Health-Related Quality of Life among American Indian and Alaska Native People: Exploring Associations with Adversities and Psychosocial Strengths

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Identifying psychosocial strengths that support physical health can lead to better pathways to prevention and intervention. Relying on the resilience portfolio model as a conceptual framework, this study explores strengths in three domains (regulation, meaning making, and interpersonal) to identify promising protective factors to support physical health-related quality of life (P-HRQOL), controlling for prior exposure to adversity, age, and gender. This study uses data from four resilience portfolio model studies collected in the southern United States, combined to increase the number of people who identified as American Indian/Alaska Native. The sample included 147 people (M age = 28.5 years; SD = 16.26), of which 57 percent are female. The surveys collected data on adversities (polyvictimization, other adversities, county poverty), psychosocial strengths (psychological endurance, sense of purpose, religious meaning making, compassion, and community support), and P-HRQOL. The full model accounted for 24 percent of the variance in P-HRQOL, with strengths explaining more than twice as much variance as adversities (13 percent versus 6 percent). A sense of purpose showed the most promise for supporting P-HRQOL. Regarding implications, authors recommend exploring a wider range of protective factors that might improve resilience in Native communities. Several evidence-based pathways to meaning making, such as narrative and mindfulness, may improve health outcomes for Native people.

KEY WORDS: *adversities; health-related quality of life; Indigenous people; polyvictimization; resilience*

Understanding pathways to overcoming trauma is needed in American Indian and Alaska Native (AI/AN or Native) communities, whose members often experience high rates of trauma (Ehlers et al., 2013; Rosay, 2016; Sapra et al., 2014). Identifying key strengths that can support well-being is an essential element to promoting thriving after trauma, but much research in Native communities has a deficit-based lens that emphasizes rates, risk factors, and adverse consequences. Emerging research suggests that a range of strengths can help ameliorate the impact of trauma on physical health-related quality of life (P-HRQOL), an indicator of physical well-being that assesses aspects of positive health, such as feeling full of energy, in addition to assessing whether illness or pain interferes with daily activities (e.g., Banyard et al., 2017). Although several studies have examined P-HRQOL in Native communities, we are aware of no studies that have explored the impact of adverse experiences on P-HRQOL among Native people, nor any on malleable psychosocial strengths that promote physical well-being in this population despite high levels of adversity. The purpose of this study was to explore the contributions of adverse experiences and five psychosocial strengths to P-HRQOL among AI/AN people.

ADVERSITIES AND HEALTH IN AMERICAN INDIAN AND ALASKA NATIVE COMMUNITIES

A wide range of adversities, such as victimization and family dysfunction, can have negative health consequences. Effects on health are especially large when the lifetime burden of multiple types of adversities is considered, as shown by research on adverse childhood experiences (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 (Gilbert et al., 2015).

P-HRQOL has received some study in AI/AN communities (e.g., Poltavski et al., 2010; Scarton et al., 2021). Research has shown that serious medical conditions are associated with lower P-HRQOL among AI/AN people, including diabetes, hypertension, and musculoskeletal conditions (Gilliland et al., 1998; Goins et al., 2006; Jiang et al., 2009; Scarton et al., 2021). Life circumstances, such as family income and employment status, are also associated with P-HRQOL for AI/AN people (Goins et al., 2006; Poltavski et al., 2010). We could not locate any studies on the association of victimization or other adversity with P-HRQOL among Native people, but other research has found that adversities negatively impact P-HRQOL (e.g., Sørensen et al., 2012). P-HRQOL is also affected by historical trauma in Native communities, due to policies of forced removal and relocation by the U.S. government (Schultz et al., 2016).

Health, Psychosocial Strengths, and Resilience in Native Communities

Despite heavy burdens of adversity, some people nonetheless manage to achieve high P-HRQOL through a process called resilience. Strengths-based approaches to resilience are gaining traction in research on victimization and trauma (Hamby et al., 2021), and there are calls from Native communities to focus on strengths-based research in response to the legacy of pathologizing deficits-based work that has contributed to stereotypes and damaging narratives about Native populations (Teufel-Shone et al., 2018; Yuan et al., 2015).

This study uses the resilience portfolio model (Grych et al., 2015; Hamby, Grych, & Banyard, 2018), which assesses strengths in three domains, meaning making (connecting to something larger than oneself), regulation (managing emotional and behavioral impulses), and interpersonal (the resources of the social ecology). In this model, people can harness individual assets and external resources from the social ecology to overcome trauma and adversity. The focus is on identifying malleable assets that can inform prevention and intervention (versus sociodemographic correlates or historical factors that cannot be readily targeted in programs). A basic tenet of the resilience portfolio model is that no one needs to be good at everything, but that it is helpful to have a range of different strengths to flexibly adapt to challenges. This principle makes the resilience portfolio model well suited for different cultural contexts, and it has been applied in several cultural contexts, including Canada, Spain, Kosovo, and mainstream U.S. settings (Gonzalez-Mendez et al., 2021; Hamby, Grych, & Banyard, 2018; Kelmendi & Hamby, 2022; Moisan et al., 2019).

Although strengths-based approaches are increasingly incorporated in research in Native communities, this work has seldom extended to physical health outcomes, instead focusing primarily on health behaviors and psychological outcomes. Much of this work has been atheoretical, but several studies have found support for resilience portfolio domains. One review found 18 papers examining protective factors associated with any type of positive health outcome among Native adolescents (Henson et al., 2017). The review found some support for meaning-making factors, such as future aspirations, and interpersonal factors, such as social support and connectedness, as elements associated with better health. Despite wide-ranging inclusion criteria, all the reviewed studies focused on health behaviors, especially substance abuse, or psychological health outcomes, such as suicidality and depression. We located no studies on overall physical health, indicating a need for more research.

One study explored the roles of social support and communal mastery in mitigating the health outcomes of intimate partner violence among Ojibwe adults (Schultz et al., 2021). The results were more mixed than anticipated, with some evidence for social support and none for communal mastery at the multivariate level. A review of research with older adults found six articles that showed some support for interpersonal strengths and regulatory strengths facilitating resilience (Kahn et al., 2016). Another review identified nine articles on resilience in Native communities, also finding evidence for the importance of social support and meaning making in terms of cultural connectedness (Teufel-Shone et al., 2018). A strong feature of the Teufel-Shone et al. (2018) review is that they also discussed nonsignificant findings, indicating mixed results like Schultz et al. (2018). However, again there was not a focus on protective factors that support physical health outcomes in these studies. Prior qualitative research has indicated that a sense of purpose, such as investment in the role of motherhood, can help Native people recover from health consequences of

trauma such as substance abuse (Schultz et al., 2018). One study found significant positive associations between P-HRQOL and a measure that primarily assessed regulatory strengths, but no other strengths were included (Schure et al., 2013).

Thus, although several studies have identified elements of resilience portfolios as promising protective factors in Native communities, there is a need for basic, theoretically informed science on which strengths most help Native people overcome trauma. Studies that compare a range of strengths, to identify promising intervention targets more efficiently, are urgently needed. Finally, the existing protective factors literature from Native communities has an almost exclusive focus on health behaviors and psychological outcomes.

Current Study

This study examines the association of P-HRQOL with three adversities (victimization, 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 United States The protocol included psychosocial strengths in all three resilience portfolio domains, including one, psychological endurance, that was based on prior work on an Apache reservation (Hamby, Blount, et al., 2018). Analyses identified which strengths have the strongest relationship with P-HRQOL, after controlling for adversities, age, and gender. Based on existing evidence, we hypothesized that adversity would be common and inversely correlated with P-HRQOL. Due to the limited prior research on protective factors and P-HRQOL among Native people, we did not form hypotheses about which strengths would be most associated with P-HRQOL, but based on prior resilience portfolio work, we expected psychosocial strengths to be positively associated with P-HRQOL.

METHOD

Participants

This study uses data from AI/AN respondents in four resilience portfolio model studies (Cheng et al., 2022; Hamby, Blount, et al., 2018; Hamby, Grych, & Banyard, 2018; Hamby et al., 2020). The four data sets were combined to increase sample size. This is the first article to examine AI/AN respondents from any of these studies. The surveys were collected in the southern United States (TN, GA, AL, and MS) between 2013 and 2018, with 89 percent of participants coming from counties with median household incomes below the national average. The sample ($N = 147$) included adolescents and adults who identified as American Indian or Alaska Native (mean age 28.54 years, $SD = 16.26$; 57 percent female). Most of the sample (86.8 percent) lived in small towns or rural areas (49 percent in towns with populations of 2,500–19,999; 37.8 percent in locales with populations under 2,500). Other participants reported living in more populated areas.

Procedures

For all four resilience portfolio model studies, a computer-assisted self-interview survey was administered using the SNAP11 (a program for creating surveys) on laptops or tablets. For adults (18 years and over), informed consent was obtained from the participant. For youth, informed consent was obtained from the parent and assent from the youth participant. The institutional review board of the host institution approved all procedures. For three studies, participants were recruited through a range of strategies, including at local community events such as festivals and county fairs, by word-of-mouth, with advertisements, and through community organizations. Participants in the fourth study were recruited via local community organizations. The range of in-person recruitment strategies allowed us to reach segments of the population who are rarely included (rural southeastern Native people) in psychological research. For the first study, which had the longest survey, participants received a $30 Walmart gift card. Participants received a $20 Walmart gift card for studies 2 and 3, and a $20-per-participant incentive went to youth organizations in the fourth study (due to funding agency requirements). The completion rate (pooled average) across the four studies was 91 percent, an excellent rate compared with similar studies (Abt SRBI, 2012; Galesic & Bosnjak, 2009).

Measures

All four resilience portfolio studies included measures of adversities, strengths, and current functioning. This data set includes items that were present in all four surveys.

Adversities. The studies included the three following adversities: polyvictimization, other (non-victimization) adverse life events, and county poverty. Polyvictimization was assessed with the Juvenile

Victimization Questionnaire (Key Domains Short Form), with eight items assessing lifetime history of interpersonal victimizations (Finkelhor et al., 2009; Hamby, Grych, & Banyard, 2018). A sample item is "During your childhood, did one of your parents threaten to hurt another parent and it seemed they might really get hurt?" Following the standard approach, dichotomous items (yes or no) were summed to create a polyvictimization index. Cronbach's alpha was .77 in this Native sample. Adverse life events were assessed using a two-item scale, adapted from prior work (Turner et al., 2013), that measures life challenges other than victimization. Responses were dichotomous, and yes answers were summed to create a total score. Items were "At any time in your life, has a family member or close friend died?" and "At any time in your life, has a family member become seriously ill, injured, or had to spend the night in the hospital?" Because endorsing one event does not necessarily imply experiencing another event, no internal consistency is reported. Regarding county poverty, the 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), 21 percent lower than the U.S. average of $59,039. Most participants (88.9 percent) resided in counties with below average household income.

Strengths. Scales to assess five psychosocial strengths (psychological endurance, sense of purpose, religious meaning making, compassion, and community support) were developed or adapted via a mixed-methods process described in other publications (see Hamby, Grych, & Banyard, 2018; Hamby et al., 2019). Construct validity was established in prior studies. All strengths measures were anchored with responses ranging from 1 = not true about me to 4 = mostly true about me. The Psychological Endurance Scale comprises four items that assess the capacity to persevere when faced with challenges (internal consistency assessed by coefficient $\alpha = .75$). A sample item is "I find it comforting to stick to my routine when I am facing tough times." Sense of purpose (two items; $\alpha = .80$) involves perceiving that there is meaning to one's life. A sample item is "My life has a clear sense of purpose." Religious meaning making (five items; $\alpha = .84$) assesses engagement in spiritual practices. Sample item: "I often think about my faith and spiritual beliefs." Community support (six items) assesses neighborliness and support for fellow community members ($\alpha = .83$). A sample item is "People in my neighborhood offer help to one another." Compassion measures caring and helpful engagement with others (four items, $\alpha = .76$). 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, & Banyard, 2018), a poly-strengths indicator (diversity of a person's portfolio of strengths) was created by summing the total number of the five assessed psychosocial strengths (*M* = 2.07; *SD* = 1.58; range = 0–5) reported at above-average levels (one point for each scale score that was 0.5 *SD* above the mean or higher) for each participant.

P-HRQOL. P-HRQOL (five items, $\alpha = .79$) is a simplified version of the Centers for Disease Control and Prevention (CDC, 2000) HRQOL-14, a scale that measures physical well-being by asking people to describe how they felt and whether illness or pain limited their activities in the previous 30-day period. Construct validity for this version was previously established (Banyard et al., 2017). A sample item is "During the last month, for about how many days did your health stop you from doing your usual activities, like going to school or spending time with your friends?" Higher scores indicate better P-HRQOL. (See Table 1.)

DATA ANALYSIS

Analyses are based on prior work on the resilience portfolio model (Banyard et al., 2017; Hamby, Grych, & Banyard, 2018). First, scale scores were standardized (converted to Z-scores). Pearson bivariate correlation analyses between study measures were conducted. The unique contributions of adversities and psychosocial strengths on P-HRQOL was analyzed using hierarchical logistic regression. For this analysis, P-HRQOL were transformed into a dichotomous variable (>.5 *SD* = 1), to identify associations with above-average functioning. Our goal was to identify promising factors for promoting thriving (not merely the absence of symptoms). In the hierarchical logistic regression, age and gender were entered in the first block, polyvictimization, other adversities, and county poverty in the second, and poly-strengths and the five psychosocial strengths in the third. This enabled us to determine how much variance in P-HRQOL was explained by each set of predictors (demographics, adversities, and strengths).

Table 1: Frequencies, Means, and Standard Deviations of Items from Health-Related Quality-of-Life Scale

Characteristic	Excellent (%)	Very Good (%)	Good (%)	Fair (%)	Poor (%)	*M*	*SD*
Current health status	21.9	31.5	29.5	13.0	4.1	3.54	1.10
	Every Day/Almost Every Day (%)	**About 3 Weeks (%)**	**About 2 weeks (%)**	**1 Week or Less (%)**	**0 days (%)**	***M***	***SD***
Days health was not good	8.3	4.1	8.3	35.9	43.4	4.02	1.20
Days health stopped you from doing activities	8.9	0.7	8.2	26.7	55.5	4.19	1.20
Days pain made it hard to do usual activities	13.2	1.4	3.5	33.3	48.6	4.03	1.33
Days healthy and full of energy	46.2	16.1	13.3	14.7	9.8	3.74	1.42

RESULTS

Rates of Victimization and Other Adversities

Rates of childhood lifetime exposure to violence were high in this sample. About nine in 10 participants (91.1 percent) reported one or more lifetime victimization experiences. Witnessing physical assault was most common (71 percent). Polyvictimization was also common, with the median number of reported victimizations equal to 4 ($M = 3.79$, $SD = 2.25$). More than four out of five individuals in this sample (82.9 percent) reported two or more forms of victimization. Other adversities were even more common. Similar percentages reported the death of a family member or friend (81.6 percent) and experiencing the serious illness of a family member or friend (80.6 percent). At least one type of victimization or adversity was reported by almost all participants (98.6 percent).

Overview of Current Functioning

Despite high rates of adversity, participants' P-HRQOL varied. More than half the sample (53.4 percent) described their health as excellent or very good, consistent with the idea that it is possible to attain good functioning despite prior trauma (Table 1). Nonetheless, more than half the sample (51.4 percent) also reported that pain interfered with their daily activities in the past month. Approximately one in 10 participants reported that their health was not good, their health prevented them from activities, or they had no days in the past month when they felt healthy and full of energy.

Bivariate Analyses

P-HRQOL was inversely correlated with age ($r = -.29$; $p < .01$) and polyvictimization ($r = -.22$; $p < .01$) and positively correlated with sense of purpose ($r = .19$; $p < .01$). 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 are indicators of the same construct.

Predictors of HRQOL

To determine which risk and protective factors showed unique associations with past-month P-HRQOL, a hierarchical logistic regression was conducted (see Table 3). Each block shows the variance associated with demographics, adversities, and strengths. Regarding demographics, older people reported lower P-HRQOL than younger people. Gender was not significantly associated with P-HRQOL. Demographics explained 5 percent of the variance in P-HRQOL. Although polyvictimization was associated with P-HRQOL at the bivariate level, in this multivariate analysis other adverse life experiences were uniquely associated with P-HRQOL. Median household income was not significant. Together, adversities explained 6 percent of the P-HRQOL variance. Notably, strengths explained more than twice as much P-HRQOL variance as adversities (13 percent versus 6 percent). In terms of specific psychosocial strengths, higher sense of purpose was significantly associated with better P-HRQOL. The total R^2 for the full regression model was 24 percent.

Table 2: Bivariate Correlations among Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Health-related quality of life	—	**–.29**	–.03	–.01	**–.22**	–.10	*.19*	.11	.07	.03	.12
2. Age		—	.09	–.06	**.26**	*–.19*	.08	.15	**.25**	.07	.12
3. Gender			—	–.04	.08	–.03	.08	.08	.09	.10	**.33**
4. Median household income (for county of residence)				—	–.01	.10	.01	.01	–.08	–.04	.03
5. Polyvictimization					—	*.18*	–.13	.02	–.14	–.09	.03
6. Other adverse life events						—	.06	.09	–.08	–.03	.06
7. Sense of purpose							—	**.56**	**.51**	.14	**.35**
8. Endurance								—	**.39**	*.20*	**.38**
9. Religious meaning making									—	**.31**	**.38**
10. Community support										—	**.41**
11. Compassion											—

Notes: Italics indicate significance at $p < .05$; bold indicates significance at $p < .01$.

DISCUSSION

Adverse experiences were associated with lower P-HRQOL in this sample of AI/AN people from the southern United States. P-HRQOL varied among the sample, with more than half reporting some health limitations in the month before the survey. At the bivariate level, polyvictimization was most closely associated with P-HRQOL, but at the multivariate level, other adversities were significant while polyvictimization was not. These findings are mostly consistent with prior research on the health burden of prior adverse experiences (Gilbert et al., 2015; Sørensen et al., 2012). However, they suggest that more work needs to be done to explore which kinds of adverse experiences have the most health impacts in Native communities. As far as we were able to determine, this is the first time this research question has been examined in an AI/AN sample.

The hierarchical logistic regression found that a notable share of the variance in P-HRQOL (24 percent) was explained in multivariate analysis. Most strikingly, strengths explained twice as much variance in P-HRQOL as adversities (13 percent versus 6 percent). The strength that showed the most promise for promoting P-HRQOL was a sense of purpose. Prior work has led to mixed findings in predominantly White samples, with some research indicating that sense of purpose was associated with better P-HRQOL (Banyard et al., 2017; Hamby et al., 2020). These results suggest that, for AI/AN people, connecting to something larger than themselves is important to their physical well-being. These findings are consistent with research showing that being employed or having higher levels of education are associated with better P-HRQOL among Native people (Goins et al., 2006), which, while not directly assessing sense of purpose, are the kinds of larger aims that people with high sense of purpose often pursue. The closest study we could locate in this topic area was one finding that a sense of coherence was associated with higher rating of oral health quality of life among AI/AN children (Albino et al., 2016). Despite the relative lack of study on this topic, this is a promising avenue for future research.

Strengths and Limitations

This study has strengths and limitations, and these should be noted when interpreting results. This study contributes to the relatively small evidence base on psychosocial strengths among Native people and the evidence on correlates of P-HRQOL in Native populations. Still, more work is warranted to replicate these findings in other Native communities. Cross-sectional studies, like this one, are cost-effective means of exploring new variables and associations, but would benefit from longitudinal replication. This study only collected self-identified data on racial identity, and future research could incorporate questions on tribal membership, reservation contact, cultural connectedness, or other community-specific protective factors. The data were also only collected in one region of the country and had limited measurement of non-victimization adversities. Further,

Table 3: Hierarchical Logistic Regression of Adversities and Strengths as Predictors of Physical Health-Related Quality of Life

	Physical Health-Related Quality of Life	
Variable	***OR***	**95% CI**
Block 1		
Age	0.61*	[0.39, 0.95]
Gender	1.06	[0.69, 1.61]
R^2 demographics only	0.05	
Block 2		
Adversities		
Median household income	0.90	[0.63, 1.28]
Victimization (JVQ)	1.12	[0.7, 1.77]
Other adverse life experiences	0.46**	[0.27, 0.78]
Δ R^2 when adversities added	0.06	
R^2 adversities + demographics	0.11	
Block 3		
Poly-strengths	0.55	[0.24, 1.23]
Regulatory strength		
endurance	1.17	[0.62, 2.18]
Meaning-making strengths		
Purpose	3.04*	[1.37, 6.73]
Religious meaning-making	0.85	[0.44, 1.64]
Interpersonal strengths		
Community support	1.49	[0.89, 2.50]
Compassion	1.36	[0.77, 2.41]
Δ R^2 resilience portfolio strengths added	0.13	
Final R^2 full model	0.24	

Notes: 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 (Δ R^2). JVQ = Juvenile Victimization Questionnaire.
*$p < .05$. **$p < .01$.

developing the study using a theoretical framework, the resilience portfolio model, is an advantage, but due to differences across the surveys, we were only able to examine a limited set of strengths. Hopefully, further work will continue to expand our understanding of strengths that can promote better health among Native people.

Implications

Although this study has expanded the types of psychosocial strengths explored in Native communities, particularly with respect to their relations with physical health, more research is needed to identify assets and resources that help Native people overcome adversity. Many of the bivariate correlations between strengths and P-HRQOL were lower in this sample than in others, indicating a need for more Native-specific research to identify key strengths in Native communities. Mixed methods and qualitative approaches would be especially useful ways to explore strengths that may not be represented in mainstream resilience research.

Helping Native people develop psychosocial strengths may promote better P-HRQOL. Well-established, mainstream interventions such as narrative (reflective writing about past experiences) and mindfulness (meditation to promote nonjudgmental self-awareness) have demonstrated impacts on developing meaning in life in a recent meta-analytic review (Manco & Hamby, 2021). These types of interventions could potentially be helpful in many Native communities, especially those with limited resources, because they are easily incorporated into a wide array of settings and do not require licensed providers to administer. Unfortunately, little scholarship provides guidance on adapting these well-established interventions for AI/AN people. A recent review of mindfulness research found no study with more than 7 percent of the sample identified as AI/AN (Waldron et al., 2018). Storytelling has a long-standing place of importance in most tribal communities and has been recommended as a healing tool among Native peoples (BigFoot & Dunlap, 2006; Charbonneau-Dahlen et al., 2016). However, we could not locate any narrative or expressive writing studies that specifically focused on developing a sense of purpose for Native people.

There have been several culturally specific efforts to help Native people process trauma and develop meaning in life. A recent project involved a group of women retracing the Trail of Tears, finding that the experience helped participants connect with tribal histories, resilience, and healing (Fernandez et al., 2021; Schultz et al., 2016). There have also been numerous studies on cultural connectedness in Native communities (e.g., Mohatt et al., 2011). Connecting to something larger than oneself is an essential part of meaning making, and cultural connectedness may be an important element of resilience portfolios for many Native people. Social workers and other providers who work with Native communities could benefit from focusing on psychosocial strengths and invest in ways to develop or maintain them in order to support the health of Native people. HSW

REFERENCES

Abt SRBI. (2012, July 18). *Second National Survey on Children's Exposure to Violence (NatSCEV II): Methods report*. https://www.bjs.gov/content/pub/pdf/natscev2_mr.pdf

Albino, J., Shapiro, A. L. B., Henderson, W. G., Tiwari, T., Brega, A. G., Thomas, J. F., Bryant, L. L., Braun, P. A., & Quissell, D. O. (2016). Validation of the Sense of Coherence Scale in an American Indian population. *Psychological Assessment*, *28*, 386–393. https://doi.org/10.1037/pas0000193

Banyard, V., Hamby, S., & Grych, J. (2017). Health effects of adverse childhood events: Identifying promising protective factors at the intersection of mental and physical well-being. *Child Abuse & Neglect*, *65*, 88–98. https://doi.org/10.1016/j.chiabu.2017.01.011

BigFoot, D. S., & Dunlap, M. (2006). Storytelling as a healing tool for American Indians. In T. M. Witko (Ed.), *Mental health care for urban Indians: Clinical insights from Native practitioners*. (pp. 133–153). American Psychological Association. https://doi.org/10.1037/11422-007

Centers for Disease Control and Prevention. (2000). *Measuring health days: Population assessment of health-related quality of life*. https://www.cdc.gov/hrqol/pdfs/mhd.pdf

Charbonneau-Dahlen, B. K., Lowe, J., & Morris, S. L. (2016). Giving voice to historical trauma through storytelling: The impact of boarding school experience on American Indians. *Journal of Aggression, Maltreatment & Trauma*, *25*, 598–617. https://doi.org/10.1080/10926771.2016.1157843

Cheng, S.-Y., Taylor, E., & Hamby, S. (2022, April 3–5). *When support seekers encounter unsettling responses: A dual factor approach to examine social support* [Poster presentation]. ResilienceCon 2022, Nashville, TN, USA.

Ehlers, C. L., Gizer, I. R., Gilder, D. A., & Yehuda, R. (2013). Lifetime history of traumatic events in an American Indian community sample: Heritability and relation to substance dependence, affective disorder, conduct disorder and PTSD. *Journal of Psychiatric Research*, *47*, 155–161. https://doi.org/10.1016/j.jpsychires.2012.10.002

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, *14*, 245–258. https://doi.org/10.1016/S0749-3797(98)00017-8

Fernandez, A. R., Evans-Campbell, T., Johnson-Jennings, M., Beltran, R. E., Schultz, K., Stroud, S., & Walters, K. L. (2021). "Being on the walk put it somewhere in my body": The meaning of place in health for Indigenous women. *Journal of Ethnic & Cultural Diversity in Social Work*, *30*, 122–137. https://doi.org/10.1080/15313204.2020.1770652

Finkelhor, D., Turner, H., Ormrod, R., & Hamby, S. L. (2009). Violence, abuse, and crime exposure in a national sample of children and youth. *Pediatrics*, *124*, 1411–1423. https://doi.org/10.1542/peds.2009-0467

Galesic, M., & Bosnjak, M. (2009). Effects of questionnaire length on participation and indicators of response quality in a web survey. *Public Opinion Quarterly*, *73*, 349–360. https://doi.org/10.1093/poq/nfp031

Gilbert, L. K., Breiding, M. J., Merrick, M. T., Thompson, W. W., Ford, D. C., Dhingra, S. S., & Parks, S. E. (2015). Childhood adversity and adult chronic disease: An update from ten states and the District of Columbia, 2010. *American Journal of Preventive Medicine*, *48*, 345–349. https://doi.org/10.1016/j.amepre.2014.09.006

Gilliland, F. D., Mahler, R., & Davis, S. M. (1998). Health-related quality of life for rural American Indians in New Mexico. *Ethnicity & Health*, *3*, 223–229. https://doi.org/10.1080/13557858.1998

Goins, R. T., John, R., Hennessy, C. H., Denny, C. H., & Buchwald, D. (2006). Determinants of health-related quality of life among older American Indians and Alaska Natives. *Journal of Applied Gerontology*, *25*, 73S–88S. https://doi.org/10.1177/0733464805283037

Gonzalez-Mendez, R., Ramírez-Santana, G., & Hamby, S. (2021). Analyzing Spanish adolescents through the lens of the resilience portfolio model. *Journal of Interpersonal Violence*, *36*, 4472–4489. https://doi.org/10.1177/0886260518790600

Grych, J., Hamby, S., & Banyard, V. (2015). The resilience portfolio model: Understanding healthy adaptation in victims of violence. *Psychology of Violence*, *5*, 343–354. https://doi.org/10.1037/a0039671

Hamby, S., Blount, Z., Smith, A., Jones, L., Mitchell, K., & Taylor, E. (2018). Digital poly-victimization: The increasing importance of online crime and harassment to the burden of victimization. *Journal of Trauma & Dissociation*, *19*, 382–398. https://doi.org/10.1080/15299732.2018.1441357

Hamby, S., Elm, J. H. L., Howell, K. H., & Merrick, M. T. (2021). Recognizing the cumulative burden of childhood adversities transforms science and practice for trauma and resilience. *American Psychologist*, *76*, 230–242. https://doi.org/10.1037/amp0000763

Hamby, S., Grych, J., & Banyard, V. (2018). Resilience portfolios and poly-strengths: Identifying protective factors associated with thriving after adversity. *Psychology of Violence*, *8*, 172–183. https://doi.org/10.1037/vio0000135

Hamby, S., Taylor, E., Mitchell, K., Jones, L., & Newlin, C. (2020). Poly-victimization, trauma, and resilience: Exploring strengths that promote thriving after adversity. *Journal of Trauma & Dissociation*, *21*, 376–395. https://doi.org/10.1080/15299732.2020.1719261

Hamby, S., Taylor, E., Smith, A., Mitchell, K., Jones, L., & Newlin, C. (2019). New measures to assess the social ecology of youth: A mixed-methods study. *Journal of Community Psychology*, *47*, 1666–1681. https://doi.org/10.1002/jcop.22220

Henson, M., Sabo, S., Trujillo, A., & Teufel-Shone, N. (2017). Identifying protective factors to promote health in American Indian and Alaska Native adolescents: A literature review. *Journal of Primary Prevention*, *38*, 5–26. https://doi.org/10.1007/s10935-016-0455-2

Jiang, L., Beals, J., Whitesell, N. R., Roubideaux, Y., Manson, S., & the AI-SUPERPFP Team. (2009). Health-related quality of life and help seeking among American Indians with diabetes and hypertension. *Quality of Life Research*, *18*, 709–718. https://doi.org/10.1007/s11136-009-9495-x

Kahn, C. B., Reinschmidt, K., Teufel-Shone, N. I., Oré, C. E., Henson, M., & Attakai, A. (2016). American Indian Elders' resilience: Sources of strength for building a healthy future for youth. *American Indian and Alaska Native Mental Health Research*, *23*, 117–133. https://doi.org/10.5820/aian.2303.2016.117

Kelmendi, K., & Hamby, S. (2022). Resilience after trauma in Kosovo and Southeastern Europe: A scoping review. *Trauma, Violence, & Abuse*. Advance online publication. https://doi.org/10.1177/15248380221093693

Manco, N., & Hamby, S. (2021). A meta-analytic review of interventions that promote meaning in life. *American Journal of Health Promotion*, *35*, 866–873. https://doi.org/10.1177/0890117121995736

Mohatt, N. V., Fok, C. C. T., Burket, R., Henry, D., & Allen, J. (2011). Assessment of awareness of connectedness as a culturally-based protective factor for Alaska Native youth. *Cultural Diversity and Ethnic Minority Psychology*, *17*, 444–455. https://doi.org/10.1037/a0025456

Moisan, C., Hébert, M., Fernet, M., Blais, M., & Amédée, L. M. (2019). Resilience portfolios and poly-strengths: Identifying strengths associated with wellbeing after adversity. *International Journal of Child and Adolescent Resilience*, *6*, 19–35.

Poltavski, D., Holm, J., Vogeltanz-Holm, N., & McDonald, L. (2010). Assessing health-related quality of life in Northern Plains American Indians: Prominence of physical activity as a health behavior. *American Indian and Alaska Native Mental Health Research*, *17*, 25–48.

Rosay, A. B. (2016). *Violence against American Indian and Alaska Native women and men: 2010 findings from the National Intimate Partner and Sexual Violence Survey*. U.S. Department of Justice, Office of Justice Programs, National Institute of Justice. https://www.ncjrs.gov/pdffiles1/nij/249736.pdf

Sapra, K. J., Jubinski, S. M., Tanaka, M. F., & Gershon, R. R. M. (2014). Family and partner interpersonal violence among American Indians/Alaska Natives. *Injury Epidemiology*, *1*, Article 7. https://doi.org/10.1186/2197-1714-1-7

Scarton, L., Hebert, L., Goins, R. T., Umans, J. G., Jiang, L., Comiford, A., Chen, S., White, A., Ritter, T., & Manson, S. M. (2021). Diabetes and health-related quality of life among American Indians: The role of psychosocial factors. *Quality of Life Research*, *30*, 2497–2507. https://doi.org/10.1007/s11136-021-02830-4

Schultz, K., Teyra, C., Breiler, G., Evans-Campbell, T., & Pearson, C. (2018). "They gave me life": Motherhood and recovery in a tribal community. *Substance Use & Misuse*, *53*, 1965–1973. https://doi.org/10.1080/10826084.2018.1449861

Schultz, K., Walls, M., & Grana, S. J. (2021). Intimate partner violence and health: The roles of social support and communal mastery in five American Indian communities. *Journal of Interpersonal Violence*, *36*, NP6725–NP6746. https://doi.org/10.1177/0886260518821463

Schultz, K., Walters, K. L., Beltran, R., Stroud, S., & Johnson-Jennings, M. (2016). "I'm stronger than I thought": Native women reconnecting to body, health, and place. *Health & Place*, *40*, 21–28. https://doi.org/10.1016/j.healthplace.2016.05.001

Schure, M., Odden, M., & Goins, R. T. (2013). The association of resilience with mental and physical health among older American Indians: The Native Elder Care Study. *American Indian and Alaska Native Mental Health Research*, *20*, 27–41. https://doi.org/10.5820/aian.2002.2013.27

Sørensen, J., Kruse, M., Gudex, C., Helweg-Larsen, K., & Brønnum-Hansen, H. (2012). Physical violence and health-related quality of life: Danish cross-sectional analyses. *Health and Quality of Life Outcomes*, *10*, Article 113. https://doi.org/10.1186/1477-7525-10-113

Teufel-Shone, N. I., Tippens, J. A., McCrary, H. C., Ehiri, J. E., & Sanderson, P. R. (2018). Resilience in American Indian and Alaska Native public health: An underexplored framework. *American Journal of Health Promotion*, *32*, 274–281. https://doi.org/10.1177/0890117116664708

Turner, H. A., Shattuck, A., Hamby, S., & Finkelhor, D. (2013). Community disorder, victimization exposure, and mental health in a national sample of youth. *Journal of Health and Social Behavior*, *54*, 258–275. https://doi.org/10.1177/0022146513479384

Waldron, E. M., Hong, S., Moskowitz, J. T., & Burnett-Zeigler, I. (2018). A systematic review of the demographic characteristics of participants in US-based randomized controlled trials of mindfulness-based interventions. *Mindfulness*, *9*, 1671–1692. https://doi.org/10.1007/s12671-018-0920-5

Yuan, N. P., Belcourt-Dittloff, A., Schultz, K., Packard, G., & Duran, B. M. (2015). Research agenda for violence against American Indian and Alaska Native women: Toward the development of strength-based and resilience interventions. *Psychology of Violence*, *5*, 367–373. https://doi.org/10.1037/a0038507

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