UNDERSTANDING AMERICAN INDIAN YOUTH IN RESIDENTIAL RECOVERY FROM SUBSTANCE USE DISORDER: RISK AND PROTECTIVE EXPERIENCES AND PERCEIVED RECOVERY SUPPORT

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Abstract: Historical trauma has contributed to the reality that addiction disproportionately affects tribal communities, including American Indian youth. We sought to understand American Indian youths' own experiences and perceptions of the environments to which they return after completing residential treatment for substance use disorder. We recruited three cohorts of American Indian residents of a substance use disorder treatment facility (N = 40). These residents completed a survey that measured risk and protective factors, as well as actual risk behaviors, including drug use, gambling, and violence. Participants were at risk not only for substance use disorders, but for other negative outcomes, and had elevated scores on several community, family, and school risk factors, including perceived availability of drugs, community disorganization, family history of antisocial behavior, favorable parental attitudes toward drug use, academic failure, and low school commitment. At the same time, they were exposed to community-level and family protective factors, and they engaged in many tribal cultural activities. When compared to a national sample of American Indian students of similar age, youth in our sample scored similarly on protective factors, including indicators of community, family, and school opportunities and rewards for prosocial involvement, as well as family attachment, suggesting potential resources and strengths for supporting recovery.

INTRODUCTION

The way that people understand addiction has powerful effects upon the way that they respond to addiction. Perspectives on addiction guide public support, prevention strategies, interventions, treatment approaches, research domains, and individuals' own beliefs about their ability to recover. Tribal concepts of health include the idea of a holism that exists among the

mind, body, and spirit in connection to community and the natural world. However, the brutal colonization of American Indian societies beginning over 500 years ago brought about a competing, persisting trauma culture that has affected tribal health (Brave Heart et al., 2011; Libby et al., 2008), including experiences of addiction. Consistently, Eduardo Duran's (2006) indigenous concept of addiction, Soul Wound, suggests that addiction is a complicated outcome of experienced abuses passed down from one generation to the next. Soul Wound stands apart from most historical views of addiction, which often cast people who struggle with addiction in a negative light, perpetuating addiction-related stigma (Freed, 2012). Over time people often have viewed addiction as a personal issue of morality and/or personal will, and with feelings of disgust. In fact, despite the large number of people who have addiction, this de-humanizing tendency against people with addiction seems to be so engrained that it is apparent even at the neurological level, specifically evident in uniquely reduced medial pre-frontal cortex reactivity to both objects and maligned social groups including people who have substance use disorder (SUD; Harris & Fiske, 2006).

Supporting Duran's concept of addiction, research shows that environments can influence the likelihood of both engaging in harmful behaviors, such as those leading to addiction, and also maintaining health over the long term (Mennis et al., 2016). For example, neighborhood characteristics are associated with youth alcohol consumption. Specifically, youth alcohol consumption is elevated within neighborhoods characterized by high alcohol outlet density and economic challenges, and neighborhoods that are relatively socially disorganized, unsafe, and deprived (Jackson et al., 2016). Factors such as these make recovery from addiction an even more difficult process. Although not all tribal communities have these problems, those that do might create barriers to youth's long-term recovery experiences.

Substance Use Disorders among American Indians

The Indian Health Service (IHS) recognizes that American Indian people have struggled with poor health status and health disparities for many years (IHS, 2013). These disparities include lower life expectancy, disproportionate disease burden, and poorer quality of life. The devastating truth is that American Indian people, on average, die 4.4 years earlier than the US general population. They are more likely to die from a number of conditions, including liver disease, diabetes, suicide, and more. Additionally, although SUDs hurt people from all walks of life, they also occur at a particularly high rate among American Indian people (Whitesell et al., 2012). For

example, the rate of death due to alcohol use disorder among American Indian people is more than 500% higher than the national average (IHS, 2013).

As suggested earlier, a growing body of research indicates that social, economic, cultural, and physical environmental factors shape health status. Specifically, environmental factors such as poverty (Costello et al., 2003), poor access to information and care (Geana et al., 2012), discrimination, and isolation can influence health outcomes directly and through their influence on family and community (USDHHS, 2011). Tribal communities, in particular, might struggle with issues like these. Although there is extensive diversity across tribal nations in the United States (Etz et al., 2012), American Indian people share a unique history that is associated with intergenerational trauma and associated harmful coping patterns (e.g., substance abuse, domestic violence) that are sometimes passed down from one generation to the next (Brave Heart et al., 2011; Libby et al., 2008). These experiences likely contribute to the environmental and health outcome disparities and require a great deal of resiliency in the face of continued adversity.

Substance Use Disorders among American Indian youth

Risky behaviors, such as using alcohol and other drugs, gambling, and engaging in violent or criminal activity, are a public health problem for youth across the United States (Eaton et al., 2010). American Indian youth, especially, continue to be at elevated risk for some such harmful behaviors (e.g., Etz et al., 2012; Friese et al., 2011). For instance, to a greater extent than other youth, American Indian youth struggle with earlier substance use initiation, prolonged substance use post-experimentation, and multi-drug use, over time (Hawkins et al., 2004). Risks for SUDs also occur at earlier ages within American Indian communities (Whitesell et al., 2007). This makes American Indian adolescents particularly vulnerable to substance use problems and related health and social consequences.

Sustaining Recovery and Barriers to Sustaining Recovery

The meaning of recovery from SUDs is highly personal; different people have different understandings of this term, and the meaning of recovery is shaped by the cultural values in which one is immersed. SAMHSA defines recovery from substance use/mental health disorders as “a process of change through which individuals improve their health and wellness, live a self-directed life, and strive to reach their full potential” (del Veccio, 2012, p. 3). Common personal barriers to long-term recovery after SUD treatment include co-occurring physical health, mental health, and

other substance use issues that are not recognized or addressed during treatment and which can contribute to relapse after treatment (del Veccio, 2012).

Additionally, people who lack recovery capital are at higher risk for not sustaining their recovery after treatment. Recovery capital is the set of resources—derived from social networks, education, employment, financial assets, cultural and community strengths, and other sources—that people can draw upon to start and maintain their recovery. Aftercare, or long-term support after treatment, builds bridges to crucial sources of recovery capital and therefore improves the chances of long-term recovery (Duffy & Baldwin, 2013). As noted earlier, a growing body of environmental justice research is highlighting environmental impacts upon substance use behavior that reduce recovery capital (Mennis et al., 2016). For example, this work suggests that environmental factors, such as access to substances and neighborhood disadvantage (e.g., limited opportunities for economic advancement) and disorder (e.g., dilapidated or abandoned infrastructure) affect substance use, such that high levels of neighborhood access, disadvantage, and disorder are associated with increased use. Likewise, environmental barriers to recovery, such as distance from treatment opportunities or culturally-insensitive treatment options, can reduce the likelihood of sustained recovery from SUDs. Although not all tribal communities are challenged in this way, to the extent that a specific tribal community experiences these environmental impacts and barriers, such as neighborhood disadvantage and limited access to treatment opportunities, risks for adolescent substance use and relapse might be elevated.

Cultural Engagement

One potential source of resiliency for Native youth is Native identity. Adolescence is a particularly active time in the development of, and commitment to, one's racial/ethnic identity, especially among minority group members (Corenblum, 2014). For Native adolescents, being socialized into a Native culture (i.e., enculturation)—which might include developing a sense of Native pride and self-worth, learning about historical inequalities and in-group resilience, and participating in cultural activities (e.g., pow wows, hunting/fishing trips)—might protect against risky behaviors by buffering the negative impact of environmental stressors, discrimination, and historical trauma.

Current Study

For adolescents who have completed residential SUD treatment, a group already at relatively high risk for relapse (Spear et al., 1999), returning to a community that is supportive of recovery is especially crucial. Returning home after treatment means returning to the place where these young people first learned to use and misuse substances; often, they feel anxious and unprepared to maintain their sobriety in their home communities (Gonzales et al., 2012).

We sought to gain a better understanding of American Indian youths' *own* perceptions of the environments to which they will return after completing residential treatment for chemical dependency problems. To that end, we invited current American Indian youth residents at the Healing Lodge of the Seven Nations (HL7N), a 45-bed youth residential treatment facility for youth in recovery from chemical dependency, to participate in a strengths and needs assessment. The HL7N was originally established by a coalition of seven tribal nations and its primary focus is the American Indian population, but it serves youth from both Native and non-Native backgrounds. We attempted to gain insight into youth residents' opinions and understanding of the post-treatment recovery resources available in their home communities, as well as their past experiences within their community.

METHOD

With one cohort of American Indian youth residents, we conducted a youth assessment that consisted of two primary activities: (1) a qualitative Group Level Assessment (GLA: Vaughn & Lohmueller, 2014) and (2) a comprehensive quantitative survey. We also administered the comprehensive quantitative survey to two additional cohorts. These additional cohorts did not complete the GLA due to funding limitations. This paper reports upon the findings from the comprehensive quantitative survey.

Participatory Approach

This research used a tribal participatory research approach (Thomas et al., 2011), collaborating with a Working Group of tribal representatives to shape the research questions and methodological process. Working Group members included representatives from seven nations affiliated with the HL7N. Members were board members or other designated representatives of tribes. Working Group members met quarterly and also completed ad hoc surveys to direct the

development of the youth strengths and needs assessment, evaluating and finalizing the assessment measures and materials. The Working Group's oversight of the direction of the research was essential to this work, reflecting the needs and questions of Native stakeholders. The HL7N tribal Board of Directors approved the publication of this manuscript.

Participants

We recruited three cohorts of American Indian youth who were HL7N residents, obtaining parent/guardian permission and youth assent to participate. The first cohort, which participated in both the GLA and the quantitative survey, included all 15 American Indian youth who were HL7N residents at the time of the study. The second and third cohorts, which completed the survey but did not complete the GLA, included 13 of 15 American Indian youth and 12 of 12 American Indian youth, respectively, who were HL7N residents at the time. These youth represented approximately 40% of all current HL7N residents.

Participants included 23 male and 17 female American Indian youth between the ages of 14 and 18 (inclusive), in grades 8-12. About 88% reported that they used English at home most often. All participants identified as American Indian, 24% of participants were from communities represented by the seven Tribal Nations (i.e., Confederated Tribes of the Colville Reservation, Coeur d'Alene Reservation, Kalispel Indian Reservation, Kootenai Tribe of Idaho, Nez Perce Reservation, Spokane Tribe of Indians, Confederated Tribes of the Umatilla Reservation), and 68% of participants lived on reservations. For privacy purposes, we have not provided findings at the level of participants' specific tribal affiliations.

Measures

Participants completed an assessment that included a set of brief measures of youth risk behaviors, cultural engagement, and community resources, as well as the Communities that Care Survey, which measured risk and protective factors.

Demographics

The assessment included questions about youths' age, gender, race, language, and grade in school, as well as whether they belonged to one of the seven Tribal Nations and whether they lived on a reservation.

Cultural Engagement

We adapted Winderowd et al.'s American Indian Enculturation Scale (2008) to assess youths' participation in traditional American Indian cultural activities (e.g., "Attend pow-wows," "Seek help from Elders"). The scale used a 7-point Likert scale to assess frequency of participation from 1 (Not at all) to 7 (A great deal). With the input of our Working Group, we made three changes to this measure. We removed an item about participating in tribal politics, and we added two items, one about participating in hunting and fishing and one about participating in gathering (roots, berries, medicinal plants), for a total of 18 items. We averaged responses to the 18 items to create an overall cultural engagement score for each participant.

Community Resources

To measure access to resources in their community, we asked youth about a set of nine resources, including substance use counseling, youth/community center, school counselor, substance use prevention program, transitional housing/aftercare/safehouse for youth, mental health counseling, self-help groups for youth, cultural activities, and cultural mentors. For each resource, we asked (1) whether the resource was available in their community, (2) whether they had easy access to the resource, (3) whether they had used the resource, and (4) whether they would use the resource if their community had it. We also provided a space for youth to list other resources they felt were important.

Risk Behaviors

To assess risk behaviors that were not directly addressed by the Communities That Care survey (described below), the survey included a set of yes/no questions about other experiences, including impaired driving behavior, gambling behavior, and self- and other-directed violence.

Communities That Care

The Communities That Care (CTC) survey (Arthur et al., 2002) assesses risk and protective factors identified in previous prospective research as being predictive of substance use. The survey includes 196 questions measuring 24 risk factors and 11 protective factors. Risk and protective scale scores are computed by averaging sets of items that measure each factor. The CTC survey also provides cut points calculated from normative samples that indicate whether a score is considered "at risk" (for risk factors) or "protected" (for protective factors). These cut points are based on prior work predicting substance use behaviors; we used the cut points established for tenth graders in Washington state.

The CTC was developed for use by community coalitions that seek to modify risk and protective factors to improve youth well-being. The survey was specifically designed to be administered in a school setting, within a single 50-minute class period, to students in grades 6 through 12. It has been administered at the state, county, and community levels to more than a million students across the United States, including students from multiple racial/ethnic groups (Arthur et al., 2007).

Researchers at the University of Washington and the University of North Dakota (Guttmannova et al., 2017) recently examined how 5,095 American Indian youth from across the United States responded to the CTC survey. They found that all 32 risk and protective factor scores were as internally consistent among American Indian youth as they were within general population youth. This indicates that with American Indian youth, individual items clustered into sub-scales as intended. Additionally, among American Indian youth, scores on 30 of the 32 risk and protective factor scales predicted substance use outcomes as intended. There were two exceptions: (1) the community domain measure of low opportunities for prosocial involvement in the neighborhood did not predict regular drinking among American Indian kids (but did among general population youth), and (2) low attachment to the neighborhood did not predict any substance use outcomes among American Indian kids (but did among general population youth).

Within this paper, we also include data from 2,896 American Indian adolescents (age 14-17) from the CTC Youth Survey Normative Database (USDHHS & SAMHSA, 2007) for comparison with the American Indian youth recovery sample.

Procedures

The Portland Area Indian Health Service Institutional Review Board provided review and oversight for this human subjects research. The Board of Directors of the HL7N, comprised of representatives from the Spokane Tribe of Indians, the Confederated Tribes of the Colville Indian Reservation, the Confederated Tribes of the Umatilla Indian Reservation, the Kootenai Tribe of Idaho, the Kalispel Tribe of Indians, the Coeur d'Alene Tribe of Indians, and the Nez Perce Tribe, signed a resolution supporting the publication of this research.

Parental Permission and Youth Assent

We engaged in a full parent/guardian permission procedure for HL7N American Indian youth residents that provided information about the study and requested written permission from parents or guardians. For parents or guardians who did not return a signed permission form, we

obtained oral permission by phone. A research coordinator discussed the study with HL7N American Indian youth residents and obtained signed assent from each youth participant before the study began.

Survey Administration

We asked the participants to complete the survey using a paper/pencil method. For participants in the first cohort, this occurred after the GLA in the same room that they completed the GLA. For the other two cohorts, participants completed the survey in a group counseling room. We provided each participant with a clipboard and instructed them to spread out in the room and complete the survey on their own. We also provided them with an envelope and instructed them to put their completed survey into the envelope and seal it before returning it to the Research Coordinator. These conditions provided privacy for participants. The survey took about 30-40 minutes total to complete.

Remuneration

We provided remuneration to the youth participants when they left HL7N. For the first cohort, we provided a gift card valued at $20 each: one for the survey and one for the GLA. For the other two cohorts, which completed only the survey, we provided one gift card valued at $20. We coordinated with HL7N discharge staff to ensure that these gift cards were delivered to each participant.

Analytic Plan

To identify the experiences of the youth in our sample, we report basic descriptive information, as well as scores on risk and protective factors identified as part of the CTC survey.

For the CTC survey, we provide comparison data from a national sample of American Indian youth (USDHHS & SAMHSA, 2007). Recall that participants report on their behaviors and attitudes and the behaviors and attitudes of their peers, parents, neighbors, and teachers, in a variety of situations, and the CTC survey combines these items into scales representing risk and protective scores in different domains and then assigns cut points to those scales to determine percent of respondents at-risk or protected in a given domain. We compared our sample of American Indian youth in recovery to an age-matched general population sample of American Indian youth on proportions qualifying as at-risk and protected within each CTC domain, using Chi Square tests.

We used Pearson correlations to examine associations between risk and protective factors and youth behaviors and experiences using data from the HL7N cohorts. Specifically, we examined the associations between community, family, and school risk and protective factors and the youth behaviors measured by the peer-individual constructs, including rebelliousness, positive attitudes toward drug use, positive attitudes toward antisocial behavior, low perceived risks of drug use, interactions with antisocial peers, peer drug use, gang involvement, perceived rewards of antisocial behavior, intentions to use drugs, religiosity, social skills, belief in a moral order, and interactions with prosocial peers. We also used Pearson correlations to examine the associations between risk and protective factors and age of initiation of different risk behaviors, including using marijuana, smoking, drinking, drinking regularly, getting suspended from school, getting arrested, carrying a handgun, attacking someone, and joining a gang. For analyses investigating age of initiation of different risk behaviors, we recoded values representing "never" to 18. This allowed the scale to range from 10, representing 10 or younger, to 18, representing not initiated by age 18. Because of the number of associations tested, for these correlation analyses we used a Bonferroni-corrected alpha of .001.

Finally, we used *t*-tests to examine the relationship between cultural engagement score and youth risk behaviors measured as part of the risk behaviors portion of the survey. For these analyses, cultural engagement score was treated as a continuous dependent variable and each risk behavior was a dichotomous independent variable, as presented in Table 4. For these analyses, we used a Bonferroni-corrected alpha of .006.

RESULTS

Youth Risk Behaviors

Age of Initiation

Within the CTC, participants reported upon age of initiation for various substance use activities and other behaviors. As Table 1 shows, the majority of American Indian youth respondents reported lifetime experience with marijuana, cigarettes, alcohol, school suspension, arrest, carrying a handgun, and attacking someone to hurt them. About 41% indicated a history of gang membership. Notably, most youth respondents reported having these experiences by age 12 or 13.

Table 1
Age of Initiation for Risk Behaviors

How old were you when you first…	Not initiated by age 18	≤10	11	12	13	14	≥15
Smoked marijuana	-	40.0%	20.0%	22.5%	7.5%	5.0	5.0%
Smoked a cigarette, even just a puff	2.5%	53.5%	12.5%	7.5%	5.0%	12.5%	7.5%
Had more than a sip or two of beer, wine, or hard liquor	-	22.5%	30.0%	17.5%	7.5%	15.0%	7.5%
Began drinking alcoholic beverages regularly, that is, at least once or twice a month	2.5%	7.5%	7.5%	30.0%	15.0%	20.0%	17.5%
Got suspended from school	2.6%	35.9%	15.4%	17.9%	15.4%	7.7%	5.1%
Got arrested	5.4%	2.7%	2.7%	18.9%	24.3%	18.9%	32.0%
Carried a handgun	35.0%	10.0%	7.5%	10.0%	5.0%	15.0%	17.5%
Attacked someone with the idea of seriously hurting them	41.0%	7.7%	7.7%	15.4%	15.4%	-	12.9%
Belonged to a gang	59.0%	10.3%	7.7%	5.1%	2.6%	7.7%	7.7%

Lifetime Risk Behaviors

Thirty-nine of the 40 participants answered questions about risk behaviors. Ninety-two percent of respondents (n = 36) reported that they had driven with a driver who was under the influence of intoxicants at some point in their life. Eighty-two percent (n = 32) reported that they themselves had driven under the influence of intoxicants.

Almost 85% (n = 33) of youth respondents reported that someone in their family had gambled during the past year. Fifty-nine percent (n = 23) reported that they had gambled during their lifetime, and about a third (33%; n = 13) said that they had gambled in a casino.

With respect to violence, all but two respondents (n = 37) reported having seen a physical fight in their community and about 69% (n = 27) said they had seen a physical fight in their home. During the past year, about 80% (n = 31) said that they had been in a physical fight in their community, and 51% (n = 20) reported that they had been involved in a physical fight in their home. Also, during the past year, 31% (n = 12) reported that they had been bullied, and 49% (n = 19) reported that they had bullied someone else. Almost half of the respondents (49%; n = 19) reported that they had engaged in suicidal ideation at some point during their lifetime.

Perspectives on Community Resources

Table 2 shows participants' perspectives about their community resources. This table shows that most participating youth seemed to be aware that their communities have a variety of

resources, including substance use counseling, a community center, school counselor, mental health counseling, cultural activities, and cultural mentors. However, a meaningful number reported that their community did not have specific resources that could help with maintaining recovery, or that they did not know whether their community had such resources. For example, 30% or more (n = 12 or more) reported that they did not know whether their community had SUD prevention activities, transitional housing, and youth self-help, or that their community did not have these activities.

Table 2
Awareness, Access, and Use of Community Resources

	My community has...			I have acess to...			I have used...		I would use...		
	No	**Yes**	**Don't know**	**No**	**Yes**	**Don't know**	**No**	**Yes**	**No**	**Yes**	**Don't know**
Substance use counseling	-	85.0%	15.0%	17.5%	80.0%	2.5%	35.0%	65.0%	18.4%	68.4%	13.2%
Community center	12.5%	80.0%	7.5%	27.5%	70.0%	2.5%	59.0%	41.0%	30.0%	62.5%	7.5%
School counselor	10.0%	85.0%	5.0%	17.5%	80.0%	2.5%	40.0%	60.0%	37.8%	51.4%	10.8%
Substance use disorder prevention	17.5%	70.0%	12.5%	23.1%	71.8%	5.1%	47.5%	52.5%	23.1%	66.7%	10.3%
Transitional housing	25.0%	52.5%	22.5%	35.0%	50.0%	15.0%	87.2%	12.8%	46.2%	43.6%	10.3%
Mental health counseling	10.0%	82.5%	7.5%	12.5%	85.0%	2.5%	40.0%	60.0%	25.6%	71.8%	2.6%
Youth self-help	15.0%	65.0%	20.0%	27.5%	67.5%	5.0%	61.5%	38.5%	41.0%	53.8%	5.1%
Cultural activities	12.5%	75.0%	12.5%	22.5%	70.0%	7.5%	32.5%	67.5%	17.9%	79.5%	2.6%
Cultural mentors	7.5%	75.0%	17.5%	22.5%	65.0%	12.5%	46.2%	53.8%	20.5%	76.9%	2.6%

Most youth reported that they believe they have access to a diversity of resources in their communities, including substance use counseling, community centers, school counselors, mental

health counseling, youth self-help, cultural activities, and cultural mentors. Only 50% (n = 20) indicated that they believe they have access to transitional housing.

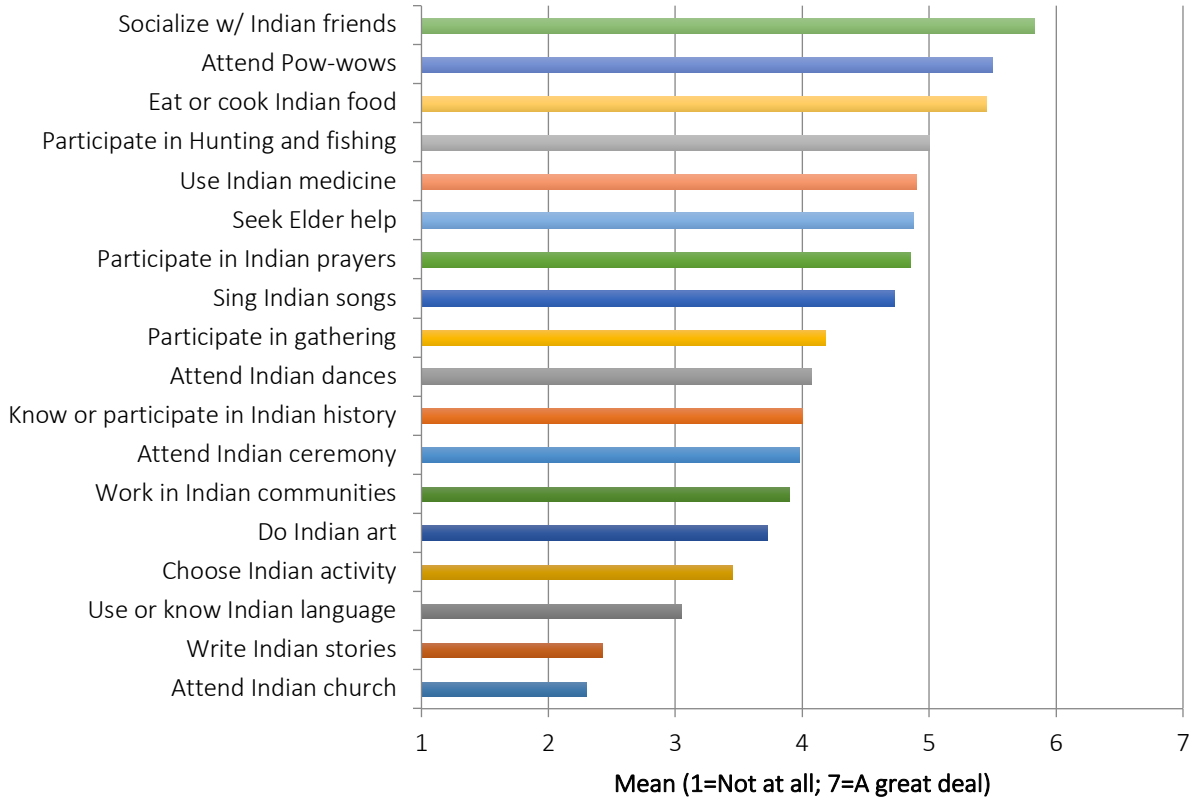
The resources that most youth reported they had used include substance use counseling, school counselors, mental health counseling, and cultural activities. Fewer than half of youth reported that they had used a community center (40%; n = 16), transitional housing (13%; n = 5), or youth self-help (38%; n = 15).

The majority of the 39 who responded to these questions said that they would use all of the resources that we inquired about in the survey other than transitional housing (51%-80%; n = 19-31). One youth volunteered that they would use more school sports in their hometown, and one youth noted that they would use anger management counseling.

Cultural Engagement

As shown in Figure 1, American Indian youth in recovery reported that they had engaged in a variety of cultural activities. In fact, youth rated their involvement in 10 of the 18 activities as more frequent than not (i.e., above 4 on a 1-7 frequency scale) with respect to their participation. The most frequently reported activity was socializing with Indian friends, and the least frequently

Figure 1. Frequency of Participation in Cultural Activities



reported activity was attending Indian church (e.g., Shaker Religion, Native American Church [peyote religion], Longhouse, Smokehouse).

Communities That Care Risk and Protective Factors

Table 3 shows the percent at risk/protected for HL7N American Indian youth and the percent at risk/protected among the national sample of American Indian youth.

Community Risk and Protective Factors

When compared to American Indian youth in the national database, youth in our clinical sample were more likely to experience high community disorganization ($\chi^2[1] = 15.5$, $p < .001$), transitions and mobility ($\chi^2[1] = 10.8$, $p < .01$), and perceived availability of drugs ($\chi^2[1] = 18.0$, $p < .001$). We observed no other statistically significant differences for community risk and protective factors.

Family Risk and Protective Factors

When compared to American Indian youth in the national database, youth in our clinical sample were significantly more likely to report parental attitudes favorable to drug use, parental attitudes favorable to antisocial behavior, and a family history of antisocial behavior ($\chi^2[1] = 27.0$, $p < .001$, $\chi^2[1] = 8.9$, $p < .01$, and $\chi^2[1] = 21.1$, $p < .001$, respectively). We observed no other statistically significant differences for family risk and protective factors.

School Risk and Protective Factors

When compared to American Indian youth in the national database, youth in our clinical sample were more likely to experience academic failure ($\chi^2[1] = 20.4$, $p < .001$) and more likely to have low school commitment ($\chi^2[1] = 15.1$, $p < .01$). We observed no other statistically significant differences for school risk and protective factors.

Peer-Individual Risk and Protective Factors

When compared to American Indian youth in the national database, youth in our clinical sample were more likely to have risk scores above the CTC cut points for all individual/peer risk factors except for rebelliousness, on which their likelihood of exceeding the cut point did not differ from the national sample (gang involvement: $\chi^2[1] = 16.9$, $p < .001$; perceived drug use risk: $\chi^2(1) = 11.8$, $p < .001$; early initiation of antisocial behavior: $\chi^2(1) = 34.0$, $p < .001$; early initiation of drug use: $\chi^2(1) = 29.0$, $p < .001$; favorable drug use attitudes: $\chi^2(1) = 18.8$, $p < .001$; antisocial attitudes: $\chi^2(1) = 19.9$, $p < .05$; antisocial rewards: $\chi^2(1) = 7.8$, $p < .01$; peer drug use: $\chi^2(1) = 27.0$,

$p < .001$; antisocial peers: $\chi^2(1) = 11.8$, $p < .001$; and drug use intentions: $\chi^2(1) = 31.5$, $p < .001$). Youth in our sample were less likely to score above the CTC cut point for social skills than the national sample, $\chi^2(1) = 12.4$, $p < .001$. We observed no other statistically significant differences for peer-individual risk and protective factors. The national database did not include a comparison score for interaction with prosocial peers.

Table 1

Communities that Care Comparison of HL7N Youth Residents with National Sample

Communities That Care Factors	HL7N Youth Residents At-risk/ Protected (*N* = 37-40)	American Indian Youth At-risk/ Protected (National Sample)
Community Risk Factors		
Low Neighborhood Attachment	50.0%	49.6%
Community Disorganization***	94.7%	63.9%
Transitions and Mobility**	82.5%	56.6%
Perceived Availability of Drugs***	77.5%	44.0%
Perceived Availability of Handguns	40.0%	30.5%
Laws and Norms Favorable to Drug Use	70.0%	56.0%
Community Protective Factors		
Rewards for Prosocial Involvement	60.5%	47.0%
Opportunities for Prosocial Involvement	51.4%	41.0%
Family Risk Factors		
Family History of Antisocial Behavior***	89.7%	52.7%
Poor Family Management	65.0%	51.8%
Family Conflict	52.5%	40.5%
Parental Attitudes Favorable Toward Drug Use***	87.2%	45.4%
Parental Attitudes Favorable Toward Antisocial Behavior**	76.9%	52.8%
Family Protective Factors		
Attachment	40.0%	40.7%
Opportunities for Prosocial Involvement	40.0%	48.9%
Rewards for Prosocial Involvement	40.0%	49.3%
School Risk Factors		
Academic Failure***	100.0%	64.3%
Low School Commitment***	80.0%	49.1%
School Protective Factors		
Opportunities for Prosocial Involvement	52.6%	51.6%
Rewards for Prosocial Involvement	56.8%	51.7%
Peer-Individual Risk Factors		
Rebelliousness	62.5%	49.5%
Gang Involvement***	62.5%	31.9%
Perceived Risks of Drug Use***	77.5%	50.1%
Early Initiation of Drug Use***	95.0%	52.2%

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Table 2 continued
Communities that Care Comparison of HL7N Youth Residents with National Sample

Communities That Care Factors	HL7N Youth Residents At-risk/ Protected (*N* = 37-40)	American Indian Youth At-risk/ Protected (National Sample)
Peer-Individual Risk Factors		
Early Initiation of Antisocial Behavior***	100.0%	52.5%
Favorable Attitudes Toward Drug Use***	85.0%	50.5%
Favorable Attitudes Toward Antisocial Behavior***	90.0%	54.7%
Rewards for Antisocial Involvement**	62.5%	40.6%
Friends' Use of Drugs***	92.5%	51.2%
Interaction w/ Antisocial Peers***	92.5%	66.9%
Intentions to Use***	89.7%	44.4%
Peer-Individual Protective Factors		
Interaction w/ Prosocial Peers	17.5%	-
Belief in Moral Order	41.0%	54.8%
Social Skills***	15.0%	42.7%
Religiosity	34.2%	39.0%

Chi square ***p < .001; **p < .01; *p < .05

Relationships among Risk and Protective Factors and Domains and Youth Behaviors

Below, we report on associations that reached significance. Recall that for the following analyses, we used a Bonferroni-corrected alpha of .001. We have included full correlation matrices for associations between risk and protective factors, youth behaviors, and age of initiation of youth behaviors in the Appendix (Tables A1-A4).

Risk and Protective Factors and CTC Youth Behaviors

Community-level risk factors were associated with youth interactions with antisocial peers and with peers who used drugs, as well as with youths' social skills. Specifically, community-level perceived availability of drugs was associated with friends' drug use (r = 0.79) and interactions with antisocial peers (r = 0.61). Community-level perceived availability of handguns was associated with interactions with antisocial peers (r = 0.63), earlier age of regular drinking (r = -0.54), and earlier age of first carrying a handgun (r = -0.58). Finally, living in communities with laws and norms that were favorable to drug use was associated with interactions with antisocial peers (r = 0.55) and with lower youth social skills (r = -0.57).

Family risk factors only shared one significant relationship with youth behaviors. Families that exhibited poor family management were more likely to have youth with poor social skills (r = -0.59).

School risk factors related to youth social skills and belief in a moral order. Specifically, youth with lower school commitment had poorer social skills (r = -0.57) and a weaker belief in a moral order (r = -0.55).

We also looked for associations among protective factor domains and youth behaviors. We observed no statistically significant associations among community, family, or school protective factors and youth behaviors.

Risk and Protective Factors and Age of Initiation of Substance-Using and Antisocial Behaviors

Community-level perceived availability of handguns was associated with age youth first started drinking regularly (r = -0.54) and age youth first carried a handgun (r = -0.58). No other community-level, family-level, or school-level risk or protective factors were significantly associated with age of initiation variables.

By construction, the peer-individual risk factor of early drug use was significantly associated with age of initiation of marijuana use (r = -0.80), smoking cigarettes (r = -0.88), drinking (r = -0.85), and drinking regularly (r = -0.81). However, early drug use was also significantly associated with age youth were first suspended from school (r = -0.63) and first arrested (r = -0.64). Similarly, the peer-individual risk factor of early antisocial behavior was, by construction, significantly associated with age youth were first suspended from school (r = -0.59), were first arrested (r = -0.65), first carried a handgun (r = -0.73), first attacked someone (r = -.78), and first belonged to a gang (r = -0.62). Early antisocial behavior also was significantly associated with age of initiation of drinking (r = -0.71) and drinking regularly (r = -0.59). The only other peer-individual risk factor associated with age of initiation variables was gang involvement, which was significantly associated with age youth first carried a handgun (r = -0.53), as well as, by construction, age youth first belonged to a gang (r = -0.91). Age of initiation variables were not significantly associated with any peer-individual protective factors.

Relationship between Cultural Engagement and Youth Behaviors

As an exploratory analysis, we examined the relationship between cultural engagement and youth behaviors, as measured in the youth risk survey completed in addition to the CTC survey. Table 4 presents these results. Cultural engagement scores were unrelated to all risk behaviors. However, cultural engagement was associated with living on a reservation ($t(36) = -3.0$, $p < .01$),

with youth living on a reservation reporting higher cultural engagement (M = 4.61, SD = 1.18) than youth living off reservation (M = 3.39, SD = 1.11).

Table 4
Cultural Engagement and Youth Risk Behavior

	Cultural Engagement Score M(SD)	
	Yes	**No**
Ever driven under the influence of intoxicants	4.41 (1.25)	3.51 (1.25)
Ever gambled	4.50 (1.16)	3.89 (1.40)
Ever gambled in a casino	4.70 (1.28)	4.02 (1.24)
Past Year: Involved in a physical fight in the community	4.38 (1.26)	3.76 (1.31)
Past Year: Involved in a physical fight at home	4.57 (1.32)	3.91 (1.18)
Past Year: Been bullied	4.30 (1.10)	4.23 (1.37)
Past Year: Bullied someone	4.55 (1.22)	3.96 (1.30)
Ever experienced suicidal ideation	4.61 (1.28)	3.90 (1.21)

Note. *t*-tests indicate that cultural engagement did not differ significantly ($p < .05$) by any of these risk behaviors.

DISCUSSION

Participating in the strengths and needs assessment provided American Indian youth with an opportunity to voice their opinions regarding their prospects for long-term recovery from SUD. They identified currently available community supports for, and barriers to, health that await them upon return home. The assessment also allowed these youth to concisely describe their lifetime involvement with risk behaviors, as well as the challenges and resources within their community, family, school, and peer environments.

Survey findings revealed that American Indian HL7N residents were likely to participate in very risky experiences from young ages. These findings are not unexpected and reveal the extent to which American Indian youth in recovery are involved with and affected by a variety of harmful activities, like smoking, consuming alcohol and illicit drugs, gambling, violence (self- and other-directed), and more. However, these residents' awareness of their communities' resources was quite high, which is promising. The majority of American Indian youth in our sample indicated familiarity with community resources related to different types of counseling, prevention activities, and cultural activities and mentors. Areas of improvement might include making youth more aware

of transitional housing and youth self-help resources, if those resources are available in their community. If not, advocating for greater availability and access to such resources will be necessary. Youth perceptions about their access to community resources was similarly high, with the exception of transitional housing and cultural mentors. With the exception of community centers, youth self-help, and transitional housing, the majority of youth indicated use of a variety of community resources (e.g., substance use and mental health counseling, school counselors, cultural activities). Youth also said that they would consider using most of these community resources in the future, indicating that the availability of such resources would be beneficial to American Indian youth in recovery.

The comparisons of the Communities That Care survey results indicate that the American Indian youth in recovery who participated in this study both differed from and were similar to other American Indian youth across the nation. In terms of risk factors in their own communities, families, schools, and peers, American Indian youth in recovery most often reported greater risk. Such risk was evident in elevated reports of community disorganization, transitions and mobility, perceived availability of drugs, family history of antisocial behavior, parental attitudes favorable to drug use and antisocial behavior, and peer drug use and antisocial behavior. American Indian youth in recovery were more comparable to other American Indian youth for many protective factors. In fact, with respect to community, family, and school, American Indian youth in recovery had indistinguishable protective factor scores for community, family, and school opportunities and rewards for prosocial involvement, as well as family attachment. This pattern of findings indicates that the American Indian youth in recovery do have some community, familial, and school-based strengths to rely on; however, their risks are extensive across these domains, and it is unclear whether the strengths reported will be sufficient to cancel out the likely effects of the risks. Their substance use experiences (i.e., the fact that they needed help from the HL7N) suggests that strengths did not cancel out risks.

Some people might be surprised by the absence of negative associations between cultural engagement and risk behaviors. In other words, we did not observe that being culturally engaged, in the way that we have defined, protected HL7N residents from engaging in a variety of risky behaviors. There is conventional wisdom, backed up by research findings, that cultural engagement provides therapeutic benefits for Native youth (Brown et al., 2016; Corenblum, 2014). However, additional investigation of our findings suggests that participants high in cultural engagement still reported engagement in many risk behaviors because cultural engagement was

confounded with living on a reservation; in other words, participants who reported high cultural engagement were more likely to live on a reservation, and in this sample—who represent a cohort of extremely high-risk youth—living on a reservation was itself associated with environmental risk. Because our sample represented youth at high risk, we caution against concluding that cultural engagement does not serve as a protective factor for Native youth. Although our study does not address this issue, additional research might examine what aspects of cultural engagement can provide such youth protective benefits in a way that overcomes the harms of other community, family, school, and peer-level risks.

A limitation of this study includes the small sample size of American Indian youth in residential treatment for chemical dependency. Another limitation is the use of self-report, without independent objective corroboration of youths' claims. Finally, some observed apparent failures, such as academic failure, might reflect system failures rather than things attributable to tribal youth.

Taken together, this assessment suggests that American Indian youth in recovery have strengths that should aid in their long-term health. These include good awareness of community resources and intentions to use such resources. They appear also to have some advantages in terms of protective factors, which suggest that there are areas of tribal community strength that should be maintained and advanced: opportunities for prosocial involvement in the community, family, and schools. However, the American Indian youth in recovery also evidenced substantial risk for relapse, given the early age of initiation for most assessed risk behaviors and the complicated pattern of risk factors related to community, family, school, and peers.

One potential resource for helping American Indian youth in recovery avoid relapse is community-wide mental health/substance use education, including programs that provide laypeople with the tools they need to identify and intervene with youth (and other members of the community) in need. The more individuals in a community who are trained to identify, intervene, and connect struggling individuals with the support they need, the better positioned that community is to create a healthy, supportive recovery environment for its youth. The authors of this paper are building a community mental health/substance use education program with, and for, the Seven Nations communities. Future research will indicate whether such a program helps youth sustain their recovery in the long term.

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APPENDIX

Table A1

Correlations between Community Risk & Protective Factors & Family, School, & Peer-Individual Factors & Outcomes (N = 37-40)

	COMMUNITY RISK & PROTECTIVE FACTORS							
	Low Neighborhood Attachment	**Community Disorgani-zation**	**Transitions / Mobility**	**Laws & Norms Favorable to Drug Use**	**Drug Availability**	**Gun Availability**	**Opportunities for Prosocial Behavior**	**Rewards for Prosocial Behavior**
COMMUNITY RISK FACTORS								
Low Neighborhood Attachment	1.00	--	--	--	--	--	--	--
Community Disorganization	.42	1.00	--	--	--	--	--	--
Transitions / Mobility	.11	-.03	1.00	--	--	--	--	--
Laws & Norms Favorable to Drug Use	.22	.40	.14	1.00	--	--	--	--
Drug Availability	-.24	-.17	.01	.45	1.00	--	--	--
Gun Availability	-.08	.31	.09	.36	.37	1.00	--	--
COMMUNITY PROTECTIVE FACTORS								
Opportunities for Prosocial Behavior	-.52	-.24	-.26	-.10	.21	-.01	1.00	--
Rewards for Prosocial Behavior	-.44	-.25	-.26	-.14	.15	-.20	.67*	1.00
FAMILY RISK FACTORS								
Poor Family Management	.25	.44	.19	.52	.18	.35	-.28	-.34
High Family Conflict	.01	.37	.02	.22	.25	.20	.03	-.12
Antisocial History	.04	.20	.28	.37	.58*	.33	.08	-.12
Parent Attitudes Favor Drug Use	.31	.35	.01	.33	-.08	.10	-.08	-.18
Parent Attitudes Favor Antisocial Behavior	.32	.50	.07	.26	-.21	-.04	.12	.04
FAMILY PROTECTIVE FACTORS								
Family Attachment	.01	-.03	-.16	-.03	.01	.04	.08	.24
Opportunities for Prosocial Behavior	-.07	-.09	-.29	-.14	-.08	.08	.34	.18
Rewards for Prosocial Behavior	.03	-.06	-.22	-.03	.07	-.03	.19	.18
SCHOOL RISK FACTORS								
Academic Failure	.12	.11	-.03	.24	.02	.25	-.09	-.27
Low School Commitment	.15	.40	.17	.52	.19	.24	-.13	-.19
SCHOOL PROTECTIVE FACTORS								
Opportunities for Prosocial Involvement	-.31	-.22	-.06	-.27	-.11	-.33	.26	.30
Rewards for Prosocial Involvement	-.36	-.20	-.26	-.34	-.18	-.37	.29	.37

continued on next page

Table A1 continued

Correlations between Community Risk & Protective Factors & Family, School, & Peer-Individual Factors & Outcomes (N = 37-40)

	COMMUNITY RISK & PROTECTIVE FACTORS							
	Low Neighborhood Attachment	**Community Disorgani-zation**	**Transitions / Mobility**	**Laws & Norms Favorable to Drug Use**	**Drug Availability**	**Gun Availability**	**Opportunities for Prosocial Behavior**	**Rewards for Prosocial Behavior**
PEER-INDIVIDUAL RISK FACTORS								
Rebelliousness	.03	.25	-.03	.27	.39	.45	-.16	-.08
Gang Involvement	.16	.30	.15	.10	-.04	.46	-.04	-.04
Low Perceived Risk of Drug Use	.03	.34	-.14	.43	.16	.15	.07	.09
Early Initiation of Drug Use	.09	.13	.04	.45	.41	.39	.07	.07
Early Initiation of Antisocial Behavior	.14	.50	-.07	.31	.22	.55*	.06	-.11
Attitudes Favor Drug Use	.11	.02	-.06	.32	.40	.15	-.13	-.07
Attitudes Favor Antisocial Behavior	.28	.27	.19	.35	.36	.34	-.14	.12
Rewards for Antisocial Behavior	-.16	.09	.03	.04	.32	.33	.06	-.20
Peer Drug Use	.14	-.04	-.04	.47	.79*	.31	-.08	-.18
Antisocial Peers	.15	.36	.07	.55*	.61*	.63*	-.03	-.17
Intentions to Use Drugs	.24	.40	.21	.52	-.01	.30	-.14	.01
PEER-INDIVIDUAL PROTECTIVE FACTORS								
Prosocial Peers	-.28	-.20	-.16	-.13	-.05	-.08	.50	.17
Belief in a Moral Order	-.31	-.53	-.03	-.49	-.25	-.30	.18	.32
Social Skills	-.33	-.39	-.29	-.57*	-.34	-.21	.29	.29
Religiosity	-.32	.01	-.17	-.05	.17	.44	-.14	-.24
AGE OF INITIATION								
Age 1st Used Marijuana	.19	-.01	-.14	-.34	-.44	-.23	-.21	-.28
Age 1st Smoked Cigarettes	-.18	-.02	.04	-.40	-.40	-.19	.01	.02
Age 1st Drank	-.31	-.28	-.08	-.45	-.28	-.36	.18	.11
Age 1st Drank Regularly	.03	-.13	.04	-.30	-.25	-.54*	-.19	-.11
Age 1st Suspended from School	-.01	-.30	.09	-.33	-.29	-.19	.01	.03
Age 1st Arrested	-.29	-.30	.13	-.23	-.14	-.24	.11	.15
Age 1st Carried a Gun	.21	-.25	-.09	-.19	-.14	-.58*	-.07	-.08
Age 1st Attacked Someone	-.26	-.49	.17	-.23	-.17	-.41	-.09	.14
Age 1st Belonged to Gang	-.12	-.33	-.10	-.01	.20	-.49	.04	.06

**p<.001.*

Note. Bonferroni corrections yielded a $p<.001$ significance level. 0s recoded to 18 to reflect "never have" for age of initiation questions.

Table A2

Correlations between Family Risk & Protective Factors & School, & Peer-Individual Factors & Outcomes

	FAMILY RISK & PROTECTIVE FACTORS							
	Poor Family Management	**High Family Conflict**	**Antisocial History**	**Parent Attitudes Favor Drug Use**	**Parent Attitudes Favor Antisocial Behavior**	**Family Attachment**	**Opportunities for Prosocial Behavior**	**Rewards for Prosocial Behavior**
FAMILY RISK FACTORS								
Poor Family Management	1.00	--	--	--	--	--	--	--
High Family Conflict	.23	1.00	--	--	--	--	--	--
Antisocial History	.05	.38	1.00	--	--	--	--	--
Parent Attitudes Favor Drug Use	.34	.28	.09	1.00	--	--	--	--
Parent Attitudes Favor Antisocial Behavior	.28	.08	.03	.09	1.00	--	--	--
FAMILY PROTECTIVE FACTORS								
Family Attachment	-.59*	-.09	.24	-.02	-.01	1.00	--	--
Opportunities for Prosocial Behavior	-.58*	-.01	.06	-.15	-.14	.82*	1.00	--
Rewards for Prosocial Behavior	-.60*	-.03	.21	-.09	-.10	.84*	.72*	1.00
SCHOOL RISK FACTORS								
Academic Failure	.35	.22	-.01	.35	.19	-.11	-.17	-.08
Low School Commitment	.46	.36	.15	.31	.25	-.23	-.40	-.24
SCHOOL PROTECTIVE FACTORS								
Opportunities for Prosocial Involvement	-.31	-.01	-.13	-.23	-.14	-.02	.14	.03
Rewards for Prosocial Involvement	-.40	-.13	-.23	-.38	-.27	.12	.30	.19
PEER-INDIVIDUAL RISK FACTORS								
Rebelliousness	.28	.34	.25	-.12	-.24	-.24	-.24	-.15
Gang Involvement	.03	-.02	.19	.38	.47	.23	.18	.06
Low Perceived Risk of Drug Use	.27	.30	.21	.39	.16	.07	.06	.07
Early Initiation of Drug Use	.32	.16	.18	.36	.36	-.13	-.20	-.14
Early Initiation of Antisocial Behavior	.36	.16	.30	.25	.41	-.20	-.29	-.18
Attitudes Favor Drug Use	.31	.24	.22	.31	-.10	-.32	-.35	-.30

continued on next page

Table A2 continued

Correlations between Family Risk & Protective Factors & School, & Peer-Individual Factors & Outcomes

	FAMILY RISK & PROTECTIVE FACTORS							
	Poor Family Management	**High Family Conflict**	**Antisocial History**	**Parent Attitudes Favor Drug Use**	**Parent Attitudes Favor Antisocial Behavior**	**Family Attachment**	**Opportunities for Prosocial Behavior**	**Rewards for Prosocial Behavior**
PEER-INDIVIDUAL RISK FACTORS								
Attitudes Favor Antisocial Behavior	.33	.25	.30	.22	.20	-.08	-.15	-.01
Rewards for Antisocial Behavior	-.09	.24	.29	-.21	-.24	.12	.13	.12
Peer Drug Use	.15	.26	.47	-.06	-.24	.10	.03	.18
Antisocial Peers	.40	.21	.49	.05	-.01	-.09	-.11	.01
Intentions to Use Drugs	.29	.25	.21	.40	.33	.05	-.01	-.10
PEER-INDIVIDUAL PROTECTIVE FACTORS								
Prosocial Peers	-.27	-.02	.04	-.05	.13	.36	.38	.26
Belief in a Moral Order	-.44	-.38	-.31	-.23	-.18	.13	.20	.11
Social Skills	-.59*	-.23	-.35	-.32	-.14	.31	.52	.36
Religiosity	.21	.33	.16	-.11	-.30	-.28	-.27	-.31
AGE OF INITIATION								
Age 1st Used Marijuana	-.16	-.26	-.35	-.15	-.30	.12	.25	.09
Age 1st Smoked Cigarettes	-.30	-.12	-.24	-.27	-.33	.06	.20	.08
Age 1st Drank	-.35	-.08	-.04	-.17	-.36	.15	.20	.16
Age 1st Drank Regularly	-.24	-.10	.02	-.26	-.23	.12	.03	.14
Age 1st Suspended from School	-.26	-.27	-.09	-.21	-.34	.14	.32	.21
Age 1st Arrested	-.44	-.16	.03	-.27	-.32	.39	.37	.29
Age 1st Carried a Gun	-.21	.02	-.23	-.09	-.21	.20	.21	.24
Age 1st Attacked Someone	-.26	-.14	-.44	-.23	-.29	-.02	.05	-.05
Age 1st Belonged to Gang	.02	.07	-.09	-.29	-.43	-.17	-.14	-.02

**p<.001.*

Note. Bonferroni corrections yielded a $p<.001$ significance level. 0s recoded to 18 to reflect "never have" for age of initiation questions.

Table A3

Correlations between School Risk & Protective Factors & Peer-Individual Factors & Outcomes

	SCHOOL RISK & PROTECTIVE FACTORS			
	Academic Failure	**Low School Commitment**	**Opportunities for Prosocial Behavior**	**Rewards for Prosocial Behavior**
SCHOOL RISK FACTORS				
Academic Failure	1.00	--	--	--
Low School Commitment	.59*	1.00	--	--
SCHOOL PROTECTIVE FACTORS				
Opportunities for Prosocial Involvement	-.51	-.47	1.00	--
Rewards for Prosocial Involvement	-.41	-.55*	.63*	1.00
PEER-INDIVIDUAL RISK FACTORS				
Rebelliousness	.17	.39	-.24	-.38
Gang Involvement	.00	.03	-.02	-.11
Low Perceived Risk of Drug Use	.15	.28	-.08	-.19
Early Initiation of Drug Use	.15	.31	-.21	-.38
Early Initiation of Antisocial Behavior	.26	.40	-.27	-.30
Attitudes Favor Drug Use	.06	.19	-.02	-.16
Attitudes Favor Antisocial Behavior	.23	.21	-.14	-.24
Rewards for Antisocial Behavior	-.03	.13	.17	.14
Peer Drug Use	.13	.27	-.16	-.32
Antisocial Peers	.17	.35	-.31	-.42
PEER-INDIVIDUAL PROTECTIVE FACTORS				
Prosocial Peers	-.16	-.49	.14	.34
Belief in a Moral Order	-.09	-.55*	.34	.39
Social Skills	-.24	-.57*	.32	.44
Religiosity	.14	.17	-.08	-.21
AGE OF INITIATION				
Age 1st Used Marijuana	-.08	-.31	.04	.21
Age 1st Smoked Cigarettes	-.17	-.24	.17	.35
Age 1st Drank	-.20	-.31	.28	.33
Age 1st Drank Regularly	-.08	-.20	.22	.36
Age 1st Suspended from School	-.37	-.45	.25	.37
Age 1st Arrested	-.08	-.24	.25	.27
Age 1st Carried a Gun	-.30	-.31	.14	.18
Age 1st Attacked Someone	-.16	-.26	.22	.14
Age 1st Belonged to Gang	-.03	.01	-.02	.05

**p<.001.*

Note. Bonferroni corrections yielded a $p<.001$ significance level. 0s recoded to 18 to reflect "never have" for age of initiation questions.

Table A4

Correlations between Peer-Individual Risk & Protective Factors & Peer-Individual Outcomes

	PEER-INDIVIDUAL RISK & PROTECTIVE FACTORS														
	Rebelliousness	**Gang Involv**	**Percvd Drug Use Risk**	**Early Drug Use**	**Early Anti-social Behav**	**Favor Drug Use**	**Favor Anti-social Behav**	**Rewards for Anti-social**	**Friend Drug Use**	**Anti-social Peers**	**Intent-ions to Use**	**Pro-social Peers**	**Belief in Moral Order**	**Social Skills**	**Religiosity**
PEER-INDIVIDUAL RISK FACTORS															
Rebelliousness	1.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gang Involvement	-.03	1.00	--	--	--	--	--	--	--	--	--	--	--	--	--
Low Perceived Risk of Drug Use	.16	.07	1.00	--	--	--	--	--	--	--	--	--	--	--	--
Early Initiation of Drug Use	.28	.30	.13	1.00	--	--	--	--	--	--	--	--	--	--	--
Early Initiation of Antisocial Behavior	.34	.50	.18	.68*	1.00	--	--	--	--	--	--	--	--	--	--
Attitudes Favor Drug Use	.29	-.13	.13	.17	.10	1.00	--	--	--	--	--	--	--	--	--
Attitudes Favor Antisocial Behavior	.40	.37	.04	.27	.19	.42	1.00	--	--	--	--	--	--	--	--
Rewards for Antisocial Behavior	.39	.21	-.12	.07	.24	-.03	.04	1.00	--	--	--	--	--	--	--
Peer Drug Use	.47	.02	.14	.38	.28	.34	.31	.37	1.00	--	--	--	--	--	--
Antisocial Peers	.57*	.24	.16	.36	.44	.25	.46	.38	.69*	1.00	--	--	--	--	--
Intentions to Use Drugs	.15	.41	.47	.30	.32	.18	.37	-.10	-.01	.14	1.00	--	--	--	--
PEER-INDIVIDUAL PROTECTIVE FACTORS															
Prosocial Peers	-.28	-.03	-.21	-.11	-.07	-.21	-.20	-.05	-.15	-.28	-.20	1.00	--	--	--
Belief in a Moral Order	-.40	-.08	-.54*	-.24	-.41	-.28	-.14	-.12	-.30	-.43	-.45	.39	1.00	--	--
Social Skills	-.38	-.10	-.46	-.31	-.38	-.44	-.35	-.08	-.36	-.42	-.44	.45	.60*	1.00	--
Religiosity	.42	-.11	-.07	.17	.32	.23	-.05	.20	.04	.05	-.13	-.10	-.17	-.10	1.00
AGE OF INITIATION															
Age 1st Used Marijuana	-.18	-.19	-.09	-.80*	-.52	-.09	-.20	-.12	-.25	-.24	-.26	.01	.13	.19	-.23
Age 1st Smoked Cigarettes	-.20	-.15	-.14	-.88*	-.51	-.18	-.21	.01	-.41	-.26	-.20	.13	.15	.30	-.10
Age 1st Drank	-.25	-.34	-.02	-.85*	-.71*	-.07	-.28	-.07	-.38	-.32	-.31	.14	.25	.35	-.07
Age 1st Drank Regularly	-.32	-.33	-.16	-.81*	-.59*	-.23	-.24	-.07	-.24	-.38	-.25	.10	.26	.21	-.21
Age 1st Suspended from School	-.33	-.14	-.13	-.63*	-.59*	-.04	-.20	-.08	-.32	-.20	-.25	-.03	.08	.32	-.24
Age 1st Arrested	-.06	-.20	-.16	-.64*	-.65*	-.20	-.07	.05	-.16	-.26	-.18	.21	.35	.39	-.21
Age 1st Carried a Gun	-.30	-.53*	-.08	-.39	-.73*	-.07	-.27	-.27	-.07	-.40	-.32	.13	.14	.15	-.23
Age 1st Attacked Someone	-.21	-.40	-.27	-.31	-.78*	-.10	-.11	-.18	-.25	-.36	-.20	.04	.48	.28	-.20
Age 1st Belonged to Gang	.06	-.91*	-.10	-.27	-.62*	.14	-.19	-.12	.15	-.09	-.46	-.02	.10	.06	-.02

**p<.001.*

Note. Bonferroni corrections yielded a $p<.001$ significance level. 0s recoded to 18 to reflect "never have" for age of initiation questions.