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Relationships between stressful life events, psychological distress and resilience among Aboriginal and non-Aboriginal adolescents

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Abstract:

Objective(s): In order to shed light on the impacts of various stressful life events and resilience factors during adolescence and across different cultural backgrounds, this study explored a variety of protective and vulnerability factors associated with psychological distress among Aboriginal and non-Aboriginal youth. **Methods:** The participants were 207 adolescents (mean age = 15.8 years, 55% female, 45% Aboriginal) recruited from two secondary schools located in Innu communities of Saguenay-Lac-St-Jean and Côte Nord (Canada). Data were collected on psychological distress, exposure to stressful life events, and resilience. **Results:** Six multiple linear regressions were conducted to predict six dimensions of psychological distress. Sexual abuse, family violence and other stressful life events were all associated with higher levels of psychological symptoms. Individual resilience factors were associated with lower levels of depression, anxiety, dissociation and post-traumatic stress (PTS), whereas relational/familial resilience factors were associated with lower levels of anger and sexual concerns. The relationship with contextual resilience was not significant. **Conclusions and implications:** Overall, these results indicate that stressful life events such as sexual abuse and family violence may have deleterious effects on the mental health of Aboriginal and non-Aboriginal adolescents. However, some individual and relational factors may have positive effects on their mental health. These findings may provide hope for communities under greater stress and support the importance of establishing culturally sensitive intervention strategies that strengthen the key protective factors identified in this study.

Keywords:

Resilience, stressful life events, psychological distress, Aboriginal, adolescent, protective factors, risk factors, child sexual abuse, family violence

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Introduction

Exposure to stressful life events during childhood and adolescence often leads to serious mental health consequences that persist into adulthood (e.g., MacMillan et al., 2001). It is well documented that exposure to family violence during childhood is associated with greater risks of alcohol and drug misuse, internalizing and externalizing behavior problems, and depression and anxiety in adolescence and adulthood (Gilbert et al., 2009). Other stressful life events such as sexual abuse (Gilbert et al.), parental incarceration (Kjellstrand & Eddy, 2011) and parental separation (Cartwright, 2006) also have negative effects on mental health that often carry through into adulthood.

Violence in Aboriginal communities

Some youth are more likely than others to be exposed to these stressful life events. One example is Aboriginal adolescents, of whom a large proportion live in a cultural minority setting generally characterized by poverty, violence and social exclusion. Family violence is a major public health issue among Aboriginal communities. According to the data from the General Social Survey on Victimization conducted in 2009 in Canada (Brennan, 2011), rates of spousal violence (physical and sexual) against Aboriginal women are three times higher than the rates reported for non-Aboriginal women. Compared with the general population, a higher proportion of Aboriginal children and adolescents are placed in foster homes following persistent neglect and abuse in the family (Blackstock, Trocmé, & Bennett, 2004). Aboriginal youth are also more likely to have a family member who is incarcerated, with Aboriginal people representing 18 to 25% of the prison population despite their representing only 3% of the Canadian population (Statistics Canada, 2010). High rates of family violence and crime in Aboriginal communities are amplified by several social factors,

including an accumulation of historical traumas (e.g., residential schools, loss of cultural traditions), and the law of silence and corruption within the justice system, which results in a lack of social control and a climate of insecurity (Bopp, Bopp, & Lane, 2003).

Aboriginal youth's resilience

These data suggest that Aboriginal adolescents have to adapt to an adverse environment that could seriously threaten their mental health. Nonetheless, some studies that focused on protective factors in Aboriginal communities, though few, suggest that a large proportion of adolescents (56 to 60% in some studies; Hopkins, Taylor, D'Antoine, & Zubrick, 2012; Lafromboise, Hoyt, Oliver, & Whitbeck, 2006) continue to thrive in the face of exposure to stressful life events and do not necessarily develop psychological problems in adulthood. This maintenance of positive adaptation despite a context of significant adversity refers to resilience (Luthar, Cicchetti, & Becker, 2000). Resilience research is fundamental in Aboriginal communities because it proposes a strengths-based approach that considers youth and their families in terms of capacities and resources rather than in terms of deficits and psychopathologies (Canavan, 2008). This approach promotes the well-being of marginalized populations not only by correcting an image of deficit but also by promoting the development of interventions that foster young people's ability to bounce back despite the presence of major risk factors in their community (Muckle & Dion, 2008).

Notwithstanding the growing interest in resilience research and Aboriginal communities, published literature examining resilience factors in Aboriginal youth is limited. However, a few studies have identified factors associated with resilient functioning among Aboriginal youth. These protective factors included having a prosocial friend (i.e., who did not induce the participants, by either example or

persuasion, to engage in risky behaviour; Andersson & Ledogar, 2008; Hopkins et al., 2012), parental care and support (Andersson & Ledogar, 2008; Filbert & Flynn, 2010; Lafromboise et al., 2006), relationships with prosocial adults (Filbert & Flynn, 2010), knowledge of Aboriginal culture and heritage (Filbert & Flynn, 2010; Hopkins et al., 2012; Lafromboise et al., 2006; Walls, 2007; Zahradnik et al., 2010), spirituality (Graham, 2001), perception of community support (Lafromboise et al., 2006), positive values and social competencies (Filbert & Flynn, 2010).

These studies contribute considerably to our understanding of the individual, relational and cultural factors involved in Aboriginal people's resilience. However, these studies present important limitations that should be addressed in future research. For example, few attempts have been made to include culturally sensitive measures. In studies involving Aboriginal youth, most resilience measures were based on a dominant North American definition of resilience that does not consider the fact that the criteria for good adaptation may differ between Aboriginal people and their non-Aboriginal peers (for exceptions, see Walls, 2007; Zahradnik et al., 2010). Furthermore, many authors conceptualized resilience in terms of behavioral observations and academic success without assessing it in terms of psychological health (e.g., Lafromboise et al., 2006; Filbert & Flynn, 2010; Graham, 2001). Consequently, adolescents who are depressed and anxious because of regular exposure to family violence would be considered resilient and would not necessarily receive appropriate help, simply because they do well in school and do not exhibit externalizing behavior problems. Since being competent in one domain does not necessarily imply resilience, researchers must consider the multi-dimensional nature of resilience in their measures. Finally, methodological biases were also observed in some of the studies described above, including sampling bias (e.g., classification of participants among resilient and maladaptive groups based on a list of students whom the school principal considered resilient; Graham, 2001) and missing information on the psychometric properties of the measures (e.g., Andersson & Ledogar, 2008).

Research to date has highlighted a range of

relational, contextual and, to a lesser extent, individual resilience factors among Aboriginal adolescents. Moreover, few attempts have been made to determine the role of these three types of resilience factors in psychological distress among Aboriginal and non-Aboriginal adolescents. Finally, while many studies have focused on the psychological consequences of stressful life events in adolescence, less research has been conducted to compare the value of various stressful life events in predicting psychological distress among adolescents from different cultural backgrounds. This information could be particularly helpful in the development of culturally based interventions among adolescents exposed to various kinds of stressful events.

Given this context, the first aim of the present study was to explore the predictive value of various vulnerability factors, which include traumas related to family violence and other stressful life events, in psychological distress among adolescents from different cultural backgrounds. Since this study focuses on resilience, the second objective was to assess the impact of currently reported resilience on current psychological functioning, after having assessed the effects of these vulnerability factors.

First, we hypothesized that gender, age and ethnicity would be significant predictors of psychological distress. Since previous research findings suggest that girls generally report more stressful events and more internalizing symptoms than boys do (e.g., Jose & Ratcliffe, 2004), girls were expected to report more psychological symptoms. Older adolescents, who generally report higher frequency and intensity of stressful events than younger adolescents (e.g., Jose & Ratcliffe), were also expected to report more psychological symptoms. Because previous research has shown that they are exposed to more negative life events than non-Aboriginal youth (Blackstock et al., 2004; Brennan, 2011; Statistics Canada, 2010), Aboriginal youth were also expected to report more stressful life events and more psychological distress. Based on previous resilience research among adolescents from various cultural backgrounds (e.g., Afifi & MacMillan, 2011; Lafromboise et al., 2006), we hypothesized that individual, relational/familial and

community resilience factors would be predictors of significantly fewer psychological symptoms. Finally, because no comparative study has explored the relative contribution of various stressful life events to psychological distress among Aboriginal youth, no hypothesis was formulated concerning the predictive values of the various types of events.

Methods

Participants and procedure

The sample was drawn from two secondary schools in Saguenay-Lac-St-Jean and Côte-Nord (Quebec province, Canada). The first school was located off reserve in a middle- to high-socioeconomic setting and served both non-Aboriginal and Aboriginal students. Some Aboriginal youth lived off reserve and others, on reserve. The latter lived in an Innu community 6 km from the nearest city (semi-rural area), where this school is located. The main spoken language was French for both Aboriginal and non-Aboriginal students. From grade 1 to secondary 3 (grade 9), the majority of youth attend schools on reserve. Afterwards, they have to move to another secondary school off reserve. The majority of youth attend the school where participants were recruited for this study. The second school was located on reserve and served only Aboriginal students, who lived on reserve, in an Innu community approximately 50 km from the nearest city (semi-rural area). Among these students, the main spoken language was Innu, and the second, French. Reserves were similar in terms of size, Aboriginal affiliation (Innu) and being in rural areas. All participants spoke and wrote French (schooling is generally provided in French). For a fuller discussion on other social and cultural factors characterizing these communities (e.g., health disparities within First Nations communities, impacts on youth of grandparents or parents having been in residential schools), see Sinha et al. (2011) or materials available from the First Nations Child and Family Caring Society's website (<http://www.fncaresociety.com/main>).

Data were collected in April 2010 and May 2012. Across the two schools, 207 adolescents (94 Aboriginal, 113 non-Aboriginal) participated in the study. All participants were aged between 14 and

17 years ($M = 15.8$ years; $SD = 0.90$), and 55% ($N = 113$) were female. The majority of parents had a secondary school education or less (57.0% of mothers, 64.2% of fathers). A few parents had a college (19.8% of mothers, 13.3% of fathers) or university degree (16.4% of mothers, 15.0% of fathers). The majority of adolescents lived with their two biological parents (53.0%), whereas 27.6% lived in a single-parent household (the majority with a single mother) or in a joint custody setting, 13.5% lived in a two-parent stepfamily, and 5.9% in an adopted family or with another family member (e.g., grandparent).

Participants were recruited through their teachers after ethical approval was obtained from the school's administration and the Université du Québec à Chicoutimi. Data were collected either in the school library or in the classrooms. A written consent form explained the objectives of the study and assured participants that all personal information was confidential and anonymous. Since Quebec law allows adolescents aged 14 and older to give their own free and informed consent, parents' consent was not required. A research coordinator and research assistants were available to answer individual questions during the data collection. This study was designed in accordance with Canadian principles of OCAP (Ownership, Control, Access and Possession)¹ and the ethical guidelines of the Canadian Tri-Council Policy Statement for research involving Aboriginal peoples². Consequently, Aboriginal culture and traditions were respected throughout the research project. Community members were consulted at every step of the research for decisions regarding which themes would be addressed in the questionnaires, the purpose for which the data would be used and who would have access to the information. The results of this study will address the need expressed by the communities to better understand psychological distress and resilience factors among Aboriginal youth.

1 For a fuller description of Canadian OCAP principles, see <http://cahr.uvic.ca/nearbc/documents/2009/FNC-OCAP.pdfv>

2 For a fuller description of ethical guidelines of the Canadian Tri-Council Policy Statement for research involving Aboriginal peoples, see <http://www.pre.ethics.gc.ca/eng/policy-politique/initiatives/tcps2-eptc2/chapter9-chapitre9>

Measures

Stressful life events. Exposure to stressful life events during childhood and adolescence was measured using the Family Problems Inventory (Thériault, Cyr, & Wright, 2003), where participants must indicate whether or not they have experienced the events listed. To test whether family violence and other stressful life events have the same effects on adolescents' psychological distress, the events measured were divided into two groups: 1) number of events related to family violence, which include suffering or witnessing child physical or verbal/emotional abuse, experiencing violence between children and exposure to domestic violence (witnessing spousal physical or verbal/emotional abuse); and 2) number of other stressful life events, which include financial problems within the family, parental separation or divorce, a family member experiencing sexual abuse, parental incarceration, familial alcoholism and, finally, child abandonment by a parent. Exposure to sexual abuse was a third predictor. One question was changed to specifically evaluate the participants' exposure to sexual abuse during childhood and adolescence.

Psychological distress. Psychological distress symptoms were measured using the French version (Wright & Sabourin, 1996) of the Trauma Symptom Checklist for Children (TSC-C; Brière, 1989). The TSC-C is a 54-item self-report measure designed to assess children and adolescent's responses to trauma across a number of symptom areas. The TSC-C includes six clinical scales: 1) anxiety, 2) depression, 3) anger, 4) post-traumatic stress (PTS), 5) dissociation, and 6) sexual concerns. The TSC-C also includes two validity scales that evaluate both the minimization and the exaggeration of psychological symptoms. Answers are recorded on a 4-point Likert-type scale ranging from 0 (never) to 3 (almost all the time). In the study by Thériault and her colleagues (2003), the French version of the TSC-C demonstrated good internal consistency ($r = .69$ to $.89$) and good test-retest reliability ($r = .75$ to $.81$ after two weeks). Internal consistency was similar ($r = .74$ to $.83$) in our sample.

Resilience. Resilience was measured using the validated 27 item French version (Daigneault, Dion, Hébert, McDuff, & Collin-Vézina, 2013) of the Child and Youth Resilience Measure (CYRM; Ungar

& Liebenberg, 2005), which examines resilience among children and youth from various cultural backgrounds. The CYRM has been piloted with 1451 youth from 14 different communities (including a Canadian Aboriginal community) that participated actively in the development of the questionnaire. Answers are recorded on a 5-point Likert-type scale, ranging from 1 (not at all) to 5 (a lot), with a high score indicating a high level of resources. To test whether all types of resilience factors have the same effect on adolescents' psychological distress, we examined the predictive value of three different resilience factors: 1) individual, 2) relational/familial and 3) community (which corresponds to the factors identified in Daigneault et al.). When validated in a sample of 589 Quebec adolescents (Daigneault et al.), the CYRM was found to be psychometrically sound, with good internal consistency (Cronbach's alphas = $.84$, $.78$ and $.64$ for individual, relational/familial and contextual scales, respectively) and excellent test-retest reliability after two weeks ($r = .73$ to $.84$) and three months ($r = .70$ to $.76$). Internal consistency of the three CYRM components was similar in our sample (Cronbach's alphas between $.64$ and $.82$).

Data analyses

We first conducted a chi-square analysis to compare the frequencies of various stressful life events among Aboriginal and non-Aboriginal adolescents. Multiple linear regressions were then employed to evaluate the predictive value of nine independent variables (age, gender, ethnicity, family violence, sexual abuse, other stressful life events, individual resilience, relational/familial resilience, and contextual resilience) with regard to anxiety, depression, anger, PTS, dissociation and sexual concerns. Variables were entered in the regressions in temporal order. Because of the retrospective nature of the study, we entered predictors that were stable over time (sociodemographic predictors) and those that had occurred before the study (childhood maltreatment, abuse, and stressful life events) in the first step of the regression model. In the second step, we entered current resilience factors to assess whether this current resilience would help explain current psychological distress in addition to sociodemographic factors and past experiences of maltreatment, abuse and stress.

Table 1: Multiple regression analyses predicting psychological distress from sociodemographic factors, stressful life events and resilience factors

Variable	Depression		Anxiety		Post-traumatic Stress	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
	B	B	B	B	B	B
Gender	0.20***	0.25***	0.37***	0.38***	0.23***	0.26***
Age	-0.04	-0.05	-0.01	-0.02	0.02	0.01
Aboriginal Culture	0.01	0.10	-0.06	-0.07	-0.03	-0.04
Sexual Abuse	0.13*	0.14*	0.15**	0.14*	0.18*	0.18**
Family Violence	0.22***	0.16**	0.10	0.09	0.28***	0.25***
Stressful Life Events	0.19**	0.16**	0.17**	0.17**	0.11	0.09
Individual Resilience		-0.32***		-0.14*		-0.19**
Relational Resilience		-0.04		0.08		0.01
Contextual Resilience		0.0		-0.03		-0.01
Adjust R ²	0.21	0.31	0.23	0.24	0.24	0.26

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Variable	Sexual Concerns		Anger		Dissociation	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
	B	B	B	B	B	B
Gender	-0.30***	-0.27***	-0.09	-0.05	0.09	0.14*
Age	-0.14	0.13*	-0.11	-0.11	0.01	0.01
Aboriginal Culture	-0.23*	-0.22***	-0.14*	-0.15*	-0.02	-0.04
Sexual Abuse	0.22***	0.23***	0.16**	0.18**	0.13*	0.13*
Family Violence	0.10	0.06	0.18**	0.12	0.27***	0.22**
Stressful Life Events	0.10	0.07	0.14*	0.11	0.12	0.09
Individual Resilience		0.02		-0.09		-0.24***
Relational Resilience		-0.19**		-0.17*		-0.03
Contextual Resilience		-0.01		0.02		0.01
Adjusted R ²	0.20	0.22	0.11	0.14	0.14	0.19

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Results

Sociodemographic factors

A full description of all multiple regression results can be found in Table 1. Gender was significantly associated with all psychological distress symptoms, except anger. Girls showed a significantly greater risk of anxiety (standardized $\beta = .38$, $t = 7.03$, $p < .001$), PTS (standardized $\beta = .26$, $t = 4.89$, $p < .001$), dissociation (standardized $\beta = .14$, $t = 2.46$, $p < .05$) and depression (standardized $\beta = .25$, $t = 4.90$, $p <$

$.001$), whereas boys had a significantly greater risk of sexual concerns (standardized $\beta = -.27$, $t = -5.00$, $p < .001$). Conversely, age was related to sexual concerns only (standardized $\beta = .13$, $t = 2.53$, $p < .05$), which means that older adolescents had more sexual concerns than younger ones.

The results also show some differences between Aboriginal and non-Aboriginal adolescents in anger and sexual concerns. Being non-Aboriginal was associated with a significantly greater risk of sexual

Table 2: Prevalance of stressful life events among Aboriginal and non-Aboriginal adolescents in the sample

	Aboriginal	Non-Aboriginal	Total	χ^2
Financial problems	54.3	41.6	47.3	3.30a
Parental separation/divorce	52.7	58.0	55.6	0.59
Child physical abuse	13.8	5.4	9.2	4.38*
Child verbal/emotional abuse	31.9	24.3	27.8	1.46
Violence between children	37.6	37.2	37.4	0.01
Witnessing spousal physical violence	28.7	8.1	17.6	14.94***
Witnessing spousal emotional violence	45.7	29.2	36.7	6.04*
Family member sexual abuse	14.9	7.1	10.6	3.30a
Parental incarceration	19.1	9.7	14.0	3.78a
Familial alcoholism	57.4	31.0	43.0	14.67***
Child abandonment by a parent	17.0	4.4	10.1	8.93**
Child sexual abuse	13.8	16.8	15.5	0.58

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

concerns (standardized $\beta = -.22$, $t = -3.86$, $p < .001$) and higher levels of anger (standardized $\beta = -.15$, $t = -2.47$, $p < 0.05$). Data concerning the prevalence of stressful life events among Aboriginal and non-Aboriginal adolescents are presented in Table 2. Overall, Aboriginal youth were more exposed to all kinds of stressful life events, except for parental separation and sexual abuse. Aboriginal youth in our sample experienced significantly more events related to physical abuse ($\chi^2 = 4.38$, $p < 0.05$), family alcoholism ($\chi^2 = 14.67$, $p < 0.001$), child abandonment by a parent ($\chi^2 = 8.93$, $p < 0.01$) and witnessing spousal physical ($\chi^2 = 14.94$, $p < 0.001$) and verbal/emotional ($\chi^2 = 6.04$, $p < 0.05$) violence than non-Aboriginal youth.

Stressful life events

The relationship between various stressful life events and psychological distress were explored. The results show that having been sexually abused directly predicted all psychological symptoms (standardized $\beta = .13$ to $.23$, and $t = 2.37$ to 4.13 , $p < .05$). A high number of stressful events related to family violence was associated with a significantly greater risk of PTS (standardized $\beta = .25$, $t = 4.13$, $p < .001$), dissociation (standardized $\beta = .22$, $t = 3.51$, $p < .001$) and depression (standardized $\beta = .16$, $t = 2.67$, $p < .01$). A high number of other stressful life events was associated with depressive (standardized $\beta = .16$, $t = 2.70$, $p < .01$) and anxiety (standardized $\beta = .17$, $t = 2.72$, $p < .01$) symptoms.

Resilience

The results show that individual, relational/familial and contextual resilience factors have different predictive values in psychological distress. A high level of individual resilience was significantly associated with fewer depressive symptoms (standardized $\beta = -.32$, $t = -5.05$, $p < .001$), dissociation symptoms (standardized $\beta = -.24$, $t = -3.56$, $p < .001$), PTS symptoms (standardized $\beta = -.19$, $t = -2.95$, $p < .01$) and anxiety symptoms (standardized $\beta = -.14$, $t = -2.20$, $p < .05$). A high level of relational/familial resilience was predictive of less anger (standardized $\beta = -.17$, $t = -2.40$, $p < .05$), and fewer sexual concerns (standardized $\beta = -.19$, $t = -2.69$, $p < .01$). Finally, contextual resilience was not related to psychological distress.

Discussion

Sociodemographic factors

The purpose of this study was to explore the association between various risk and resilience factors and psychological distress among Aboriginal and non-Aboriginal adolescents. First, the hypothesis concerning gender differences in psychological distress was partly supported. The results show that gender is significantly associated with all psychological symptoms except anger. Our finding that girls reported significantly higher levels of depression, anxiety, PTS and dissociation than boys is consistent with a large body of research concluding that girls

report more internalizing symptoms than boys do (e.g., Jose & Ratcliffe). Gender-specific cultural beliefs and expectations concerning emotional regulation, and higher perceived stressor intensity and frequency (Jose & Ratcliffe, 2004) among girls are all factors that could explain this finding. It is also possible that boys are more reluctant to express their psychological distress than girls are, which would explain why the girls in our sample seem to experience more distress. The analyses also pointed to higher levels of sexual concerns among boys. Because no study to date has explored gender differences in sexual concerns among adolescents, we cannot conclude whether these results are consistent or not with previous literature. However, this finding may be explained by the fact that the boys in our sample, who were aged between 14 and 17, are in a developmental period characterized by a sexual awakening and major body changes that increase sexual concerns, while girls may have been exposed to these concerns sooner in their development due to earlier sexual and biological maturation (Cloutier, 1996). Another possible explanation lies in the way sexual concerns were conceptualized in the TSC-C. Items in the questionnaire refer mainly to intrusive thoughts, desires considered inappropriate or abnormally high sexual needs (e.g. "Can't stop thinking about sex," "Touching my private parts too much"). It is possible that these items relate more to boys' sexual concerns, while girls may be more concerned about their body image or the relational dimension of sexual intercourse.

The hypothesis concerning age differences was only partly supported. Older adolescents reported significantly higher levels of sexual concerns than younger adolescents. Given that a majority of adolescents are not sexually active before age 16 (Cloutier, 1996), sexual concerns are expected to arise later in adolescence. However, age was not a significant predictor for other psychological symptoms. Some studies suggest that the emergence of internalizing symptoms and disorders in adolescence may be more a function of pubertal status than of chronological age. For example, in their review, Hayward and Sanborn (2002) concluded that pubertal stage was a more powerful predictor of adolescent girls' psychological symptoms (panic attacks, depression and eating disorder symptoms)

than chronological age was. This may explain why chronological age was not a significant predictor of psychological distress in our sample (except for sexual concerns). Another possible reason is that chronological age may act more as a moderator of gender differences in psychological distress.

The results of the analyses support the hypothesis that Aboriginal youth report more stressful life events than their non-Aboriginal counterparts. This pattern is consistent with previous research that underscored higher rates of various traumatic events among Aboriginal populations compared with the general population (e.g., Bopp et al., 2003; Brennan, 2011; Statistics Canada, 2010). It was also expected that Aboriginal youth would report more psychological distress than their non-Aboriginal counterparts. This hypothesis was not supported: ethnicity was not a significant predictor in psychological distress except for anger and sexual concerns, which were significantly lower among Aboriginal youth than their non-Aboriginal counterparts. This finding suggests that despite their exposure to more stressful life events than their non-Aboriginal peers, Aboriginal youth do not necessarily develop more psychological symptoms and may be particularly resilient when exposed to adversity. These findings agree with results from earlier resilience research (e.g., LaFromboise et al., 2006; Zahradnik et al., 2010) showing that Aboriginal adolescents can be resilient despite considerable environmental stress. However, it is important to consider the possibility that Aboriginal adolescents may not necessarily express psychological distress the same way as their non-Aboriginal counterparts. Since this nuance is not necessarily considered in the questionnaire used to evaluate psychological distress (TSC-C), Aboriginal youth's distress may have been underestimated.

Stressful life events

Although family violence and the number of other stressful life events were predictive of many psychological symptoms among adolescents, sexual abuse was still the strongest predictor of psychological distress compared with other types of stressful life events. These results are consistent with one longitudinal study which concluded that exposure to sexual abuse during childhood had more long-term

deleterious effects on psychological health than physical violence did (Fergusson, Boden, & Horwood, 2008).

Resilience

Consistent with our hypothesis, individual and relational/familial resilience were significant protective factors in certain psychological symptoms, above and beyond the effect of past risk factors that were retrospectively reported. The most important factor related to depression and dissociation was individual resilience, which includes such characteristics as high self-esteem, empowerment, effective problem-solving strategies and good social skills. Relational/familial resilience, in turn, was associated with lower levels of anger and sexual concerns. The cross-sectional nature of this study does not allow us to determine cause-effect relationships between resilience factors and psychological symptoms reported by adolescents. For example, rather than assuming that the presence of relational/familial resilience factors decreases the likelihood of feeling anger, we must consider the possibility that a calm temperament and low propensity to react aggressively to stressful events may lead adolescents to maintain good relationships with their peers and family. Longitudinal data would be needed to investigate the temporal ordering.

It is interesting to note that when family violence is associated with psychological distress, relational/familial resilience is not, and vice versa. Conversely, individual resilience is significantly related to lower distress when family violence is a significant predictor of distress. This finding suggests that when adolescents experience distress related to family violence, they rely more on individual resilience factors than familial ones to overcome adversity.

Contrary to our hypothesis, contextual resilience (e.g., a sense of belonging to the community or school, importance of religious beliefs and the community's traditions, or national pride) was not a significant protective factor for any psychological symptom. This finding agrees with the results of Daigneault and her colleagues (2013), who found that the Community/Spiritual resilience component of the CYRM had a lower internal consistency than other components when validated among French youth from the province of Quebec, Canada. According to

the authors, this may be because a large majority of Quebec youth do not consider religion an important part of their lives. Nonetheless, this finding contrasts with previous resilience research that identified several resilience factors related to spirituality (Graham, 2001), community support (Lafromboise et al., 2006) and cultural traditions (Filbert & Flynn, 2010; Hopkins et al., 2012; Walls, 2007) among Aboriginal youth. Historical traumas (e.g., residential schools, acculturation) and other drastic sociocultural changes experienced by Aboriginal communities over the past years have undermined cultural tradition and its intergenerational transmission. As a result, many Aboriginal youth know very little about cultural traditions and seek their own identity, midway between tradition and modernity. Therefore, it may not be surprising that contextual resilience was not a significant resilience factor in our sample of Quebec Aboriginal and non-Aboriginal adolescents. However, the results may have been different if broader or other contextual resilience factors had been measured. Wekerle (2013), for example, highlights contextual resilience factors that support adolescent resilience in the context of maltreatment, such as access to transition services for the switch from child to adult services, and maltreatment prevention programs targeting pregnant teens in CPS (Child Protective Services). Further studies should be conducted to better understand if and how the community may be a protective factor for psychological distress among Aboriginal and non-Aboriginal adolescents.

Finally, it should be noted that, notwithstanding the link between individual and relational/familial resilience factors and psychological symptoms, the results of this study showed that sexual abuse and family violence had a direct/main effect on psychological symptoms. Results of various other studies indicate that child maltreatment is related to dysregulation and permanent changes in the major biological stress response systems in youth, which may underlie the increased risk of psychopathology (see Heim & Nemeroff, 2002; Watts-English, Fortson, Gibler, Hooper, & De Bellis, 2006). Although not directly investigated in the current study, this may suggest that trauma symptoms are the core impairment underlying other impairments despite the

presence of protective factors.

Implications

As different risk and protective factors may have variable effects on psychological health, this study represents an important advancement in our understanding of adolescents' psychological distress and the role of resilience in the context of stressful life events. Having the ability to predict various consequences of sexual abuse, family violence and other stressful life events on adolescents' psychological health may have important implications for health promotion, risk reduction and treatment. Adolescence is a critical developmental period that constitutes a unique opportunity for clinicians to prevent exposure to negative life events and promote effective coping resources. This study provides further cross-cultural validation for the CYRM as a measure, as well as information about the most relevant resilience factors for Quebec adolescents and the relative importance of each of them in psychological distress. The individual and relational/familial resilience factors identified in the analyses can be influenced and promoted by practitioners and the community. These findings may guide the development of culturally sensitive interventions and strengthen hope in vulnerable populations. This would be beneficial especially in Aboriginal communities, where the constant focus on difficulties and deficits by the media and the general population offers little hope for future generations.

A few limitations must be considered when examining the results of this study. First, even though the TSC-C has been validated in many contextual backgrounds (e.g., Bal & Uvin, 2009; Nilsson, Wadsby, & Svedin, 2008), we must keep in mind that cultural differences in the expression of distress may have influenced the results. To our knowledge, no culturally sensitive measure (e.g. developed in several countries at the same time) of child and youth psychological distress exists at the moment. In this context, the use of a translated, adapted measure of an existing questionnaire remains the most efficient solution. Second, even though we tested the predictive value of ethnicity in psychological distress and compared the frequency of life events among Aboriginal and non-Aboriginal youth, our analysis did not find significant interactions between Aboriginal status, stressful life

events and resilience factors. Since Aboriginal youth live in a particularly adverse context (as shown by the high proportion of stressful life events in our sample), it would be interesting to investigate whether the resilience factors having the greatest impact are the same for Aboriginal and non-Aboriginal youth, and whether they would have the same buffering effect on psychological health in both populations. Further studies should thus examine whether the three types of resilience factors explored in the present study have the same effects on the mental health of Aboriginal and non-Aboriginal adolescents. Third, Aboriginal youth' reality can differ considerably from one community to another (Andersson & Ledogar, 2008). Therefore, although the two communities in our study had different characteristics (especially in terms of proximity to major centers), further research in other Aboriginal communities is needed to clarify the extent to which our findings can be generalized to all Aboriginal adolescents.

Despite these limitations, this study had a number of methodological strengths that overcome limitations found in previous research. These strengths include the use of validated screening tools, the recruitment of Aboriginal youth from two different communities, and the assessment of multiple dimensions of resilience with a culturally sensitive measure. Given the lack of existing literature on resilience in Aboriginal youth (especially quantitative studies), the present study constitutes an important contribution to resilience research.

Conclusion

Overall, these results indicate that stressful life events such as sexual abuse and family violence may have deleterious effects on the mental health of Aboriginal and non-Aboriginal adolescents. However, some individual and relational resilience factors that have been associated with significantly lower levels of psychological distress are believed to attenuate the negative effects of these stressors on mental health. These findings may provide hope for communities under greater stress and support the importance of establishing culturally sensitive intervention strategies that strengthen the key protective factors identified in this study. Longitudinal studies are needed to move beyond description and explore the

underlying mechanisms by which protective factors buffer the deleterious effects of stressful life events on psychological health during adolescence.

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