

ESTABLISHING THE RELIABILITY AND VALIDITY OF THE SOURCES OF STRENGTH IN ONE AMERICAN INDIAN COMMUNITY

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Abstract: Strength-based approaches that explore resilience and health among Native communities are needed. This report highlights the results from a sources of strength inventory reported over a 2-year period by participants (N = 48) from a Montana tribe who attended cultural camps. The authors found the sources of strength scale to be a reliable and valid measure for the population (N = 11 items, $\alpha = .945$). The community plans to use the results of this study to inform and promote strength-based measures grounded in the resilience of youth, families, and culture.

INTRODUCTION

American Indian (AI) communities possess many strengths, rich in cultural heritage, tradition, language, and kinship systems that serve as protective factors for youth and families (Allen, Mohatt, Fok, Henry, & Burkett, 2014; Zimmerman, Ramirez-Valles, Washienko, Walter, & Dyer, 1996). These strengths have led to many healthy generations; yet, measuring and reporting protective factors in AI communities often is overshadowed by prominent risk factors and enduring health disparities (Gone & Trimble, 2012). Major gaps in educational achievement, extreme economic disadvantage (Beckles & Truman, 2011), and ongoing traumas (Ehlers, Gizer, Gilder, & Yehuda, 2013) are well documented. These disparities, coupled with deficit-based prevention paradigms (Thomas, Quinn, Butler, Fryers, & Garza, 2011), pathologize Native communities and fail to illuminate strengths or promote solutions for addressing disparities.

Strength-based approaches that explore resilience and health among Native communities are needed. Conceptually and theoretically, these approaches make sense. Strength-based measures are an alternative to traditional deficit-based measures made up of intrusive questions on sensitive topics like suicide, substance abuse, and illegal behaviors (Gonzalez & Trickett, 2014), which may create distrust between researchers and communities; moreover, deficit-based data are often inaccurate (Allen et al., 2014) because individuals may feel the underlying approaches are not

culturally and contextually sensitive and may not respond truthfully (Green, McAllister, & Tarte, 2004). In contrast, universal protective factors, including self-efficacy, positive relationships with caring adults, internalization of social norms, cultural involvement, and availability of community resources (Alcántara & Gone, 2007), must be acknowledged by funding agencies, institutions, and policy makers as valid outcome measures of interest. In light of this need, many are calling for strength-based prevention program approaches and an end to pathologizing Native communities (Allen et al., 2006; Goodkind et al., 2010). This study answers this call by beginning to establish the reliability of a sources of strength inventory as an outcome measure that lays the foundation for future preventive interventions to build healthy Native youth, families, and communities.

Resilience

Resilience is a process. Most researchers agree that resilience involves overcoming risk factors, traumatic events, and other negative consequences (LaFromboise, Hoyt, Oliver, & Whitbeck, 2006). Resilience among Native youth is apparent in their ability to thrive despite a number of risk factors, including poverty, high-risk family environments, lack of employment opportunities, and discrimination (LaFromboise et al., 2006). Unfortunately, most research in Native communities focuses on risk factors—a one-sided approach that fails to acknowledge the many assets and resources within Native communities that contribute to resilience and overcoming risk (Fergus & Zimmerman, 2005).

Project Team

The project team consists of two officials from the tribe's community-based organization (CBO)—the chief professional officer and grant project director—as well as a data coordinator, multiple tribal program partners, several community volunteers, two cultural consultants, one educational consultant, and one evaluation scientist. The evaluation scientist is the first author and began working with the community in 2010 when the CBO's chief professional officer asked for assistance with evaluating programs. The educational consultant is the second author and an enrolled member of the tribe. He started working with the evaluation scientist in 2011.

METHOD

Respondents were 48 individuals who participated in a 3-day cultural camp which is led by a nonprofit organization affiliated with the tribe and is offered twice over a 2-year period. The cultural camp includes overnight tent camping, day hikes to a mountain that has both cultural and historical significance to the tribe, teachings about the history and traditions of the tribe, talking

circles, and various team-building activities. Respondents included 18 males (37.5%) and 27 females (56.3%); 3 camp participants (6.3%) did not complete the survey. Ages ranged from 8 to 40 years ($M = 15.76$, $SD = 7.0$). All participants identified as AI and the majority were enrolled members of the tribe. Respondents were recruited based on their involvement in the camp. Verbal consent/assent was documented, and youth under the age of 18 consented following tribal protocols, before the survey was administered. No compensation was offered.

Measures

The Sources of Strength (SOS) is an 11-item scale designed to measure strengths of survey respondents. Items were rated on a Likert scale anchored by 1 (*strongly disagree*) and 10 (*strongly agree*). Questions addressed social support (3 items), healthy involvement in activities (2 items), personal beliefs (2 items), access to physical and mental health services (2 items), and leadership qualities (2 items). Internal consistency for this study was $\alpha = .945$; reports of internal consistency for previous studies were not available.

Procedure

The SOS was administered by two AI staff members trained by the evaluation scientist on survey administration and data collection, and was completed by participants using a paper and pen on the last day of the cultural camp. Each question was read aloud and staff members helped youth with lower literacy levels and others who needed questions clarified. Numerical responses varied by respondent and question; the minimum score was 43 and the maximum score was 110. The item means and standard deviations are reported in Table 1.

Table 1
SOS Scale Items - Means and Standard Deviations

Variables	<i>M</i>	<i>SD</i>	<i>Measures</i>
Q1: I feel my family cares about me, spends time with me, and is a strong support for me.	8.54	1.95	Social Support
Q2: I feel I have healthy friends/peer group that makes good decisions/stays out of trouble.	7.33	2.01	Social Support
Q3: I feel I have good caring relationships with adults who truly care about me.	8.13	2.10	Social Support
Q4: I feel I keep involved in healthy activities like sports, music, art, teams, organizations.	9.04	1.52	Healthy Involvement
Q5: I feel I am regularly involved in helping others, sharing generosity, and have leadership opportunities.	7.96	1.75	Healthy Involvement

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Table 1, Continued
SOS Scale Items - Means and Standard Deviations

Variables	M	SD	Measures
Q6: I feel I have healthy beliefs and that I actively develop my faith, spirituality, or culture.	7.98	2.09	Personal Beliefs
Q7: I feel I have good access to a counselor, support group, or other mental health services.	7.40	2.20	Access to Services
Q8: I feel I have good access to a doctor, nurse, or other medical help if I was ill, injured, or needed medicine.	7.92	2.19	Access to Services
Q9: I participate in Leadership programs at my school.	7.25	2.90	Leadership
Q10: I am working on personal wellness and positive changes in my behavior.	7.75	2.46	Personal Beliefs
Q11: I take time to volunteer at school or in my community.	7.10	2.65	Leadership

RESULTS

Measures of strengths were evaluated for their psychometric properties and utility. As Long and Nelson (1999) report, instruments can be reliable, but not valid—particularly in Native communities, where the social and cultural context influences strength-based factors associated with positive mental and physical health outcomes (Jackson & Hodge, 2010). However, this scale was both reliable and valid. Cronbach’s α for the scale was acceptable for all constructs measured ($N = 11$ items, $\alpha = .945$). The correlation between items ranged from .42 to .87. The 11 items were linearly combined to measure cultural resilience and strength.

Scale items, item-total correlations, and α are described in Table 2.

Table 2
Reliability Analysis

Variable (N = 48) ($\alpha = .945$)	Corrected Item-Total Correlation	α if Item Deleted
Q1: I feel my family cares about me, spends time with me, and is a strong support for me.	.733	.941
Q2: I feel I have healthy friends/peer group that makes good decisions/stays out of trouble.	.793	.939
Q3: I feel I have good caring relationships with adults who truly care about me.	.805	.939
Q4: I feel I keep involved in healthy activities like sports, music, art, teams, organizations.	.423	.951
Q5: I feel I am regularly involved in helping others, sharing generosity, and have leadership opportunities.	.809	.939
Q6: I feel I have healthy beliefs and that I actively develop my faith, spirituality, or culture.	.835	.937

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**Table 2, Continued
Reliability Analysis**

Q7: I feel I have good access to a counselor, support group, or other mental health services.	.776	.940
Q8: I feel I have good access to a doctor, nurse, or other medical help if I was ill, injured, or needed medicine.	.738	.941
Q9: I participate in Leadership programs at my school.	.875	.936
Q10: I am working on personal wellness and positive changes in my behavior.	.845	.937
Q11: I take time to volunteer at school or in my community.	.759	.941

Validity was assessed among variables by grouping items together that measured the same constructs. Social support included three questions to assess family support, peer support, and adult support (items 1-3). Healthy involvement included two questions to assess the level of involvement in healthy activities and positive helping qualities—generosity and leadership (items 4-5). Personal beliefs were assessed using two questions that asked about active development of faith, spirituality, and culture (items 6 and 10). Access to mental and physical health supports were assessed using two questions (items 7-8). Leadership was assessed by level of agreement regarding leadership at school and volunteerism (items 9 and 11). Table 3 shows the constructs of interest and reliability for each. All were within the acceptable range for a pilot test; however, to assess involvement ($\alpha = 0.544$) reliably, an additional item may be necessary, or the language used may need to be revised. Possible changes include more specific language about healthy activities and opportunities available on the reservation such as powwows, dances, clubs, or community gatherings.

**Table 3
SOS Scale Means, Standard Deviations, and Alpha Coefficients**

Constructs	M	SD	α
Support (3 items)	24	5.29	0.846
Involvement (2 items)	17	2.71	0.544
Access to mental and physical supports	15.31	3.94	0.756
Leadership	15.73	4.28	0.862
Personal beliefs	14.35	5.24	0.876

An independent samples *t*-test was conducted to compare total SOS scores by year. There was a significant difference in the total SOS scores in 2013 ($M = 91.26$, $SD = 19.45$) and 2014 ($M = 80.14$, $SD = 17.98$); $t(44.5) = -2.05$, $p = .046$. These results suggest that participants from the 2013 cultural camp felt significantly higher levels of strength and support than participants from the

2014 cultural camp, which was somewhat surprising given the number of activities initiated in the community between 2013 and 2014 that promoted community connections, positive peer support groups, involvement, and increased awareness about mental and physical health services on the reservation. However, direct comparison between groups was not possible because cultural camps reached different participants each year. Notably, there were no differences between males and females, and total scores for the 11-item scale using Levene's (1960) test for equality of variances was not significant ($p < .05$).

DISCUSSION

In summary, the project team sought to capture sources of strength of participants who attended a 3-day cultural camp over a 2-year period. Participants reported high levels of support from family and other adults—a significant finding, because, within the resilience continuum, support is a universal protective factor among Native youth (Alcántara & Gone, 2007). Such prosocial relationships protect against negative outcomes such as suicide and substance abuse in Native youth (Pettingell et al., 2008). Resilience, too, helps reduce these negative outcomes (Fergus & Zimmerman, 2005), and the SOS may be a useful tool for Native communities that wish to build and analyze strength-based prevention measures aimed at promoting the resilience of Native youth and families. The SOS helped the project team identify and assess resilience factors in youth, and, when it was administered over a 2-year period (2013 and 2014 cultural camps), the team was able to combine data sets for more advanced statistical analyses and meaningful results—mainly, establishing the reliability and validity of the outcome measures.

Funding agencies, programs, and research initiatives must acknowledge this clear message from Native communities, tribal leaders, and authors (Alcántara & Gone, 2007; Allen et al., 2014): There is an immediate need to move toward strength-based prevention measures and approaches. The current prevailing deficit paradigm and resources are directed toward glaring disparities. This focus has led to failed prevention and intervention initiatives, and disparities among Native communities and communities of color continue widen (Thomas et al., 2011). This study underscores the need for new approaches that strengthen healthy communities while building leadership, social support, and capacity. It adds to the literature a clear picture of protective factors and measures that many Native communities possess, while providing recommendations for how public health programs, researchers, policy makers, and funding agencies can advocate for strength-based prevention programs and measures in the future.

Limitations

Limitations to this study include the single community focus, confounding variables and threats to internal validity, and small sample size. The SOS is a valid measure for this community, but may not be valid for other Native communities. For example, this study defined healthy involvement, support, access, leadership, and personal beliefs as strength-based measures. Other Native communities may include more culturally specific measures or use other definitions and examples. Internal validity of the measure may be questioned because of differences in SOS findings between 2013 and 2014 despite increases in community-based prevention activities. It is possible that confounding variables, such as the varying ages of the participants, contributed to the differences, and in the future a larger-scale study could examine community climate, assets, and significant events in a given year to determine if changes were related to these factors. The small sample threatens the reliability of this measure—as sample size increases, it is possible that reliability will decrease. Despite these limitations, the SOS remains an important tool for promoting strength-based measures.

In closing, culturally and contextually relevant scales are needed to assess the resilience and strengths of Native populations and their youth. The project team found the SOS to be a reliable and valid measure for the population in this study. The team, including the CBO, community volunteers, cultural leaders, and teachers, plans to use the results of this study to create prevention programs in the community that are grounded in the resilience of youth and Native families. The team also plans to use the pilot data from this study to tailor existing community programs and messaging aimed at promoting positive health outcomes for youth and families. Through this work, the community will be part of a changing prevention paradigm, grounded in culture and resilience for many healthy generations.

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