

Risk and Protective Factors for Substance Abuse and/or Mental Health Problems Among Alaska Native and Native American Populations

SAMHSA's Center for the Application of Prevention Technologies

Introduction and Purpose

This document is the result of a request from the State of Alaska's National Prevention Network representative on behalf of the State Epidemiology Outcomes Workgroup (SEOW). A subcommittee of the SEOW, referred to as the Influences Subcommittee, encountered a lack of readily available literature on risk and protective factors for substance abuse and/or mental health problems among Alaska Native and Native American populations. This document is an inventory of current studies organized at the individual, relationship, community and societal levels. The SEOW will use this information to inform the identification of state-wide data sources that measure risk and protective factors relevant to the Alaska Native and Native American populations.

Search Process

This document contains published, peer-reviewed studies from health and psychological databases, such as PUBMED and PSYCHINFO between 1989 and 2012. Studies assessed the relationship between a range of risk and protective for substance abuse and/or mental health problems.

Key words and search strings used in the search:

"Alaskan Native," "American Indian," "Native American," "Substance abuse," "Substance abuse prevention," "Risk Factor," "Protective Factor"

Each search combined the following:

- "Native American" or "American Indian" with "Substance Use," "Alcohol Use," "Mental health," or "Suicide," "Protective," or "Risk," and each one of the following risk and protective factors:
 - Individual: "Psychosocial," "Self-esteem," "Self-worth," "SES," "Education," "Housing," "Employment," "Spirituality," "Religion," "Health,"
 - Relationship: "Trauma," "Adversity," "Partner," "Family," "Social," "Peer," "Friend," "Abuse" "Sexual," "Violence," "Conflict," "Parent"
 - Community: "Community," "School," "Reservation,"
 - Society: "Historical loss," "Enculturation," "Culture," "Acculturation,"

INDIVIDUAL			
EMPLOYMENT			
Risk Factor	Protective Factor	Outcome	Citation Source
	Employment	Substance Abuse (SA) (IV drug use past 30 days; Needle sharing past 30 days; Crack cocaine past 30 day use)	Reynolds, G.L., Fisher, D.G., Estrada, A.L., & Trotter, R. (2000). Unemployment, drug use, and HIV risk among American Indian and Alaska Native drug users. <i>American Indian and Alaska Native Mental Health Research</i> , 9(1), 17-32.
Unemployment		SA (Heavy drinking; Alcohol abuse and/or dependence; Illicit drug abuse and/or dependence)	Herman-Stahl, M., Spencer, D.L., & Duncan, J.E. (2003). The implications of cultural orientation for substance use among American Indians. <i>American Indian and Alaska Native Mental Health Research</i> 11(1), 46-66.
INCOME			
	Family income supplements	Mental Health (MH) (Any psychiatric disorder)	Costello, E.J., Erkanli, A., Copeland, W., & Angold, A. (2010). Association of family income supplements in adolescence with development of psychiatric and substance use disorders in adulthood among an American Indian population. <i>Journal of the American Medical Association</i> , 303(19), 1954-1960.
Low social economic status of family members		SA (Alcohol abuse/dependence)	Yu, M., & Stiffman, A.R. (2007). Culture and environment as predictors of alcohol abuse/dependence symptoms in American Indian youths. <i>Addictive Behaviors</i> , 32, 2253-2259.
Financial strain		MH (Depression)	Whitbeck, L.B., Walls, M.L., Johnson, K.D., Morrisseau, A.D., & McDougall, C.M. (2009). Depressed affect and historical loss among North American indigenous adolescents. <i>American Indian and Alaska Mental Health Research</i> , 16(3), 16-49.
Childhood financial strain		MH (Depression/dysthymia; PTSD; Panic/GAD)	Libby, A.M., Orton, H.D., Novins, D.K., Beals, J., & Manson, S.M. (2005). Childhood physical and sexual abuse and subsequent depressive and anxiety disorders for two American Indian tribes. <i>Psychological Medicine</i> , 35(3), 329-340.

EDUCATION			
Risk Factor	Protective Factor	Outcome	Citation Source
Less than high school or high school education		SA (Heavy drinking)	Herman-Stahl, M., Spencer, D.L., & Duncan, J.E. (2003). The implications of cultural orientation for substance use among American Indians. <i>American Indian and Alaska Native Mental Health Research</i> 11(1), 46-66.
	Parental education	SA (Lifetime and 30 day alcohol use)	HeavyRunner-Rioux, A.R., & Hollist, D.R. (2010). Community, family, and peer influence on alcohol, marijuana, and illicit drug use among a sample of Native American youth: An analysis of predictive factors. <i>Journal of Ethnicity in Substance Abuse</i> , 9, 260-283.
PSYCHOSOCIAL ISSUES			
Impulsivity		SA (Lifetime and 30 day alcohol; Marijuana; Illicit drug use)	HeavyRunner-Rioux, A.R., & Hollist, D.R. (2010). Community, family, and peer influence on alcohol, marijuana, and illicit drug use among a sample of Native American youth: An analysis of predictive factors. <i>Journal of Ethnicity in Substance Abuse</i> , 9, 260-283.
Delinquent behavior		SA (Early onset SA)	Whitbeck, L.B., Hoyt, D.R., McMorris, B.J., Chen, X., & Stuben, J.D. (2001). Perceived discrimination and early substance abuse among American Indian children. <i>Journal of Health and Social Behavior</i> , 42(4), 405-424.
Conduct problems		SA (High stage substance use: illicit drug use, with or without marijuana, alcohol and inhalants.)	O'Connell, J.M., Novins, D.K., Beals, J., Whitesell, N., Libby, A.M., Orton, H.D., Al-SUPERPFT Team. (2007). Childhood characteristics associated with stage of substance use of American Indians: Family background, traumatic experiences, and childhood behaviors. <i>Addictive Behaviors</i> , 32(12), 3142-3152.
Violent Perpetration		MH (Suicide)	Pettingell, S.L., Bearinger, L.H., Skay, C.L., Resnick, M.D., Potthoff, S.J., & Eichhorn, J. (2008). Protecting urban American Indian young people from suicide. <i>American Journal of Health Behavior</i> , 32(5), 465-476.
Pro-delinquency attitudes		SA (Lifetime and 30 day alcohol; Marijuana; Illicit drug use)	HeavyRunner-Rioux, A.R., & Hollist, D.R. (2010). Community, family, and peer influence on alcohol, marijuana, and illicit drug use among a sample of Native American youth: An analysis of predictive factors. <i>Journal of Ethnicity in Substance Abuse</i> , 9, 260-283.

PSYCHOSOCIAL ISSUES, CONT.			
Risk Factor	Protective Factor	Outcome	Citation Source
Angry feelings		Early onset SA (Not specified)	Whitbeck, L.B., Hoyt, D.R., McMorris, B.J., Chen, X., & Stuben, J.D. (2001). Perceived discrimination and early substance abuse among American Indian children. <i>Journal of Health and Social Behavior</i> , 42(4), 405-424.
	Positive mood	MH (Suicide attempts)	Pettingell, S.L., Bearinger, L.H., Skay, C.L., Resnick, M.D., Pothhoff, S.J., & Eichhorn, J. (2008). Protecting urban American Indian young people from suicide. <i>American Journal of Health Behavior</i> , 32(5), 465-476.
Feeling life has no purpose		MH (Suicide attempts)	Chino, M., & Fullerton-Gleason, L. (2006). Understanding suicide attempts among American Indian adolescents in New Mexico: Modifiable factors related to risk and resiliency. <i>Ethnicity and Disease</i> , 16, 435-442.
Low self-worth		SA (Alcohol related problems)	Radin, S.M., Neighbors, C., Walker, P.S., Walker, R.D., Marlatt, G.A., & Larimer, M. (2006). The changing influences of self-worth and peer deviance on drinking problems in urban American Indian adolescents. <i>Psychology of Addictive Behaviors</i> , 20(2), 161-170.
	High Self-esteem	MH (Suicide ideation)	Yoder, K.A., Whitbeck, L.B., Hoyt, D.R., & LaFromboise, T. (2006). Suicidal ideation among American Indian youths. <i>Archives of Suicide Research</i> , 10, 177-190.
SPIRITUALITY/RELIGION			
	Involvement in a religious group or church	SA (Alcohol abuse/dependence)	Yu, M. & Stiffman, A.R. (2007). Culture and environment as predictors of alcohol abuse/dependence symptoms in American Indian youths. <i>Addictive Behaviors</i> , 32, 2253-2259.
	Belonging to the Native American church	SA (Alcohol, cigarette and marijuana use)	Kulis, S., Hodge, D.R., Ayers, S.L., Brown, E.F., & Marsiglia, F.F. (2012). Spirituality and religion: Intertwined protective factors for substance use among urban American Indian youth. <i>The American Journal of Drug and Alcohol Abuse</i> , 38(5), 444-449.
	Stronger Christian beliefs	SA (Alcohol and cigarette use)	Kulis, S., Hodge, D.R., Ayers, S.L., Brown, E.F., & Marsiglia, F.F. (2012). Spirituality and religion: Intertwined protective factors for substance use among urban American Indian youth. <i>The American Journal of Drug and Alcohol Abuse</i> , 38(5), 444-449.
	Cultural pride/spirituality	SA (Alcohol abuse/dependence)	Yu, M., & Stiffman, A.R. (2007). Culture and environment as predictors of alcohol abuse/dependence symptoms in American Indian youths. <i>Addictive Behaviors</i> , 32, 2253-2259.

SPIRITUALITY/RELIGION, CONT.			
Risk Factor	Protective Factor	Outcome	Citation Source
	Cultural spiritual orientation	MH (Suicide attempts)	Garrouette, E.M., Goldberg, J., Beals, J., Herrell, R., Manson, S.P. (2003). Spirituality and attempted suicide among American Indians. <i>Social Science and Medicine</i> , 56, 1571-1579.
	Use of time for religion	SA (Alcohol use in the past 30 days)	Beebe, L.A., Vesely, S.K., Oman, R.F., Tolma, E., Aspy, C.E., & Rodine, S. (2008). Protective assets for non-use of alcohol, tobacco, and other drugs among urban American Indian youth in Oklahoma. <i>Maternal and Child Health Journal</i> , 12, S82-S90.
HEALTH			
Self-perception of poor general health		MH (Suicide attempts)	Grossman, D.C., Milligan, C., & Deyo, R.A. (1991). Risk factors for suicide attempts among Navajo adolescents. <i>American Journal of Public Health</i> , 81(7), 870-874).
	Good physical health	MH (Suicide attempts)	Mackin, J., Perkins, T., & Furrer, C. (2012). The power of protection: A population-based comparison of native and non-native youth suicide attempters. <i>American Indian and Alaska Native Mental Health Research</i> , 19(2), 20-54.
Diagnosed chronic illness		MH (Depression/dysthymia) MH (PTSD)	Libby, A.M., Orton, H.D., Novins, D.K., Beals, J., & Manson, S.M. (2005). Childhood physical and sexual abuse and subsequent depressive and anxiety disorders for two American Indian tribes. <i>Psychological Medicine</i> , 35(3), 329-340.
Concerned about health		MH (Suicide attempts)	Borowsky, I.W., Resnick, M.D., Ireland, M., & Blum, R.W. (1999). Suicide attempts among American Indian and Alaska Native youth: Risk and protective factors. <i>Archives of Pediatric & Adolescent Medicine</i> , 153, 573-580.

RELATIONSHIPS

ADVERSE CHILDHOOD EXPERIENCES AND OTHER TRAUMATIC EVENTS

Risk Factor	Protective Factor	Outcome	Citation Source
Child abuse (Physical and sexual abuse)		MH (Suicide attempts)	Mackin, J., Perkins, T., & Furrer, C. (2012). The power of protection: A population-based comparison of native and non-native youth suicide attempters. <i>American Indian and Alaska Native Mental Health Research, 19</i> (2), 20-54.
Childhood sexual abuse		MH, (3 or more psychiatric disorders, including and not including alcohol dependence and abuse)	Robin, R.W., Chester, B., Rasmussen, J.K., Jaranson, J.M., & Goldman, D. (1997). Prevalence, characteristics, and impact of childhood sexual abuse in a southwestern American Indian tribe. <i>Child Abuse & Neglect, 21</i> (8), 769-787.
Child abuse		SA (Not specified)	Bohn, D.K. (2003). Lifetime physical and sexual abuse, substance abuse, depression, and suicide attempts among Native American women. <i>Issues in Mental Health Nursing, 24</i> , 333-352.
Trauma (non-interpersonal, interpersonal, witnessed, traumatic news, and other trauma)		SA (Alcohol use disorder)	Boyd-Ball, A.J., Manson, S.M., Noonan, C., & Beals, J. (2006). Traumatic events and alcohol use disorders among American Indian adolescents and young adults. <i>Journal of Traumatic Stress, 19</i> (6), 937-947.
Childhood physical abuse		MH (Depression/dysthymia PTSD; Panic/GAD)	Libby, A.M., Orton, H.D., Novins, D.K., Beals, J., & Manson, S.M. (2005). Childhood physical and sexual abuse and subsequent depressive and anxiety disorders for two American Indian tribes. <i>Psychological Medicine, 35</i> (3), 329-340.
Childhood sexual abuse		MH (Depression/dysthymia; PTSD; Panic/GAD)	
Childhood Physical abuse and Childhood Sexual abuse		SA (Alcohol dependence, alcohol abuse)	Clark, D.B. Lesnick, L., & Hegedus, A.M. (1997). Traumas and other adverse life events in adolescents with alcohol abuse and dependence. <i>Journal of the American Academy of Child and Adolescent Psychiatry, 36</i> (12), 1744-1751.
Childhood trauma (physical and sexual abuse)		MH (Suicide attempts)	Borowsky, I.W., Resnick, M.D., Ireland, M., & Blum, R.W. (1999). Suicide attempts among American Indian and Alaska Native youth: Risk and protective factors. <i>Archives of Pediatric & Adolescent Medicine, 153</i> , 573-580.
Child abuse (physical abuse and sexual abuse)		MH (Suicide attempts)	Grossman, D.C., Milligan, C., & Deyo, R.A. (1991). Risk factors for suicide attempts among Navajo adolescents. <i>American Journal of Public Health, 81</i> (7), 870-874.

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ADVERSE CHILDHOOD EXPERIENCES AND OTHER TRAUMATIC EVENTS, CONT.

Risk Factor	Protective Factor	Outcome	Citation Source
Child abuse (physical abuse and sexual abuse)		SA (Illicit drug use/dependence)	Yu, M., & Stiffman, A.R. (2010). Positive family relationships and religious affiliation as mediators between negative environment and illicit drug symptoms in American Indian adolescents. <i>Addictive Behaviors</i> , 35, 694-699.
Individual ACEs and Total number of ACEs: (Childhood: physical abuse, sexual abuse, physical neglect, emotional neglect, emotional abuse, boarding school attendance, foster care placement, parental alcoholism)		SA (Alcohol dependence)	Koss, M.P., Yuan, N.P., Dightman, D., Prince, R.J., Polacca, M., Sanderson, B., & Goldman, D. (2003). Adverse childhood exposures and alcohol dependence among seven Native American tribes. <i>American Journal Preventive Medicine</i> , 25(3), 238-244.
Physical abuse (before 15 years of age)		SA (Alcohol dependence)	Kunitz, S.J., Levy, J.E., McCloskey, J., & Gabriel, K.R. (1998). Alcohol dependence and domestic violence as sequelae of abuse and conduct disorder in childhood. <i>Child Abuse & Neglect</i> , 22(11), 1079-1091.
Parent drug or alcohol problem		SA (Lifetime alcohol use)	O'Connell, J.M., Novins, D.K., Beals, J., Whitesell, N., Libby, A.M., Orton, H.D., AI-SUPERPFT Team. (2007). Childhood characteristics associated with stage of substance use of American Indians: Family background, traumatic experiences, and childhood behaviors. <i>Addictive Behaviors</i> , 32(12), 3142-3152.
Family members' substance problems		SA (Alcohol abuse/dependence)	Yu, M., & Stiffman, A.R. (2007). Culture and environment as predictors of alcohol abuse/dependence symptoms in American Indian youths. <i>Addictive Behaviors</i> , 32, 2253-2259.
Maternal alcohol problem		MH (Depression/dysthymia)	Libby, A.M., Orton, H.D., Novins, D.K., Beals, J., & Manson, S.M. (2005). Childhood physical and sexual abuse and subsequent depressive and anxiety disorders for two American Indian tribes. <i>Psychological Medicine</i> , 35(3), 329-340.
Maternal depression		MH (Depression, Post Traumatic Stress Syndrome) PTSD:	Libby, A.M., Orton, H.D., Novins, D.K., Beals, J., & Manson, S.M. (2005). Childhood physical and sexual abuse and subsequent depressive and anxiety disorders for two American Indian tribes. <i>Psychological Medicine</i> , 35(3), 329-340.

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ADVERSE CHILDHOOD EXPERIENCES AND OTHER TRAUMATIC EVENTS, CONT.

Risk Factor	Protective Factor	Outcome	Citation Source
Father depression		MH: (Depression)	Libby, A.M., Orton, H.D., Novins, D.K., Beals, J., & Manson, S.M. (2005). Childhood physical and sexual abuse and subsequent depressive and anxiety disorders for two American Indian tribes. <i>Psychological Medicine, 35</i> (3), 329-340.
Addicted family members		SA (Illicit drug use/dependence)	Yu, M., & Stiffman, A.R. (2010). Positive family relationships and religious affiliation as mediators between negative environment and illicit drug symptoms in American Indian adolescents. <i>Addictive Behaviors, 35</i> , 694-699.
Family members with mental health problems		SA (Youth tobacco use)	Yu, M., Stiffman, A.R. & Freedenthal, S. (2005). Factors affecting American Indian adolescent tobacco use. <i>Addictive Behaviors, 30</i> , 889-904.
Family member attempted suicide		MH (Attempted suicide; Current suicidality)	Manson, S.M., Beals, J., Dick, R.W., & Duclos, C. (1989). Risk factors for suicide among Indian adolescents at a boarding school. <i>Public Health Reports, 104</i> (6), 609-614.
Family member suicide attempt or completion		MH (Suicide attempts)	Grossman, D.C., Milligan, C., & Deyo, R.A. (1991). Risk factors for suicide attempts among Navajo adolescents. <i>American Journal of Public Health, 81</i> (7), 870-874.
Friend attempted suicide		MH (Suicide attempts)	Grossman, D.C., Milligan, C., & Deyo, R.A. (1991). Risk factors for suicide attempts among Navajo adolescents. <i>American Journal of Public Health, 81</i> (7), 870-874.
Friend attempted suicide		MH (Attempted suicide; Current suicidality)	Manson, S.M., Beals, J., Dick, R.W., & Duclos, C. (1989). Risk factors for suicide among Indian adolescents at a boarding school. <i>Public Health Reports, 104</i> (6), 609-614.
Friend attempted or completed suicide		MH (Suicide attempts)	Borowsky, I.W., Resnick, M.D., Ireland, M., & Blum, R.W. (1999). Suicide attempts among American Indian and Alaska Native youth: Risk and protective factors. <i>Archives of Pediatric & Adolescent Medicine, 153</i> , 573-580.
Experienced the death of a friend		MH (Attempted suicide; Current suicidality)	Manson, S.M., Beals, J., Dick, R.W., & Duclos, C. (1989). Risk factors for suicide among Indian adolescents at a boarding school. <i>Public Health Reports, 104</i> (6), 609-614.
Death/loss		SA (Current cigarette and smokeless tobacco use)	LeMaster, P.M., Connell, C.M., Mitchell, C.M., & Manson, S.M. (2002). Tobacco use among American Indian adolescents: Protective and risk factors. <i>Journal of Adolescent Health, 30</i> , 426-432.

ADVERSE CHILDHOOD EXPERIENCES AND OTHER TRAUMATIC EVENTS, CONT.

Risk Factor	Protective Factor	Outcome	Citation Source
Adversity (trauma, witnessed violence, major childhood event)		SA (Early alcohol use; Substance use disorder)	Whitesell, N.R., Beals, J., Mitchell, C.M., Manson, S.M., Turner, R.J., & the AI-SUPERPFP TEAM. (2009). Childhood exposure to adversity and risk of substance-use disorder in two American Indian populations: The meditational role of early substance use initiation. <i>Journal of Studies on Alcohol and Drugs</i> , 70, 971-981.
Witnessed family violence or other traumatic event		SA (Medium stage substance use: Lifetime marijuana or inhalant use, without alcohol)	O'Connell, J.M., Novins, D.K., Beals, J., Whitesell, N., Libby, A.M., Orton, H.D., AI-SUPERPFT Team. (2007). Childhood characteristics associated with stage of substance use of American Indians: Family background, traumatic experiences, and childhood behaviors. <i>Addictive Behaviors</i> , 32(12), 3142-3152.
Stressful life event past year (Scale included ACEs and other stressful life events)		MH (Depressed mood) SA (Substance use, not specified)	Baldwin, J.A., Brown, B.G., Wayment, H.A., Nez, R.A., Brelsford, K.A. (2011). The Role of Culture and Context: Buffering the Relationship Between Stressful Life Events and Risky Behaviors in American Indian Youth. <i>Substance Use & Misuse</i> , 46, 1380-1394.
Stressful life events (Scale included ACEs and other stressful life events)		SA (Current cigarette use)	LeMaster, P.M., Connell, C.M., Mitchell, C.M., & Manson, S.M. (2002). Tobacco use among American Indian adolescents: Protective and risk factors. <i>Journal of Adolescent Health</i> , 30, 426-432.
Negative life event(Scale included ACEs and other stressful life events)		MH (Suicide Ideation)	Yoder, K.A., Whitbeck, L.B., Hoyt, D.R., & LaFromboise, T. (2006). Suicidal ideation among American Indian youths. <i>Archives of Suicide Research</i> , 10, 177-190.
Significant life event (Scale include ACEs and other stressful life events)		SA (Quantity-frequency of alcohol use past month): Greatest and usual number of drinks; number of days drinking and drunk; episodes of drinking 2 days or more	Spicer, P., Novins, D., Mitchell, C.M., & Beals, J. (2003). Aboriginal social organization, contemporary experience and American Indian adolescent alcohol use. <i>Journal of Studies on Alcohol and Drugs</i> , 64, 450-457.
Violent victimization (in childhood)		SA (Alcohol dependence; Alcohol abuse)	Clark, D.B. Lesnick, L., & Hegedus, A.M. (1997). Traumas and other adverse life events in adolescents with alcohol abuse and dependence. <i>Journal of the American Academy of Child and Adolescent Psychiatry</i> , 36(12), 1744-1751.
Paternal violence problems		MH (Depression/dysthymia)	Libby, A.M., Orton, H.D., Novins, D.K., Beals, J., & Manson, S.M. (2005). Childhood physical and sexual abuse and subsequent depressive and anxiety disorders for two American Indian tribes. <i>Psychological Medicine</i> , 35(3), 329-340.
Being a victim of physical violence at home		MH (Suicide attempts)	Chino, M., & Fullerton-Gleason, L. (2006). Understanding suicide attempts among American Indian adolescents in New Mexico: Modifiable factors related to risk and resiliency. <i>Ethnicity and Disease</i> , 16, 435-442.

PARENT/CHILD CONNECTION			
Risk Factor	Protective Factor	Outcome	Citation Source
	Discussing problems with family or friends	MH (Suicide attempts)	Borowsky, I.W., Resnick, M.D., Ireland, M., & Blum, R.W. (1999). Suicide attempts among American Indian and Alaska Native youth: Risk and protective factors. <i>Archives of Pediatric & Adolescent Medicine</i> , 153, 573-580.
	Family Communication	SA (Other illicit drug use in the past 30 days) —	Beebe, L.A., Vesely, S.K., Oman, R.F., Tolma, E., Aspy, C.E., & Rodine, S. (2008). Protective assets for non-use of alcohol, tobacco, and other drugs among urban American Indian youth in Oklahoma. <i>Maternal and Child Health Journal</i> , 12, S82-S90.
	Family attention	MH (Suicide ideation; Suicide attempts; Hopelessness)	Pharris, M.D., Resnick, M.D., & Blum, R.W. (1997). Protecting against hopelessness and suicidality in sexually abused American Indian adolescents. <i>Journal of Adolescent Health</i> , 21, 400-406.
	Positive family relationships	SA (Illicit drug use/dependence)	Yu, M., & Stiffman, A.R. (2010). Positive family relationships and religious affiliation as mediators between negative environment and illicit drug symptoms in American Indian adolescents. <i>Addictive Behaviors</i> , 35, 694-699.
	Parental attachment	SA (Lifetime marijuana use)	HeavyRunner-Rioux, A.R. & Hollist, D.R. (2010). Community, family, and peer influence on alcohol, marijuana, and illicit drug use among a sample of Native American youth: An analysis of predictive factors. <i>Journal of Ethnicity in Substance Abuse</i> , 9, 260-283.
	Parental pro-social behavior norms	MH (Suicide attempts)	Pettingell, S.L., Bearinger, L.H., Skay, C.L., Resnick, M.D., Potthoff, S.J., & Eichhorn, J. (2008). Protecting urban American Indian young people from suicide. <i>American Journal of Health Behavior</i> , 32(5), 465-476.
	Parental caring	MH (Suicide ideation female only; Suicide attempts)	Pharris, M.D., Resnick, M.D., & Blum, R.W. (1997). Protecting against hopelessness and suicidality in sexually abused American Indian adolescents. <i>Journal of Adolescent Health</i> , 21, 400-406.
	Family connectedness	MH (Suicide attempts)	Borowsky, I.W., Resnick, M.D., Ireland, M., & Blum, R.W. (1999). Suicide attempts among American Indian and Alaska Native youth: Risk and protective factors. <i>Archives of Pediatric & Adolescent Medicine</i> , 153, 573-580.
	Family caring	MH (Suicide attempts)	Pharris, M.D., Resnick, M.D., & Blum, R.W. (1997). Protecting against hopelessness and suicidality in sexually abused American Indian adolescents. <i>Journal of Adolescent Health</i> , 21, 400-406.
	Family caring about adolescent's feelings	MH (Hopelessness ; Suicide ideation)	Pharris, M.D., Resnick, M.D., & Blum, R.W. (1997). Protecting against hopelessness and suicidality in sexually abused American Indian adolescents. <i>Journal of Adolescent Health</i> , 21, 400-406.

PARENT/CHILD CONNECTION CONT.			
Risk Factor	Protective Factor	Outcome	Citation Source
	Family support	SA (Alcohol quantity-frequency; frequency of intoxication)	Dick, R.W., Manson, S.M., & Beals, J. (1993). Alcohol use among male and female Native American adolescents: Patterns and correlates of student drinking in a boarding school. <i>Journal of Studies on Alcohol and Drugs, 54</i> , 172-177.
Little perceived family social support		MH (Suicide attempts)	Manson, S.M., Beals, J., Dick, R.W., & Duclos, C. (1989). Risk factors for suicide among Indian adolescents at a boarding school. <i>Public Health Reports, 104</i> (6), 609-614.
	Parental expectations	MH (Hopelessness Suicide ideation)	Pharris, M.D., Resnick, M.D., & Blum, R.W. (1997). Protecting against hopelessness and suicidality in sexually abused American Indian adolescents. <i>Journal of Adolescent Health, 21</i> , 400-406.
	Family sanctions against drugs	SA (Drug use)	Swaim, R.C., Oetting, E.R., Thurman, P.J., Beauvais, F., & Edwards, R.W. (1993). American Indian adolescents drug use and socialization characteristics: A cross-cultural comparison. <i>Journal of Cross-Cultural Psychology, 24</i> (1), 53-70.
	Family sanctions against alcohol	SA (Alcohol involvement)	See Bates et al. (1997).
INVOLVEMENT WITH OTHER ADULTS			
	Non-parental adult role model	SA (Alcohol use past 30 days, tobacco use in the past 30 days, and other illicit drug use in the past 30 days)	Beebe, L.A., Vesely, S.K., Oman, R.F., Tolma, E., Aspy, C.E., & Rodine, S. (2008). Protective assets for non-use of alcohol, tobacco, and other drugs among urban American Indian youth in Oklahoma. <i>Maternal and Child Health Journal, 12</i> , S82-S90.
	Adult warmth and supportiveness	MH (Depression)	Whitbeck, L.B., Walls, M.L., Johnson, K.D., Morrisseau, A.D., McDougall, C.M. (2009). Depressed affect and historical loss among North American indigenous adolescents. <i>American Indian and Alaska Mental Health Research, 16</i> (3), 16-49.
	Tribal leader caring	MH (Suicidal ideation; Hopelessness)	Pharris, M.D., Resnick, M.D., & Blum, R.W. (1997). Protecting against hopelessness and suicidality in sexually abused American Indian adolescents. <i>Journal of Adolescent Health, 21</i> , 400-406.
	Adult caring	MH (Suicidal ideation [Males and Females]; Hopelessness [Females])	Pharris, M.D., Resnick, M.D., & Blum, R.W. (1997). Protecting against hopelessness and suicidality in sexually abused American Indian adolescents. <i>Journal of Adolescent Health, 21</i> , 400-406.
	School people caring	MH (Suicidal ideation [Males])	Pharris, M.D., Resnick, M.D., & Blum, R.W. (1997). Protecting against hopelessness and suicidality in sexually abused American Indian adolescents. <i>Journal of Adolescent Health, 21</i> , 400-406.

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PEER INTERACTION			
Risk Factor	Protective Factor	Outcome	Citation Source
Peer alcohol use		SA (Lifetime use; level of alcohol use)	Dickens, D.D., Dieterich, S.E., Henry, K.L., Beauvais, F. (2012). School bonding as a moderator of the effect of peer influences on alcohol use among American Indian adolescents. <i>Journal of Studies on Alcohol and Drugs</i> , 73, 597-603.
Peer misbehavior		SA (Alcohol abuse/dependence)	Yu, M., & Stiffman, A.R. (2007). Culture and environment as predictors of alcohol abuse/dependence symptoms in American Indian youths. <i>Addictive Behaviors</i> , 32, 2253-2259.
Deviant peers		SA (Illicit drug use/dependence)	Yu, M., & Stiffman, A.R. (2010). Positive family relationships and religious affiliation as mediators between negative environment and illicit drug symptoms in American Indian adolescents. <i>Addictive Behaviors</i> , 35, 694-699.
Peer Deviance		SA (Alcohol related problems)	Radin, S.M., Neighbors, C., Walker, P.S., Walker, R.D., Marlatt, G.A., & Larimer, M. (2006). The changing influences of self-worth and peer deviance on drinking problems in urban American Indian adolescents. <i>Psychology of Addictive Behaviors</i> , 20(2), 161-170.
Delinquent peers		SA (Lifetime; 30 day alcohol; Marijuana; Illicit drug use)	HeavyRunner-Rioux, A.R. & Hollist, D.R. (2010). Community, family, and peer influence on alcohol, marijuana, and illicit drug use among a sample of Native American youth: An analysis of predictive factors. <i>Journal of Ethnicity in Substance Abuse</i> , 9, 260-283.
Peer misbehavior		SA (Tobacco use)	Yu, M., Stiffman, A.R., & Freedenthal, S. (2005). Factors affecting American Indian adolescent tobacco use. <i>Addictive Behaviors</i> , 30, 889-904.
Peer encouragement of alcohol use		SA (Quantity-frequency of alcohol use past month): Greatest and usual number of drinks; number of days drinking and drunk; episodes of drinking 2 days or more	Spicer, P., Novins, D., Mitchell, C.M., & Beals, J. (2003). Aboriginal social organization, contemporary experience and American Indian adolescent alcohol use. <i>Journal of Studies on Alcohol and Drugs</i> , 64, 450-457.
Peer alcohol associations		SA (Alcohol involvement)	Bates, S.C., Beauvais, F., & Trimble, J.E. (1997). American Indian adolescent alcohol involvement and ethnic identification. <i>Substance Use & Misuse</i> , 32(14), 2013-2031.
	Discussing problems with family or friends	MH (Suicide attempts)	Borowsky, I.W., Resnick, M.D., Ireland, M., & Blum, R.W. (1999). Suicide attempts among American Indian and Alaska Native youth: Risk and protective factors. <i>Archives of Pediatric & Adolescent Medicine</i> , 153, 573-580.
Greater perceived friend social support		MH (Current suicidality)	Manson, S.M., Beals, J., Dick, R.W., & Duclos, C. (1989). Risk factors for suicide among Indian adolescents at a boarding school. <i>Public Health Reports</i> , 104(6), 609-614.

SOCIAL CONNECTIVITY			
Risk Factor	Protective Factor	Outcome	Citation Source
	Sense of belonging as connectedness	MH (Suicidal ideation)	Hill, D.L. (2009). The relationship between sense of belonging as connectedness and suicide in American Indians. <i>Archives of Psychiatric Nursing</i> , 23(1), 65-74.
Extreme alienation from family and community		MH (Suicide attempts)	Grossman, D.C., Milligan, C., & Deyo, R.A. (1991). Risk factors for suicide attempts among Navajo adolescents. <i>American Journal of Public Health</i> , 81(7), 870-874.
PARTNER/MARITAL PROBLEMS			
Domestic Violence (physical assault)		MH (Depression; PTSD symptomology)	Hamby, S.L., & Skupien, M.B. (1998). Domestic violence on the San Carlos Apache Reservation: Rates, associated psychological symptoms, and current beliefs. <i>The IHS Primary Care Provider: A Journal for Health Professionals with American Indians and Alaska Natives</i> , 23(8), 103-106.
Partner's control over finances		MH (Depression; PTSD symptomology)	Hamby, S.L., & Skupien, M.B. (1998). Domestic violence on the San Carlos Apache Reservation: Rates, associated psychological symptoms, and current beliefs. <i>The IHS Primary Care Provider: A Journal for Health Professionals with American Indians and Alaska Natives</i> , 23(8), 103-106.
Severe physical or sexual intimate partner violence		MH (Any mood disorder)	Duran, B., Oetzel, J., Parker, T, Malco Halinka L., Lucero, J., Jiang, Y. (2009) Intimate partner violence and alcohol, drug, and mental disorders among American Indian women from southwest tribes in primary care. <i>American Indian and Alaska Native Mental Health Research</i> , Vol 16(2).
Shorter relationship lengths		MH (Depression)	Hamby, S.L., & Skupien, M.B. (1998). Domestic violence on the San Carlos Apache Reservation: Rates, associated psychological symptoms, and current beliefs. <i>The IHS Primary Care Provider: A Journal for Health Professionals with American Indians and Alaska Natives</i> , 23(8), 103-106.

LIFETIME ABUSE/ASSAULT			
Risk Factor	Protective Factor	Outcome	Citation Source
Adult abuse events (Including domestic violence)		SA (Not specified)	Bohn, D.K. (2003). Lifetime physical and sexual abuse, substance abuse, depression, and suicide attempts among Native American women. <i>Issues in Mental Health Nursing, 24</i> , 333-352.
Sexual assault Multiple victimization		MH (Depression; Dysphoria)	Evans-Campbell, T., Lindhorst, T., Huang, B., & Walters, K.L. (2006). Interpersonal violence in the lives of urban American Indian and Alaska Native Women: Implications for health, mental health, and help-seeking. <i>American Journal of Public Health, 96</i> (8), 1416-1422.
Violence perpetration (males)		MH (Suicide attempts)	Pettingell, S.L., Bearinger, L.H., Skay, C.L., Resnick, M.D., Potthoff, S.J., & Eichhorn, J. (2008). Protecting urban American Indian young people from suicide. <i>American Journal of Health Behavior, 32</i> (5), 465-476.
Adult victim of physical abuse/attack		MH (Depression/dysthymia; PTSD; Panic/GAD)	Libby, A.M., Orton, H.D., Novins, D.K., Beals, J., & Manson, S.M. (2005). Childhood physical and sexual abuse and subsequent depressive and anxiety disorders for two American Indian tribes. <i>Psychological Medicine, 35</i> (3), 329-340.
Adult victim of sexual abuse		MH (Depression/dysthymia; PTSD; Panic/GAD)	Libby, A.M., Orton, H.D., Novins, D.K., Beals, J., & Manson, S.M. (2005). Childhood physical and sexual abuse and subsequent depressive and anxiety disorders for two American Indian tribes. <i>Psychological Medicine, 35</i> (3), 329-340.

COMMUNITY

COMMUNITY STRESS/VIOLENCE

Risk Factor	Protective Factor	Outcome	Citation Source
Gun availability		MH (Suicide attempts)	Borowsky, I.W., Resnick, M.D., Ireland, M., & Blum, R.W. (1999). Suicide attempts among American Indian and Alaska Native youth: Risk and protective factors. <i>Archives of Pediatric & Adolescent Medicine</i> , 153, 573-580.
Gang involvement		MH (Suicide attempts)	Borowsky, I.W., Resnick, M.D., Ireland, M., & Blum, R.W. (1999). Suicide attempts among American Indian and Alaska Native youth: Risk and protective factors. <i>Archives of Pediatric & Adolescent Medicine</i> , 153, 573-580.
Neighborhood safety		SA (Alcohol use past 30 days; Marijuana past 30 days) MH (Depressive symptoms)	Nalls, A.M., Mullis, R.L., & Mullis, A.K. (2009). American Indians' perceptions of their environment and their reports of depressive symptoms and alcohol/marijuana use. <i>Adolescence</i> , 44(176), 965-978.
Neighborhood poverty		SA (Lifetime; 3- day marijuana use)	HeavyRunner-Rioux, A.R. & Hollist, D.R. (2010). Community, family, and peer influence on alcohol, marijuana, and illicit drug use among a sample of Native American youth: An analysis of predictive factors. <i>Journal of Ethnicity in Substance Abuse</i> , 9, 260-283.

SCHOOL

Did not go to school in the past 30 days because felt unsafe		MH (Suicide attempts)	Mackin, J., Perkins, T., & Furrer, C. (2012). The power of protection: A population-based comparison of native and non-native youth suicide attempters. <i>American Indian and Alaska Native Mental Health Research</i> , 19(2), 20-54.
Negative school environment		SA (Illicit drug use/dependence)	Yu, M., & Stiffman, A.R. (2010). Positive family relationships and religious affiliation as mediators between negative environment and illicit drug symptoms in American Indian adolescents. <i>Addictive Behaviors</i> , 35, 694-699.
	School attachment	SA (Lifetime illicit drug use)	HeavyRunner-Rioux, A.R., & Hollist, D.R. (2010). Community, family, and peer influence on alcohol, marijuana, and illicit drug use among a sample of Native American youth: An analysis of predictive factors. <i>Journal of Ethnicity in Substance Abuse</i> , 9, 260-283.

SCHOOL, CONT.			
Risk Factor	Protective Factor	Outcome	Citation Source
	School bonding	SA (Lifetime and level of alcohol use)	Dickens, D.D., Dieterich, S.E., Henry, K.L., Beauvais, F. (2012). School bonding as a moderator of the effect of peer influences on alcohol use among American Indian adolescents. <i>Journal of Studies on Alcohol and Drugs</i> , 73, 597-603.
Low sense of school safety		SA (Marijuana, past 30 days)	Nalls, A.M., Mullis, R.L., & Mullis, A.K. (2009). American Indians' perceptions of their environment and their reports of depressive symptoms and alcohol/marijuana use. <i>Adolescence</i> , 44(176), 965-978.
	Sense of belonging in school	SA (Lifetime use of alcohol and cigarettes; amount of cigarettes and marijuana used in the last 30 days; frequency of alcohol and cigarettes past 30 days; average frequency of drug use; number of drugs ever used; age of initiation into drug use; later onset of drug use)	Napoli, M., Marsiglia, F.F., & Kulis, S. (2003). Sense of belonging in school as a protective factor against drug abuse among Native American urban adolescents. <i>Journal of Social Work Practice in the Addictions</i> , 3(2), 25-41.
	Positive feelings about school	MH (Hopelessness Suicidal ideation; Suicide attempts)	Pharris, M.D., Resnick, M.D., & Blum, R.W. (1997). Protecting against hopelessness and suicidality in sexually abused American Indian adolescents. <i>Journal of Adolescent Health</i> , 21, 400-406.
RESERVATION RESIDENCE			
	Living on a geographically remote reserve	MH (Depression)	Whitbeck, L.B., Walls, M.L., Johnson, K.D., Morrisseau, A.D., McDougall, C.M. (2009). Depressed affect and historical loss among North American indigenous adolescents. <i>American Indian and Alaska Mental Health Research</i> , 16(3), 16-49.
Reservation-based residence		SA (Binge drinking)	O'Connell, J.M., Novins, D.K., Beals, J., Spicer, P., & the AI-SUPERPFT Team. (2005). Disparities in patterns of alcohol use among reservation-based and geographically dispersed American Indian populations. <i>Alcoholism: Clinical and Experimental Research</i> 29(1), 107-116.

SOCIETAL			
HISTORICAL LOSS			
Risk Factor	Protective Factor	Outcome	Citation Source
Historical loss		SA (Alcohol abuse)	Whitbeck, L.B., Chen, X., Hoyt, D.R. & Adams, G.W. (2004). Discrimination, historical loss, and enculturation: Culturally specific risk and resiliency factors for alcohol abuse among American Indians. <i>Journal of Studies on Alcohol</i> , 65(4), 409-418.
Historical loss		MH (Depression)	Whitbeck, L.B., Walls, M.L., Johnson, K.D., Morrisseau, A.D., McDougall, C.M. (2009). Depressed affect and historical loss among North American indigenous adolescents. <i>American Indian and Alaska Mental Health Research</i> , 16(3), 16-49.
PERCEIVED DISCRIMINATION			
Perceived discrimination		MH (Depression)	Whitbeck, L.B., Walls, M.L., Johnson, K.D., Morrisseau, A.D., McDougall, C.M. (2009). Depressed affect and historical loss among North American indigenous adolescents. <i>American Indian and Alaska Mental Health Research</i> , 16(3), 16-49.
Perceived discrimination		SA (Early onset SA) MH (Internalizing symptoms)	Whitbeck, L.B., Hoyt, D.R., McMorris, B.J., Chen, X., & Stuben, J.D. (2001). Perceived discrimination and early substance abuse among American Indian children. <i>Journal of Health and Social Behavior</i> , 42(4), 405-424.
Perceived discrimination		MH (Suicide attempts)	Yoder, K.A., Whitbeck, L.B., Hoyt, D.R., & LaFromboise, T. (2006). Suicidal ideation among American Indian youths. <i>Archives of Suicide Research</i> , 10, 177-190.
CULTURE			
	More American Indian oriented	SA (Heavy drinking; Alcohol abuse and/or dependence)	Herman-Stahl, M., Spencer, D.L., & Duncan, J.E. (2003). The implications of cultural orientation for substance use among American Indians. <i>American Indian and Alaska Native Mental Health Research</i> 11(1), 46-66.

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CULTURE, CONT.			
Risk Factor	Protective Factor	Outcome	Citation Source
	Enculturation (participation in traditional activities, identification with AI culture and traditional spirituality)	SA (Alcohol Abuse)	Whitbeck, L.B., Chen, X., Hoyt, D.R., & Adams, G.W. (2004). Discrimination, historical loss, and enculturation: Culturally specific risk and resiliency factors for alcohol abuse among American Indians. <i>Journal of Studies on Alcohol</i> , 65(4), 409-418.
	Enculturation	MH (Suicide attempts)	Yoder, K.A., Whitbeck, L.B., Hoyt, D.R., & LaFromboise, T. (2006). Suicidal ideation among American Indian youths. <i>Archives of Suicide Research</i> , 10, 177-190.
	Involvement in traditional activities	MH (Suicide attempts)	Pharris, M.D., Resnick, M.D., & Blum, R.W. (1997). Protecting against hopelessness and suicidality in sexually abused American Indian adolescents. <i>Journal of Adolescent Health</i> , 21, 400-406.
Participation in generic cultural activities (e.g. Powwows/dances & feasts/memorial)		SA (Alcohol abuse/dependence). Authors' note: Focus group meetings with American Indian college students revealed that events such as Powwows (even though alcohol free) were regularly followed by the "49's" which is informal social gathering involving alcohol.	Yu, M., & Stiffman, A.R. (2007). Culture and environment as predictors of alcohol abuse/dependence symptoms in American Indian youths. <i>Addictive Behaviors</i> , 32, 2253-2259.