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Exploring strengths, psychological functioning and youth victimization among American Indians and Alaska Natives in four southern states

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ABSTRACT

Background: Identifying factors that support healthy psychological functioning after experiencing violence or other adversities in youth can lead to better prevention and intervention efforts. This is particularly important among communities with disproportionately high rates of adversity resulting from legacies of social and political injustices, such as American Indian and Alaska Native populations.

Methods: Data were pooled from four studies in the southern U.S. to examine a subsample of American Indian/Alaska Native participants ($N = 147$; mean age 28.54 years, $SD = 16.3$). Using the resilience portfolio model, we investigate the impact of three categories of psychosocial strengths (regulatory, meaning making, and interpersonal) on psychological functioning (subjective well-being and trauma symptoms), controlling for youth victimization, lifetime adversities, age, and gender.

Results: In examining subjective well-being, the full model accounted for 52 % of the variance, with strengths explaining more variance than adversities (45 % vs 6 %). For trauma symptoms, the full model accounted for 28 % of the variance, with strengths and adversities accounting nearly equally for the variance (14 % and 13 %).

Discussion: Psychological endurance and sense of purpose showed the most promise for bolstering subjective well-being while poly-strengths (having a diversity of multiple strengths) was most predictive of fewer trauma symptoms. Building psychosocial strengths offers promising strategies for prevention and intervention in Native nations and communities.

Despite demonstrating much strength and resilience, American Indian and Alaska Native (AI/AN or Native) populations experience disproportionately high rates of violence and adversity resulting from legacies of social and political injustices (Ehlers et al., 2013; Rosay, 2016; Sapra et al., 2014). Most research in Native nations and communities has focused on inequities and deficits, emphasizing rates, risk factors, and adverse consequences, with a focus on the impact of violence on mental health among this population (Brockie et al., 2015; Ehlers et al., 2013; Kenney & Singh, 2016; Richards et al., 2021). Fewer studies have focused on psychosocial strengths

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among this population. However, identifying strengths that support well-being is an essential element to promoting thriving after trauma. This is particularly true among AI/AN youth who experience high rates of victimization in childhood such as abuse and neglect (Brockie et al., 2015; Kenney & Singh, 2016). This type of victimization has been found to have long term impacts on behavioral and mental health in AI/AN populations, including substance misuse and alcoholism (Boyd-Ball et al., 2006; Greenfield et al., 2021; Whitesell et al., 2009). Identifying factors that support healthy psychological functioning after experiencing violence or other adversities in childhood, adolescence, and young adulthood can improve prevention and intervention efforts. This study adds to the literature on psychosocial strengths that promote psychological well-being following adversity with a focus on youth adversity within Native nations and communities.

1. Resilience portfolio model

This study is guided by the resilience portfolio model (Grych et al., 2015; Hamby, Grych, et al., 2018). The objective of the resilience portfolio model is to identify the most important strengths and protective factors for achieving well-being after adversity. The model assesses strengths in three domains: meaning making (connecting to something larger than oneself), regulatory (managing emotional and behavioral impulses), and interpersonal (resources of the social ecology). Innovations of this model include a focus on under-appreciated strengths and an attention to thriving, not just the absence of pathology. The resilience portfolio model examines multiple elements of the social ecology (individual, peer, family, community) and “poly-strengths”, or the overall “dosage” of strengths in one’s portfolio. The model also focuses on malleable characteristics (vs. sociodemographic correlates or historical factors) and comparisons of strengths to guide the best use of resources for prevention and intervention. This is particularly relevant for communities or populations with limited time or resources by identifying the most important or effective targets (e.g., emotion regulation or social support? A sense of purpose or compassion?). A basic tenet of the resilience portfolio model is that it is helpful to have a range of different strengths to adapt to challenges. The model is well-suited for and has been used in a variety of cultural contexts, including Canada, Spain, Kosovo, and U.S. settings (Gonzalez-Mendez et al., 2018; Hamby, Grych, et al., 2018; Kelmendi & Hamby, 2022; Moisan et al., 2019).

2. Adversities and American Indian/Alaska Native youth

A wide range of adversities, such as youth victimization and family dysfunction, can negatively impact functioning into adulthood. Effects on wellbeing are especially large when the lifetime burden of multiple types of adversities are considered, as shown by research on adverse childhood experiences (ACEs; family-based abuse and other problems; Felitti et al., 1998) and polyvictimization (family, peer, and community victimization; Finkelhor et al., 2009). These lines of research have demonstrated that exposure to childhood adversities often has long-term health effects lasting into adulthood (Boyd-Ball et al., 2006; Gilbert et al., 2015; Greenfield et al., 2021; Whitesell et al., 2009).

These impacts have been found in numerous studies among AI/AN nations and communities (Brockie et al., 2015; Kenney & Singh, 2016; Warne et al., 2017). This body of research has shown that AI/AN youth experience ACEs such as abuse (emotional, physical, and sexual), neglect, and witnessing violence at much higher rates than non-Native individuals (Kenney & Singh, 2016; Richards et al., 2021). Exposure to ACEs have been found to be associated with a host of mental health issues in adolescents, including higher risks of suicidality, drug use, depression, and mood disorders (Brockie et al., 2015; Dickerson & Johnson, 2012; Edwards et al., 2021). The impacts of victimization in childhood and adolescence have been found to have long-term consequences in AI/AN adults, contributing to health issues such as Post-Traumatic Stress Disorder, anxiety, depression (Warne et al., 2017), substance abuse, alcoholism, and smoking (Boyd-Ball et al., 2006; Emerson et al., 2017; Greenfield et al., 2021; Whitesell et al., 2009). In one study of past 6-month victimization among AI/AN youth, victimization was related to depressive symptoms, suicidal ideation, and alcohol use (Edwards et al., 2021). Despite a primary focus on individual characteristics, researchers have examined contemporary adversities within sovereign tribal nations and other AI/AN communities and nations as a consequence of structural factors such as historical trauma resulting from settler colonialism and genocidal policies perpetrated by the U.S government (Brave Heart et al., 2011; Brown et al., 2022; Grayshield et al., 2015), in some cases linking them to the high prevalence of polyvictimization within AI/AN nations and communities today (Hamby et al., 2020; Schultz et al., 2016).

3. Psychosocial strengths and psychological functioning in AI/AN communities

Sovereign tribal nations as well as advocates, community members, and scholars working with Native nations and communities have called for more strengths-based research. These calls are a response to legacies of deficit-based research that has developed damaging narratives about Native peoples (Teufel-Shone et al., 2016; Tuck, 2009; Yuan et al., 2015). Native youth demonstrate resistance and resilience despite multiple stressors and adversities in their lives, yet research that reflects specific psychosocial strengths that contribute to that resilience is limited.

In the general realm of research on victimization and trauma, strengths-based approaches and research on resilience have been growing (Hamby et al., 2021). However, research on resiliency in AI/AN nations and communities continues to be sparse and focused primarily on adult experiences (Grandbois & Sanders, 2009; Ritland et al., 2020), and many do not examine psychological functioning outcomes specifically. Further, in this emerging area, many studies only include measures of one or two strengths, which limits our ability to compare across a range of strengths and identify those most helpful for overcoming trauma. As a result, there is a need for basic science on which strengths most mitigate the impacts of early adversity among Native youth.

Among the few studies that have used strengths-based approaches with AI/AN youth, there are findings that provide support for domains included in the resilience portfolio. [Henson et al. \(2017\)](#) examined protective factors associated with positive health outcomes among Native adolescents in a review of studies focused on mental health behaviors (e.g., substance abuse, alcoholism, suicidality and depression). They found that meaning making factors, such as future aspirations, and interpersonal factors, such as social support and connectedness, had a positive effect on many of the behavioral and psychological outcomes analyzed, including alcohol abuse, substance abuse, suicidality, depression, and emotional health. Other studies have emerged examining strengths that may contribute to some facet of psychological functioning. [Evans and Davis \(2018\)](#) found that a meaning-making mechanism they describe as sense of coherence contributed to a reduction in symptoms associated with historical trauma in a sample of AI youth. Others have found that the meaning making factors related to cultural values and traditions serve as preventative factors for substance abuse and can foster a healthy sense of well-being ([Brown et al., 2022](#)), as well as reducing suicide risk ([Barnett et al., 2020](#)).

Thus, although several studies have identified elements of the resilience portfolio model as promising protective factors for youth in Native nations and communities, there remains a need for basic, theoretically informed science on which strengths most help Native youth overcome trauma and adversity. Studies that compare a range of strengths to identify promising intervention targets more efficiently are also needed.

4. Present study

This study examines the association of psychological functioning (subjective well-being and trauma symptoms) with three adversities (youth polyvictimization, other life events, and county income as an indicator of area poverty) and five psychosocial strengths among people who identify as AI/AN from the southern U.S. We assessed psychosocial strengths in all three resilience portfolio domains, including one, psychological endurance, that was based on prior work in the San Carlos Apache Reservation ([Hamby, Grych, et al., 2018](#)). We identified which strengths have the strongest relationship with subjective well-being and trauma symptoms, after controlling for adversities, age, and gender. Based on the existing evidence base, we hypothesized that adversity will be common and inversely correlated with subjective well-being and positively correlated with trauma symptoms. We did not form hypotheses about strengths most associated with subjective well-being and trauma symptoms due to limited prior research among Native people, but we did expect all psychosocial strengths to be positively associated with subjective well-being and inversely correlated with trauma symptoms.

5. Research design and methods

5.1. Study sample

This study draws from a community sample of residents in four southern states – Tennessee, Georgia, Alabama, and Mississippi. For three of the resilience portfolio model studies, participants were recruited at local community events, such as festivals and county fairs, through word-of-mouth, advertisements, and community organizations. In the fourth study, participants were recruited through local community organizations. This range of recruitment strategies allowed researchers to reach segments of the population rarely included in psychological research. Data from four resilience portfolio model studies were pooled to create a sufficiently large sample of AI/AN respondents ([Cheng et al., 2022](#); [Hamby et al., 2020](#); [Hamby, Blount, et al., 2018](#) ; [Hamby, Grych, et al., 2018](#)). Surveys were collected between 2013 and 2018. The sample for this study included 147 adolescents and adults (mean age 28.54 years, SD = 16.26) who identified as American Indian or Alaska Native (57 % female). Most lived in small towns or rural areas (49 % in towns with populations 2500-19,999; 38 % in locales with populations under 2500) and 89 % lived in counties with median household incomes below the national average.

5.2. Data collection and procedures

A computer-assisted self-interview survey was administered using the SNAP11 program on laptops or tablets. For the first and longest survey, participants received a \$30 Walmart gift card. In studies 2 and 3, participants received a \$20 Walmart gift card and in study 4, a \$20 incentive for each participant was provided to youth organizations (due to funding agency requirements). The pooled average completion rate across all studies was 91 %. This is an excellent rate of completion by current survey standards, with survey completion rates often under 70 % ([Abt SRBI, 2012](#); [Galesic & Bosnjak, 2009](#)). Informed consent was obtained from participants for adults (18 years and over) and informed consent from a parent and assent were collected for youth participants. The IRB of the host institution approved all procedures. Because researchers were not focused specifically on recruiting an AI/AN population nor were they working in collaboration with any tribal nations or organizations, tribal review of the research was not included.

5.3. Measures

Questionnaires changed across datasets as investigators sought to refine and improve measures. The dataset for these analyses includes measures of adversities, strengths, and psychological functioning that were present across all four surveys.

Adversities included three broad domains—youth polyvictimization, other adverse life events, and county poverty. *Youth Polyvictimization* was assessed using six items from the Juvenile Victimization Questionnaire (JVQ; [Finkelhor et al., 2009](#); [Hamby, Grych, et al., 2018](#)). These items include exposure to violence in the home; caregiver physical assault, emotional abuse and neglect; and two

items on peer victimization. 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 polyvictimization research, dichotomous items (“yes” or “no”) were summed to create a youth polyvictimization index. Alpha was 0.77 in this sample. *Adverse Life Events*. A 2-item scale, adapted from prior work (Turner et al., 2013) measures experiences that are not intentional victimizations. Responses were dichotomous with “yes” answers summed to create a total score. A sample item is “At any time in your life, has a family member or close friend died?” No internal consistency is reported (endorsing one event does not necessarily involve experiencing another). *County poverty*. Average median household income for participants’ county of residence was \$46,982 ($SD = 16,283.50$) in 2016 (most recent U.S. Census information at time of coding). This is 21 % lower than the U.S. average of \$59,039. Nearly nine out of 10 participants (88.9 %) lived in counties with median household incomes below the national average. This matches household income levels seen among the general sample. Thus, these household incomes are not unique for the AI/AN population in this region but are a reflection of the overall population in these four states.

Strengths assess different aspects of regulation (managing emotional and behavioral impulses), meaning making (connecting to something larger than oneself), and interpersonal networks (resources of the social ecology). These scales were developed or adapted via a mixed-methods process described elsewhere (Hamby, Grych, et al., 2018; Hamby et al., 2019). The *Psychological Endurance Scale* is a simplified, 4 item version of a measure (Hamby, Grych, et al., 2018) to assess one’s ability to persevere despite challenges (internal consistency assessed by coefficient $\alpha = 0.75$). A sample item is “I find it comforting to stick to my routine when I am facing tough times.” *Sense of Purpose* (2 items; $\alpha = 0.80$) involves feeling like one has a sense of meaning in life and a reason for living. Adapted from a previous version (Hamby, Grych, et al., 2018). A sample item is: “My life has a clear sense of purpose.” *Religious Meaning-making* (5 items; $\alpha = 0.84$) assesses engagement in faith and religious/spiritual practices (Hamby, Grych, et al., 2018). Sample item: “I often think about my faith and spiritual beliefs.” *Community Support* (Roberts et al., 2015) is six items that assess the degree to which one’s neighbors get along and help one another ($\alpha = 0.83$). A sample item is “People in my neighborhood offer help to one another.” *Compassion* (Hamby, Grych, et al., 2018) measures how people engage with others in a caring and helpful way (4 items, $\alpha = 0.76$). A sample item is “If I see someone going through tough times, I try to be caring toward that person.”

Following prior work (e.g., Hamby, Grych, et al., 2018), we defined “poly-strengths” as the total number of strengths each participant reported at above average levels ($> 0.5 SD$). 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 5 (total number of protective factors we surveyed), with a mean of 1.95 ($SD = 1.60$).

Psychological functioning was assessed using two variables, trauma symptoms and subjective well-being. *Trauma symptoms* (7 items, $\alpha = 0.87$) assessed a range of feelings of dysphoria, anxiety, or guilt associated with posttraumatic stress disorder and other anxiety and mood disorders (adapted from Briere, 1996; Finkelhor et al., 2009 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 created a dichotomized score to indicate *resilient mental health*, which was scored as ≤ 0.5 standard deviations below the standardized mean, to identify the highest functioning subgroup of participants in this sample with the fewest trauma symptoms. *Subjective well-being* (4 items, $\alpha = 0.84$) encompasses one’s satisfaction with the quality of their life and represents an attempt to move beyond mental health symptomology (or its absence) as an outcome (Hamby, Grych, et al., 2018). A sample item is “I really feel good about my life.”

5.4. Data analysis

Data analyses were based on prior work using the resilience portfolio model (Banyard et al., 2017; Hamby, Grych, et al., 2018). First, scale scores were standardized (converted to Z-scores; mean converted to 0 with a standard deviation of 1). Pearson correlation analyses between study measures were conducted. The unique contributions of adversities and psychosocial strengths on psychological functioning was analyzed using hierarchical logistic regression. For this analysis, outcome variables (subjective wellbeing and trauma symptoms) were transformed into dichotomous variables ($> 0.5 SD = 1$) to identify associations with above-average well-being and mental health. Our goal is to identify promising factors for promoting thriving. In the hierarchical logistic regression, age and gender were entered in the first block, youth polyvictimization, other adversities, and county poverty in the second, and poly-strengths and the five psychosocial strengths in the third.

6. Results

6.1. Overview of psychological functioning

Participants’ subjective well-being scores were relatively positive. The majority of participants answered “somewhat true” or “mostly true” in response to being asked if they are happy and if they feel good about their life (77.4 % and 78.4 % respectively). Over half of the sample (62 %) reported having a lot of to be proud of in their lives. These findings suggest that it is possible to attain good functioning despite prior trauma or adversities. Nonetheless, about one-third of the sample reported feeling lonely (38.4 %) or sad (34.7 %). Feeling worried or anxious was the most common symptom reported with 55.8 % of participants reporting that this was somewhat or mostly true.

6.2. Youth victimization and other adversities

To provide a context for the multivariate analyses, we first present some descriptive data on levels of exposure in this sample.

Exposure to violence during youth was high among this sample. About 8 in 10 participants (83.7 %) reported one or more youth victimization experiences. Social exclusion by peers was most common (68.3 %), followed closely by relational aggression by peers (67.1 %). The median number of reported youth victimizations among this sample was equal to 2 ($M = 2.42$, $SD = 1.76$). More than 2 out of 3 individuals in this sample (66.7 %) reported two or more forms of youth victimization. See Table 1. Non-victimization adversities over the lifetime were even more common, with at least one type of non-victimization adversity reported by 9 out of 10 participants (90.4 %), including 81.6 % reporting the death of a family member or friend and 80.6 % experiencing the serious illness of a family member or friend. While many people experience adversities, for the sake of this study we were most interested in how AI/AN people maintain good psychological functioning in the aftermath of youth victimization.

6.3. Correlational analyses

Subjective well-being was significantly inversely correlated with trauma symptoms ($r = -0.33$) and significantly positively correlated with four of the five strengths: sense of purpose ($r = 0.65$), psychological endurance ($r = 0.55$), religious meaning making ($r = 0.40$), and compassion ($r = 0.41$). Trauma symptoms were positively correlated with youth victimization ($r = 0.29$) and other adversities ($r = 0.20$) and inversely correlated with sense of purpose ($r = -0.29$) and religious meaning making ($r = -0.20$). See Table 2 for correlations among all variables. Most psychosocial strengths were moderately intercorrelated, as would be expected, but none so highly intercorrelated as to suggest they were indicators of the same construct. Moreover, polyvictimization among this sample indicates a negative effect on subjective well-being (Fig. 1) and a positive relationship with trauma symptoms (Fig. 2).

6.4. Predictors of psychological functioning

To determine which risk and protective factors showed unique associations with subjective well-being and resilient mental health, hierarchical logistic regression was conducted. Each block shows the variance associated with demographics, adversities, and strengths. Age and gender were not significantly associated with psychological functioning in this sample. In multivariate analysis no adversities were uniquely associated with subjective well-being; taken together adversities explained 6 % of the variance (Table 3). Strengths explained 45 % of the variance in subjective well-being, with psychological endurance and sense of purpose both significantly associated with greater well-being. The total R^2 for the full regression model for subjective well-being was 52 %.

Polyvictimization remained significantly associated with resilient mental health (low trauma symptoms) in the multivariate model, with overall adversities explaining 13 % of the variance in trauma symptoms (Table 4). In this model, strengths explained 14 % of the variance in trauma symptoms. Poly-strengths (indicating the total dosage of strengths) was significantly associated with resilient mental health (low trauma symptoms) in this model. Although compassion was not associated with trauma symptoms at the bivariate level, in multivariate analysis it was the only individual strength significantly associated with trauma symptoms. However, unexpectedly, the effect indicated that higher levels of compassion were associated with greater trauma symptoms. The total R^2 for the full regression model for trauma symptoms was 28 %.

7. Discussion

This is the first study of which we are aware to examine the impact of youth polyvictimization, other adversities, and multiple interpersonal strengths on current psychological functioning among an AI/AN sample in the southern U.S. We found that a notable share of the variance in subjective well-being (52 %) was explained in multivariate analyses. Notably, strengths explained nearly 5 times as much variance in subjective wellbeing as adversities (45 % vs 6 %), an especially striking finding given the high rates of youth victimization and other adversity in this sample (more than 8 in 10 participants reported any youth victimization and more than 2 out of 3 reporting multiple victimizations or polyvictimization). Sense of purpose, a meaning-making strength, had the strongest impact on subjective well-being. Psychological endurance, a regulatory strength that suggests the ability to persevere, also had a significant impact. This suggests that perhaps connecting to something larger than themselves is an important indicator of strength and resilience and developing the ability to persevere may be protective among this population.

Youth polyvictimization was positively correlated with trauma symptoms at both the bivariate and multivariate levels, but other

Table 1
Prevalence of victimization.

Victimization type	Prevalence rate (%)
Social exclusion by peers	68.3 %
Relational aggression by peers	67.1 %
Psychological/emotional abuse by caregiver	33.1 %
Exposed to parent threatened by another parent	28.3 %
Physical assault by caregiver	27.4 %
Neglect	20.4 %
Any victimization	83.7 %
Poly-victimization index	$M = 2.42$, $SD = 1.76$ Median = 2, range = 0–6

Note: $n = 147$.

Table 2

Strength and outcome correlations for American Indian sample.

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Subjective Well-being	–	–0.33**	0.06	0.21*	0.05	–0.13	–0.05	0.50**	0.65**	0.55**	0.40**	0.16	0.41**
2. Trauma Symptoms		–	–0.15	0.06	0.05	0.29**	0.20*	–0.20*	–0.29**	–0.13	–0.20*	0.02	0.01
3. Age			–	0.09	–0.06	0.22*	–0.19*	0.30**	0.08	0.15	0.25**	0.07	0.12
4. Gender				–	–0.04	0.11	–0.03	0.14	0.08	0.08	0.09	0.10	0.33**
5. Median Household Income					–	–0.04	0.10	–0.02	0.01	0.01	–0.08	–0.04	0.03
6. Youth Victimization						–	–0.01	0.10	0.01	0.01	–0.08	–0.04	0.03
7. Other Adverse Life Events							–	–0.02	0.06	0.09	–0.08	–0.03	0.06
8. Polystrengths								–	0.59**	0.59**	0.65**	0.46**	0.52**
9. Purpose									–	0.56**	0.51**	0.14	0.35**
10. Endurance										–	0.39**	0.20*	0.38**
11. Religious Meaning-making											–	0.31**	0.38**
12. Community Support												–	0.41**
13. Compassion													–

* $p < .05$.** $p < .01$.

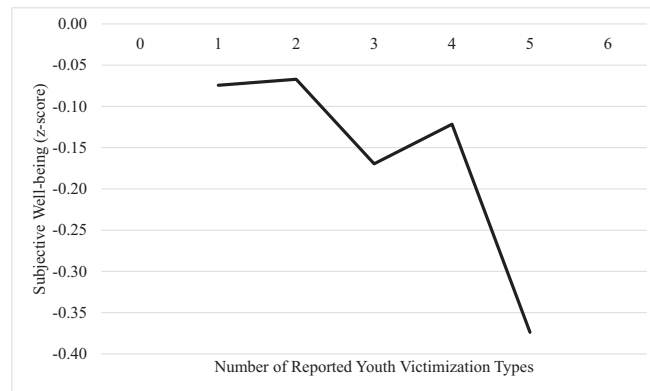


Fig. 1. Subjective well-being by number of youth victimizations (poly-victimization).

Note: Line smoothed with rolling averages.

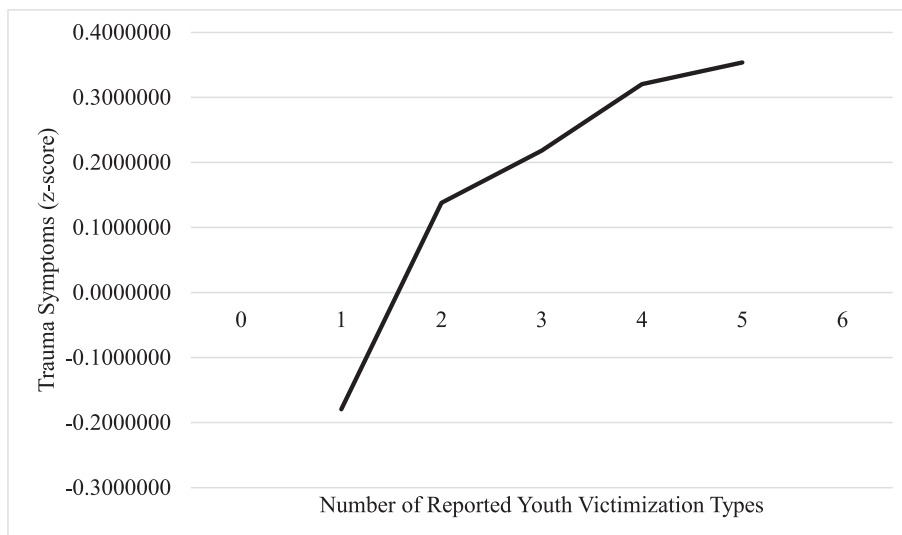


Fig. 2. Trauma symptoms by number of youth victimizations (poly-victimization).

Note: Line smoothed with rolling averages.

adversities and poverty were not. Although these findings only partially support our hypothesis that adversities would be positively correlated with trauma symptoms, they do highlight the long-term impact of youth victimization. The multivariate model of resilient mental health showed nearly equal variance for strengths and adversities (13 and 14 %). Findings indicate that the AI/AN subsample mirror the larger sample population in finding that while indicating high rates of trauma, they also scored high in resiliency (e.g., see Hamby, Grych, et al., 2018) showing that it is possible to have high endorsement of aspects of wellbeing even in the presence of high doses of trauma and trauma symptoms. These results suggest that prevention and intervention efforts should focus not only on reducing adversity, but also supporting personal strengths. Poly-strengths (having a diverse portfolio of multiple strengths) was a significant indicator in this model, suggesting that one's total dosage of strengths may be important in developing or maintaining resilient mental health when faced with victimization and other adversities. Interestingly, of the specific strengths, only compassion was significantly associated with resilient mental health in the multivariate analysis, and the effect was in an unexpected direction, indicating greater compassion was associated with worse trauma symptoms. This suggests that there may be an element of caregiver burden in compassion that is revealed in multivariate analyses. Other interpersonal strengths (such as generous behaviors) have shown similar patterns in prior resilience portfolio studies (e.g., Banyard et al., 2017), and we speculate that individuals may need a robust resilience portfolio that provides a surplus of assets and resources that they can then "spend" to help others (Hamby, Grych, et al., 2018).

Findings support previous research focused on protective factors aimed at reducing issues such as substance misuse or suicidality among this population. In a recent systematic review researchers identified several individual-level strengths that appear protective against suicide attempts among AI/AN youth (Wiglesworth et al., 2022). In one study, sense of purpose was associated with lower rates of suicide attempts (Chino & Fullerton-Gleason, 2006). In another study cited in the review, higher internal assets, measured in part as

Table 3

Hierarchical logistic regression of adversities and strengths as predictors of subjective well-being.

	Subjective Well-being	
	Odds Ratio	95 % CI
Block 1		
Age	0.78	0.47–1.28
Gender	1.12	0.68–1.83
R ² Demographics Only	0.01	
Block 2		
Adversities		
Median household income	1.19	0.71–1.98
Youth Victimization	0.75	0.44–1.28
Other Adverse Life Experiences	0.93	0.49–1.75
ΔR^2 when adversities added	0.06	
R ² Adversities + Demographics	0.07	
Block 3		
Poly-strengths	1.23	0.43–3.74
Regulatory Strengths		
Endurance	3.21*	1.31–7.88
Meaning-making Strengths		
Purpose	4.61*	1.59–13.39
Religious Meaning-making	0.75	0.35–1.61
Interpersonal Strengths		
Compassion	1.41	0.65–3.09
Community Support	1.02	0.58–1.77
ΔR^2 Resilience Portfolio Strengths added	0.45	
Final R ² Full Model	0.52	

Final full model with all planned variables included. At each block, the percentage of variance explained by the variables in that and any previous block is shown (R^2). For Blocks 2 and 3, the additional variance explained by the new variables is shown (ΔR^2).

* $p < .05$.

having control over their life or future, was protective against suicide attempts among youth who were either victims or perpetrators of bullying (Gloppen et al., 2018).

One important finding from this study, considering limited work on bullying and peer victimization among AI/AN youth, were findings that peer victimization was a leading cause of youth victimization among this sample. Research among AI/AN youth has documented bullying as a leading cause of past 6-month youth victimization (Edwards et al., 2021). Other research among First Nations youth indicated that bullying was associated with increased psychological distress, but that feelings of community belonging buffered the effect of bullying on distress (Paul et al., 2022). Researchers in that study also found that among those reporting cyberbullying, participants who participated in community cultural events reported less distress. Although there are certainly interpersonal elements to many cultural traditions, we should consider the role of community and cultural connectedness and their relations to meaning making (sense of purpose) and regulatory (psychological endurance) strengths.

More broadly, other literature also reinforces the importance of meaning making and committing to preserving tribal traditions. In previous literature, self-efficacy and interest in tribal culture were associated with less violent behavior among AI/AN participants (Pu et al., 2013) and in a study of Alaska Native youth, activities related to culture and social ties were beneficial in reducing violence exposure (Rasmus et al., 2014). These also suggest that meaning making, and in particular culturally specific meaning making, plays an important role in promoting wellbeing among Native people. In previous work with this sample, researchers found that sense of purpose, another meaning making strength, showed the most promise for promoting physical health-related quality of life (Hamby et al., 2023).

7.1. Strengths and limitations

As with any cross-sectional study, we are limited to describing rates and associations. However, this is a cost-effective approach to an understudied area and we hope that this work will be able to guide future longitudinal studies. This study collected self-identified data on racial identity without regard to tribal membership, time spent on reservation vs urban communities, cultural connectedness or other community-specific protective factors. Further research is needed to better reflect the large variability among AI/AN people's

Table 4

Hierarchical logistic regression of adversities and strengths as predictors of resilient mental health (low trauma symptoms).

	Resilient Mental Health (Low Trauma Symptoms)	
	Odds Ratio	95 % CI
Block 1		
Age	1.07	0.69–1.65
Gender	1.18	0.74–1.87
R ² Demographics Only	0.01	
Block 2		
Adversities		
Median household income	0.87	0.56–1.34
Youth Victimization	0.47*	0.28–0.78
Other Adverse Life Experiences	0.78	0.47–1.31
Δ R ² when adversities added	0.13	
R ² Adversities + Demographics	0.14	
Block 3		
Poly-strengths	2.63*	1.19–5.83
Regulatory Strengths		
Endurance	1.01	0.56–1.84
Meaning-making Strengths		
Sense of Purpose	1.45	0.70–3.02
Religious Meaning-making	0.57	0.29–1.13
Interpersonal Strengths		
Community Support	0.80	0.49–1.31
Compassion	0.61*	0.39–0.98
Δ R ² Resilience Portfolio Strengths added	0.14	
Final R ² Full Model	0.28	

Final full model with all planned variables included. At each block, the percentage of variance explained by the variables in that and any previous block is shown (R^2). For Blocks 2 and 3, the additional variance explained by the new variables is shown (ΔR^2). The trauma symptoms measures has been reverse-scored so higher scores represent resilient mental health in the form of lower trauma symptoms.

* $p < .05$.

lives and experiences. The regional location of the study in the southern U.S. limits our ability to draw conclusions about a larger AI/AN population. Moreover, we acknowledge that individual features of communities in which resident live have direct implications for resiliency and ability to navigate adversity. Data was not collected about these larger ecological factors and attention to these factors would strengthen future work on these topics. However, this is the first study, as far as we are aware, that explores strengths contributing to resilience among AI/AN people in this region.

7.2. Implications

This is a descriptive, exploratory study that expands our understanding of psychosocial strengths among an AI/AN population, particularly with respect to their relationship to youth adversity. Overall, our findings suggest that it is possible to attain good functioning despite prior trauma or adversities and that building psychosocial strengths offers promising strategies for prevention and intervention in Native nations and communities. However, more research is needed to identify assets and resources that help Native people overcome adversity. Mixed methods and qualitative approaches would be especially important to explore strengths that may not be represented in mainstream resilience research. More work on peer victimization among AI/AN adolescents and its impact on psychological functioning and wellbeing during adolescence and into adulthood is warranted. And finally, researchers should consider partnering with tribal nations and organizations and the inclusion of Indigenous methodologies in future work focused on these topics in AI/AN populations.

Our findings suggest that identifying and developing opportunities to support or expand psychosocial strengths may be a promising avenue for promoting wellbeing after adversity among this population. A variety of relatively low-cost, easily implementable interventions developed outside AI/AN nations and communities such as narrative interventions that include reflective writing about life experiences or mindfulness as a practice for developing better self-awareness have demonstrated some impact on developing meaning in life (Manco & Hamby, 2021). Mindfulness has also been associated with increased regulation (Heppner et al., 2015). These types of interventions could potentially be helpful in Native nations and communities. Storytelling is a revered practice in Indigenous communities. Narrative interventions with this population should be considered, particularly with regard to healing and resilience (e.g.,

BigFoot & Dunlap, 2006; Charbonneau-Dahlen et al., 2016).

The focus on research protective factors is growing and is increasingly multi-level. In one example seen in ongoing work to reduce suicide among Alaska Natives, researchers now measure protective factors as outcomes of their intervention, rather than assessing changes in risks such as alcohol use or suicide (Allen et al., 2022, 2023). The authors point out that this approach is not only more culturally congruent in that setting, but also particularly useful in populations with smaller sample sizes and for problems with low base rates, such as suicide. In the theory of change guiding an intervention called Qungasvik, researchers hypothesized that changes in intermediate variables measured at the individual, family, and community level would lead to changes in ultimate variables that buffer suicide and alcohol misuse risk. Interestingly, effects of the Qungasvik intervention were associated with ultimate but not intermediate variables. Relevant to findings from our study, one ultimate variable that was associated with change in this intervention was a measure of meaning in one's life (Allen et al., 2022, 2023). A review of protective factors in AI/AN suicide prevention science highlights the importance of clarifying concepts such as protection, resilience, and cultural continuity in research on protective factors (Allen et al., 2022, 2023). Notably, the authors call for a focus on growth in protective factors rather than risk reduction within intervention development and for multilevel suicide prevention strategies (individual and community/societal targets).

Complex issues stemming from settler colonialism, historical trauma, and persistent contemporary inequities all contribute to youth adversity among AI/AN populations. Consequently, it is also important to consider preventive interventions and programming that focuses more broadly on community connection and how that may foster individual protective strengths. This aligns with previous work calling for examinations of cultural and community connectedness as protective among AI/AN populations in areas such as intervention development (Whitesell et al., 2020), violence prevention and intervention (Schultz et al., 2016; Schultz et al., 2021) and suicide prevention (Allen et al., 2022, 2023). Numerous culturally specific interventions are designed and implemented to develop personal strengths and resiliency among AI/AN populations, particularly with regard to healing from trauma (Fernandez et al., 2021; Schultz et al., 2016). And there is a strong body of literature on cultural connectedness in Native nations and communities and interventions (e.g., Allen et al., 2022, 2023; Gonzalez et al., 2022; Whitesell et al., 2020). The Indigenous Connectedness Framework outlines core concepts and frameworks of Indigenous wellbeing, with a focus on child wellbeing (Ulrich, 2019). This framework describes the roles of environmental, community, family, intergenerational, and spiritual connectedness in collective wellbeing (Ulrich, 2019), emphasizing the need to consider more inclusive contexts that may support *individual* wellbeing. This framework has been applied to the child welfare system and adapted to consider its role in larger systems changes (policy and practice) that should be taken within a context of historical trauma and settler colonialism and guided by sovereign tribal nations (Chase & Ulrich, 2022).

Connections to community and culture offer promise for developing meaning making within one's personal life and should be considered when developing programs or interventions aimed at developing or supporting personal strengths among this population. There is an urgent need for more science on protective or strengths-based factors to guide practice and policy by or in partnership with AI/AN nations and communities. Programs integrating these factors in AI/AN settings should consider within and across case comparisons to identify the most effective approaches. While growing, the existing literature remains scattered across AI/AN nations and communities and settings and provides limited guidance on developing programs and interventions. Identifying mechanisms at the individual and community level that support healthy psychological functioning after experiencing youth victimization or other adversities show promise for prevention and intervention efforts. Similar potential should be considered for extension to health promotion and increasing wellbeing more broadly among this population.

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Data availability

Data will be made available on request.

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