



Correlates of bullying behaviors among a sample of North American Indigenous adolescents



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A B S T R A C T

Keywords:

Bullying

North American Indigenous youth

The purpose of this study was to examine the relationship between familial, educational, and psychosocial factors and bullying among 702 North American Indigenous adolescents aged 11–14 years. The study used multinomial logistic regression models to differentiate correlates of bully perpetration and victimization versus being neither and between being a perpetrator versus being a victim. Analyses reveal that being a bully victim had different correlates than being a perpetrator. Perceived discrimination was associated with increased odds of being either a victim or a perpetrator, relative to being neither. Several factors differentiated being a bully perpetrator from being a bully victim: adolescent age, parental warmth and support, depressive symptoms, anger, and school adjustment. These findings expand upon the limited understanding of the factors associated with bullying among North American Indigenous youth. Bullying intervention and prevention programs that target Indigenous adolescents should be culturally grounded and begin early within the family.

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For the past several years, bullying has received extensive notice from school officials, state and federal governments, and the media. It typically occurs when a child is repeatedly exposed to aggressive physical contact, verbal threats, and social exclusion perpetrated by one or more individuals who are considered stronger than the victim (Olweus, 1993, 2010; Stein, Dukes, & Warren, 2007). Recently researchers have distinguished between different categories of bullying, suggesting that precursors, experiences, and outcomes may be very different for children who are predominantly victims, those who are mostly aggressors, and “bully victims” – youth who report being both a victim and a perpetrator of bullying behavior (Dulmas, Sowers, & Theriot, 2006). For example, among a nationally representative sample of youth in grades 6–10, 29.9% reported bullying experiences, with 13% as bully perpetrators, 10.6% as victims, and 6.3% as both (Nansel et al., 2001).

Previous research has identified family (Baldry & Farrington, 2005; Espelage, Bosworth, & Simon, 2000), school (Haynie et al., 2001; Nansel, Haynie, & Simons-Morton, 2003), and psychosocial factors (Bauman, 2008; Kaltiala-Heino, Rimpela, Rantanen, & Rimpela, 2000) that place children at risk for bullying perpetration and victimization. There is very little work, however, focused on potential differences in bullying behaviors and victimization across various ethnic groups. In particular, we have little information on Indigenous (American Indian/Canadian First Nation) children’s experiences with bullying behaviors. As such, the purpose of this study is to examine correlates of bullying perpetration and victimization among Indigenous adolescents.

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Literature review

Family and school influences

Different dimensions of parenting have all been linked to bullying experiences and behaviors (Espelage et al., 2000; Haynie et al., 2001). Baldry and Farrington (2005) found that the lack of parental warmth and the presence of parental conflict were associated with bullying perpetration whereas parent conflict and punitive parenting were related to bully victimization. Having supportive parents is associated with lower levels of bullying victimization (Baldry & Farrington, 2000) and perpetration. For example, having mothers and fathers involved in their children's lives by talking to them about their worries, taking an interest in their school work, and helping them develop future plans has been associated with fewer adolescent bullying behaviors (Flouri & Buchanan, 2003). The presence of positive adult role models was also associated with less bullying (Espelage et al., 2000).

Children who report greater school adjustment and bonding are less likely to perpetrate and become victims of bullying (Haynie et al., 2001; Nansel et al., 2003). School settings in which teachers are supportive, actively interested in their students, and who are perceived to have fair standards have fewer incidents of bullying behaviors (Barboza et al., 2009). School climate in general has also been found to be associated with bullying behaviors (Guerra, Williams, & Sadek, 2011; Waasdorp, Pas, O'Brenna, & Bradshaw, 2011), with more positive environments, such as those perceived by students to be good places, fostering lower levels of bullying behavior (Gendron, Williams, & Guerra, 2011).

Psychosocial correlates

Depressive symptoms have been shown to be both a consequence (Due, Damsgaard, Rikke, & Holstein, 2009; Seeds, Harkness, & Quilty, 2010) and precursor of bullying (Carlyle & Steinman, 2007). Bullying perpetrators report depressive symptoms (Espelage, Bosworth, & Simon, 2001), as do victims (Bauman, 2008) and bully victims (Haynie et al., 2001; Kaltiala-Heino et al., 2000). Anger also has been linked to bullying perpetration and victimization (Bosworth, Espelage, & Simon, 1999; Champion & Clay, 2007). In a longitudinal study of middle school students, Espelage et al. (2001) reported that higher levels of anger were associated with more bullying behaviors over time.

Bullying among Indigenous children

Indigenous children, like all youth, sometimes must cope with bullies. For example, Carlyle and Steinman (2007) examined physical, verbal, and social bullying behaviors among all middle and high school students from Franklin County, Ohio. Approximately 31% of the American Indian/Alaska Native youth in this sample reported bullying others and 27.5% were victims of bullying 4 or more times in the past year. Lemstra, Rogers, Redgate, Garner, and Moraros (2011) investigated physical, verbal, social, and electronic bullying behaviors among 204, 5th–8th grade, Canadian First Nations youth attending on-reserve schools: 36% were physically bullied, 59% verbally bullied, and 47% were socially bullied at least once during the previous month.

Bully victimization and perpetration may be linked to perceptions of discrimination. It is possible that minority youth are bullied in part because of their minority status (Nansel et al., 2001). Ethnic and minority children often are subjected to discrimination-related bullying behaviors (Scherr & Larson, 2010; Spriggs, Iannotti, Nansel, & Haynie, 2007) and Indigenous children are not immune. Among a sample of 5th–8th grade Indigenous students, 49% had been insulted, 24% had been excluded from an activity, and 15% had been physically threatened because of being American Indian (Whitbeck, Hoyt, McMorris, Chen, & Stubben, 2001). Moreover, being in predominantly white schools may place ethnic and minority youth at increased risk of experiencing both discrimination and bullying victimization (Shin, D'Antonio, Son, Kim, & Park, 2011). Perceptions of discrimination have also been linked to aggressive behaviors. In a longitudinal sample of Indigenous youth, Sittner Hartshorn, Whitbeck, and Hoyt (2012) found that perceived discrimination was associated with increases in aggressive delinquency, a relationship that was partially due to feelings of anger that may arise from discrimination. Because previous research has found a link between discrimination and aggression through anger, it is possible that discriminatory experiences may also contribute to other forms of aggression such as bullying experiences.

Age and gender

The findings for gender and bullying perpetration and victimization are mixed. There is some evidence that bullying perpetration and victimization are more common among boys than girls (Bosworth et al., 1999; Carlyle & Steinman, 2007; Haynie et al., 2001), yet other researchers have failed to find gender differences (Baldry & Farrington, 2000; Bauman, 2008). Although girls may not report bullying to the same extent as boys, girls also use power aggressively (Olweus, 1993). Typically boys are more likely to assert power via physical aggression whereas girls' bullying takes different forms such as covert gossip and social exclusion (Smith, Pepler, & Craig, 2003). Pepler, Craig, Yuile, and Connolly (2004), however, found a substantial gender overlap in boys and girls social and physical bullying. Bullying behaviors tend decrease with age among middle and high school students (Bauman, 2008; Carlyle & Steinman, 2007; Nansel et al., 2001; Smith, 2010) and the rate of decrease is greater for girls than for boys (Pepler et al., 2004).

Theoretical framework and hypotheses

There is considerable evidence that coercive/aggressive behaviors are learned in families via punitive and inconsistent parenting (Burnette, Oshri, Lax, Richards, & Ragbeer, 2012; Caspi, Elder, & Bem, 1987; Patterson, Dishion, & Bank, 1984). These coercive/aggressive interaction patterns then are carried into novel situations such as playgrounds and schools where they are reciprocated and reinforced. Repeated coercive/aggressive behaviors result in problems at school, leading to rejection by conventional peers and drift into non-conventional peer groups that tolerate and reciprocate such behaviors (Patterson, 1986; Wang & Dishion, 2012). Within these unconventional peer groups, the children who rely on coercive/aggressive interaction styles may be bullies when they are more powerful and victims when they are less powerful. This process may be exacerbated by experiences with discrimination. For instance, others may target minority youth because of their outsider status. Alternatively, youth who experience discrimination may become bully perpetrators as previous research has found a link between perceived discrimination and aggression (Sittner Hartshorn et al., 2012).

Both bullies and their victims suffer developmentally. During adolescence, social status and peer acceptance become paramount, and anxiety about interpersonal relationships may entice coercive/aggressive adolescents to enhance and protect their status by engaging in antisocial behaviors such as bullying (Garandean, Wilson, & Rodkin, 2010; Smith, 2010). For victims, bullying is humiliating and isolating. Such social isolation and the accompanying anxiety and fear associated with being bullied may interfere with critical developmental tasks such as learning necessary social skills to become part of a conventional peer group (Shea & Wiener, 2003).

In this study we investigated correlates associated with bullying behaviors. We used multinomial logistic regression models to differentiate correlates of being a perpetrator of bullying and being a victim of bullying versus being neither a perpetrator nor victim, and between being a perpetrator versus being a victim. We hypothesized that depressive symptoms would be associated with increased odds of being a victim of bullying compared to a non-victim. We also hypothesized that positive school adjustment and parental warmth and supportiveness would be associated with decreased odds of bully victimization and perpetration. We hypothesized that anger and parental rejection would be associated with increased odds of being a perpetrator compared to a non-perpetrator. Because of its link to anger and aggression, we hypothesized that perceived discrimination would be associated with increased odds of being a bullying perpetrator. We also predicted that discrimination would be associated with higher odds of bullying victimization because the child has been singled out and picked on by others.

Among the control variables, we hypothesized that victims would be younger than perpetrators and more likely to be female. Because some of the Canadian First Nations reserves were quite isolated geographically, we predicted that remote children may be more at risk for bullying because there were fewer options for aligning with various social groups to escape bullying and garner social support.

Data & method

Sample

These data were collected as part of an ongoing longitudinal study designed in partnership with four United States reservations, four Canadian reserves, and a university-based research team. The reservations/reserves share a common cultural tradition and language with minor regional variations in dialects. The sample represents one of the most populous Indigenous cultures in the U.S. and Canada. As part of this partnership's confidentiality agreements, the names of the cultural group and participating reservations and reserves are not identified. At each site, Tribal Council-appointed advisory boards are responsible for handling personnel difficulties, advising the research team on questionnaire development, and reviewing/approving reports and presentation proposals. All participating staff on the reservations and reserves (i.e., interviewers, site coordinators) were approved by advisory boards and were either enrolled tribal members or in a very few cases, spouses of enrollees. Interviewers for this project were trained prior to each interview wave on methodological guidelines of personal interviewing and protection of human subjects.

Each participating reservation/reserve provided us a list of families of tribally-enrolled children aged 10–13 years who lived on or proximate to (within 50 miles) the reservation or reserve. We attempted to contact all families with a target child within the specified age range in order to achieve a population sample within participating communities of this cultural group. Families for this study were recruited through personal interviewer visits during which they were presented a traditional gift, an overview of the project, and an invitation to participate. Families were chosen for visits if at least 1 child in the household was between the ages of 10 and 13 years (13-year olds are those who had a birthday between recruitment and interview dates) and was tribally enrolled. For those families who agreed to participate, both the target adolescent and at least 1 adult caretaker (and in some cases, 2 adults) were interviewed as part of the larger research project and given \$40 upon completion of the interviews. Recruitment and incentive procedures were approved both by community-based advisory boards and the University IRB. The recruitment procedure resulted in an initial response rate of 79.4%. Retention rates were 94.6% at Wave 2.

The analyses are based on adolescent self-report data from Wave 2 collected in 2003. This was the first wave that the bully victimization questions were asked, and because we are interested in early correlates of bully perpetration and victimization, we limit our analyses to a single wave. At Wave 2, target adolescents were between 11 and 14 years of age, with a mean age of

12 years. The sample ($n = 702$) is 50% female, 86% live on a reservation or reserve (14% live near a reservation or reserve), and 9% live on a remote reserve. Means, standard deviations, and alpha reliabilities for the study variables are presented in Table 1.

Measures

Dependent variables

The first dependent variable, *Bully Perpetrator*, is a single item from the Diagnostic and Statistical Manual of Mental Disorders, fourth edition (American Psychiatric Association, 1994), conduct disorder criteria. Adolescents were asked whether they had bullied someone other than a sibling in the past year (0 = no, 1 = yes). The second dependent variable, *Bully Victim*, is a subset of questions drawn from a larger set of questions developed for this project regarding school climate. Adolescents were asked if they are ever afraid to go to school because someone will call them names or bully them, if they dread going to school because of the way they will be treated there, and if they are bothered by bullies at school (0 = no and 1 = yes). These three items load onto a single factor, as determined through confirmatory factor analysis, and the measure has good internal reliability (Cronbach's $\alpha = .71$), particularly for a three-item scale. Responses to the three questions are summed into an overall indicator of victim status. A 4-category variable was constructed from Bully Perpetrator and Bully Victim variables for the multivariate analysis. The variable is coded so that 0 = Neither perpetrator nor victim, 1 = Perpetrator only, 2 = Victim only, 3 = Both perpetrator and victim.

Independent variables

We include two measures of parenting, both adapted from the Iowa Youth and Families Project (Conger & Elder, 1994). The first, *Parental Warmth and Support*, is a mean scale of five items measuring adolescents' perceptions of how often family members are warm and supportive (e.g., how often family members praise them and tell them they are proud of the adolescent). The second measure, *Parental Rejection*, is a mean scale of three items measuring adolescents' perceptions of family rejection (e.g., how often their family blames them when they do not deserve it and is unhappy with things they do). Response options for both parenting measures range from 0 = None of the time to 2 = All of the time. Both measures had adequate reliability (Cronbach's $\alpha = .67$ for Parental Warmth and Support, .63 for Parental Rejection).

Positive School Adjustment comes from a set of questions developed for this study to measure attitudes toward school, including whether they liked school, did well in school, and got along with teachers. Response options were 0 = no and 1 = yes. Responses to the seven items were summed into an overall indicator of school adjustment. Cronbach's alpha was .77.

We assess depressive symptoms (CESD) with the Center for Epidemiologic Studies–Depression Scale (CES-D, Radloff, 1977), a 20-item self-report scale used to evaluate past week levels of depressive symptoms that has been used extensively with Indigenous adolescents (Beals, Manson, Keane, & Dick, 1991; Manson, Ackerson, Dick, Baron, & Fleming, 1990). Prior research identified one item, feeling like everything is an effort, as suffering from measurement problems within the scale for this culture (unpublished results) as well as in other samples (e.g., Rivera-Medina, Caraballo, Rodríguez-Cordero, Bernal, & Dávila-Marrero, 2010); thus we removed that item from the scale. Response options are on a 4-point scale, ranging from 0 to 3 where 0 = no days and 3 = 5–7 days in the past week. The scoring of positive items was reversed. Responses to the 19 items were summed, with a possible range of 0–57 (Cronbach's $\alpha = .85$).

Anger was assessed using the Tri-Ethnic Anger Scale (Oetting, Beauvais, & Edwards, 1988) as a mean indicator of the frequency of experiencing feelings of anger. The adolescents were asked six questions, including how often they feel angry, are quick-tempered, and get mad. Response options ranged from 0 = none of the time to 2 = most of the time, with higher scores reflecting more anger (Cronbach's $\alpha = .78$).

Perceived Discrimination was assessed as a mean indicator of the frequency of experiencing specific instances of discrimination. The measure was adapted from the Schedule of Racist Events (Landrine & Klonoff, 1996) and validated in prior

Table 1
Descriptive statistics of study variables ($n = 702$).

	<i>M</i>	<i>SD</i>	Range	<i>n</i> of items	α
Bully perpetrator ^a	0.22		0–1		
Bully victim	0.24	0.43	0–3	3	.71
Parental warmth & support	1.33	0.40	0–2	5	.67
Parental rejection	0.79	0.43	0–2	3	.63
Positive school adjustment	5.63	1.72	0–7	7	.77
CESD	12.34	9.15	0–46	19	.85
Anger	0.82	0.42	0–2	6	.78
Perceived discrimination	0.19	0.32	0–3	5	.82
Age	12.09	0.84	11–14		
Gender ^b	0.50		0–1		
Remote location ^c	0.10		0–1		

^a Bully perpetrator: 0 = not a perpetrator; 1 = perpetrator.

^b Gender: 0 = male; 1 = female.

^c Remote location: 0 = rural; 1 = remote.

studies of Indigenous youth (Whitbeck et al., 2001). Adolescents were asked 12 questions regarding how often in the past 12 months they experienced negative treatment from others *because of their Indigenous culture*. Factor analysis indicated two factors, the first involving discrimination by adults and the second involving discrimination by other children and by unidentified sources. For the purpose of this study, we include only items from the second factor, which includes questions on how often other kids have said something bad or insulting to you, other kids ignored you or left you out of some activity, and someone yelled a racial slur or racial insult at you. Response options ranged from 0 = never to 2 = many times, with the mean of all 5 items used in these analyses (Cronbach's $\alpha = .82$).

Demographic variables

Age is a continuous measure of the target adolescent's age on his or her last birthday at Wave 2. Gender is dichotomized and coded such that 0 = male and 1 = female. Remote Location refers to children who live on remote Canadian First Nations reserves that are a prohibitive distance from a large population center. There are two types of locations identified for this sample. A rural location refers to those reservations within somewhat close proximity to other towns, and remote refers to those far removed from other communities. All reservations and reserves are either rural or remote (0 = rural and 1 = remote).

Results

Bivariate analysis

We first examined the independent variables of interest (e.g., parental warmth and support, CESD, and perceived discrimination), using one-way ANOVAs and Scheffé's post-hoc test for continuous variables and Chi-square tests for categorical variables, to determine whether they differed by bullying status (Table 2). The majority of the adolescents ($n = 431$, 61.4%) were neither perpetrators nor victims. There were 106 perpetrators (15.1%), 117 (16.7%) victims, and 48 (6.8%) adolescents who were both perpetrators and victims. We found significant differences by bullying status groups for all family and school variables. Bully victims reported the highest levels of warmth and support, significantly higher than adolescents who were perpetrators only or both perpetrators and victims. In addition, those who were in the "neither" group reported significantly higher levels of warmth and support than bully perpetrators. Perpetrators and those in the "both" group reported significantly higher levels of parental rejection than those who were "neither." There were no differences in parental rejection among perpetrators, victims, or "both." Bully perpetrators and those who were "both" reported significantly lower levels of positive school adjustment than those who were victims only or "neither."

Both psychosocial variables differed significantly across the groups. Those in the "neither" group had fewer depressive symptoms than any of the other groups. Further, adolescents who were "both" had more depressive symptoms than perpetrators only. Adolescents who were perpetrators only or who were both perpetrators and victims had higher scores on anger than adolescents who were victims only or "neither."

There were several significant differences across groups for perceived discrimination. Adolescents who were "neither" had lower levels of perceived discrimination than any of the other groups. In addition, adolescents who were "both" had higher levels of perceived discrimination than those who were perpetrators only. Only one demographic variable differed across groups. The adolescents who were bully perpetrators were significantly older than those who were victims only or "neither." There were no differences across groups in gender or in location.

Multivariate analysis

We conducted multinomial logistic regression to predict bullying status using the same covariates from the bivariate analysis. Because only 48 of the adolescents were both victims and perpetrators, a group size that does not meet the

Table 2
Comparison of independent variables across bully status ($N = 702$).

	Bully status			
	Neither $n = 431$	Perpetrator $n = 106$	Victim $n = 117$	Both $n = 48$
Parental warmth & support	1.35 _{a,c}	1.20 _b	1.42 _c	1.21 _{a,b}
Parental rejection	0.75 _a	0.89 _b	0.77 _{a,b}	0.97 _b
Positive school adjustment	5.92 _a	4.51 _b	6.01 _a	4.67 _b
CESD	10.26 _a	14.33 _b	14.94 _{b,c}	18.81 _c
Anger	0.73 _a	1.06 _b	0.81 _a	1.06 _b
Perceived discrimination	0.11 _a	0.26 _b	0.30 _{b,c}	0.44 _c
Age	12.07 _a	12.35 _b	11.89 _a	12.15 _{a,b}
Gender	0.50	0.44	0.54	0.50
Location	0.10	0.04	0.10	0.08

Note: means in the same row that do not share subscripts differ significantly at $p < .05$ using the Scheffé test for continuous variables and the χ^2 test for categorical variables.

recommendation of at least 10 cases per independent variable (Hosmer & Lemeshow, 2000; Peduzzi, Concato, Kemper, Holford, & Feinstein, 1996), they were excluded from the regression. Panel one of Table 3, presents correlates of adolescent bullying perpetrators and bully victims, compared to being neither (the reference category). In the second panel of Table 3, we present correlates of an adolescent being a bully victim, compared to being a perpetrator (the reference category).

We first compared being either a perpetrator or a victim with being neither. As hypothesized, anger and perceived discrimination were associated with being a bully perpetrator. Relative to being “neither,” the odds of being a bully increased by 376% for each unit increase in anger ($B = 1.56$, $\text{Exp}(B) = 4.76$) and by 396% for each unit increase in perceived discrimination ($B = 1.60$, $\text{Exp}(B) = 4.96$). Parental rejection was also hypothesized to be associated with increased odds of being a perpetrator but was not significant in the model. In addition, we hypothesized that parental warmth and supportiveness and positive school adjustment would be associated with decreased odds of bully perpetration. As expected, the odds of being a perpetrator relative to being “neither” decreased by 27% for each unit increase in positive school adjustment ($B = -0.32$, $\text{Exp}(B) = 0.73$). Warmth and support was not significant, nor were any of the control variables.

We hypothesized that parental warmth and support and positive school adjustment would be associated with decreased odds of being a victim whereas depressive symptoms and perceived discrimination would increase these odds. Relative to being neither a bully nor a victim, the odds of being a victim increased by 7% for each unit increase in depressive symptoms ($B = 0.07$, $\text{Exp}(B) = 1.07$) and by 563% for each unit increase in perceived discrimination ($B = 1.89$, $\text{Exp}(B) = 6.63$). Contrary to our hypothesis, the odds of being a victim versus neither increased by 107% for each unit increase in parental warmth and support ($B = 0.73$, $\text{Exp}(B) = 2.07$). Positive school adjustment, gender, age, location, parental rejection, and anger were not significantly related to being a victim rather than being neither.

Last, we compared being a bully victim to being a bully perpetrator. We hypothesized that anger would be associated with increased odds of being a perpetrator, and that depressive symptoms would each be associated with increased odds of being a victim. Each of these hypotheses was supported. Compared to being a bully, the odds of being a victim decreased by 79% for a unit increase in anger ($B = -1.57$, $\text{Exp}(B) = 0.21$). The odds of being a victim relative to being a bully by 12% for each unit increase in CESD ($B = 0.11$, $\text{Exp}(B) = 1.12$). We also hypothesized that bully victims would be younger, female, and from remote locations. As expected, the odds of being a victim relative to being a bully decreased by 49% for each additional year in age ($B = -0.68$, $\text{Exp}(B) = 0.51$). Gender, location, parent rejection, and discrimination were not significant. Because we hypothesized that parental warmth and support and positive school adjustment would be associated with decreased odds of perpetration and victimization, we did not anticipate any significant associations. Contrary to our expectations, the odds of being a victim relative to a perpetrator increased by 245% for each unit increase in parental warmth and support ($B = 1.24$, $\text{Exp}(B) = 3.45$), and by 65% for each unit increase in positive school adjustment ($B = 0.50$, $\text{Exp}(B) = 1.65$).

Although the bully-victim group was excluded from the primary regression analysis due to a small number of cases, we ran an additional multinomial logistic regression analysis that included that group with a reduced number of predictor variables (Appendix A). The “both” group shared many of the same predictors as the perpetrator only and the victim only groups. Increases in positive school adjustment were associated with decreased odds of being both a perpetrator and a victim, relative to being neither a bully nor a victim. Increases in CESD, anger, and perceived discrimination were each associated with increased odds of being both compared to being neither. Notably, fewer variables distinguished being both a perpetrator and a victim from being a perpetrator only, or being a victim only. A unit increase in CESD was associated with 5% higher odds of being both a perpetrator and a victim relative to being a perpetrator only. A unit increase in positive school adjustment was associated with a decrease of 32% in the odds of being both compared to being a victim only.

Table 3
Multinomial logistic regressions predicting bully perpetrator or bully-victim status.

	Neither versus						Perpetrator versus		
	Perpetrator			Victim			Victim		
	<i>B</i>	<i>SE B</i>	<i>OR</i>	<i>B</i>	<i>SE B</i>	<i>OR</i>	<i>B</i>	<i>SE B</i>	<i>OR</i>
Parental warmth & support	-0.26	0.33	0.77	0.73	0.34	2.07*	1.24	0.54	3.45*
Parental rejection	-0.10	0.31	0.90	-0.13	0.29	0.88	-0.13	0.46	0.88
Positive school adjustment	-0.32	0.07	0.73***	0.14	0.09	1.15	0.50	0.12	1.65***
CESD	-0.01	0.02	0.99	0.07	0.02	1.07***	0.09	0.02	1.09***
Anger	1.56	0.33	4.76***	-0.22	0.34	0.80	-1.57	0.48	0.21**
Perceived discrimination	1.60	0.41	4.96***	1.89	0.38	6.63***	0.23	0.47	1.26
Age	0.29	0.15	1.33	-0.25	0.14	0.78	-0.68	0.21	0.51**
Gender ^a	-0.23	0.25	0.80	0.00	0.23	1.00	0.09	0.34	1.10
Remote location ^b	-0.92	-0.59	0.40	0.03	0.40	1.03	0.89	0.75	2.42
Constant	-1.53***	0.18		-1.48***	0.17		0.11	0.24	
Nagelkerke <i>R</i> ²	0.28						0.43		

Note: OR = odds ratio.

* $p < .05$; ** $p < .01$; *** $p < .001$.

^a Gender: 0 = male; 1 = female.

^b Remote location: 0 = rural; 1 = remote.

Discussion and conclusions

About equal proportions of these Indigenous adolescents had been victimized by bullies (16.7%) or had bullied someone (15.1%) with fewer having been both a victim and a perpetrator of bullying (6.8%). These victimization prevalence rates are slightly higher than those previously reported among general population samples but similar to the perpetration and the bully-victim groups (Nansel et al., 2001). At the bivariate level, bully perpetrators reported more anger compared to adolescents without bullying experiences, which is consistent with previous literature (Bosworth et al., 1999; Champion & Clay, 2007). Contrary to previous research (Baldry & Farrington, 2005; Haynie et al., 2001), bully victims had higher levels of parental warmth and support and school adjustment when compared to perpetrators. It is possible that youth who experience bullying behaviors are more likely to seek out parental and teacher support and assistance in the aftermath of these experiences. They may also be satisfied with the responses of these adults, which would explain the results of the present study. Because the data used in this study are cross-sectional, we cannot confirm this proposition. Therefore, future research should disentangle these divergent findings using a longitudinal sample with Indigenous youth.

Perceived discrimination was associated with being a victim and a perpetrator in bivariate and multivariate results, and with being both a perpetrator and a victim in bivariate results. It is possible that minority children are targeted for bullying due to their outsider status (Garandeau et al., 2010; Scherr & Larson, 2010). Race and ethnicity function as a status characteristic, potentially leading to an imbalance of power typical in bullying situations (Olweus, 1993, 2010; Vervoort, Scholte, & Overbeek, 2010). In this sample, only 10.3% of the youth attended tribal schools, and 83.6% attended public schools with a more racially diverse student body and had a greater potential for discriminatory experiences compared to those in tribal schools (Crawford, Cheadle, & Whitbeck, 2010), which has been supported in other studies (Hanish & Guerra, 2000; Shin et al., 2011). It also is likely that adolescents respond with anger and aggression to perceived discrimination (Sittner Hartshorn et al., 2012; Whitbeck, McMorris, Hoyt, Stubben, & LaFromboise, 2002), hence the association between discrimination and victim-bully status.

Consistent with other research on bullying, perpetrators were significantly older than victims (Carlyle & Steinman, 2007; Haynie et al., 2001). Younger children are easier, weaker targets and may lack power, status, and social skills to effectively respond to bullying situations or discourage subsequent victimization (Smith, Madsen, & Moody, 1999). Bullying behavior increases with age and then tends to decline after the middle school years (Bauman, 2008; Nansel et al., 2001; Smith, 2010). For some, bullying roles may stabilize as older bullies are labeled as aggressive, enhancing their social standing within unconventional peer groups (Monks, Smith, & Swettenham, 2005; Smith, 2010).

In the multivariate analyses, our hypothesis that perpetrators would score higher on the measure of anger was supported, as was our prediction that victims would manifest more depressive symptoms than perpetrators. Although it was not apparent at the bivariate level, the victim-internalizing, perpetrator-externalizing hypothesis was upheld. In additional analyses, bully-victims appear to both internalize and externalize, which is consistent with previous research on other racial and ethnic groups that has linked depressive symptoms (Due et al., 2009; Seeds et al., 2010) and anger (Champion & Clay, 2007) to bullying behaviors. As with the bivariate findings, our hypotheses that parental warmth and supportiveness and positive school adjustment would be associated with decreased odds of victimization were not upheld. We did not find the expected gender difference in perpetration or victimization, but our hypothesis that younger children would be victims was supported.

In summary, these findings fit Patterson's (Patterson, 1986; Patterson et al., 1984) model of coercive/aggressive children. Bullies are angrier, have poorer relationships with their parents, and have poorer academic adjustment than their victims. As such, the coercive/aggressive interaction patterns that these youth learned within the home environment are then transferred into school situations, which is consistent with Patterson's model (1986). It is possible that coercive/aggressive adolescents engage in bullying behaviors in order to protect their social status among their peer group (Garandeau et al., 2010; Smith, 2010).

That perceived discrimination scores did not differentiate between bullies and victims is noteworthy. We have evidence that discrimination increases both anger and depressive symptoms among Indigenous children (Whitbeck et al., 2002). For the perpetrator, the effect of discrimination is likely through anger, which has been supported in previous research with this sample (Sittner Hartshorn et al., 2012). For victims, the endorsement of discrimination items may reflect being targets of aggression because of their ethnicity. In a nationally representative sample of 6th to 10th graders, approximately 26% had been bullied because of their race or religion in the current school term, yet it was the least common type of bullying reported. Furthermore, adolescents who are targets of bullying because of their race or ethnicity may not attribute their victimization to discrimination (Shin et al., 2011). This could be due to the internalization of discrimination, such as holding more negative beliefs about themselves. It is also possible that adolescents who are bullied because of their minority status and who externalize their feelings (i.e., who are angry or aggressive) may themselves turn to bullying.

Limitations

These results should be applied with caution across Indigenous cultures. There is substantial diversity among the more than 500 Indigenous cultures within the U.S. and Canada, and the patterns and findings of this study may not generalize across them. Also, this sample is entirely rural and may not reflect experiences of urban Indigenous adolescents. Although our bivariate findings are intriguing, because of the small number of adolescents who were both victims and perpetrators of bullying, we were unable to include them in the multivariate analysis. Future research with a larger group of adolescents who

fall into this category would help to identify factors that distinguish this group from adolescents who are just victims or just perpetrators. Furthermore, our bullying measures were limited in their scope as they included broad conceptualizations of bullying instead of the occurrence of specific behaviors. Future studies should include more detailed, expanded measures that include a definition of bullying and specifically ask the frequency in which a wider range of bullying behaviors occur to better capture the respondents' personal bullying experiences. Additionally, disentangling in-group and out-group bullying and the potential variation in impact would provide additional insight into understanding bullying behaviors. It is also possible that there is overlap between discrimination and bullying that should be explored in subsequent research, incorporating both the explicit acts and emotions that are involved. Future studies should also examine the broader context of youths' lives including peer relationships as they are related to both school adjustment and bullying behaviors.

Conclusions

Bullying interventions and prevention programs are very much in vogue (Olweus, 1993, 2010; Stevens, de Bourdeaudhuij, & Van Oost, 2000) and the elements and processes for bullying behaviors appear to be much the same across cultures. But there are cultural differences that rule out the simple application of non-Indigenous bullying prevention programs to Indigenous children and adolescents, and favor the development of culturally based interventions. First, most Indigenous cultures traditionally abhor bullying. Instead, there are strong cultural norms of sharing, helping one another, and putting the good of the community before that of individuals. Boasting, bragging, and being forward, particularly before elders, are not condoned. These traditional cultural values could be very effectively applied in culturally based bully prevention programs within tribally based organizations or as part of public school diversity programming. For example, other researchers have successfully implemented culturally based HIV/AIDS prevention programs within the Native Boys and Girls Clubs that were well received by the adolescents (Kaufman, Litchfield, & Schupman, 2012). Second, a culturally grounded program would take sources of anger and depression into account, particularly as originating as a response to discrimination. Our research group has long viewed discrimination as an insidious and unaddressed source of school failure, anger and aggression among Indigenous adolescents (Crawford et al., 2010; Whitbeck et al., 2002), and it is important to combat prejudice by educating others to respect different cultures. Bullying preventions are an excellent fit for culturally based interventions. They could build on the strengths of Indigenous cultures: traditions of strong families, emphasis on community versus the individual, modesty, courage, sharing, respectful relationships, and most importantly, the cultural value of the powerful helping those who are weaker.

On a more general level, prevention programs should start early and in families with parents modeling and teaching youth about prosocial conflict resolution skills and respectful behaviors. Parents should also monitor their children for signs of emotional distress as depressive symptoms have been found to be indicators of bullying experiences. Also, timing is very important. Early and perhaps targeted interventions are critical because as interactional continuity gains impetus, it becomes more and more difficult to change (Caspi, Bem, & Elder, 1989).

Acknowledgment

This research was funded by the National Institute on Drug Abuse (DA13580) and the National Institute of Mental Health (MH67281), Les B. Whitbeck, Principal Investigator.

Appendix A. Supplementary data

Supplementary data related to this article can be found at <http://dx.doi.org/10.1016/j.adolescence.2013.05.003>.

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