Potentially Violent Disagreements and Parenting Stress Among American Indian/Alaska Native Families: Analysis Across Seven States

Janice C. Probst · Jong-Yi Wang · Amy B. Martin · Charity G. Moore · Barbara Morningstar Paul · Michael E. Samuels

Abstract *Objectives* We examined the prevalence and correlates of potentially violent disagreements among AI/AN families with children. *Methods* We conducted a cross-sectional examination of data from the 2003 National Survey of Children's Health, limited to seven states for which AI/AN race/ethnicity was available in public use files (Alaska, Arizona, Montana, New Mexico, North Dakota, Oklahoma, and South Dakota). Disagreements were classified based on how the family deals with conflict. If disagreements involved actual (hitting) or symbolic (throwing) violence, even rarely, the household was categorized as having "potentially violent disagreements," with heated argument and shouting being classified as "heated disagreement." Parenting stress and demographic characteristics were included as potential correlates. *Results* Potentially violent disagreements were reported by 8.4% of AI/AN and 8.4% of white families. The odds for potentially violent disagreements were markedly higher among parents reporting high parenting stress, in both AI/AN (OR 7.20; CI 3.45–15.00) and white (3.59, CI 2.71–4.75) families. High parenting stress had similar effects on the odds for heated discussion. Having a child with special health care needs was associated with parenting stress. *Conclusions* Questions about disagreement style may be useful as potential screens for domestic violence.

Keywords Domestic violence · North American Indians · Children with special health care needs · Psychological stress

J. C. Probst (✉) · A. B. Martin
South Carolina Rural Health Research Center, Arnold School of Public Health, University of South Carolina, 220 Stoneridge Drive, Suite 204, Columbia, SC 29210, USA
e-mail: jprobst@gwm.sc.edu

J.-Y. Wang
Department and Graduate Institute of Health Services Administration, China Medical University, No.91 Hsueh-Shih Road, Taichung 40402, Taiwan
e-mail: wang34@gwm.sc.edu

C. G. Moore
General Internal Medicine, University of Pittsburgh, 200 Meyran Ave, Suite 300, Pittsburgh, PA 15213, USA
e-mail: moorecg@upmc.edu

B. M. Paul
South Carolina Commission for Minority Affairs, 6904 North Main Street, Suite 107, Columbia, SC 29203, USA

M. E. Samuels
Family and Community Medicine, University of Kentucky, A315 Kentucky Clinic, Lexington, KY 40536-0284, USA

Introduction

Children do not have to experience violence to suffer from it. Witnessing domestic violence can increase a child's risk for emotional or behavioral problems as an adult [1–4]. Determining the proportion of children at risk, however, is difficult across US children, and particularly difficult for American Indian/Alaska Native (AI/AN) children. For example, the 2000 National Survey of Adolescents, which found that 34% white, 57% of African-American, and 50% of Hispanic children had witnessed in-home or community violence in their lifetimes, did not include enough AI/AN children for accurate estimation [5]. Other evidence suggests that AI/AN children may be at high risk. AI/AN teens and adults are disproportionately victims of violence, with overall rates of victimization (101 per 1,000 persons) more than twice as high as among whites (41/1,000) [6]. One in five of these events (21%) involves intimate partners or family members [6].

Estimates of intimate partner violence offer another way of determining the possibility of AI/AN children witnessing, or experiencing, violence. The 2000 National Violence Against Women Survey (NVAWS) estimated the lifetime prevalence of intimate partner violence as 37.5% among AI/AN women, vs. 24.8% among whites [7]. Similarly, 12.4% of AI/AN men reported intimate partner victimization at some point during their lifetime, vs. 7.5% of white men. Annual rates of intimate partner violence have also been found to be higher among AI/AN adults than among all other race/ethnic groups [8]. Among AI/AN women, 23.3% reported intimate partner violence during the preceding year (estimates for men too small for reliability), compared to 11.2% of African American and 8.1% of white women [8]. Studies interviewing women who are seeking care or services in tribal clinics have found annual intimate partner violence rates of 23.6% [9], and lifetime prevalence as high as 58.7% [10].

Estimates of the prevalence of childhood, rather than lifetime, exposure to violence among AI/AN populations vary widely. Among adults, the proportion reporting abuse during childhood can be high: 40–42% among males and females in the community [11], 42% among women in primary care settings [12]. Other estimates are markedly lower: 7.0% among Southwest and 7.9% among Northern Plains tribe members [13]. Abuse remembered by adults across all of childhood, however, does not correspond to current rates of violence or violence witnessing among children. Data specific to AI/AN children have been difficult to find. Published estimates of current violence exposure, such as those noted in the preceding paragraph, pertain to adults rather than children. Further, studies drawn from different populations, such as women visiting tribal clinics [10], or specific tribes or communities [13], may not reflect the general experience of the AI/AN children.

Further problems in ascertaining family violence arise from the history of AI/AN families and their interaction with white society. Throughout the first half of the twentieth century, many AI/AN children were removed from their families and placed in boarding schools, with the intention of integrating them into mainstream ("white") society. As recently as 1960s and 1970s, AI/AN children were disproportionately likely to be placed in foster care, with rates of family separation six times higher than those of white families [14]. Events such as these triggered the 1978 passage of the Indian Child Welfare Act (ICWA), which placed child protection preferentially under tribal authority and set minimum standards for cases handled by state government agencies [15]. A recent GAO study, however, found that little data have been collected on the effectiveness of the ICWA, and found suggestions, which it could not broadly document, that the intent of the law was not being met [14]. Memories of past discrimination, which

corrective legislation has not decisively remedied, may deter AI/AN women from reporting family violence, even in anonymous survey situations [16].

Research Purpose

The present study sought to explore the prevalence of potentially violent and heated disagreements in the home among AI/AN families. The research is descriptive in nature, examining risk factors for violent disagreement. As previous analysis revealed the importance of parenting stress as a correlate of violent disagreement [17], an exploration of factors associated with stress was incorporated into the research. The study takes advantage of the recently released National Survey of Children's Health 2003 (NSCH). Unlike many previous studies addressing domestic violence issues, the NSCH focuses explicitly on families with children in the general population, rather than using clinic-based or small community surveys. Thus, it allows better estimates of the prevalence of violent disagreements in homes with children.

Methods

Study Design and Data Source

We conducted a cross-sectional examination of data from the 2003 NSCH. Our secondary data analysis was approved by the Institutional Review Board of the University of South Carolina. The NSCH, a telephone survey, was conducted by the Centers for Disease Control and Prevention using random digit dialing, with weights to account for specific population subgroups that are less likely to have household telephones. The survey was designed to be representative of all US households with children. One child was randomly selected in each household to be the subject of the interview. Among AI/AN respondents, 79.8% were mothers, 11.3% were fathers, and 8.9% were other relatives of the selected child.

Population Studied

We studied families living in the seven states with enough AI/AN respondents in the NSCH sample to allow racial identity to be released in the public use files, without jeopardizing respondent confidentiality (Alaska, Arizona, Montana, New Mexico, North Dakota, Oklahoma, and South Dakota). Across these seven states, 1,015 children were categorized as AI/AN, with no other race listed. AI/AN children whose parents listed multiple races could not be included, as all NSCH multiple-race respondents were placed into a single category. In Census data, 0.9% of the

US population gave their racial identity as AI/AN alone, while an additional 0.6% described themselves as AI/AN plus other race(s) [6]. Thus, a substantial number of families who may consider themselves primarily AI/AN could not be studied using publicly available NSCH data.

The seven states constitute a unique setting, more rural and poor than the US as a whole. Across the US, 17.0% of the population lives in rural areas. Among study states, only Arizona's population was less rural than the national average (11.1%), with other states ranging from 34.5 rural (Alaska) to 57.1% rural (South Dakota; estimates prepared from the 2003 Census population estimates, defining non-metropolitan population as rural). Of 327 counties in the states studied, 161 (49%) had a population density of less than six persons per square mile. The US Department of Agriculture characterizes rural counties as "high poverty" if 20% of more of the population lives below poverty [18]. The USDA further subsets poverty counties by minority group. Forty US counties were classified as AI/AN high poverty counties based on the 2000 Census; of these, 38 are located in the seven studied states. Further, 29 of the 38 high poverty AI/AN counties are "persistent" poverty counties, meaning that they have been high poverty in every Census since 1970 [19].

The overall response rate for the NSCH, 54.0%, was defined as the combination of three rates: (1) the resolution rate (proportion of telephone numbers identified; 91.6%), the screener completion rate (proportion of households with a child; 87.5%) and the child-specific interview completion rate (proportion of completed interviews; 68.8%) [20]. Within the seven states studied, the overall response rate ranged from 64.4 (South Dakota) through 52.5% (Arizona), although multiple techniques were used to improve response. Interview completion rates, a less conservative measure, ranged from 73.5 in South Dakota to 64.8% in Arizona [20]. However, telephone ownership among AI/AN households is relatively low. Across study states, the percent of all households without telephones ranged from 1.8 in North Dakota through 5.8% in New Mexico [21]. Within AI/AN households, the proportion without telephones ranged from 9.8 (Alaska) through 35.0% (Arizona). While the NSCH weighted observations to account for populations with low telephone access, households with and without phones may differ systematically.

For comparative purposes, non-Hispanic white children (single race only) in the same seven states ($n = 10,008$) are also described. When weighted to account for the sampling design, the observations represent 2.8 million children, of whom 358,000 are AI/AN and 2.45 million are white.

Dependent Variable

The likelihood of violence exposure was assessed using NCHS questions about disagreement style. The stem for each question was "when you have a serious disagreement with your household members, how often do you…" Separate questions asked frequency for "discuss your disagreements calmly," "argue heatedly or shout," and "end up hitting or throwing things." Response choices were never, rarely, sometimes, usually, or always. No time element, such as "in the past year," was included in the questions. We collapsed the questions into a three-level measure of potential violence, as follows:

- *Violent disagreement*: respondent reported hitting or throwing things, even if only "rarely;"
- *Heated disagreement*: the respondent did not report hitting or throwing things, but reported arguing heatedly or shouting sometimes, usually or always;
- *Calm*: all other responses.

A small proportion of all observations (173/11,023; 1.57%) reported "rarely" or "never" discussing things calmly, but also did not report violent or heated disagreement. A "rarely" or "never" calm response was more common among AI/AN than among white respondents (4.4% vs. 1.3%; $P = 0.0023$), and among whites, it was more common in households that did not answer the survey in English than in English-speaking households (6.1% vs. 1.1%; $P = 0.0024$). We ran all analyses associated with our study twice, once with and once excluding these ambiguous responses; there were no differences in model outcomes. We thus retained these observations in the "calm" or baseline category.

Potential Correlates of Violent Disagreements

In assessing factors that might be linked to violent disagreements, we placed potential correlates into three groups: characteristics of the child, the parent, and the family. Characteristics of the child included age, sex, reported health status, presence of special health care needs, and health insurance status (private, Medicaid, or SCHIP, other). The three health-related variables were conceptualized as potential sources of emotional distress, either through the difficulty associated in caring for a sick child [22] or through anxiety when access to care is financially impaired [23].

Both attitudinal and demographic characteristics of the parent were included. The available attitudinal variables were parenting stress and perceived neighborhood support for parenting. Parenting stress was measured in the NSCH using three questions derived from the Parenting Stress Index [24] and the Parental Attitudes about Childrearing scale [25]. Questions asked how often, during the past month, the parent had felt that the child " was much harder to care for than children his/her age," "did anything that really bothers you a lot," and "[you] felt angry with him/

her." Responses used a four-point scale ("never" through "always"). Cronbach alpha coefficients for the parenting stress scale were modest, 0.63 among AI/AN parents and 0.61 among white parents. Summative scores ranged from 3 through 12, but were not normally distributed. Respondents were divided into "high" versus "low" stress, dichotomized at a score of 5, the 75th percentile; for analysis of stress as an outcome.

Perceived neighborhood support was used as a measure of social capital or social support [26]; absence of support has been associated with violence in inner-city neighborhoods [27]. Perceived neighborhood support was measured with four items pertaining to neighbors' willingness to help out, both generally and specifically for children, derived from Fields and Smith [26]. Parents who responded negatively to two or more statements were classified as perceiving a non-supportive neighborhood.

Other parenting characteristics included education (high school graduate versus higher), employment (a household member employed at least 50 weeks of the past year), and parents' physical and mental health (self reported on a 5-point scale). Multivariable analysis adjusted for the parent responding to the questionnaire because of marked differences between mothers and other respondents in the likelihood of reporting violent or heated disagreements. Family structure was categorized as two-parent (biological, adoptive, or step), single mother, or "other." Primary language used in the home was defined in the data set as English or other. The NSCH was developed in English and Spanish versions; when another language was needed, a family member was asked to translate. Spanish was used in 5.9% of all interviews [20]; in total, 7.7% of interviews were conducted in a language other than English [28]. Other family characteristics included number of children in the household, income (percent of federal poverty level), and family mobility (number of household moves divided by child's age).

Analytic Approach

Our analyses examined factors associated with violent disagreement using bivariate and multivariable statistics. Preliminary examination revealed that the relationship between some potential correlates and disagreement style was different among AI/AN than among white families, based on statistically significant interactions (parenting health, parenting mental health, family mobility, perceived neighborhood characteristics, and relationship of respondent to child). Thus, findings for AI/AN and white children are presented separately, and not incorporated into a single model. Multivariable analysis used generalized logistic regression models [29] with a threefold outcome, in which the risk of violent and heated disagreement were simultaneously compared to a baseline condition of calm discussion. All testing was two sided and conducted at $\alpha = 0.05$. All analyses employed sampling weights, reflecting the complex survey design, and were carried out in SAS-callable SUDAAN.

Results

Characteristics of AI/AN Children and Parents

Characteristics of AI/AN and white families studied are summarized in Table 1. Among both groups, only a small proportion of children were considered to be in fair to poor health (3.0% among AI/AN, 2.5% among white children), and about one in six children were reported to have special health care needs (14.4% among AI/AN, 17.3% among white children; differences not statistically significant; Table 1). AI/AN children were less likely than white children to be privately insured (34.6 vs. 66.4%).

AI/AN children lived in families with markedly low educational and financial resources. Parents of AI/AN children were more likely than white children to have a high school diploma or less (45.2 vs. 27.8%), to be unemployed or underemployed (17.4 vs. 8.1%), and live at or below the Federal poverty line (35.5 vs. 14.1%). Family structures also differed. About a third of AI/AN children (33.6%) lived in single mother households, vs. 18.3% of white children. More AI/AN households included three or more children than was the case with white households (48.1 vs. 40.6%).

Disagreement Style and Child and Parent Characteristics

Potentially violent disagreement (hitting, throwing) was reported by 8.4% of AI/AN respondents, and an additional 30.6% reported heated disagreement (loud argument, shouting; Tables 1 and 2). Findings were similar among white families (8.6% reporting potentially violent disagreement, 27.1% heated disagreement). In the section below, we focus on describing factors associated with disagreement style in AI/AN families. In general, the same factors were significant among the much larger sample of white families.

In unadjusted analysis, no characteristics of the child were associated with the risk of either potentially violent or heated disagreements among AI/AN families (Table 2). Demographic characteristics of AI/AN parents associated with increased likelihood of reporting heated disagreements included low parental education and poor physical or mental health status affecting at least one parent. Rates for heated disagreement were markedly lower among AI/AN

Table 1 Characteristics of American Indian/Alaska Native and white children, seven states, NCHS 2003

	AI/AN children unweighted n = 1,015 US population N = 358,363			White children unweighted n = 10,008 US population N = 2,446,007			AI/AN versus White P-value
	Unwt'd freq	Wt'd %	SE	Unwt'd freq	Wt'd %	SE	
Characteristics of the child							
Age							0.56
0–5	343	31.5	2.3	3,082	32.6	0.8	
6–11	304	31.5	2.3	2,987	33.2	0.8	
12–17	368	37.1	2.6	3,939	34.3	0.8	
Sex							0.12
Male	532	55.0	2.5	5,155	50.8	0.8	
Female	483	45.0	2.5	4,853	49.2	0.8	
Child's health							0.59
Fair to poor	31	3.0	0.8	187	2.5	0.3	
Good to excellent	984	97.0	0.8	9,820	97.5	0.3	
Child has special health care needs							0.12
Yes	160	14.4	1.7	1,698	17.3	0.6	
No	855	85.6	1.7	8,310	82.7	0.6	
Child's insurance							<0.0001
Private	389	34.6	2.4	7,406	66.4	0.8	
Medicaid, SCHIP	460	49.6	2.6	1,693	22.5	0.7	
None	163	15.8	1.7	904	11.0	0.6	
Characteristics of the parents							
Parenting stress							0.64
High	268	24.8	2.1	2,151	23.8	0.7	
Low	747	75.2	2.1	7,855	76.2	0.7	
Perceived neighborhood support							0.0041
High	847	81.2	2.1	8,938	87.5	0.6	
Low	158	18.8	2.1	972	12.5	0.6	
Highest education in household							<0.0001
High school or less	386	45.2	2.6	2,023	27.8	0.8	
More than high school	624	54.8	2.6	7,950	72.2	0.8	
Employment							<0.0001
Employed	832	82.7	2.0	9,310	91.9	0.5	
Not employed or less than 49 weeks	179	17.4	2.0	675	8.1	0.5	
Parent's physical health							0.060
Fair to poor	161	14.6	1.6	992	11.4	0.5	
Good to excellent	852	85.4	1.6	9,014	88.6	0.5	
Parent's mental/emotional health							0.094
Fair to poor	60	6.1	1.2	288	4.0	0.4	
Good to excellent	955	94.0	1.2	9,716	96.0	0.4	
Respondent's relation to child							<0.0001
Mother	771	79.8	1.9	7,964	81.7	0.6	
Father	144	11.3	1.4	1,790	15.5	0.5	
Other (all other relatives; guardians, other)	100	8.9	1.4	252	2.74	0.3	
Characteristics of the family							
Poverty							<0.0001
100%+	310	35.5	2.6	907	14.1	0.7	
100–200%	292	29.1	2.2	2,017	22.7	0.7	

Table 1 continued

	AI/AN children unweighted $n = 1,015$ US population $N = 358,363$			White children unweighted $n = 10,008$ US population $N = 2,446,007$			AI/AN versus White P-value
	Unwt'd freq	Wt'd %	SE	Unwt'd freq	Wt'd %	SE	
200–400%	258	24.4	2.2	3,966	34.6	0.7	
400%+	95	5.6	0.8	2,422	21.4	0.6	
Missing	60	5.5	1.2	696	7.3	0.4	
Primary language							0.65
English	957	91.7	1.7	9,589	90.9	0.5	
Not English	57	8.3	1.7	413	9.1	0.5	
Family structure							<0.0001
Two parent	571	58.3	2.6	7,824	77.0	0.7	
Single mother	298	33.6	2.5	1,585	18.3	0.7	
Other	90	8.1	1.4	486	4.6	0.3	
Total children in household							0.0084
3+	314	48.1	2.6	2,242	40.6	0.9	
2 or less	701	51.9	2.6	7,766	59.4	0.9	
Family mobility							0.98
High	144	13.8	1.7	1,120	13.8	0.6	
Low	869	86.2	1.7	8,855	86.2	0.6	
Disagreement style							
Violent	86	8.4	1.3	736	8.6	0.5	0.78
Heated	280	30.6	2.5	2,763	28.7	0.7	
Calm	649	61.0	2.6	6,509	62.7	0.8	

families above 200% of the Federal poverty level (17.9%) than among families at 100–200% of poverty (36.1%) or those below the poverty level (39.0%; Table 2). Parents in larger families (three or more children) were also more likely to report heated and violent disagreements than those in smaller families (Table 2).

The most marked differences in unadjusted analysis were associated with two scales measuring parenting stress and perception regarding their neighborhood (Table 2). Among AI/AN parents who fell in the highest quartile for parenting stress, 18.2% reported potentially violent disagreements; this dropped to 5.1% among parents with lower parenting stress. Parallel differences were present for disagreements involving heated argument: 40.7% of AI/AN parents in the highest stress quartile, vs. 27.2% of lower stress parents, reported such arguments. Similarly, AI/AN parents who perceived low levels of neighborhood support for childrearing were more likely to reported heated disagreements (48.3%) than were parents in more supportive areas (26.7%). Similar patterns were present among white families.

Results of adjusted analysis are shown in Table 3. Only one characteristic of the child was associated with potentially violent disagreement among AI/AN families; parents of boys were more likely to report potentially violent

disagreements than parents of girls. Examining heated disagreements, parents of children ages 0–5 years were less likely to report heated disagreements than parents of children aged 12–17, and parents of children in fair to poor health were less likely to report such disagreements than parents of children in better health.

Among AI/AN parents, no parental characteristics except relationship of survey respondent to the child were significantly association with the risk of potentially violent disagreements. The odds of heated disagreement among AI/AN families were increased if at least one parent was reported to be in fair to poor mental health (OR 4.76, 95% CI 1.70–13.34). Low parental education was also associated with heated disagreement (OR 1.97, 95% CI 1.19–3.36; Table 3). These factors were also significant among white families. One family structure characteristic, three or more children in the household, was associated with increased odds for both potentially violent and heated disagreements, among both AI/AN and white families (Table 3).

Parenting stress was related to both violent and heated disagreements among both AI/AN and white parents. AI/AN parents in the highest quartile for parenting stress had higher odds for potentially violent and heated disagreements (violent OR 7.20, 95% CI 3.45–15.00; heated OR

Table 2 Disagreement style by characteristics of the child and family, AI/AN and white children in seven states, 2003 NSCH

	Disagreements among AI/AN families			Disagreements among white families		
	Violent (%)	Heated (%)	P-value within AI/AN	Violent (%)	Heated (%)	P-value within White
Total	8.4	30.6		8.58	28.71	
Characteristics of the child						
Age			0.08			<0.0001
0–5	6.5	24.3		6.8	20.9	
6–11	7.8	28.4		10.6	30.9	
12–17	10.5	37.7		8.4	34.1	
Sex			0.25			0.52
Male	9.8	32.4		8.9	29.3	
Female	6.7	28.4		8.3	28.1	
Child's health			0.70			0.14
Fair to poor	*10.5*	*38.5*		17.1	32.1	
Good to excellent	8.3	30.3		8.4	28.6	
Child has special health care needs			0.17			0.0043
Yes	*10.5*	40.0		10.9	32.0	
No	8.0	29.0		8.1	28.0	
Child's insurance			0.85			<0.0001
Private	8.9	29.1		7.0	27.5	
Medicaid, SCHIP	8.8	30.6		11.0	31.4	
None	*6.0*	34.0		13.0	30.9	
Characteristics of the parents						
Parenting stress			<0.0001			<0.0001
High	18.2	40.7		16.7	39.3	
Low	5.1	27.2		6.1	25.4	
Perceived neighborhood support[a]			0.0007			0.027
High	9.8	26.7		8.2	28.2	
Low	*2.7*	48.3		11.0	32.5	
Highest education in household			0.024			0.0002
High school or less	8.9	38.0		10.0	33.2	
More than high school	8.1	24.7		8.0	27.0	
Employment			0.75			0.0002
Employed	8.3	30.0		8.2	28.0	
Not employed or less than 49 weeks	*9.2*	34.2		12.3	37.4	
Parent's physical health[a]			0.0052			<0.0001
Fair to poor	*3.9*	48.4		12.1	37.0	
Good to excellent	9.2	27.5		8.1	27.7	
Parent's mental/emotional health[a]			0.013			<0.0001
Fair to poor	*3.9*	66.1		19.2	50.8	
Good to excellent	8.7	28.3		8.1	27.8	
Respondent's relation to child[a]			0.0029			0.0039
Mother	8.8	32.5		9.0	28.8	
Father	*2.9*	27.9		7.2	26.2	
Other	*11.5*	*16.7*		4.4	39.6	
Characteristics of the family						
Poverty[a]			<0.0001			<0.0001
<100%	8.1	39.0		13.2	34.8	
100–200%	*9.1*	36.1		10.3	30.0	

Table 2 continued

	Disagreements among AI/AN families			Disagreements among white families		
	Violent (%)	Heated (%)	P-value within AI/AN	Violent (%)	Heated (%)	P-value within White
200%+	*8.3*	17.9		6.7	26.5	
Missing	*6.9*	*16.0*		8.3	30.4	
Primary language			0.89			0.012
English	8.2	30.5		7.8	28.8	
Not English	*10.4*	32.4		15.8	27.6	
Family structure			0.42			0.0019
Two parent	9.1	29.9		8.5	26.9	
Single mother	*7.3*	34.2		9.3	34.0	
Other	*6.1*	*19.8*		8.0	35.7	
Total children in household			0.0079			0.0004
3+	9.7	37.6		10.8	29.9	
2 or less	7.2	24.0		7.1	27.9	
Family mobility[a]			0.0020			0.42
High	*2.1*	31.8		10.2	29.3	
Low	9.4	30.4		8.3	28.6	

Note: Italicized percentages, while based on the total observations for the category shown in Table 1, have fewer than 30 observations in the numerator and thus may be unstable

[a] Flagged variables perform differently among AI/AN and white populations, as measured by a statistically significant interaction term in three-way analysis

2.50, 95% CI 1.40–4.44) compared to lower stress parents (Table 3). Effects were similar among white parents: falling in the highest quartile for parenting stress was associated with increased odds for potentially violent (OR 3.59, CI 2.71–4.75) and heated (OR 2.20, CI 1.85–2.63) disagreements. Lack of perceived neighborhood support for parenting was not linked to disagreement style among AI/AN parents, although such a link was found among whites (Table 3).

Because parenting stress was associated with potentially violent and heated disagreements in both AI/AN and white families, we undertook an additional analysis to ascertain if any of the variables in our model contributed directly to parenting stress (measured as adjusted mean values on the parenting stress score; results not shown in the table). Among AI/AN families, only two factors were significantly related to parenting stress. Parents of a child with special health care needs had higher parenting stress scores than those whose children did not have these needs (adjusted means, 5.3 vs. 4.6; P = 0.0001). Having a child with special health care needs was similarly associated with parenting stress among white respondents (adjusted mean, 5.2 vs. 4.6; P < 0.0001). Among AI/AN families, if at least one parent reported fair to poor physical health status, reported parenting stress was higher than among parents in better health (adjusted means, 5.1 for those in fair-poor health vs. 4.6 among those with better health; P = 0.0209);

this relationship was not present among white respondents. Among white families, poverty, perceived lack of neighborhood support, high family mobility, fair-poor mental health, and a primary household language that was not English were all associated with increased parenting stress.

Discussion

Prevalence of Potentially Violent and Heated Disagreements

We found an 8.4% prevalence of potentially violent disagreements among AI/AN families in seven Western states, with a similar prevalence (8.6%) among white families. The prevalence of potential violence among AI/AN families is similar to remembered childhood physical abuse found in population-based research among AI/AN families living on or near reservations (7.0% in the Southwest, 7.9%, Northern Plains) [13], though it is lower than the prevalence found in mixed population/health services populations [11] or clinic populations [12]. In addition, just less than a third of families (30.6% among AI/AN, 28.7% among white families) reported heated disagreement, arguing and shouting, which children can interpret as violent behavior [30]. Thus, nearly two of every five children (39.0% among AI/AN, 37.3% among white

Table 3 Factors linked to disagreement style among AI/AN and white families, adjusting for child, parent, and community characteristics, seven states

	Hit, throw versus discuss calmly				Argue, shout versus discuss calmly			
	AI/AN families		White families		AI/AN families		White families	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Characteristics of the child								
Age								
0–5	0.45	0.17, 1.15	**0.69**	**0.49, 0.95**	**0.44**	**0.21, 0.92**	**0.50**	**0.41, 0.61**
6–11	0.58	0.26, 1.29	1.28	0.95, 1.73	0.60	0.33, 1.09	0.91	0.77, 1.08
12–17	–	–	–	–	–	–	–	–
Sex								
Male	**2.37**	**1.15, 4.85**	1.09	0.84, 1.41	1.50	0.93, 2.42	1.07	0.92, 1.24
Female	–	–	–	–	–	–	–	–
Child's health								
Fair to poor	1.09	0.29, 4.12	1.30	0.58, 2.89	**0.31**	**0.10, 0.96**	0.86	0.53, 1.41
Good to excellent	–	–	–	–	–	–	–	–
Child has special health care needs								
Yes	1.04	0.44, 2.45	1.13	0.83, 1.55	1.37	0.74, 2.52	0.97	0.78, 1.20
No	–	–	–	–	–	–	–	–
Child's insurance								
Private	–	–	–	–	–	–	–	–
Medicaid, SCHIP	0.72	0.34, 1.54	1.12	0.76, 1.65	0.58	0.30, 1.13	0.94	0.73, 1.21
None	0.54	0.21, 1.35	1.23	0.77, 1.96	0.96	0.47, 1.95	1.04	0.79, 1.36
Characteristics of the parents								
Parenting stress								
High	**7.20**	**3.45, 15.00**	**3.59**	**2.71, 4.75**	**2.50**	**1.40, 4.44**	**2.20**	**1.85, 2.63**
Low	–	–	–	–	–	–	–	–
Perceived neighborhood support								
High	–	–	–	–	–	–	–	–
Low	0.33	0.10, 1.12	1.22	0.83, 1.81	**2.29**	**1.26, 4.16**	1.19	0.92, 1.54
Highest education in household								
High school or less	1.37	0.61, 3.05	0.92	0.65, 1.31	**1.97**	**1.19, 3.36**	**1.29**	**1.06, 1.56**
More than high school	–	–	–	–	–	–	–	–
Employment								
Employed	–	–	–	–	–	–	–	–
Not employed or less than 49 weeks	0.74	0.27, 2.01	1.32	0.81, 2.18	0.81	0.40, 1.62	1.27	0.92, 1.77
Parent's physical health								
Fair to poor	0.45	0.15, 1.35	1.07	0.71, 1.61	1.34	0.64, 2.80	1.14	0.87, 1.50
Good to excellent	–	–	–	–	–	–	–	–
Parent's mental/emotional health								
Fair to poor	1.38	0.28, 6.72	**2.91**	**1.59, 5.34**	**4.76**	**1.70, 13.34**	**2.24**	**1.41, 3.57**
Good to excellent	–	–	–	–	–	–	–	–
Respondent's relation to child								
Mother	–	–	–	–	–	–	–	–
Father	**0.31**	**0.10, 0.97**	0.80	0.55, 1.16	0.76	0.35, 1.69	0.83	0.68, 1.03
Other	0.97	0.29, 3.27	0.47	0.17, 1.27	0.27	0.08, 0.96	1.30	0.75, 2.27
Characteristics of the family								
Poverty								
<100%	1.17	0.41, 3.32	1.14	0.73, 1.78	2.02	0.96, 4.25	1.17	0.84, 1.63
100–200%	1.30	0.53, 3.16	1.25	0.89, 1.76	1.88	1.00, 3.54	1.11	0.90, 1.37

Table 3 continued

| | Hit, throw versus discuss calmly | | | | Argue, shout versus discuss calmly | | | |
| | AI/AN families | | White families | | AI/AN families | | White families | |
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
200%+	–	–	–	–	–	–	–	–
Missing	0.93	0.23, 3.72	1.24	0.74, 2.08	0.83	0.25, 2.81	1.24	0.90, 1.71
Primary language								
English	–	–	–	–	–	–	–	–
Not English	1.42	0.34, 5.94	1.37	0.83, 2.27	1.01	0.42, 2.42	0.74	0.52, 1.05
Family structure								
Two parent	–	–	–	–	–	–	–	–
Single mother	0.51	0.21, 1.21	0.85	0.62, 1.18	0.87	0.49, 1.55	1.03	0.82, 1.28
Other	0.58	0.19, 1.81	1.16	0.60, 2.25	0.88	0.32, 2.42	1.27	0.88, 1.84
Total children in household								
3+	**2.05**	**1.02, 4.10**	**1.44**	**1.12, 1.86**	**2.79**	**1.62, 4.81**	1.16	0.98, 1.37
2 or less	–	–	–	–	–	–	–	–
Family mobility								
High	0.26	0.05, 1.25	1.29	0.86, 1.91	1.80	0.85, 3.81	1.09	0.84, 1.42
Low	–	–	–	–	–	–	–	–

Data source: 2003 NSCH. Odds ratios (OR) and 95% Confidence Interval (CI)

Values highlighted in bold are significant at $P < 0.05$ or better

children) live in homes where disagreements may become, or be perceived as, violent.

Factors Associated with Potentially Violent Disagreements

Demographic and socio-economic considerations were generally not associated with disagreement style. When the subject child of the interview was age 5 or younger, the odds for potentially violent disagreements were reduced among white families, and the odds for heated disagreement styles were reduced among both AI/AN and white families, compared to children aged 12–17. The presence of older children may either precipitate or be the subject of disagreement. Notably, the presence of three or more children in the household increased the odds for potentially violent and heated disagreement among AI/AN families, and for potentially violent disagreement among white families. The age mix in larger families, as well as the demands of additional persons in the household, may be reflected in this finding. Resources, measured as income (percent of poverty level), education and health insurance, were not associated with the odds for potentially violent or heated disagreement.

Children's reported health or special healthcare needs were not associated with disagreement style. However, parents who perceived that their own mental health was fair to poor had higher odds for reporting disagreements that involved heated argument and shouting within the AI/AN

population, and higher odds for potentially violent as well as heated disagreement within the white population. While most maternal and child health practitioners will not be engaged in providing adult health care, inquiring about the parents' own psychological health during a visit may provide the opportunity to detect problems, and to inquire further regarding disagreements in the home.

Parenting stress was closely associated with both potentially violent and heated disagreements. The direction of the relationship cannot be stated; violence may lead to stress as well as arise from it. However, identification of parenting stress as a risk marker for potential violence among parents has clinical importance, as it offers an avenue for detection and preventive guidance that is clearly focused on the child. To assess parenting stress, practitioners offering pediatric care may wish to inquire how hard the parent believes it is to care for their child, whether the child's behavior "really bothers" the parent, and how often the parent experiences anger with the child, paralleling the NSCH stress questions. Answers suggestive of parenting stress could then lead to further screening questions related to disagreement style. Other professionals who routinely come into contact with parents, such as educators or school counselors, might also wish to be sensitive to indications that the parent perceives their role as particularly stressful.

At the community level, linkages between medical and behavioral practitioners, and between both and settings such as schools, could be used to develop educational and other interventions that might assist parents and reduce

parenting stress. Educational programs and proactive guidance by clinicians could also address techniques for resolving conflict, so that families can develop behavioral options, such as discussion, that are less likely to result in actual or symbolic violence.

Limitations

Limitations to the present work stem from the measure of potential violence used, the difficulty of obtaining accurate information regarding socially unacceptable behaviors, the absence of validation of scales among rural and AI/AN households, and whether AI/AN respondents accurately represent the AI/AN population in the states studied. First, our measure of potentially violent disagreement was broad, asking about behaviors (hit, throw) rather than about injury or other outcomes. However, it may still underestimate violence, as the phrasing of the disagreement questions was ambiguous. Respondents may have interpreted "do you" as singular, that is, only the respondent, or as plural, meaning all members of the respondent's family. Behaviors of family members other than the respondent may not be captured, leading to underestimation of family violence. The difficulty of obtaining potentially stigmatizing information is another limitation. Violent behaviors are generally underreported, as documented in a meta-analysis by Archer [31]. Additional barriers to reporting may be experienced by AI/AN families, who have reason to fear family separation if behaviors are known [14]. Third, it should be noted that the scales used for measuring parenting stress and neighborhood support have not been validated among AI/AN and among rural populations. Neighborhood support may have different meaning in very low population density counties than in more urbanized regions. Finally, the representativeness of the AI/AN population studied cannot be verified. First, a significant portion of AI/AN residents in the seven study states lack telephones and thus were not in the NSCH sampling universe. To the extent that AI/AN households without telephones differ systematically from those that do, study findings lack generalizability. In addition, while the overall response rate to the NSCH is available from published documentation, the response rate among AI/AN families is not available separately. AI/AN respondents may differ systematically from non-respondents in ways that could not be measured.

Commentary

What is the appropriate response of the public health community to potential violence in AI/AN or white households? Much of the available research has been done in white or non-AI/AN minority populations. Among such families, screening for domestic violence during pediatric visits has been demonstrated to increase case finding [32] and is acceptable to most mothers [33], and has been recommended by the American Academy of Pediatrics [34]. However, little evidence supports the effectiveness of screening, or currently available interventions, at reducing domestic violence [34]. Multiple educational programs are available to assist practitioners in providing anticipatory guidance to parents, such as the Academy of Pediatrics' *Guidelines for Health Supervision*, AAP and Maternal and Child Health Bureau's *Bright Futures*, and the American Medical Association's *Guidelines for Adolescent Preventive Services* [35]. However, few of these programs have been tested with AI/AN populations. Culturally appropriate interventions for addressing parenting stress, and thus possibly reducing the prevalence of violent disagreement, form an area of future research. Solutions must reflect local needs and priorities, and must be undertaken with input and guidance from the populations involved [36].

References

1. Bogat, G. A., DeJonghe, E., Levendosky, A. A., et al. (2006). Trauma symptoms among infants exposed to intimate partner violence. *Child Abuse and Neglect, 30*(2), 109–125.
2. Carlson, B. E. (1984). Children's observations of interpersonal violence. In A. R. Roberts (Ed.), *Battered women and their families* (pp. 147–167). NY: Springer.
3. Kernic, M. A., Wolf, M. E., Holt, V. L., et al. (2003). Behavior problems among children whose mothers are abused by an intimate partner. *Child Abuse and Neglect, 27*(11), 1231–1246.
4. Delaney-Black, V., Covington, C., Ondersma, S. J., et al. (2002). Violence exposure, trauma, and IQ and/or reading deficits among urban children. *Archives of Pediatrics and Adolescent Medicine, 156*(3), 280–285.
5. Crouch, J. L., Hanson, R. F., Saunders, B. E., et al. (2000). Income, race/ethnicity, and exposure to violence in youth: Results from the National Survey of Adolescents. *Journal of Community Psychology, 28*(6), 625–641.
6. Perry, S. W. (2004). *American Indians and Crime. A BJS Statistical Profile, 1992–2002* (NCJ 209097). Washington, DC: US Department of Justice.
7. Tjaden, P., & Thoennes, N. (2000). *Extent, nature and consequences of intimate partner violence.* Washington, DC: U.S. Dept. of Justice, Office of Justice Programs, National Institute of Justice.
8. Rennison, C. (2001). *Violent victimization and race, 1993–1998* (NCH No. 176354). Washington, DC: U.S. Department of Justice, Office of Justice Programs, National Institute of Justice
9. Malcoe, L. H., Duran, B. M., & Ficek, E. E. (2002). Social stressors in relation to intimate partner violence against Native American women. *Annals of Epidemiology, 12*, 525.

10. Malcoe, L. H., Duran, B. M., & Montgomery, J. M. (2004). Socioeconomic disparities in intimate partner violence against Native American women: A cross-sectional study. *BMC Medicine, 2*, 20.

11. Koss, M. P., Yuan, N. P., Dightman, D., et al. (2003). Adverse childhood exposures and alcohol dependence among seven Native American tribes. *American Journal of Preventive Medicine, 25*(3), 238–244.

12. Duran, B., Malcoe, L. H., Sanders, M., et al. (2004). Child maltreatment prevalence and mental disorders outcomes among American Indian women in primary care. *Child Abuse and Neglect, 28*, 131–145.

13. Libby, A. M., Orton, H. D., Novins, D. K., et al. (2005). Childhood physical and sexual abuse and subsequent depressive and anxiety disorders for two American Indian tribes. *Psychological Medicine, 35*, 329–340.

14. Government Accountability Office. (2005). *Indian Child Welfare Act. Existing information on implementation issues could be used to target guidance and assistance to states.* Washington, DC. GAO–05–290.

15. Tribal Court Clearinghouse. (2006). *Indian Child Welfare Act.* http://www.tribal-institute.org/lists/icwa.htm. Accessed 25 May 2006.

16. National Indian Child Welfare Association. (2006). http://www.nicwa.org/). Accessed 24 May 2006.

17. Moore, C. G., Probst, J. C., Tompkins, M., Cuffe, S., & Martin, A. B. (2007). The prevalence of violent disagreements in US families: Effects of race-ethnicity, residence, and parental stress. *Pediatrics, 119*(Suppl 1), S68–S76.

18. Beale, C. (2004). Rural income, poverty and welfare: High-poverty counties. http://www.ers.usda.gov/Briefing/IncomePovertyWelfare/HighPoverty/. Accessed 1 June 2006.

19. Beale, C. L., & Gibbs, R. M. (2006). Severity and concentration of persistent high poverty in nonmetro areas. *AmberWaves*, February 2006. http://www.ers.usda.gov/AmberWaves/February06/DataFeature/. Accessed 1 June 2006.

20. Blumberg, S. J., Olson, L., Frankel, M. R., Osborn, L., Srinath, K. P., & Giambo, P. (2005). Design and operation of the National Survey of Children's Health, 2003. National Center for Health Statistics. *Vital and Health Statistics, 1*(43), 1–124.

21. US Census Bureau. (2006). *Table No. HCT31. Tenure by Telephone Service Available by Age of Householder.* Data set: Census 2000 American Indian and Alaska Native Summary File.

22. Lutenbacher, M., Karp, S., Ajero, G., Howe, D., & Williams, M. (2005). Crossing community sectors: challenges faced by families of children with special health care needs. *Journal of Family Nursing, 11*(2), 162–182.

23. Hemard, J. B., Monroe, P. A., Atkinson, E. S., et al. (1998). Rural women's satisfaction and stress as family health care gatekeepers. *Women andHealth, 28*(2), 55–77.

24. Abidin, R. R. (1997). Parenting stress index: A measure of the parent-child system. In C. P. Zalaquett & R. J. Wood (Eds.), *Evaluating stress: A book of resources* (pp. 277–291). Lanham, MD: Scarecrow Press, Inc.

25. Easterbrooks, M. A., & Goldberg, W. A. (1984). Toddler development in the family: Impact of father involvement and parent characteristics. *Child Development, 55*, 740–752.

26. Fields, J. M., & Smith, K. E. (1998). *Poverty, family structure, and child well-being: Indicators from the SIPP.* Population Division Working Paper No. 23. Washington DC: US Bureau of the Census.

27. Sampson, R. J., Raudenbush, S. W., & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science, 277*(5328), 918–924.

28. National Center for Health Statistics. (2005). *Final NSCH PUF variables*.

29. Stokes, M. E., Davis, C. S., & Koch, G. G. (1995). *Categorical data analysis using the SAS system.* Cary, NC: SAS Institute Inc.

30. Sheehan, K., Kim, L. E., & Galvin, J. P., Jr. (2004). Urban children's perceptions of violence. *Archives of Pediatrics and Adolescent Medicine, 158*(1), 74–77.

31. Archer, J. (1999). Assessment of the reliability of the conflict tactics scales. *Journal of Interpersonal Violence, 14*(12), 1263–1289.

32. Holtrop, T. G., Fischer, H., Gray, S. M., Barry, K., Bryant, T., & Du, W. (2004). Screening for domestic violence in a general pediatric clinic: Be prepared. *Pediatrics, 114*(5), 1253–1257.

33. Parkinson, G. W., Adams, R. C., & Gmerling, F. G. (2001). Maternal domestic violence screening in an office-based pediatric practice. *Pediatrics, 108*(3), E43.

34. American Adacemy of Pediatrics, Committee on Child Abuse and Neglect. (1998). The role of the pediatrician in recognizing and intervening on behalf of abused women. *Pediatrics 101*, 1091–1092.

35. Sege, R. D., Hatmaker-Flanigan, E., De Vos, E., Levin-Goodman, R., & Spivak, H. (2006). Anticipatory guidance and violence prevention: Results from family and pediatrician focus groups. *Pediatrics, 117*, 455–463.

36. Wathen, C. N., & MacMillan, H. L. (2003). Interventions for violence against women: Scientific review. *JAMA, 289*, 589–600.