





SRPMIC, and the University of Arizona. This investigation used a mixed methods convergent parallel design with a single group, pretest, posttest, and qualitative interviews to determine if participation in the Native Spirit program increased cultural identity, resilience, and self-esteem at the end of the 10-week period.

## METHOD

### Study Partnerships

Central to creating a culturally grounded ASP was the engagement and input from the community. To this end, a Community Advisory Board (CAB) was convened and consisted of seven total representatives from the BGC, Cultural Resources Department, Tribal Council, and Youth Services Department. The CAB identified local cultural values and activities that were represented in the Native Spirit program, identified and helped contact community members to serve as leaders for program sessions, and guided the evaluation plan for the Native Spirit program. Some CAB members were leaders for Native Spirit sessions. The University partner organized and facilitated CAB meetings, recorded the development of the Native Spirit curriculum, and developed the Native Spirit curriculum into a handbook. The University partner also coordinated Native Spirit session logistics including contacting session leaders, securing location, and purchasing supplies and food.

The first action of the CAB was to identify cultural values and practices that were important to pass on to the adolescents of the SRPMIC. Cultural values and practices are intertwined with mental well-being for Indigenous communities and fit within Bronfenbrenner's Ecological Systems Model (Bronfenbrenner, 1979; Fish & Syed, 2018). Cultural practices and teachings are passed down through generations and exist at the macrosystem level to impact all aspects of life. Culturally grounded health promotion insists that cultural values (macrosystem) can be taught to individuals and groups of individuals who interact with one another to form healthy communities. The CAB then identified local cultural practices that were associated with each cultural value. Cultural values included developing community-specific knowledge of language, creation stories, history, and traditions. Cultural values also included more general values of responsibility, respect, teamwork, patience, growth, service, and recognition. Additional cultural values included pride in cultural identity and community.

Each cultural practice can be associated with multiple values; however, each program session focuses on one cultural value and one associated practice for the sake of organization and reproducibility in an after-school format. CAB members then identified local cultural practitioners that would be comfortable leading each of the Native Spirit sessions. Finally, CAB members decided on the appropriate order of each session depending on the time of year and specific cultural practice. The development of the Native Spirit curriculum was an iterative process that took place over 6 months during monthly meetings with detailed feedback from CAB members and additional input from session leaders, community members, and tribal council members. Table 1 demonstrates the Native Spirit program components.

### **Tribal and University Review**

The SRPMIC Tribal Council first approved the development and the subsequent implementation and evaluation of the Native Spirit program followed by the University of Arizona's Human Subjects Protection Program and Institutional Review Board. The development, implementation, and evaluation of the Native Spirit program was monitored regularly by a subset of two Tribal Council members and the CAB. In keeping with tribal sovereignty, all data dissemination produced by this study was approved by appropriate SRPMIC officials.

### **Participants**

Participants for the preliminary evaluation study were recruited from two BGCs located in the Metropolitan Phoenix area. An informative recruitment flyer was distributed to BGC members near pick-up and drop-off locations visible to parents. The study PI also set up a recruitment table at the local high school and distributed flyers during the lunch hour for two days. Eligibility criteria included English-speaking, self-identifying as AI/AN, in grades 7-12, a member of the two participating BGC locations, and having transportation to the BGC locations. Youth in grades 7-12 were the focus of this study because it was more feasible to work within this age group for the BGC community partners. Parental consent was obtained via a signed consent form or verbally over the phone; youth assent was obtained via a signed assent form after verbal confirmation that the youth understood the purpose and requirements of the study. Participants who were present for at least 5 of the 10 sessions and completed both pretests and posttests received a \$50 Visa gift card upon completion of the study.

### **Intervention**

The Native Spirit curriculum consisted of 10-sessions, each lasting 1.5 hours (Table 1). Each session was facilitated by 1-2 members of the SRPMIC who are considered cultural knowledge holders in the Community. Session leader training consisted of a 30-60 minute individual meeting with the PI of the study to discuss the overall program goals and the specific session objectives and details. Each session leader was given a description of the cultural value and associated practice along with a set of 2-3 objectives for the session. Session leaders had freedom to lead their session but received a set of predetermined learning objectives that were developed by the CAB. This is in line with the idea that some level of session leader flexibility and adaptability is necessary to meet local and individual needs (Breitenstein et al., 2010). A detailed description of the partnership, curriculum, and evaluation development process can be found elsewhere (Hunter et al., 2022).

### **Procedure**

The program was implemented from September to December 2019. Participants traveled by school bus to attend weekly Native Spirit sessions. Participants ate dinner and then participated in the Native Spirit session. Each participant completed printed pretests before Session 1 and posttests at the end of Session 10. The PI administered the quantitative surveys that took an average of 25 minutes to complete. Participants were recruited for qualitative individual interviews if they attended at least 70% of the Native Spirit sessions. Eleven participants were invited by oral invitation to participate, and all agreed to be interviewed. The PI conducted in-person qualitative interviews at the BGC building. Interviews were audiotaped and transcribed. The interviews took about 10 minutes (range: 6-19 minutes). This study used a convergent parallel mixed methods design giving equal weight to quantitative and qualitative findings. The use of mixed methods was necessary for this pilot study that seeks to test quantitative measures and to seek initial impact information directly from participants. Qualitative and quantitative data were collected at separate times. After separate data collection and analyses were completed, data were triangulated, searching for areas of convergence and divergence to form conclusions on the impact of the Native Spirit program. All study data were maintained and stored securely by the PI, and all data were deidentified.

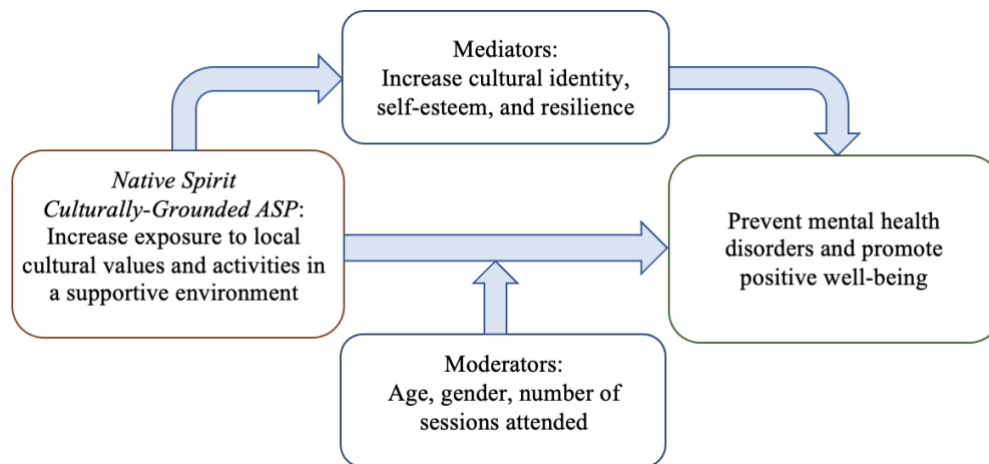
**Table 1**  
***Native Spirit curriculum outline***

<b>Cultural Value</b>	<b>Activity</b>	<b>Participants will be able to:</b>
Language	Introduce Yourself	Introduce themselves using their Indigenous language and recognize their Indigenous ancestry
Creation Stories	Storytelling	Describe community creation stories and relate lessons from creation stories to cultural identity
History	Visit Historical Site	Recognize the importance of a site that is culturally significant to the community
Responsibility	Planting Seeds	Describe the importance of personal responsibility and how it relates to being a community leader
Respect	Harvesting and Gathering	Articulate the importance of having respect for environment, community, and self
Community	Traditional Songs and Dance	Describe the importance of community and the role it plays in our lives and in community traditions
Teamwork	Traditional Outdoor Games	Relate traditional games and physical activity with the value of teamwork and interrelatedness
Patience	Traditional and Modern Art	Demonstrate how being patient can allow us to create beautiful and meaningful things in life
Traditions	Cooking a Meal	Relate cultural traditions of cooking with contemporary family traditions
Growth	Coming of Age	Articulate roles and responsibilities of Indigenous adolescents and describe coming of age ceremonies
Service	Service for Community	Recognize the importance of service to the community and recognize the different ways to provide service
Cultural Identity	Life Away from Home	Discuss strategies on maintaining cultural identity on and off the reservation
Recognition	Ceremony of Recognition	Reflect on the cultural values and activities experienced during the Native Spirit program

## **Measures**

The primary outcomes were self-reported cultural identity, resilience, and self-esteem. These outcomes were measured using quantitative surveys and qualitative interviews. Primary outcomes were evaluated qualitatively and quantitatively and were chosen based on literature suggesting cultural engagement has a protective effect on AI/AN adolescent well-being, including cultural identity, resilience, and self-esteem (Okamoto et al., 2019; Brown et al., 2019; Snowshoe et al., 2017). However, causal pathways defining the relationship between cultural engagement and health outcomes are not well-established (Kagawa-Singer et al., 2016). Figure 1 depicts a conceptual model for the Native Spirit program that is in the beginning stages of being developed and measured. This model suggests that increasing engagement in cultural activities that are based

Figure 1. Native Spirit conceptual model



on local cultural values will have the immediate impact of strengthening cultural identity, self-esteem, and resilience. Strengthening these outcomes will have a larger impact of preventing mental health disorders while promoting well-being. The following instruments were approved by the CAB and were chosen based on their history of use with AI/AN adolescents and for their ease of use (number of items, readability, and understandability).

### *Pre- and Posttests*

**Baseline Demographics.** Baseline demographics included age, grade, race/ethnicity, and tribal affiliation (if applicable).

**Cultural Identity.** Cultural identity was measured using the revised version of Phinney's Multigroup Ethnic Identity Measure (MEIM-R) (Phinney, 1992; Phinney & Ong, 2007). The MEIM-R is a 6-item questionnaire with four response categories from strongly disagree to strongly agree. The MEIM-R provides a concise measure of the core aspects of group identity (commitment and exploration) that determine the strength and security of ethnic identity ( $\alpha=.73$  to  $.79$ ). The MEIM-R has been used with AI adolescents in studies that focus on developmental processes and the movement from unexplored states to commitment to an identity as a member of a particular ethnic group (Kulis et al., 2017; Moran & Bussey, 2007).

**Self-esteem.** Self-esteem was measured using the 10-item Rosenberg Self-Esteem Scale. It measures global self-worth based on positive and negative feelings about the self ( $\alpha=.66$  to  $.71$ ) (Rosenberg, 1965). The four response categories go from strongly disagree to strongly agree. The scale has also been used in studies involving AI adolescents (Goodkind et al., 2012; Whitesell et al., 2009).

**Resilience.** Resilience was measured using the 12-item Child and Youth Resilience Measure (CYRM-12) (Liebenberg et al., 2013). The CYRM-12 was selected given the open access to the public and brief format, 12 questions with a 3-answer Likert scale ( $\alpha=0.840$ ). The questions on the CYRM-12 are adaptable because the format allows the project team to work with the community to insert up to five additional community-specific questions.

### *Qualitative Interviews*

Interviews were conducted with 11 participants. Participants were asked eight semi-structured questions about their overall experience and perceived changes in knowledge, attitude, and opinion regarding their cultural identity. The questions include:

1. Which session was your favorite?
  - a. Why was this session your favorite? How did it make you feel?
2. Which session was your least favorite?
  - a. Why was this session your least favorite? How can we make it better?
3. Do you identify as Native American?
  - a. If yes, which communities do you identify with?
  - b. If no, what do you identify as?
4. Can you tell me about how you have engaged in cultural activities before participating in Native Spirit? This could be on your own, with family, friends, through school, or after-school programs.
5. In the past 10 weeks, what have you learned about the O'odham and Piipaash cultural values and practices? What new information have you learned about this community or its history?
6. How has your attitude or opinion towards your Native American identity changed since you have been participating in Native Spirit?
7. Would you like to learn more about your Native American identity?
  - a. If yes, what are you most curious about?
8. If you could tell a stranger one thing about the Salt River community, what would you tell them?



## Data Analysis

### *Quantitative Analysis*

Data analysis was conducted using Stata software (Release 11.0), Mplus (Version 8), and SAS 9.4 (Stata Corporation, 2009; Muthén & Muthén, 2017; SAS Institute Inc, 2013). T-tests were used to compare changes from pretest to posttest on cultural identity, self-esteem, and resilience. Pearson's correlation matrix was used to identify relationships that exist between cultural identity, self-esteem, and resilience before and after participation in Native Spirit. Cronbach's alpha was used to analyze reliability of the measures with this population.

### *Qualitative Analysis*

The PI transcribed audio recordings and merged with handwritten notes. Qualitative analysis occurred in two phases. In phase one, the PI created a codebook with the major themes, cultural identity, self-esteem, and resilience. The PI also conducted a one-hour training for the reviewers on qualitative analysis with specific instruction for this research study. In phase two, a three-person team of AI scholars, including a CAB member who was from the SRPMIC, used deductive thematic analysis to code the transcribed interviews. Data from each reviewer (quotes associated with each code) were compiled using Microsoft Excel. Through consensus, the team compared and discussed their individual data and identified and agreed on major patterns encountered within each question and by overall thematic category. The team then used an Indigenous framework for understanding the impact of the Native Spirit program on cultural identity, resilience, and self-esteem. Specifically, this analysis involved an AI analysis team with lived experience in the cultural values, practices, and holistic worldview that contribute to well-being specific to the SRPMIC. Conducting the analysis with an AI analysis team allowed for an emic view of data relating to the impacts of cultural engagement, rather than an etic view from non-AI investigators who have not experienced the impacts of AI cultural engagement. Additionally, the Native Spirit program was developed based on local cultural values and practices and the analysis mirrors that with the involvement of an AI analysis team. These aspects of the evaluation fit within the Indigenous Evaluation Framework as defined by LaFrance and Nichols that calls for community engagement and capacity building, while employing core cultural values (cultural engagement) as a form of prevention (LaFrance & Nichols, 2010). Several themes were identified inductively, but only those that are tied to the research questions are presented in this article.

## RESULTS

### Demographic Data

Participants' mean age was 14.17 years ( $\pm 1.54$ ), and there were slightly more males than females. All participants identified themselves as AI/AN. See Table 2.

**Table 2**  
**Demographic data**

	Quantitative Surveys ( <i>N</i> = 18)	Qualitative Interviews ( <i>N</i> = 11)
Mean Age (SD)	14.17 (1.54)	14.5 (1.63)
	<i>n</i>	<i>n</i>
Female	8	6
Male	10	5
AI/AN	18	11
alone	4	2
and Hispanic	14	5
and Black	1	0
and White	4	3
Grade (by Gender)		
7 <sup>th</sup>	4 (1F, 3M)	2 (2M)
8 <sup>th</sup>	3 (2F, 1M)	1 (1F)
9 <sup>th</sup>	4 (1F, 3M)	2 (1F, 1M)
10 <sup>th</sup>	5 (4F, 1M)	5 (4F, 1M)
11 <sup>th</sup>	1 (1M)	0
12 <sup>th</sup>	1 (1M)	1 (1M)

### Quantitative Results

Table 3 presents means, standard deviations, and changes in means from pretest to posttest for cultural identity, self-esteem, and resilience (*N* = 18). Changes in mean cultural identity scores reached statistical significance ( $p = 0.002$ ).

Table 4 shows Pearson's correlation findings. There was a significant positive correlation between pretest and posttest cultural identity scores ( $p = 0.013$ ). Additionally, there was a significant positive correlation between posttest cultural identity scores and self-esteem ( $p = 0.035$ ) and resilience posttest scores ( $p = 0.048$ ). Finally, there was a significant positive correlation between self-esteem pretest scores and resilience pretest scores ( $p = 0.008$ ). Cronbach's  $\alpha$  is ranged from 0.56-0.71.

**Table 3**  
*Pretest to posttest changes in outcomes*

	Pretest		Posttest		Difference	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	Post-Pre	<i>t</i> test
Cultural identity	2.88	0.35	3.22	0.50	0.34	3.30*
Self-esteem	2.76	0.64	2.89	0.45	0.12	0.57
Resilience	2.56	0.24	2.60	0.25	0.04	0.55

\*  $p \leq .01$

**Table 4**  
*Correlation matrix of pretest and posttest constructs and Cronbach's alpha*

	CI Pre	CI Post	SE Pre	SE Post	R Pre	R Post	Cronbach's $\alpha$
CI Pre	1.00						0.65
CI Post	0.64*	1.00					0.56
SE Pre	-0.06	-0.02	1.00				0.71
SE Post	0.13	0.51*	-0.06	1.00			0.70
R Pre	0.39	0.26	0.65**	-0.28	1.00		0.63
R Post	0.23	0.49*	0.21	0.40	0.38	1.00	0.59

Calculated with Pearson's correlation coefficient, \*  $p < 0.05$ , \*\*  $p < 0.01$

CI = Cultural Identity, SE = Self-esteem, R = Resilience

## Qualitative Results

The results of the participant interviews are organized into the outcomes: changes in cultural identity, self-esteem, and resilience. Changes in cultural identity referred to the thoughts, feelings, and changes regarding adolescents' self-identification as AI/AN. Changes in self-esteem referred to the adolescents' examined changes in attitudes and opinions of themselves while participating in the Native Spirit program. Changes in resilience referred to adolescent-identified instances of growth in the face of challenges.

### *Cultural Identity*

The participants described a general feeling of curiosity about cultural knowledge and furthering their understanding of AI/AN culture. Although the participants described different levels of cultural engagement before participating in the Native Spirit program, all of them expressed interest in learning more about their cultural identity. One participant stated:

I just, kind of want to learn more about me and basically, everyone...But then they ask more questions [about my identity] and I, I can't. I don't know much. It's embarrassing to say I don't know much about my culture, but it's true. I don't.

There were some differences between the responses from the adolescents who reported more cultural engagement prior to participating in the Native Spirit program and those who reported less. The adolescents who reported more cultural engagement readily described what they know regarding cultural activities and values and reported sharing this information with their peers. Additionally, they described their desire to continue learning about their history, songs, and language. For example, one participant stated, "I always like learning about my culture because it's who I am and, yeah, it's just who I am. So I'm always interested in learning more about my culture and expressing it with others, too."

### *Self-esteem*

Participants reported changes in self-esteem and confidence after completing the program. One teen reported changes in his ability to "fit in" in the community after participation in Native Spirit. One participant stated:

I feel like I can fit in with everyone else now, even though I'm not the same color, color tone, because that's mainly the problem. People think I don't fit in because my color. Yeah. Even [other participant] and I are usually criticized by kids by that.

Participants also reported feeling more confident in their ability to describe and discuss their cultural knowledge. Several participants reported not knowing the history of their community or of their family background before participation in the program. One participant stated that she used to be embarrassed because she did not know anything about her AI culture. Even participants who reported higher levels of cultural engagement voiced a deeper understanding of common cultural activities. One participant stated, "I understand more things now and I get why we do stuff."

### *Resilience*

The Native Spirit participants also recognized resilience throughout AI/AN history, and specifically for the SRPMIC. Several participants expressed interest in learning more about the SRPMIC's capacity to adapt to hardships through time. One participant stated:

I'm most curious about after all the stuff that they went through throughout history because I learn about American history and usually Natives are there and they're always being abused and tortured and treated misfairly [*sic*]. And I just wonder, how did they, how were they able to pull through? How are they able to like stay strong when it came to that and fight through and they're here today.

Additionally, participants identified cultural aspects, particularly through songs, that allow them to relieve stress and obtain a sense of peace. One participant stated:

I like to listen to traditional songs. They kind of like, soothes me down...I would probably just tell them about the songs. You know, like, when they do, like, the social dances. It's more like peaceful than being out anywhere else.

The recurring theme of resilience was also prevalent in the adolescents' desire to keep learning their language. Several participants stated they had difficulty during the language session because it was hard or because they were shy, and it required them to speak out loud. However, during the interviews the same participants expressed interest in continuing to learn the language even if it was challenging for them.

### DISCUSSION

This study used a mixed methods convergent parallel design to evaluate the Native Spirit program on AI/AN adolescents' cultural identity, self-esteem, and resilience. Quantitative and qualitative results will be converged throughout the discussion to review areas of convergence or divergence. Overall, participants reported increases in mean cultural identity, self-esteem, and resilience. There was a statistically significant increase in cultural identity score, which is revealing given the participant number and suggests a large effect. Increases in outcomes were also documented by the qualitative interviews. Adolescents reported interest in exploring their cultural identity and commitment to cultural identity. Exploration and commitment are important during adolescent years and together they help individuals establish a secure sense of cultural identity that is less subject to change with new challenging experiences (Phinney & Ong, 2007). Native Spirit's impact on cultural identity may have a promising upstream relationship to mental health and well-being in AI/AN adolescents.

The qualitative interviews also revealed positive short-term effects on self-esteem and resilience. Some participants described how cultural activities, particularly listening to traditional songs, helped relieve stress. Additionally, they were inspired upon learning of their ancestors' resilience and ability to thrive despite challenges over time. Participants described instances of increased self-esteem and confidence with their ability to identify as a member of the SRPMIC. The Native Spirit program helped adolescents feel they could fit in with the community, particularly for multiracial participants. Instead of focusing on things that set them apart, like skin color, they focused on similarities like shared cultural history, language, and participation in local cultural activities.

Cronbach's alphas were reported for each of the construct scales to assess lower bounds of reliability of the evaluation measures. The Cronbach's alpha results for scales used in this study were lower than similar studies that used the same measures but are still acceptable for exploratory studies (Kelley et al., 2018; Moran & Bussey, 2007; Nunnally & Bernstein, 1994). Comparatively low alphas in this study can possibly be explained by the small sample size. Given this is a pilot study, it is possible that a larger intervention with more intervention sites and participants might result in higher alpha levels for reliability that more closely resemble those of similar studies. Additionally, the study team will continue to work with the CAB to find measures that are statistically rigorous with strong internal consistency and reliability.

The current study had many strengths. One strength was the use of partnerships and a CAB from the beginning to the end of the study. Members of the SRPMIC were involved in the development, implementation, and evaluation of the Native Spirit study, and the program continues to run with little assistance from University partners. This study describes the second successful evaluated iteration of the Native Spirit program. It has now been implemented with 30 adolescents in two tribal communities including a rural reservation and an urban-based reservation. Another strength of this study was the use of an Indigenous framework. The values, beliefs, and practices were incorporated in the design, methods, and analysis of this study. Promoting the use of cultural values and practices (basic structure of the Native Spirit program) as a theoretical basis that leads health promotion and disease prevention is an innovative and equitable way to engage in research with AI/AN communities (Allen et al., 2018; Cwik et al., 2019; Okamoto & Kulis et al., 2014). This research study contributes to the development of an Indigenous prevention science that uses local cultural values as the impetus for prevention.

## **Limitations**

This study had some limitations. First, the current study had a relatively small sample size, a methodological challenge that has been documented in previous studies with BGCs in Indian Country (Kaufman et al., 2018). However, the emphasis of the study was to establish formative information that can be used to find an appropriate effect size and guide larger studies in the future. The number of participants in this study was realistic for the community partners and represents the number of adolescents who participate in after-school programming on a regular basis. In addition, the MEIM-R scale that measures cultural identity has been used with AI/AN adolescents; however, recent research has shown weak evidence of measurement invariance, meaning the items of the scale may be measuring something different than intended among this population (Lin et al., 2019). This study also did not measure the impact of Native Spirit on mental health and substance use among AI/AN youth. Recent literature has connected the development of positive AI/AN identity with better mental health, less delinquency, higher spirituality/happiness, and lower depressive symptoms (Brown et al., 2019; Smokowski et al., 2014). Future evaluation should examine the potential of ASPs to reduce mental health disparities among AI/AN communities.

## **Directions for Future Research**

Future research of culturally grounded ASPs should include longer-term follow-up because the impact of cultural engagement on self-esteem, resilience, and cultural identity may take time to manifest for AI/AN adolescents, while also shifting and developing over the life course (Brown et al., 2019). Additionally, future research should investigate the causal pathways that extend from cultural engagement to improved mental and behavioral health outcomes. Leveraging community partnerships between BGCs and AI/AN communities provides the benefit of combined resources, support, and effort, while also strengthening community connectedness in youth programming. The Native Spirit program, in partnership with the BGC provides a relevant and accessible form of cultural engagement for AI/AN youth that can be further developed. The BGCs of America operates over 200 sites that directly serve AI/AN youth. The Native Spirit program has the potential to impact over 200 AI/AN BGCs in the state and country, reaching over 120,000 AI/AN youth. The findings in this pilot study should be replicated using similar partnerships with more rigorous studies including randomized clinical trials with long-term follow-up of cultural, developmental, and health outcomes.

## CONCLUSION

The current evaluation of the Native Spirit program provided preliminary evidence of the impact of participation in the Native Spirit program on cultural identity, self-esteem, and resilience among AI/AN adolescents. This study examined the protective nature of culture for AI/AN youth and effectively used ASPs as a tool to strengthen developmental assets for AI youth. The inclusion of cultural engagement as a form of health promotion represents a unique blend of AI/AN values passed down through generations to impart holistic health through popular vehicles for prevention programs (e.g., ASPs). The continued excitement and community involvement in the Native Spirit program speaks to the value of culturally grounded programs and their potential to be adapted and implemented in tribal communities and urban areas across the country.

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### **CONFLICT OF INTEREST**

The authors declare that they have no conflict of interests.

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