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Gender Identity, Ethnic Identity, and Smoking among First Nations Adolescents

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ABSTRACT

Smoking rates among Aboriginal adolescents are the highest of any population group in British Columbia, Canada. Recent studies suggest that substance use is affected by gender and ethnic identity among youth. The purpose of our study was to explore the association of gender and ethnic identity with smoking behaviour among First Nations adolescents. This study is based on a convenience sample (i.e., an on-hand, readily available sample) of 124 youth (123 First Nations and 1 Métis) recruited at youth drop-in centres, health fairs, and cultural activities. We obtained information on demographics, smoking history, Bem Sex Role Inventory (BSRI), composite measure of gender and gender identification (GID), and Moran's Bicultural Ethnic Identity Questionnaire (Bicultural ID). We examined the associations between gender role identification and cultural identification on current smoking status among First Nations youth by using logistic regression analyses stratified by gender. In stratified multivariate regression analysis among girls, current smoking was significantly associated with lower scores on the aggressive masculinity index of the Gender ID scale and the White/Canadian index of the Bicultural ID scale. Among boys, current smoking was significantly associated with higher scores on the affective femininity index of the Gender ID scale and lower scores on the White/Canadian index of the Bicultural ID scale. Reducing smoking among First Nations groups remains an important priority for tobacco control in



Canada. Understanding the gendered and cultural aspects of smoking may be instrumental in improving prevention and cessation efforts among First Nations youth.

KEYWORDS

Gender, ethnicity, identity, tobacco use, First Nations, adolescents

INTRODUCTION

the highest of any population group in British Columbia (BC), Canada. Among Aboriginal youth, 15 per cent of females and 9 per cent of males smoke, compared to 6 per cent of all BC non-Aboriginal teens (van der Woerd et al., 2005). However, 65 per cent of Aboriginal youth who smoke report attempting to quit in the past 6 months (van der Woerd et al., 2005). Youth smoking prevention and cessation interventions are particularly important because 46 per cent of the Aboriginal population is 24 years or younger (British Columbia Provincial Health Officer, 2009). In fact, BC's Aboriginal people already bear a disproportionate burden of disease; reducing smoking would significantly decrease their overall smoking-related morbidity and mortality as well as associated personal, community, economic, and health system costs.

Traditionally, teen smoking has been explained in terms of the accumulation of statistical risk factors, including parent and peer smoking (Tyas & Pederson, 1998), history of abuse/trauma (LeMaster, Connell, Mitchell, & Manson, 2002), and low-self esteem and depression (Pederson, Koval, & O'Connor, 1997; Vogel, Hurford, Smith, & Cole, 2003). However, these risk factors explain only a part of the variance observed in youth smoking. Other factors such as gender and cultural affiliations are also linked to substance use (Lifrak, McKay, Rostain, Alterman, & O'Brien, 1997).

Psychological gender identity (GID), as described by Bem (1974), consists of two unrelated and empirically validated dimensions—masculinity and femininity. In general, masculinity is associated with an instrumental orientation (i.e., a focus on getting the job done), whereas femininity is related to an expressive orientation (i.e., a concern for the welfare of others) (Bem, 1974). GID is set over the course of adolescence (Adams, Gullotta, & Montemayor, 1992), and is dynamic during adolescence relative to other ages (Johnson, Roberts, & Worrell, 1999). Gender role identification has been linked to substance use (Anderson, Stevens, & Pfost, 2001; Möller-Leimkühler, Schwarz, Burtscheidt, & Gaebel, 2002) and smoking (Kulis, Marsiglia, & Hurdle, 2003). Relationships between GID and smoking remain largely unexplored in adolescents but may be related independently to a number of risk factors for smoking, such as depression, self-esteem, and weight control behaviours (Greaves, 1996). A recent study of Mexican-American adolescents found that GID was a better predictor of drug use than gender alone (Kulis et al., 2003); boys and girls who showed aspects of masculine GID (such as dominance and control of others) were more likely to use cigarettes (Kulis et al., 2003). In addition, GID was found to moderate the relationship between ethnic identity (EID) and smoking status (Kulis et al., 2003). GID is likely also related to smoking in First Nations girls and boys.

Current models of EID assume that cultural identities are formed to varying degrees in several cultures. In the US literature, increasing acculturation to (i.e., adoption of) American norms is positively associated with smoking in several ethnic groups, such as Hispanics (Epstein, Botvin, & Diaz, 1998), African-Americans (Klonoff & Landrine, 1999), and immigrant Chinese (Chen, Unger, & Johnson, 1999). Language acculturation alone is one of the most important predictive variables and is a powerful predictor of smoking in Hispanic youth (Epstein et al., 1998). According to the bidimensional model of acculturation (Berry, 2003), EID in minority groups can be defined by levels of acculturation (identification with mainstream culture) and enculturation (identification with indigenous culture). Basic EID is thought to form between ages 4-8 (Zimmerman, Ramirez-Valles, Washienko,



Walter, & Dyer, 1996) and become set between ages 8–12; however, for members of minority cultures, EID remains important throughout their lives. Acculturative stress results in depression, anxiety, and psychosomatic symptoms (Kvernmo & Heyerdahl, 2003), and females are at greater risk of acculturative problems than males (Kvernmo & Heyerdahl, 2003). The acculturative style of youth may indicate a psychological orientation that affects whether they will engage in risk behaviours.

The purpose of our study was to explore the relationship between GID and EID with regard to smoking among First Nations adolescents by

1. Assessing the association between gender and acculturation with smoking status while accounting for demographic and other confounding variables;

2. Examining the association between GID and EID with smoking status among boys and girls separately.

METHOD

Sampling and participants

A First Nations prenatal nurse consultant at BC Perinatal Health Program played a key role in recruitment. She recruited youth to participate in the study at a variety of programs and events, including youth drop-in programs, health fairs, and powwows. Eligible youth were instructed to provide informed consent prior to completion of the questionnaires and were paid for their time with a \$10 movie pass. A total of 124 (123 First Nations and 1 Métis youth) questionnaires were completed where the youth were recruited.

Measures

The survey included questions on socio-demographics (gender, grade, age, membership in an Aboriginal band, and financial or band assistance in previous year), smoking and exposure history (past month smoking and other smokers in the home), gender role identification [Bem Sex Role Inventory (BSRI) (Bem, 1974) and Composite Measure of Gender and Gender Identity (CMGGID) (Kulis et al., 2003)], and acculturation and enculturation [Moran's Bicultural Ethnic Identity Questionnaire (BIQ) (Moran, Fleming, Somervell, & Manson, 1999)]. The CMGGID has four subscales: assertive masculinity, aggressive masculinity, affective femininity, and submissive femininity. In addition, the BIQ was designed for use with American Indian populations, and is consistent with a bidimensional model of acculturation (Berry, 2003). We modified the questions of the BIQ to be more appropriate to First Nations populations in Canada by describing "First Nations" (First Nations ID) as opposed to "Indian," or "White/Canadian" (White/Canadian ID) as opposed to "White" subscales.

Data analysis

Chi-square analysis and independent sample t-tests were performed to determine gender differences in the total sample. A two-step model building procedure was used to determine variables associated with smoking status in the total sample. In the first step, we used binary logistic regression analyses to examine univariate relationships between smoking status and all study variables. In the second step, we used a multivariate analysis model and included only variables that were significantly associated with smoking status at alpha ≤ 0.25 in the first step. We used the same procedure in a stratified analysis by gender. We performed all analyses using the Statistical Package for the Social Sciences version 11.0.

RESULTS

Sample description

In the sample, 60.4 per cent were girls who were 15.6 years of age [standard deviation (SD) = 1.6), between Grades 9 to 12 (58.9 per cent), and members of a First Nations band (86.9 per cent). Nearly 60 per cent lived with other smokers and 33.1 per cent had smoked in the past month (Table 1). On average, the boys were older than the girls (16.1 years vs. 15.3 years, p = 0.054). The different gender and ethnic ID scales showed varying levels of internal consistency [i.e., BSRI = 0.92 (feminine subscore = 0.90, masculine subscore = 0.86), CMGGID = 0.77(assertive masculinity = 0.65, aggressive masculinity = 0.51, affectionate femininity = 0.63, submissive femininity = 0.53), and the BIQ = 0.79 (White/ Canadian ID subscale = 0.84, First Nations ID subscale = 0.88].



Group differences in Gender ID and Culture ID scales

Table 1 presents group differences in the Gender ID and Culture ID scales. First Nations girls had significantly higher femininity index scores on the BSRI than did boys [5.1 (SD = 1.0) vs. 4.2 (SD = 1.2), p < 0.0001]. Furthermore, First Nations girls had significantly higher affectionate femininity index scores on the CMGGID than did boys [3.4 (SD = 0.7) vs. 3.1 (SD = 0.8), p = 0.021]. No other group differences were observed between girls and boys in the Gender and Culture ID scales.

Correlates of smoking

In the first univariate logistic regression analysis—grade level—other smokers living in the same house, age, aggressive masculinity index of the CMGGID, and White/ Canadian ID scale were all associated with smoking. In the multivariate analysis of the total sample, smokers were significantly more likely to have dropped out of school or been expelled, live in the same house as a smoker, have lower aggressive masculinity index scores, and have lower White/ Canadian ID scores (Table 2).

In the stratified multivariate analysis, girl smokers were significantly more likely to live with a smoker in the same house, and had lower aggressive masculinity and White/ Canadian ID scores (Table 3), whereas boy smokers had significantly higher affective femininity scores and lower White/Canadian ID scores.

DISCUSSION

Our findings suggest that gender and ethnic identity may be important factors influencing smoking among First Nations youth. Also, comparing First Nations boys and girls in





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TABLE 1. SAMPLE CHARACTERISTICS BY GENDER

	Total San (n = 124)	ple	Girls (n - 75)		Boys (n = 49)		Difference*
Characteristics	n	per cent	n	per cent	n	per cent	р
Grade			-				0.841
Grade 8 or less	27	21.8	18	24.0	9	18.4	
Grade 9 to 12	73	58.9	44	58.7	29	59.2	
Graduated / GED ^b / adult education	11	8.9	6	8.0	5	10.2	
Other (expelled / dropped out/ no longer in school)	13	10.5	7	9.3	6	12.2	
Smoking Status							0.937
Current smoker (smoked in the past month)	41	33.1	25	33.3	16	32.7	
Nonsmoker (did not smoke in past month)	83	83.9	50	66.7	33	67.3	
Other Smokers Living in Same House							0.348
Yes	72	58.1	42	56.0	30	61.2	
No	49	39.5	30	40.0	19	38.8	
Missing ^e	3	2.4	3	4.0	0	0.0	
Member of First Nations Band							0.184
Yes	106	85.5	61	81.3	45	91.8	
No	16	12.9	12	16.0	14	8.2	
Missing ^c	2	1.6	2	2.7	0	0.0	
Receive assistance							0.964
Yes	47	37.9	28	37.3	19	38.8	
No	71	57.3	42	56.0	29	59.2	
Missing ^e	6	4.8	5	6.7	1	2.0	
	Mean	SD	Mean	SD	Mean	SD	
Age (years)	15.6	1.6	15.3	2.0	16.1	2.2	0.054
BSRI Scale							
Masculinity index	4.7	1.1	4.8	1.0	4.6	1.2	0.288
Femininity index	4.8	1.2	5.1	1.0	4.2	1.2	<0.0001
Gender Identity Scale							
Assertive masculinity index	3.5	0.9	3.5	0.8	3.5	0.9	0.673
Aggresstive masculinity index	2.6	0.8	2.5	0.7	2.8	0.9	0.088
Affectionate femininity index	3.3	0.8	3.4	0.7	3.1	0.8	0.021
Submissive femininity scale	2.5	0.8	2.5	0.8	2.4	0.9	0.206
Bicultural ID Scale							
White/Canadian ID index	2.6	0.6	2.6	0.6	2.6	0.6	0.939
First Nations ID index	3.1	0.6	3.2	0.6	3.0	0.6	0.060

^a Differences between groups are based on chi-square analyses for categorical variables and independent sample t-test for continuous and ordered categorical variables. ^b GED = General Educational Development

° Missing values were not included in the calculation of chi-square analyses. List-wise deletion was performed for missing values.



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TABLE 2. CORRELATES OF SMOKING STATUS (TOTAL SAMPLE n = 124)

	Univariate		Multivariate		
	Odds	95 per cent CIª	Odds	95 per cent CI	
Gender					
Girls	1.03	0.48-2.22	-	-	
Boys (referent)	-	-	-	-	
Grade Level					
Grade 8 or less (referent)	-	-	-	-	
Grade 9 to 12	4.17°	1.14-15.20	5.26 ^c	0.99–27.96	
Graduated / GED ^b / adult education	6.67°	1.23-36.06	10.00	0.90-111.40	
Other (expelled / dropped out / no longer in school)	12.80^{d}	2.48-69.98	17.40^{d}	2.11-143.42	
Other Smokers Living in Same House					
Yes	3.88 ^d	1.59-9.43	5.44 ^e	1.96-15.11	
No (referent)	-	-	-	-	
Member of First Nations Band					
Yes	1.61	0.49-5.34	-	-	
No (referent)	-	-	-	-	
Receive assistance					
Yes	1.73	0.79-3.77	-	-	
No (referent)	-	-	-	-	
Age (years)	1.37	1.13-1.66	1.09	0.83–1.44	
BSRI Scale					
Masculinity index	1.00	0.71-1.41	-	-	
Femininity index	1.07	0.78-1.46	-	-	
Gender Identity Scale					
Assertive masculinity index	1.10	0.70-1.70	-	-	
Aggresstive masculinity index	0.7^{f}	0.44–1.16	0.55°	0.30-0.99	
Affectionate femininity index	1.33	0.81-2.19	-	-	
Submissive femininity scale	1.19	0.51-1.90	-	-	
Bicultural ID Scale					
White/Canadian ID index	0.42 ^c	0.21-0.83	0.39 ^c	0.16-0.93	
First Nations ID index	0.94	0.51-1.71	-	-	

^a CI = confidence interval

^b GED = General Educational Development

° p < 0.001 ^f p < 0.25



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^c p < 0.05 ^d p < 0.01

TABLE 3. CORRELATES^a OF SMOKING STATUS BY GENDER

	Girls		Boys		
	Odds	95 per cent CI ^b	Odds	95 per cent CI	
Grade Level					
Grade 8 or less (referent)	-	-	-	-	
Grade 9 to 12	2.92	0.34-25.38	-	-	
Graduated / GED ^c / adult education	5.29	0.19-151.49	-	-	
Other (expelled / dropped out / no longer in school)	6.88	0.47-95.60	-	-	
Other Smokers Living in Same House					
Yes	18.52^{d}	3.29–104.10	-	-	
No (referent)	-	-	-	-	
Age (years)	1.37	0.89–2.09	1.21	0.87–1.67	
Gender Identity Scale					
Assertive masculinity index	-	-	-	-	
Aggresstive masculinity index	0.39 ^e	0.15-1.03	-	-	
Affectionate femininity index	-	-	3.67 ^e	1.19–11.26	
Submissive femininity scale	-	-	-	-	
Bicultural ID Scale					
White/Canadian ID index	0.27 ^e	0.07-1.03	0.16 ^e	0.03-0.84	
First Nations ID index	-	-	-	-	

^a Only variables that were significantly associated with smoking status at p < 25 in the first step of the model building process are shown. ^b CI = confidence interval ^c GED = General Educational Development

^d p < 0.001 ^e p < 0.05



relation to their gender and cultural identifications may help us understand their different health risk behaviours, particularly around smoking. Although our study was exploratory our findings have implications for further research.

First, 33 per cent of the sample had smoked in the past month. In Canada, only 15.2 per cent of adolescents aged 15 to 19 are current smokers (9 per cent in BC) (Canadian Tobacco Use Monitoring Survey, 2008); thus, the smoking rate in our sample is nearly twice the rate in Canada and three times the rate in BC. This rate of smoking (33 per cent), however, cannot be generalized because participants in our study were obtained from a convenience sample. These rates are similar to the 31 per cent rate found among Aboriginal adolescents in BC in a recent survey (Hutchinson, Richardson, & Bottorff, 2008).

Second, studies in other populations have found that higher aggressive masculinity index scores of the CMGGID are associated with substance use (Kulis et al., 2003). Surprisingly, in our stratified analyses, we found that aggressive masculinity scores were associated with a lower likelihood of smoking among First Nations girls, and that higher affectionate femininity scores were associated with smoking among boys. Although these gender differences were found in low sample sizes, they still present compelling evidence that GID may be an important influence on smoking in this group. First Nations boys who perceive themselves as not conforming to conventional gender norms (i.e., higher scores on affectionate femininity) may be at greater risk for smoking. Conversely, and contrary to other studies (Kulis et al., 2003), First Nations girls who perceive themselves to have lower aggressive masculinity are at greater risk for smoking. However, these findings need to be replicated to see if the measures used are indeed useful for understanding First Nations youth smoking behaviours. In addition, there may be some intersectional and/or interactive relationship between gender and culture for First Nations youth, not yet explained, that influences these results. Finally, smoking rates have remained high in the overall Aboriginal community in Canada compared to the general population, where smoking has peaked and rates are in decline (Hache, 2009). These issues may affect the relationship between gender, culture, and smoking, and confound the explanation of femininity and masculinity scores among First Nations youth.

Third, we found that although First Nations youth with lower White/Canadian ID scores were more likely to be smokers, higher First Nations ID scores were not significantly associated with smoking. This finding suggests that First Nations youth who identify with a more White/Canadian identity may be less likely to start or continue smoking. It may be that First Nations youth who identify with a White/ Canadian identity also identify with the antismoking norm in BC, which is the province with the lowest smoking rate in Canada (Canadian Tobacco Use Monitoring Survey, 2008).

Finally, we found in stratified analyses that the strongest predictor of smoking among First Nations girls was having other smokers living in the same house, although this finding did not hold true for boys in our sample. Other studies have reported similar findings (Mowery, Farrelly, Haviland, Gable, & Wells, 2004), so it is important to continue encouraging parents and other household members not to smoke in the presence of children and youth, particularly at home. We also found that students who had either dropped out of school or been expelled were more likely to be smokers. This finding further supports studies that showed increased risk for smoking with poor school performance (Leatherdale, Hammond, & Ahmed, 2007).

LIMITATIONS

A few important limitations affect our conclusions. First, since there are no established measures for culture or gender identity within the First Nations community in Canada, the measures used for this study were partly adapted from those tested in other ethnocultural groups (Epstein et al., 1998). Hence, repeating these adaptations is necessary in future studies to confirm the usefulness of these measures among First Nations youth in Canada.

Second, given the correlational nature of this study, the effects may be bidirectional. That is, while ethnic and gender identity may impact tobacco use among First Nations youth, it is also possible that smoking cigarettes, over time, might affect ethnic and gender identity.

Third, our survey did not distinguish between the use of cigarette smoking and traditional uses of tobacco. Our study may not have adequately accounted for youth who use tobacco for ceremonial purposes. Future studies should distinguish between ceremonial versus non-ceremonial use of tobacco in understanding the identities of First Nations and other Aboriginal youth.

Fourth, our study did not examine current or past histories of trauma among the youth in our study. Since current and past experiences of trauma have been associated with substance use (e.g., LeMaster et al., 2002), such experiences could have been associated with smoking among the youth in our study and could affect girls and boys differently. Future studies are needed to examine if current and past experiences



of trauma affect the relationship between ethnic identity, gender identity, and smoking among First Nations and other Aboriginal youth.

Finally, because the study was based on a convenience sample, the findings may not be representative of First Nations youth in general. After early recruitment challenges, a First Nations researcher directly involved with the communities joined the project and successfully assisted with recruitment. Although individuals from the First Nations community at large were involved in developing the proposal, it would have been helpful to involve individuals from the target communities from the beginning in planning recruitment.

CONCLUSIONS

Despite limitations in the method and the exploratory nature of this study, we can suggest some recommendations for future research in smoking among First Nations youth. Particularly, gender identity may be used in future research as a possible correlate of smoking. Also, intervention research should further explore the cultural identity of First Nations youth to better understand and tailor smoking prevention and cessation programs.

Addressing smoking among First Nations groups remains a priority for tobacco control in Canada. Understanding the gendered and cultural aspects of smoking may be instrumental in improving prevention and cessation efforts among First Nations youth. However, further research is needed to explore the roles that gender and culture have in smoking among First Nations youth. More consistent sex, gender, and diversity analysis is required in future study and program designs. In addition, we suggest more use of measures to discover links between gender, culture, and First Nations youth smoking. These steps would enhance and build upon the findings of this study, have a direct effect on tailoring future initiatives to better meet the needs of First Nations youth, and reduce the burden of smoking in this population.

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