

Resilient Responses to Victimization and Other Trauma: Positive Emotion Regulation and Other Understudied Psychosocial Strengths

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Abstract

Although many psychosocial strengths have been explored, there remains a need to identify under-appreciated strengths that help people overcome trauma. The objective of this study was to explore the resilience potential of 16 psychosocial strengths—including 4 understudied strengths (positive emotion regulation, self-reliance, relational motivation, and group connectedness)—for helping people overcome trauma. The understudied strengths were identified in previous qualitative work as salient in the southeastern communities where the study took place. The sample was comprised of 357 adults recruited from community events in Tennessee. Their average age was 37.6 years (*SD* 15.6), and the sample was 65.8% female. They completed a survey with measures of 16 psychosocial

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strengths, polyvictimization, and a range of outcomes. Blockwise logistic regressions were conducted using subjective well-being and trauma symptoms as the outcome. Results indicated that positive emotion regulation was the best predictor of positive functioning after experiencing trauma. Polystrengths (an indicator of the breadth of a person's resilience portfolios), a sense of purpose, and social support received were also associated with better functioning after controlling for polyvictimization, other adversities, and demographics. In multivariate analyses, religious meaning-making and relational motivation were unexpectedly associated with worse outcomes. Most studies of emotion regulation only explore the regulation of negative emotions, such as distress and anger, but the capacity to regulate positive emotions shows promise for helping people overcome trauma. The support for polystrengths, despite mixed findings for some strengths, points to the urgent need to identify the most helpful elements of resilience portfolios.

Keywords

violence exposure, vicarious trauma, neglect, child abuse, predicting domestic violence, domestic violence

We now know that most people will experience violence or trauma at some point in their lifetime. Thus, resilience—the process of overcoming trauma—will be important to most people. Although early research often treated resilience as an individual personality characteristic, most contemporary resilience researchers define resilience as a multidimensional process of harnessing numerous personal assets and external resources in the effort to overcome trauma (Hamby, Grych, et al., 2018; Rutter, 2012; Ungar, 2004). Unfortunately, an over-emphasis in prior research on resilience as loosely synonymous with emotional toughness or grit has meant that we still lack sufficient knowledge as to which strengths are the most helpful components of strengths portfolios for achieving high functioning despite prior victimization and other trauma. Using the resilience portfolio model (RPM; Hamby, Grych, et al., 2018) as a theoretical framework, this study uses an additive model to examine the associations of prior victimization and 16 strengths with 2 indicators of current functioning, subjective well-being, and trauma symptoms, in a highly victimized sample of adults. As far as we are aware, this is the first resilience study of adults to include several of the examined strengths, including positive emotion regulation, relational motivation, and self-reliance.

The Pervasiveness of Violence and the Importance of Lifetime Dosage

Violence is intentionally causing nonconsensual, unnecessary harm (Hamby, 2017; Krug et al., 2002). It is an extremely common experience around the world. Even by late adolescence or emerging adulthood, victimization is the norm, not the exception. Studies on several continents using comprehensive measures of victimization at home, school, and in communities (such as child abuse, bullying, or street crime) show that approximately 70% to 90% of adolescents and emerging adults have experienced some kind of victimization (e.g., Aho et al., 2016; Pereda et al., 2014; Pinto-Cortez et al., 2018; Hamby et al., 2020b). Multiple experiences of victimization are also common (Felitti et al., 1998; Finkelhor et al., 2011). The link between victimization history, especially measured in terms of lifetime cumulative “dosage” (as in measures of polyvictimization), with trauma symptoms and other adverse outcomes is well established (e.g., Brockie et al., 2015; Felitti et al., 1998; Finkelhor et al., 2011; Hughes et al., 2017; Petrucci et al., 2019). Further, these studies show that the total dosage, on average, matters more than the experience of any particular incident. However, less is known about contributors to resilience and positive outcomes.

Existing Knowledge of Strengths That Promote Thriving After Victimization

Although early research on resilience assumed that some kind of “invulnerability” characterized resilient people, most contemporary resilience theorists adopt a multidimensional approach to resilience, in which a broad number of individual and external factors help people overcome violence and trauma (Denckla et al., 2020; Luthar, 2015; Masten, 2016; Rutter, 2012; Ungar, 2004). The RPM shares a multidimensional approach with these other frameworks but is distinguished from other approaches by several factors (Hamby, Grych, et al., 2018). One is that rather than focus on resilience in response to a particular act of violence, natural disaster, or other events, the model incorporates insights from the research on the cumulative lifetime burden of victimization and trauma (e.g., Felitti et al., 1998; Finkelhor et al., 2011). For most people, the ability to respond to and overcome different types of traumas will be needed across the lifespan. The RPM also considers numerous strengths at the same time. These strengths represent three key domains of protective factors: regulatory strengths (managing emotions and behaviors), interpersonal

strengths (social skills plus relational resources from the social ecology), and meaning-making (connecting to something larger than oneself). The emphasis is on malleable assets and resources that could become the targets of intervention. The RPM also introduces a dosage concept, *polystrengths* that is analogous to polyvictimization. Polystrengths assesses the size or “dose” of strengths in a person’s resilience portfolio and has been found to explain variation in indicators of well-being beyond assessments of violence and adversity (beyond contributions of specific protective factors).

Indeed, one key concept emerging in resilience research is the idea of the *dosage* of strengths—that is the number of different strengths that one can access to help overcome victimization and other trauma. This parallels adverse childhood experiences (ACEs) and polyvictimization research showing the importance of dosage for understanding the impact of victimization. Some scholars have studied this with concepts such as positive childhood experiences, a counter to the well-known concept of adverse childhood experiences (Bethell et al., 2019; Slopen et al., 2017). However, although such research has demonstrated a dose-response relationship with various outcomes, positive childhood experiences have limited utility for intervention with adults, because these historical factors, such as growing up in a two-parent home (Slopen et al., 2017), cannot be modified in adulthood. Thus, the RPM measures the dosage of positive resources by creating an index of the total number of malleable psychosocial strengths an individual has (at an above-average level relative to the population studied). We call this *polystrengths* and this indicator of the robustness of a person’s resilience portfolio has been associated with better outcomes after trauma in several studies (Brooks et al., 2024 ; Hamby, Grych, et al., 2018; Kelmendi & Hamby, 2024; Moisan et al., 2019). These findings have the potential to guide future interventions, as programs can target increasing people’s resilience portfolios.

Several studies using the resilience portfolio framework have also identified specific promising strengths that can promote resilient outcomes, that is achieving thriving after victimization or other adversities. In several prior resilience portfolio studies, sense of purpose has shown the most promise (Brooks et al., 2024; Hamby et al., 2020b; Hamby et al., 2023; Kelmendi & Hamby, 2024; Schultz et al., 2024). Among regulatory strengths, psychological endurance, which is the ability to persevere despite difficulties, was associated with better outcomes in multiple studies (Brooks et al., 2024; Hamby, Grych, et al., 2018; Gonzalez-Mendez et al., 2021). Negative emotion regulation, the ability to manage unpleasant emotions such as distress or anger, was significant in one prior dataset (Hamby, Grych, et al., 2018). In the

interpersonal domain, various measures of social support, all reflecting the support of caring for others in one's community, have also shown promise in multiple datasets (Banyard et al., 2017; Moisan et al., 2019).

Gaps in Knowledge of Strengths Promoting Resilience

Despite these promising findings for polystrengths and for several individual strengths, key questions remain. Perhaps most urgently, we need to identify which strengths are most helpful for overcoming violence and trauma and contributing to resilience, and this calls for further exploration. Some resilience research has prematurely focused on a restricted range of specific strengths. For example, several measures of resilience largely assess regulatory strengths like emotion regulation and perseverance (Connor & Davidson, 2003). However, it is not yet known if regulatory strengths are most helpful. Indeed, although several regulatory strengths have shown promise in prior resilience portfolio research, sense of purpose (a meaning-making strength) has had the largest association with well-being in the most studies (e.g., Brooks et al., 2024; Hamby et al., 2020b; Hamby et al., 2023; Kelmendi & Hamby, 2024; Schultz et al., 2024). In addition to the need to keep exploring previously identified psychosocial strengths and assessing their differential effect on resilience, there is also a need to identify understudied strengths, especially in oppressed and marginalized communities (Ungar, 2013). Further, more research is needed into the ways that different strengths across the three domains of the portfolio model work together or separately to enhance well-being.

In this study, in addition to continuing to explore 12 strengths from previous resilience studies, such as sense of purpose, psychological endurance, and different aspects of social support, we examine 4 strengths that have received little prior study in research on adult resilience. The constructs were identified through a mixed-methods approach, including focus groups and cognitive interviews, based in largely rural, low-income communities in the southernmost region of Appalachia (as defined by the Appalachian Regional Commission) and nearby communities in Tennessee, Alabama, Georgia, and Mississippi (Hamby et al., 2020a, 2020b; 2020c). The goal was to identify constructs that people said they used to help overcome violence and trauma that have received little research attention. These constructs (positive emotion regulation, self-reliance, relational motivation, and group connectedness) were previously examined in a sample of youth (Hamby et al., 2020a, 2020b) and this is the first time that they have been examined in a sample of adults. The new measures examined here unpack more nuanced aspects of strengths in connection to others or in managing emotions that emerged from participants' own voices and lived experiences. In the current

study, measures of these new strengths are combined with measures of more traditionally measured protective factors to examine the utility of this enhanced portfolio of strengths in understanding adult wellbeing in an under-resourced region of the United States.

Positive Emotion Regulation. The idea of positive emotion regulation, or being able to “up-regulate” emotions into happy, contented, or similar feeling states, dates back at least to a thoughtful article by Folkman and Moskowitz (2000). However, there’s been surprisingly little empirical research on the concept. Although there is extensive research on emotion regulation, almost all of it focuses on the regulation of negative emotions like distress or anger, due in part to the influence of measures such as the Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004). Even the DERS-Positive scale assesses challenges experiencing positive emotions instead of skill at managing them (Weiss et al., 2015). Regarding resilience, numerous studies have looked at the role that positive emotions play, but in terms of experiencing positive emotions, not managing or purposefully cultivating them. These studies often use the Positive and Negative Affect Schedule (Watson et al., 1988), which measures the current experience of positive (and negative) emotions, which is also different than the ability to manage one’s positive emotions. We found a similar concept in some research on the psychology of humor, where Martin et al. (2003) developed a subscale called “self-enhancing humor” as part of their Humor Styles Questionnaire. This scale includes a few items on using humor to cope in ways that we consider to be one aspect of the skill of positive emotion regulation. However, many interview and focus group participants in our previous study spoke of other skills for cheering themselves up or making themselves feel better, and we believe this is an understudied aspect of emotion regulation. For example, one female adolescent said, “*I ended up picking clarinet . . . that’s when everything started to change . . . there’s parts in music, like there’s a harmony, and there’s a melody, and when you correlate that to life and you think about how it will all come together, it kind of makes it easier for me to deal with it*” (de Wetter & Hamby, 2021). To our knowledge, this is the first study of positive emotion regulation and resilience that focuses on adults.

Self-Reliance. One of the primary values of the Appalachian region is self-reliance, an emphasis on being independent and autonomous, with a preference for taking care of oneself instead of relying on others (Gessert et al., 2015; Hamby, Taylor, et al., 2018; Lohri-Posey, 2006). For example, in one study, one woman expressed dismay over a perceived decline in self-reliance; “*I don’t like that we’re not dependable on ourselves*” (Hamby, Taylor, et al., 2018). Indeed, it is

a well-recognized value for U.S. culture more broadly, as suggested by the classic treatise on the topic by Emerson (1841/1993). Self-reliance has also been identified as an important organizing idea in other oppressed and low-income communities, such as African Americans living in Washington, DC (Reese, 2019), and was found in a qualitative review on resilience (Leung et al., 2022). Self-reliance also aligns with the individualistic focus of U.S. culture. Despite being a central value, however, self-reliance has received relatively little quantitative study, perhaps due to a lack of a well-established measure. Thus, we revised a measure from a previous study (Brooks et al., 2024) to better capture positive aspects of functioning independently. With its emphasis on handling problems and taking care of oneself, this is a regulatory measure.

Relational Motivation. Many participants in our qualitative studies have spoken of being helped and motivated by their relationships with other people. This goes beyond getting support from others to inspiration for healing and sometimes guidance about how to pursue well-being. For example, one adult man from an earlier study reported, *“I have been clean from methamphetamines for almost seven years because of [my fiancé]. . . . If it was not for her . . . I would never have been able to climb that mountain”* (Hagler et al., 2019). This was observed in younger people too, such as the female adolescent who reported in another study, *“I want to be able to make my parents proud and it’s what I live for”* (Hamby et al., 2020c). Although older prior qualitative work described similar experiences, we were unable to locate a measure for this idea, so we created one. To date, however, the measure has only been tested with youth, not adults.

Group Connectedness. Another aspect of the social ecology that was prominent in prior interviews and focus groups was the importance of being affiliated with organizations, such as a team or community organization. In some research, these are associated with “third places”—places that are neither home nor work and can serve important roles in communities and are key social capital resources, perhaps especially for marginalized groups (Littman, 2022). One female adolescent described it this way: *“Being active in like your community, it helps because you meet more people, and then you get more comfortable being around people, and it helps in any kind situation usually. . . . If you’re a part of a team, then you’re obviously, you’re going to meet more people and you’re going to build relationships with those people and then it just carries on”* (Hamby et al., 2020c). A young adult woman told of a time *“I was in art class, and I was a shy student, and I was struggling . . . I had all these bunch of my classmates came over there and help me . . . accepting their help . . . it makes you feel great”* (Hagler et al.,

2019). However, as with relational motivation, we could find few measures to capture this construct (vs. more concrete assessments of membership in teams or organizations without assessing feelings of connectedness toward them). This is the first study to examine this concept in an adult sample.

The Current Study

This is the first resilience portfolio study with adults that include understudied psychosocial strengths, including relational motivation and group connectedness, and updated versions of measures for positive emotion regulation and self-reliance. The study collects a new sample of data to build on our prior work and extend resilience portfolio research to include additional strengths, while also retaining promising variables from earlier work. Many of these strengths remain understudied in resilience research, and even in psychological research more broadly. Even when they are studied, they are often investigated in isolation from one another.

Our research aims and hypotheses are as follows: (a) we aim to describe the sample in terms of history of victimization, other adversities, and current functioning to put the other findings in context. (b) We hypothesize that exposure to violence and other adversities will be associated with worse functioning. (c) We hypothesize that each strength will be positively associated with better functioning (higher subjective wellbeing and lower trauma symptoms) at the bivariate level. (d) We further hypothesize that polystrengths, an index of the breadth of a person's resilience portfolio, will be associated with better functioning. (e) We explore which strengths have the strongest associations with better functioning, controlling for victimization and adversity exposure, in multivariate analyses.

Methods

Participants

There were 357 participants from a Southern state. All data collection took place in counties recognized as Appalachian by the Appalachian Regional Commission. The sample was majority female (65.8%) and included adults (18 years and older) with a mean age of 37.60 (standard deviation [*SD*] = 15.59). Most participants (75.7%) identified as White or European American (non-Latino); followed by Black or African American (non-Latino), 13.6%; Latino or Hispanic (any race), 5.1%; Asian American (non-Latino), 2%; American Indian (non-Latino), 1.4%; multiracial, 1.4%; and other identities, 0.9%. The sample was somewhat more ethnically and racially diverse than Census

statistics for the area. Most participants (59.3%) reported residing in a smaller city (population about 100,000–300,000) or town (population about 20,000–100,000). Over a third of the sample (37.1%) reported living in a small town (population about 2,500–20,000) or rural area (population under 2,500). The remainder (3.6%) reported living in more urban areas. More than one in four participants (28.3%) indicated a household income of less than \$20,000 per year, 39.1% reported a household income between \$20,000 and \$50,000, and 32.6% reported earning more than \$50,000 per year, which is somewhat lower than U.S. Census data for the counties where data collection took place.

Procedure

Several techniques were used to advertise the survey, including local community events and festivals, word-of-mouth recruitment, and advertising on a community “classifieds” email listserv. The variety of approaches allowed us to recruit participants who are seldom included in psychological research. Participants were provided with a verbal and written description of the study and then gave informed consent. Participants self-administered the survey on tablets using the survey software Snap11 (Snap Surveys Ltd.), which was used because it does not require Internet connectivity. Participants were asked at the end of the survey how well they understood the survey questions using a 4-point scale (ranging from “I understood all of the questions in this survey” to “I didn’t understand most of the questions”). Out of the original sample of 377, six were removed because they reported they did not understand most survey questions and 14 were removed due to incomplete surveys, resulting in the final sample of 357. Overall, the completion rate was 95%. Each participant received a \$20 Walmart gift card and contacts for local resources. All procedures were conducted in accordance with American Psychological Association ethical principles and approved by the institutional review board of the study’s home institution.

Measures

Measures in the current study were developed and adapted using a three-step approach (for more details, Hamby et al., 2020b, 2020c). First, we conducted 4 focus groups with 18 youth and 4 focus groups with 52 adults, which were recruited through local community organizations serving children and families (youth were included because the goal was to also create measures that could be used with adolescents). Focus group responses informed the initial creation of survey items for the new constructs, and then cognitive interviews were conducted with 24 individuals (12 adults and 12 adolescents), who were recruited in the same manner as that used for focus groups.

Based on interview feedback, we developed the final survey. To maximize accessibility, brevity and simple language were prioritized. Response categories for measures were on a 4-point Likert-type scale ranging from 1 (*not true about me*) to 4 (*mostly true about me*), unless otherwise indicated. Missing data were imputed using mean replacement based on responses to other items on the same scale. Higher scores represented higher levels of strengths on all scales except for trauma symptoms. Content validity was established via correlations with related constructs in this and another sample (Hamby et al., 2020b, 2020c). Reliability, as measured by internal consistency, is reported on this sample for all measures below. The full text of all measures can be found at [<https://www.lifepathsresearch.org/measures/>].

Adversities. *Polyvictimization* was assessed with the Juvenile Victimization Questionnaire—Key Domains Short Form (JVQ-KDSF) (adapted from Finkelhor et al., 2005). The JVQ-KDSF includes 10 questions asking participants' lifetime history of a range of interpersonal victimizations. 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?". Dichotomous items ("yes" or "no") were summed to create a total polyvictimization score ($\alpha = .81$). The *Financial Strain Index* (Hamby, Grych, et al., 2018) assesses struggles meeting basic needs at any income level (five items, $\alpha = .87$). A sample item is "You don't have enough money to buy the clothes or household items that you or your family need." This was assessed on a 3-point scale from "not true" to "very true" with higher scores indicating more financial strain. *Nonvictimization adversities* were also assessed for lifetime experiences. This included seven items such as "At any time in your life, has a family member or close friend died?" These were answered yes or no. As the experience of one major life event is not necessarily associated with the experience of another, no alpha is reported.

Regulatory Strengths. Regulatory strengths assess a person's capacity for managing emotional and behavioral challenges (Hamby, Grych, et al., 2018). The *Positive Emotion Regulation* scale assesses individuals' ability to cheer themselves up after difficult experiences (five items, $\alpha = .83$, e.g., "I don't let small problems ruin my day"). In addition to the mixed-methods approach described above, this scale was also developed after a review of relevant measures such as the Humor Styles Questionnaire (Martin et al., 2003). *Psychological Endurance* (Hamby, Grych, et al., 2018) measures the ability to persevere despite challenges (six items, $\alpha = .74$, e.g., "I am quick to pick myself back up again when I get 'knocked down'"). *Impulse Control* assesses behavioral management (five items, $\alpha = .77$, e.g., "I stop to think before I

act”). *Self-Reliance* measures the preference to cope on one’s own without assistance from others (five items, $\alpha = .78$, e.g., “I like to solve problems on my own”).

Meaning-Making Strengths. Meaning-making involves connecting to something larger than the self (Hamby, Grych, et al., 2018). The *Mattering* scale measures the extent to which participants feel valued by significant others (five items, $\alpha = .88$, e.g., “I feel appreciated by my family and friends”). *Sense of Purpose* measures individuals’ perceptions of having meaning in their life (five items, $\alpha = .89$, e.g., “My life has a clear sense of purpose”). *Religious Meaning-Making* (Hamby et al., 2020b) assesses engagement in faith, religion, and spirituality (five items, $\alpha = .93$, e.g., “I often think about my faith or spiritual beliefs”). *Future Orientation* assesses whether a person is striving for later goals (five items, $\alpha = .76$, e.g., “I try to live up to my potential”).

Interpersonal Strengths. Interpersonal strengths refer to participants’ relational skills and access to resources in their social environment (Hamby, Grych, et al., 2018). *Social Support Received* assesses resources provided by others to the participant (five items, $\alpha = .87$, e.g., “Someone was there for me when I was having a hard time”). *Social Support Seeking* assesses efforts to solicit help and pro-helpseeking attitudes (six items, $\alpha = .90$, e.g., “Talking it out with someone helps me when I’m upset”). *Compassion* (Hamby et al., 2020b) measures empathy and caring behaviors (five items, $\alpha = .76$, e.g., “If I know someone is upset, I check up on them”). *Community Support* (Hamby et al., 2020b) measures the degree to which one’s neighbors get along and help each other (five items, $\alpha = .76$, e.g., “People in my neighborhood talk to each other”). *Group Connectedness* assesses belongingness in organized peer groups (five items, $\alpha = .94$, e.g., “I have belonged to a group or team with people who stand up for me”). *Relational Motivation* assesses desires to fulfill important others’ expectations (five items, $\alpha = .78$, e.g., “I try to live up to my family’s hopes for me”).

As in other studies using the resilience portfolio framework, we defined *polystrengths* as the total number of strengths each individual reported at above average levels ($>0.5 SD$). Thus, it is an indicator of the diversity of an individual’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 6.88 ($SD = 4.15$).

Current Functioning. Current functioning was assessed with measures of subjective well-being and trauma symptoms. The *Subjective Well-being Scale* (Brooks et al., 2024; Hamby, Grych, et al., 2018) measures general life satisfaction (five items, $\alpha = .93$, e.g., “I feel really good about my life”). The

Trauma Symptom Inventory (eight items, $\alpha = .93$, e.g., “Feeling worried or anxious in the last month”) assessed feelings of dysphoria, anxiety, or guilt (Hamby et al., 2020b). Higher scores indicate more symptoms.

Data Analysis

Our analytic approach was based on prior resilience portfolio work (e.g., Hamby, Grych, et al., 2018; Hamby et al., 2020b). We are ultimately interested in identifying strengths that could become the target of prevention or intervention programs (not subsets of people with varying combinations of characteristics). Thus, a variable-centered data analytic strategy was chosen. First, regarding the first aim of the study, descriptive statistics (frequencies, means, and standard deviations) are presented to characterize the victimization and other adverse experiences of the sample, and the current functioning of participants. Then, scale scores were standardized (converted to *Z*-scores with a mean of 0 and a *SD* of 1) to promote comparability. To address the next three research questions, we computed Pearson correlations between study measures. To address the final purpose of this study, which is to identify the unique contributions of specific adversities and psychosocial strengths on subjective well-being and trauma symptoms, we conducted blockwise (also known as hierarchical) logistic regression analyses. A primary goal of RPM research is to identify factors that hold the most promise for promoting thriving, not merely avoiding poor functioning. Thus, for the logistic regressions, subjective well-being and trauma symptoms were transformed into dichotomous variables ($>0.5\ SD = 1$) to identify associations with above-average functioning. In the blockwise logistic regressions, age and gender were entered in the first block as control variables, polyvictimization, financial strain, and other adversities in the second block to show their impact on functioning in multivariate analysis, and polystrengths and the specific psychosocial strengths added in the third block to show the amount of variance explained, collectively, by strengths.

Results

Exposure to Victimization, Other Adversities, and Financial Strain

To address the first research aim, we describe the adversity burden of the sample. Consistent with the polyvictimization model, rates of victimization were high in this sample. Over half (57.7%) reported witnessing an assault, and over half reported bullying in the form of relational aggression or peer rejection (55.7% and 60.2%, respectively). More than 2 in 5 (43.7%) reported

being hit at some point in their lives. High rates of family violence were also reported, including exposure to inter-parental threats (24.6%), caregiver assault (31%), caregiver emotional abuse (31.8%), and neglect due to parental substance abuse (25.6%). Given the increasing importance of online relationships, we also asked two questions about online victimization. More than 1 in 4 (28.3%) reported that someone had stolen information or money from them by “hacking” an online account, and almost 1 in 3 (31.8%) reported online bullying. Almost 9 in 10 participants (88.2%) reported at least one lifetime victimization experience, and approximately 3 in 4 (74.8%) reported two or more different types of victimization (polyvictimization). The median number of victimizations reported was 4, with a mean of 3.88. ($SD=2.83$). See Table 1 for details on victimization rates.

Nonvictimization forms of adversity were also common, with almost all participants reporting that a family member or close friend had died (95.2%) and a family member had been seriously ill, injured, or hospitalized (96.6%). Large rates of other family disruptions were also reported, including divorce or separation (77.3%) and foster or relative placement (15.3%). All but two participants (99.4% of the sample) reported experiencing at least one nonvictimization adversity, and everyone in the sample (100%) reported experiencing at least one potentially traumatic event (nonvictimization adversity or victimization). The average number of adversities reported was high ($M=3.97$, $SD=1.36$).

Financial strain was also common in this sample. Approximately 7 in 10 participants (68.6%) said it would be hard to cover an unexpected expense that was \$500 or more (specifically, 42.2% said this was “very true” and 26.3% said “a little true”). More than half (56.8%) reported that they did not have enough money to go out to dinner or cover other entertainment or recreation. Almost half (48.6%) said it was at least a little true that they did not have enough money to cover needed clothing or household items, and 2 in 5 (39.9%) said they did not have enough money to pay their regular bills. Although the least commonly endorsed item was being behind 1 month or more on rent or mortgage, it is still striking that approximately 1 in 5 participants (19%) were experiencing this form of housing insecurity. Almost 3 in 4 participants (73.8%) endorsed at least one indicator of current financial strain, and more than half (59.7%) endorsed two or more indicators of financial strain. Across all 22 questions asking about adversity (victimization, stressful life events, and financial strain), the mean lifetime “dosage” was 10.22 adverse experiences ($SD=4.62$, range 1–22).

Functioning as Assessed by Subjective Well-being and Trauma

Table 1. Interpersonal Victimization Rates.

Type of Victimization	Rate (%)
Kids excluded, ignored on purpose	60.2
Kids called names, said mean things	55.7
Witnessed assault with a weapon	57.7
Hit or attacked on purpose	43.7
Caregiver called names, said mean things	31.8
Cyberbullying (caused problems when said mean things online)	31.8
Hit by an adult when child (not including spanking)	31.0
Cybervictimization (information or money stolen online)	28.3
Supervisory neglect by a caregiver	25.6
Parent threatened to hurt another parent	24.6
Any interpersonal victimization (at least one type)	88.2
Two or more types of victimization	74.8

Symptoms

Also, regarding the first research aim, we found high rates of both subjective well-being and trauma symptoms were reported in this sample of adults. More than 2 in 3 (68.8%) reported that it was “mostly true” that they have a lot to be proud of and 63.6% said they were doing well. The least endorsed item was “I am happy,” but still more than half (57.9%) said that was “mostly true.”

Trauma symptoms were not as highly endorsed as subjective well-being items, but still represented reports of significant levels of distress. The most endorsed item was “feeling worried or anxious in the last month,” which almost 1 in 3 (31.8%) people said was “mostly true” and more than half (57.2%) was mostly or somewhat true. About 1 in 4 (24.1%) reported that feeling lonely in the last month was mostly true about them, with half of participants (50.4%) saying that was mostly or somewhat true.

Bivariate Correlations Among Variables

Largely in confirmation of the hypothesis in research aim 2, at the bivariate level, polyvictimization and financial strain were significantly inversely associated with well-being, with financial strain showing the strongest association ($r = -.23$). For trauma symptoms, all three adversity types were significantly positively correlated with trauma symptoms, with financial strain and polyvictimization showing similarly strong correlations (.30 and .32, respectively). See Table 2 for bivariate Pearson correlations among all study variables.

Table 2. Bivariate Correlations Among Study Variables.

Variable	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. Subjective well-being	—	-.46	.13	.02	-.23	-.09	-.15	.54	.58	.36	.39	.26	.66	.59	.40	.28	.37	.42	.33	.30	.18	.31	.27	.35	
2. Trauma symptoms	—		-.24	-.01	.30	.14	.32	-.26	-.38	-.01	-.21	-.19	-.40	-.36	-.15	-.08	-.11	-.10	-.19	-.17	-.06	.03	-.12	-.12	
3. Age					.03	-.09	.05	-.02	-.05	.07	.10	.20	.09	.12	.08	-.14	.19	.04	-.17	.06	-.03	.03	.20	-.17	-.09
4. Gender						.04	-.04	-.03	.10	.01	.13	.02	.15	.07	.00	.07	.10	.14	.08	.00	.03	.23	.03	-.01	
5. Financial strain							.37	-.20	-.09	-.04	-.03	-.16	-.21	-.28	-.09	-.01	-.13	-.04	-.19	-.15	.00	-.03	-.05	-.10	
6. Lifetime adversity								.37	-.02	-.01	-.05	.19	-.10	-.03	-.13	.06	.12	.01	-.01	-.07	-.18	.10	-.04	-.15	-.08
7. Polyvictimization									-.09	-.09	-.03	.02	-.22	-.16	-.33	-.04	-.05	-.11	-.02	-.13	-.07	.09	.01	-.05	-.03
8. Polystrengths									.59	.42	.52	.48	.62	.54	.60	.41	.54	.53	.42	.50	.43	.45	.52	.48	
9. Positive emotion regulation										.32	.41	.41	.62	.47	.37	.20	.42	.32	.27	.38	.23	.26	.42	.34	
10. Self-reliance											.33	.37	.27	.19	.30	.11	.49	.19	.19	.35	.19	.16	.33	.19	
11. Psychological endurance												.24	.41	.29	.45	.28	.35	.25	.18	.18	.37	.16	.17	.27	
12. Impulse control													.38	.35	.37	.16	.46	.11	.17	.32	.14	.04	.21	.22	
13. Sense of purpose														.64	.50	.41	.56	.37	.30	.38	.27	.27	.36	.37	
14. Mattering															.36	.27	.43	.38	.35	.29	.18	.26	.28	.38	
15. Future orientation																	.23	.53	.35	.18	.30	.29	.23	.36	.45
16. Religious meaning-making																		.30	.23	.16	.18	.16	.20	.22	.22
17. Relational motivation																			.23	.26	.37	.40	.24	.38	.34
18. Social support received																				.35	.24	.21	.58	.32	.42
19. Community support																					.25	.24	.21	.22	.24
20. School climate																						.17	.22	.53	.30
21. Compassion																							.28	.21	.19
22. Social support seeking																								.31	.30
23. Teacher engagement																									.51
24. Group connectedness																									

Note. Italics indicates significance at $p < .05$; bold indicates significance at $p < .01$.

In confirmation of the hypothesis in research aims 3 and 4, polystrengths and all 16 specific psychosocial strengths were significantly positively correlated with well-being at the $p < .01$ level (range 0.18 for compassion to 0.66 for sense of purpose). For trauma symptoms, there was partial support. Trauma symptoms were significantly inversely correlated with polystrengths (-0.26) and 11 of the psychosocial strengths at the $p < .05$ level (range -0.11 for relational motivation to -0.40 for sense of purpose for significant correlations). Self-reliance, religious meaning-making, compassion, social support received, and social support seeking were not associated with trauma symptoms in bivariate analyses. The psychosocial strengths were generally moderately correlated with each other, except for impulse control and social support seeking, which were not related.

Predictors of Subjective Well-being

To address the fifth research aim, two blockwise logistic regressions were conducted. The first identified which factors showed unique associations with subjective well-being (Table 3). Each block shows the variance associated with demographics, adversities, and resilience portfolio strengths. Regarding demographics, neither age nor gender was associated with subjective well-being. Demographics only explained 1% of the variance in subjective well-being. Although higher financial strain ($p < .001$) and nonvictimization adversities ($p = .05$) were associated with lower subjective well-being at the bivariate level (with polyvictimization approaching significance, $p < .10$), in the multivariate regression, none of these variables were significantly associated with subjective well-being. Together, adversities explained 6% of the subjective well-being variance.

Notably, the block of strengths explained seven times as much variance in subjective well-being compared to the block of adversities (43% vs. 6%). In terms of specific psychosocial strengths, positive emotion regulation showed the strongest association with better subjective well-being. Polystrengths and social support received were also associated with better subjective well-being, while a sense of purpose approached significance. See Figure 1 for the relationship between polystrengths and subjective well-being. Unexpectedly, group connectedness approached significance in the wrong direction (more connectedness associated with worse well-being). The total R^2 for the full regression model was 51%.

Predictors of Trauma Symptoms

The same blockwise logistic regression was also performed with trauma symptoms as the outcome (also in Table 3). In this analysis, trauma

Table 3. Blockwise Logistic Regression Predicting Subjective Well-being and Trauma Symptoms from Demographics, Adversities, and Strengths.

Variables & R ² by block	High Subjective Well-being		Low Trauma Symptoms	
	Odds Ratio	95% CI	Odds Ratio	95% CI
Block 1				
Demographics				
Age	0.81	1.62	1.80***	—
Gender	0.83	1.50	0.91	—
R ² demographics only			0.07	
Block 2				
Adversities				
Financial strain	0.61	1.17	0.81	—
Nonvictimization adversities	0.56	1.14	1.02	—
Polyvictimization	0.68	1.32	0.58***	—
Δ R ² when adversities added			0.12	
R ² adversities + demographics			0.19	
Block 3				
Polystrengths				
	1.00	1.42	1.16*	—
Regulatory strengths				
Positive emotion regulation	1.41	3.81	2.30***	—
Self-reliance	0.89	2.00	0.71†	—
Psychological endurance	0.62	1.38	1.26	—
Impulse control	0.57	1.27	0.94	—
Meaning-making strengths				
Sense of purpose	0.97	3.41	1.98*	—
Mattering	0.77	2.07	1.04	—
Future orientation	0.56	1.38	1.04	—

(continued)

Table 3. (continued)

Variables & R ² by block	High Subjective Well-being		Low Trauma Symptoms	
	Odds Ratio	95% CI	Odds Ratio	95% CI
Religious meaning making	0.88			
Relational motivation	0.81			
Interpersonal strengths				
Social support received	1.62*			
Community support	1.24			
School climate	1.11			
Compassion	1.24			
Social support seeking	1.00			
Teacher engagement	0.80			
Group connectedness	0.71†			
ΔR ² resilience portfolio strengths added	0.43			
Final R ² full model	0.51			

Note. High subjective wellbeing is defined as >0.5 SD above mean; low trauma symptoms as greater than -0.5 SD below the mean. Polyvictimization is the number of different victimization types reported. Polysrengths is an indicator of the breadth of one's resilience portfolio and is the number of other strengths in Block 3 with scores >0.5 SD. Final full model with all planned variables presented. At each block, the percentage of variance explained by the variables in that and any previous block is shown (R²). For Blocks 2 and 3, additional variance explained by the new variables is shown (ΔR²). CI=confidence interval; SD=standard deviation.

*p < .05. **p < .01. ***p < .001. †p < .10.

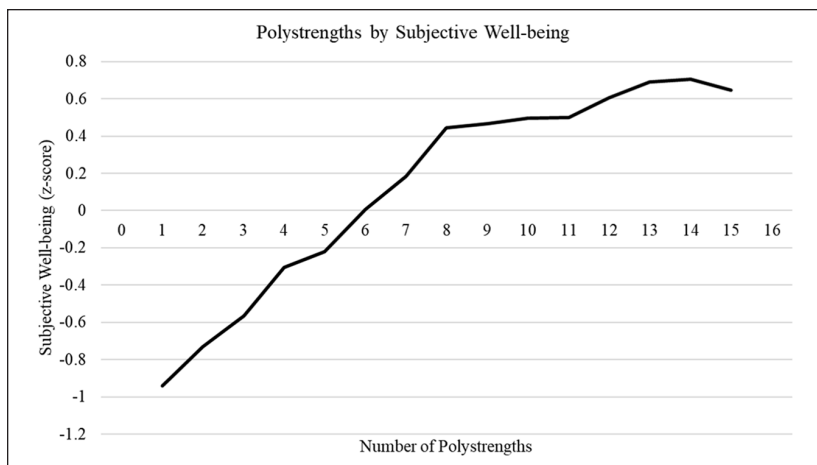


Figure 1. Subjective well-being by number of thriving strengths (polystrengths).
 Note. Lined smoothed with rolling averages.

symptoms were reverse scored so that higher levels of strengths (and larger odds ratios) were associated with better functioning—in this case, lower trauma symptoms. Older participants reported fewer trauma symptoms than younger ones ($p < .001$), but gender was not associated with trauma symptoms. Higher levels of polyvictimization were associated with worse trauma symptoms ($p < .001$), but financial strain and nonvictimization adversities were unrelated to trauma symptoms. The block of adversities explained 12% of the variance in trauma symptoms.

As with subjective well-being, the block of psychosocial strengths explained more variance than the block of adversities, but the difference was not as pronounced—17% versus 12%. Positive emotion regulation again demonstrated the largest association with trauma symptoms. Polystrengths were also significant, as was sense of purpose. Unexpectedly, some psychosocial strengths were associated with worse trauma symptoms. This included two forms of meaning-making, religious meaning-making and relational motivation, which were significantly associated with higher trauma symptoms. Two other strengths, self-reliance and social support seeking, approached significance in the direction counter to prediction.

Discussion

The results of this study indicate that psychosocial strengths—personal assets and external resources—explain more variance in the current functioning of

adults than a wide range of adversities, including polyvictimization, financial strain, and other stressful life events (43% for strengths vs. 7% for adversities for subjective wellbeing and 17% vs. 12% for trauma symptoms). This was true even in this sample with high rates of victimization and other adversity. Almost 9 in 10 reported at least one prior victimization, including bullying, assault, and caregiver abuse. Further, approximately three out of four reported some financial strain, and 99% reported prior exposure to stressful life events such as the death of a loved one. The average number of victimizations reported by each person was almost 4, with a lifetime mean of more than 10 adverse events of some type. These findings demonstrate the promise of the RPM and suggest that people can counter even high doses of victimization and adversity with sufficient strengths in their resilience portfolios. They also support other frameworks that point to resilience as a process involving multiple psychosocial factors (Denckla et al., 2020; Luthar, 2015; Masten, 2016; Rutter, 2012; Ungar, 2004). For both subjective well-being and trauma symptoms (indicators of current functioning), polystrengths, the total “dosage” of strengths in an individual’s resilience portfolio, was associated with better functioning. This article contributes to the basic science of healing by providing new quantitative data in adults for several strengths that have received little prior research attention.

Notably, many people in this sample reported relatively high levels of well-being despite high dosages of violent and adverse experiences. Although this may seem surprising, this is not an uncommon pattern and one that is fully consistent with the RPM. Numerous studies have indicated that resilience is the most common response following trauma (Bonanno, 2004; Masten, 2001), and prior resilience portfolio studies have also found that reports of well-being are high, despite high burdens of victimization and adversity (e.g., Brooks et al., 2024; Hamby, Grych, et al., 2018; Hamby et al., 2020b). At the bivariate level, results largely confirmed our hypotheses, with adversities generally associated with lower levels of functioning and strengths mostly associated with higher levels of functioning. This is consistent with other research. However, it is important to note that only some factors emerged as significant in the multivariate analyses.

Beyond the breadth of one’s resilience portfolio, as indicated by polystrengths, there were some specific strengths that made significant unique contributions to functioning after accounting for violence and adversity. The results for strengths that have previously been studied were consistent with earlier work. Specifically, the findings for sense of purpose were generally consistent with prior resilience portfolio studies and a broader literature showing the importance of this psychosocial strength (Park, 2010). Indeed, across several resilience portfolio studies (Brooks et al., 2024; Hamby et al., 2020b;

Hamby et al., 2023; Kelmendi & Hamby, 2024; Schultz et al., 2024), sense of purpose showed the strongest association with indicators of better functioning more than any other single strength. Although not the best predictor here, it was still uniquely associated with higher functioning.

There were mixed effects for the new measures of strengths in the current study. The results for positive emotion regulation are perhaps most notable, both because this was the strongest predictor of better functioning for both subjective well-being and trauma symptoms and because this form of emotion regulation has received so little attention in past literature. In an earlier resilience portfolio study with a different sample (Hamby, Grych, et al., 2018), the findings for negative emotion regulation (the ability to handle feelings of upset or distress, measured with a short form of the commonly used DERS) were mixed. In the 2018 study, negative emotion regulation did not predict subjective well-being (compare an odds ratio of 2.32 in this sample for positive emotion regulation vs. an odds ratio of 0.89 for negative emotion regulation in Hamby, Grych, et al.) and was significantly inversely associated with posttraumatic growth (0.83 in Hamby et al., 2020b, not measured in the current study). However, negative emotion regulation was significantly associated with lower trauma symptoms with an odds ratio similar to the one found here (2.30 in this sample for positive emotion regulation vs. 2.47 in the 2018 sample for negative emotion regulation). These data support Folkman and Moskowitz's proposal (Folkman & Moskowitz, 2000) that there are important facets to emotion regulation beyond managing negative emotions, even though existing literature has largely focused on negative emotions. Promisingly, promoting positive emotion regulation may be a tool for not just removing symptoms of anxiety but also for promoting well-being and thriving. If this holds true in future research, then it could be more beneficial for interventions to target positive emotion regulation skills versus managing negative emotions such as distress or anger, and incorporating a measure of positive emotion regulation may assist clinical practitioners.

Other than positive emotion regulation, some of the other strengths that we explored following qualitative work in prior studies did not show much promise. Self-reliance is a signature value in this southern region of the Appalachian foothills and the individualistic culture of the United States more broadly (Gessert et al., 2015; Hamby, Taylor, et al., 2018; Lohri-Posey, 2006; Reese, 2019). Nonetheless, self-reliance was not a significant predictor of functioning. We still think self-reliance is a construct worth further exploring as a feature of U.S. culture, even though it does not appear to contribute to overcoming violence and trauma. Indeed, it was nearly significant in the wrong direction for trauma symptoms, perhaps suggesting that self-reliance can easily tip into counter-dependence. The current study also found that

some strengths were significant for one outcome but not another. It may also be the case that strengths like self-reliance are important for promoting some well-being outcomes but not others or may be useful in response to some forms of adversity and not others.

There were some findings in the unexpected direction, including results for two other understudied strengths that we included, relational motivation and group connectedness. Higher relational motivation was significantly associated with higher trauma symptoms, and higher group connectedness approached significance in the wrong direction for subjective well-being. In these cases, we think that these findings share an interpersonal element with strengths that were significant in the unpredicted direction in other resilience portfolio datasets—generous behaviors, family care meaning-making, peer social support, and relational motivation (the latter two constructs in two youth samples) (Banyard et al., 2017; Hamby, Grych, et al., 2018; Hamby et al., 2020a; 2020b; Moisan et al., 2019). Others have similarly found that positive characteristics such as kindness were unexpectedly associated with worse outcomes in multivariate research (Chérif et al., 2022; Weziak-Bialowolska et al., 2023). In all these cases, the multivariate approach means that the results show *unique* associations with functioning, and this may reflect that there is an element of care burden in these interpersonal constructs that comes to the fore when the shared variance with other strengths is removed. Because cross-sectional data also does not permit assessment of the direction of effects, it may be that participants with higher trauma symptoms seek greater relational connections. Longitudinal studies are needed.

Religious meaning-making was also unexpectedly significant in the wrong direction. Again, we suggest that this might be due to the multivariate analyses. Although religion is obviously a longstanding and central approach to meaning-making, it can present difficulties for trauma survivors. Some religious organizations discourage divorce even in cases of domestic violence or child abuse, for example (Nason-Clark et al., 2018). Recent revelations about the cover-up of abuse by Catholic and Southern Baptist churches indicate that religious organizations can be the site of abuse as well as a source of secondary trauma. At the same time, victims often speak of faith as central to their ability to survive trauma. These complexities need further study.

In addition to being of interest at the construct level, these unexpected findings are also important for the construct of polystrengths. Although we still consider relational motivation, religious meaning-making, and related strengths to be assets, some strengths may not be contributing to resilience portfolios in ways that help with overcoming violence and trauma. They may have other benefits, not studied here. Going forward, researchers need to identify the best assets and resources to include in assessments of

polystrengths for the goal of identifying assets and resources that most help people overcome violence and trauma.

Strengths and Limitations

This study's findings should be considered with its strengths and limitations in mind. The study added to the range of psychosocial strengths that have been assessed in research on resilience after violence or other trauma in adults. The study also adds to the adult resilience literature by expanding the range of victimizations and other adversities that were considered in a single sample. However, it would be important to replicate these findings, ideally in samples drawn from other regions. This was a cross-sectional study, which is an appropriate and cost-effective means of exploring new ideas, but this line of research would be strengthened by longitudinal studies. Shared method variance is also a limitation, and future research could incorporate multiple informants or other data sources. Finally, the application of a theoretical framework, the RPM (Hamby, Grych, et al., 2018) is a strength, but we were not able to examine all potentially relevant strengths due to survey length and other resource considerations.

Implications

There is still much that we do not know about which psychosocial strengths—personal assets as well as external resources from families, peers, and communities—most contribute to resilience, the process of overcoming violence and trauma. The results of this study, with the strongest effect on the understudied construct of positive emotion regulation, suggest that there may be important strengths that we have not yet identified. The promising results for positive emotion regulation also need to be replicated in future work.

Regarding clinical implications, mindfulness is known to promote (negative) emotion regulation as well as meaning-making (Manco & Hamby, 2021). Mindfulness also reduces aggression (Tao et al., 2021) and so has the potential to interrupt the cycle of violence as well as help people overcome prior victimization. It is possible, although as yet unstudied as far as we are aware, that mindfulness also promotes positive emotion regulation. Recent work has also suggested that mindfulness is better than many psychotherapies for promoting overall well-being (van Agteren et al., 2021), and this may be because it targets two of the most promising strengths for enhancing well-being after violence and other trauma. A meta-analytic review of the experimental literature indicates that narrative interventions also help people increase meaning in their lives (Manco & Hamby, 2021). Formal therapy protocols that emphasize narrative for survivors of violence include narrative

exposure therapy (Lely et al., 2019) and trauma-focused cognitive behavioral therapy (Cohen et al., 2018). There are also tested interventions for adults that focus on improving emotion regulation (Cameron et al., 2018). A greater recognition of the key strengths that help people overcome violence will allow us to better target prevention and intervention to help people.


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Elizabeth de Wetter, BS, is a recent graduate of the University of the South. She earned her BS in Psychology in 2023 and has worked with Dr Hamby since 2020. She is particularly interested in developmental, social, and positive psychology. After graduation, she is exploring post-baccalaureate research positions in preparation for graduate school.

Katie Schultz, PhD, is a citizen of the Choctaw Nation of Oklahoma and an assistant professor of social work at the University of Michigan. Drawing on community-based participatory research approaches, her research focuses primarily on responding to violence and understanding community and cultural connectedness in American Indian and Alaska Native communities.

Elizabeth Taylor, MS, is a doctoral candidate at Oakland University in Michigan with a focus on Social Psychology, the conference director for ResilienceCon, and project manager for the Appalachian Center for Resilience Research (ACRR). Her BA in Psychology and MS in Experimental Psychology are from Augusta University in Georgia. Her work primarily focuses on coping with adversity through strengths-based resilience mechanisms.

Victoria Banyard, PhD, is the founding co-chair of ResilienceCon, a distinguished professor in the School of Social Work, and a member of the Center on Violence Against Women and Children. She is best known for her work on bystander approaches to violence and prevention, including developing the Bringing in the Bystander Program.