety of psychological and social strengths are “good” in some way and identifies which strengths are likely to be most helpful for people who have experienced adversity.

### ***Strengths and limitations***

The findings presented here should be evaluated in consideration of the strengths and limitations of the project. By using mixed qualitative methods to explore concepts related to youth resilience to develop measures for the survey, this project expands the types of strengths that have been assessed in adolescent populations, including new strengths such as relational motivation. The study also expands information on resilience in predominantly low-income communities in the southern U.S. Nonetheless, these findings are preliminary, and they need replicating in other groups and in other regions. The survey was cross-sectional, which is an appropriate and cost-effective approach for examining new concepts and ideas. However, replication in future studies, especially longitudinal studies, is needed. Our successful development of self-report measures for youth as young as age 10 is a strength. However, self-report is limited by shared method variance, and future research could incorporate multiple informants or other data sources. Basing the study on a theoretical framework, the Resilience Portfolio Model (Grych et al., 2015; Hamby et al., 2018), is a strength. However, survey length and other resource considerations prevented us from examining all potentially relevant strengths and there may be other strengths that are important for youth resilience. We used the standard approach for assessing lifetime poly-victimization and several studies have shown that symptoms can persist for decades after victimization (e.g., Felitti et al., 1998), but further research may benefit from considering the time since the victimizations occurred in addition to the total burden of victimization. Further work, both conceptual and empirical, can strengthen connections between the approach used here and other literature on resilience. Replication is especially needed for the unexpected findings that more relational motivation was associated with worse mental health (in the form of more trauma symptoms).

### ***Research implications***

In terms of additional future research directions, these findings should be considered preliminary and more research is needed to identify factors that help youth thrive despite victimization and other adversity. The finding for poly-strengths, the index of strengths diversity, only approached significance, in contrast to prior work (Hamby et al., 2018). This could indicate the need to better identify the most important strengths for U.S. youth, or it may suggest that specific individual strengths, such as sense of purpose, are more important for youth than the total number of strengths. Future work also needs to continue adapting or creating measures that can be used to assess younger youth, with reading levels and item content that is appropriate for middle and high school youth. This study had one of the most diverse sets of indicators of youth's interpersonal contexts explored to date, and the nuances of the social ecology need further exploration in future work.

### ***Clinical implications***

Although more work needs to be done to replicate these findings, numerous interventions are available that support the strengths that emerged in this study. Several existing interventions promote a sense of purpose, perhaps most especially narrative interventions (e.g., Adler, 2012; Paunesku et al., 2015). Narrative exercises are flexible, well-supported, evidence-based interventions that can be used in a variety of settings, such as classrooms and individual counseling. Although many narrative exercises instruct participants to write about traumatic experiences, it is also well established that narratives that focus on values, turning points, and other meaningful events also show positive outcomes and can promote a sense of purpose (Hamby, Taylor, Grych, & Banyard, 2016).

Although activism has not received as much attention in the trauma field as narrative interventions, social justice activism can also be healing and the mechanism may be connected to enhancing a sense of purpose (Asakura, 2017; Klar & Kasser, 2009). Other volunteering and community engagement efforts, as well as involvement in spiritual or religious traditions, can promote a sense of purpose and have been found helpful to many victims (although of course trauma victims should not have any activities imposed on them that are not congruent with their own values and beliefs). The findings also suggest that it is important to be mindful that relationships can have positive and negative aspects. For example, high expectations from adults might make some youth feel guilt or shame if they do not live up to those expectations. There is little evidence-based clinical guidance for how to avoid maladaptive elements of interpersonal relationships, but this could be an important area for future study. Given that strengths are more closely associated with

current functioning than victimization history, shifting to strengths promotion may enhance the impact of many prevention and intervention programs.

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