


## Buffering effects of social support for Indigenous males and females living with historical trauma and loss in 2 First Nation communities

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### ABSTRACT

Globally, Indigenous mental health research has increasingly focused on strengths-based theory to understand how positive factors influence wellness. However, few studies have examined how social support buffers the effects of trauma and stress on the mental health of Indigenous people. Using survey data from 207 males and 279 females in 2 Ontario First Nations we examined whether social support diminished the negative effects of perceived racism, historical trauma and loss on depression and/or anxiety. Among females, having more social supports was significantly related to a lower likelihood of depression/anxiety, whereas greater perceived racism and historical losses were associated with a greater likelihood of depression/anxiety. For both males and females, childhood adversity was significantly related to a greater likelihood of depression/anxiety. Among females, a significant interaction was found between social support and childhood adversities. For females with low social support, depression/anxiety was significantly higher among those who had experienced childhood adversities versus those with none; however, for those with high level of social support, the association was not significant. The same relationships were not found for males. Possible reasons are that males and females might experience depression/anxiety differently, or the social support measure might not adequately capture social support for First Nations males.

### ARTICLE HISTORY

Received 27 March 2018  
Revised 22 October 2018  
Accepted 24 October 2018

### KEYWORDS



First Nations; Indigenous; resilience; social support; mental health; wellness; gender; community programming; epidemiology

## Introduction

There is a growing body of Indigenous health literature that uses resilience and strengths-based theory to understand how individual and community attributes promote health [1,2]. However, few studies have evaluated the potential ways in which resources such as social support serve to buffer the negative effects of trauma and stress on mental health among Indigenous people [3–5]. An understanding of these buffering effects, and whether they differ for males and females, can help to identify potential pathways for enhancing, reinforcing and revitalising wellness in Indigenous communities.

Indigenous people in Canada have been severely affected by loss of land, culture and language, unresolved grief, chronic trauma, forced assimilation, marginalisation and racist policies [6–10]. In addition to the effects of historical trauma, Indigenous people experience ongoing stressors, including socio-economic disparities [11], discrimination, racism and oppression [12]. Psychological distress related to the effects of colonisation have contributed to mental health and substance use issues among Indigenous people [12], with these issues, in turn, contributing to further stress and trauma [13].

Despite significant trauma and stress due to the effects of colonisation [14–16], many Indigenous people

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This manuscript is being submitted for consideration in the special issue titled, *Collaborative approaches to wellness and health equity in the Circumpolar North: Proceedings of the 2017 Northern, Rural, and Remote Health conference*.

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are resilient and report excellent or very good health [17–20]. Some evidence suggests that social support might play a role in the resilience of Indigenous people. For example, in a study of Indigenous populations in Canada, Richmond, et al. (2007) found a relationship between social support and thriving health [18]. However, the relationship was stronger for women than for men.

Evidence from research on non-Indigenous populations suggests that social support might buffer the effects of stress and trauma on negative mental health outcomes [21–27]. For example, Shields [26] found that among the general population of adults in Canada, social support had a protective effect on the relationship between stress (eg negative life events, chronic strains and childhood traumas) and psychological distress (eg feeling sad, nervous, etc.) for those experiencing high levels of stress and psychological distress. Such buffering effects of social support were found to be stronger for women than for men [25,26]. Most Indigenous mental health studies within Canada to date have focused on social determinants that have eroded good mental health as well as access to and effectiveness of mental health services and health promotion initiatives [28]. However, relatively few studies have examined possible gender differences in the relationship between social support and mental health outcomes in an Indigenous community context.

To address this gap, we conducted a secondary analysis of survey data collected in 2 First Nation communities in Ontario, Canada. Our objective was to examine whether perceived social support buffered the effects of historical trauma and loss on depression and/or anxiety, and whether there were differences in these associations for males and females. This study was undertaken to help inform community-led wellness initiatives in the participating communities, and to foster local research capacity.

## Methods

The survey questionnaire was part of the Researching Health in Ontario Communities (RHOC) project. The RHOC project involved a community survey and interviews with family members and people with mental health and substance use challenges in 8 communities, including the 2 First Nations involved in the present analyses. The purpose of RHOC was to understand challenges related to mental health, substance use and violence in diverse and underserved communities in Ontario. The

survey included measures of mental health, substance use, stress, aggression and health service use. In consultation with Indigenous stakeholders in the First Nations communities, the survey was adapted to include questions relevant to the cultural and historical context, including measures of trauma and loss due to colonisation and experiences with racism, as well as individual and community resources used to cope with stress and trauma.

In each of the 2 First Nation communities, approximately 400<sup>1</sup> adults (aged 18 and over) were randomly selected from the Band membership registry. Recruitment of randomly selected community members involved mailing a letter to each individual inviting them to participate in the survey. If there was no response to the letter, community research assistants made follow-up telephone calls and a home visit to encourage participation. At the request of Community Advisory Circles in both communities, community members aged 18 and over who were not randomly selected were also able to participate in the survey. Of the approximately 800 people who were randomly selected to receive invitation letters, 355 (154 males and 201 females) participated, which resulted in a response rate of approximately 44%. In addition, 199 people (85 males and 114 females) who were not randomly selected, also participated. In total, 554 participants (239 males and 315 females) completed the survey, representing about 22% of the total population of the 2 communities combined. The present analyses were restricted to 486 participants (207 males and 279 females) who gave complete responses to the questions pertinent to the secondary analysis described in the Measures section.

A mobile research laboratory stationed in the community served as the location for meeting with participants. Prior to completing the survey, participants reviewed information about the study and their rights as research participants before signing a consent form. All aspects of the study were voluntary. Participants were informed that they could skip any questions or quit the survey at any time. The computer-based survey was completed anonymously and took approximately 1-hour. Participants were given a \$25 gift card as remuneration.

## Ethics

This project was reviewed and approved by the Chief and Council and a Community Advisory Circle in both communities, as well as the Centre for Addiction and Mental Health Research Ethics Board. All papers and presentations from this research are developed in

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<sup>1</sup>The number of recruitment letters mailed in 1 community was not recorded by staff. Therefore, the specific number is unknown, but was between 380 and 400.

close consultation with the Community Advisory Circles.

### Measures

#### Age

Participants were asked to report their age.

#### Gender

Participants were asked to indicate whether they were “male” or “female”. Unfortunately, this iteration of the survey did not include a response option for transgender participants. A small number of respondents (n=6) left this question blank and were excluded from the present analyses.

#### Social support

We examined participants’ perceptions of social support with a measure previously used by Shieman [29]. *Think about all your relatives (including your spouse) and friends and the help and support you get from them. Please indicate how much you agree or disagree with the following statements:*

- You have a friend or relative whose opinions you trust
- You have people around you who help you to keep your spirits up
- You have at least one friend or relative you want to be with when you feel down or discouraged
- You have at least one friend or relative to whom you could confide your deepest secrets
- There is no one who really understands you

Participants rated each item with Likert scale response options ranging from strongly disagree to strongly agree. In 1 community, *neutral* was included as a response option. Responses in both communities were scored from 1 (strongly disagree) to 5 (strongly agree) except the scoring for the last item was reversed (i.e. strongly agree=1 to strongly disagree=5). A summary score of these items was computed, with higher scores indicating more social support.

#### Depression and/or anxiety

The Composite International Diagnostic Interview – Short Form was used to determine whether participants were considered to have experienced a major depressive disorder in the previous 12 months (based on having a score of 5 or higher) or met the criteria for general anxiety disorder. From these questions, we computed a dichotomous measure to compare people who

experienced depression, anxiety or both (depression/ anxiety) versus those who did not meet criteria for either disorder.

#### Historical losses

Using a measure of historical trauma developed by Whitbeck, et al. [30], participants were asked, “As a First Nations person, how often do you identify with the following losses?” 12 losses related to colonisation, racism and the effects of residential schools were included (eg loss of language, loss of culture). Participants indicated whether they experienced each loss never, yearly, monthly, weekly or daily. A sum of these items was computed to create a summary score, with higher scores reflecting more frequent losses.

#### Perceived racism

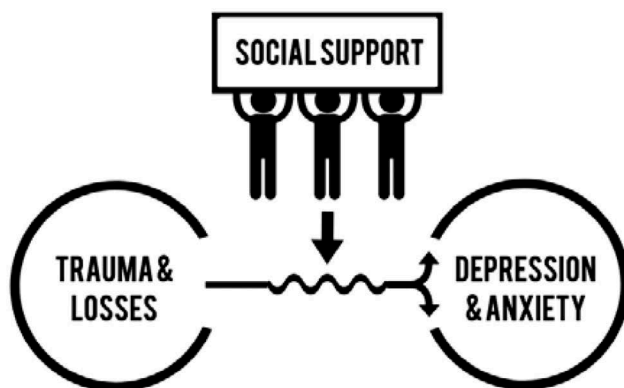
To assess the extent of perceived racism in the communities, we used the Measure of Indigenous Racism Experiences developed by Paradies and Cunningham [31]. We adapted the measure for our target population by replacing the word “Indigenous” with “First Nations”. Participants were asked, “In each of the following situations, how often are you treated unfairly because you are a First Nations person?” Participants indicated how often (never to very often) they were treated unfairly by other people in 10 situations (eg by staff at restaurants, bars or when getting other services). These items were summed, with higher scores reflecting more frequent experiences of racism.

#### Childhood adversities

Based on a measure developed by Turner et al. [32], participants were asked about traumatic or stressful events that occurred during childhood or adolescence. The following modifications were made: we removed 1 question (i.e., Did you have to do a year of school over again) and revised 2 questions (i.e., removed “because you did something wrong” from “Were you sent away from home because you did something wrong”; replaced “Were you regularly physically abused by one of your parents?” with “Were you ever physically abused by someone close to you?”) and added “Were you ever physically abused by someone not close to you?” In total, 8 events were listed. The number of “yes” responses were summed to create a summary score for number of childhood adversities.

#### Analyses

Our analyses were guided by a model (see Figure 1) illustrating how positive influences in peoples’ lives might diminish the negative effects of trauma and



**Figure 1.** A model showing the effect of social support on the relationship between trauma and loss on depression/anxiety.

loss on mental health and substance use challenges. In the present analyses, we examined whether social support reduced the effects of historical losses, perceived racism and childhood adversities on depression/anxiety.

Analyses comparing the randomly selected sample with the sample of those who were not randomly selected indicated no significant differences on any measures used in the present analyses. Therefore, results are reported for the pooled sample.

We compared mean scores on the 3 measures of trauma and loss on social support for people who experienced depression/anxiety versus those who did not, and examined whether there were differences for males and females. We also examined odds ratios from logistic regression of depression/anxiety on each of the measures, controlling for age and sex. For each trauma and loss measure, an interaction term was added (for example, childhood adversity  $\times$  social support) to examine whether social support interacted with each trauma/loss measure in explaining depression/anxiety. All analyses were also completed separately by sex.

Power analyses were conducted to determine whether the sample size was sufficient to detect effects. In a logistic regression model with depression/anxiety as the outcome, social support as the explanatory variable, and a moderate association between covariates ( $p < 0.05$ ), a sample of 486 is sufficient to detect a protective effect ( $p < 0.05$ ) with an odds ratio of 0.748 representing an approximately 5% reduction in the rate of depression, and statistical power of .80. Similarly, a sample of 207 males and 279 females is sufficient to detect an odds ratio of 0.638 (approx. 7% reduction) and 0.676 (approx. 7% reduction), respectively, with statistical power of 0.80 [33]. Thus power was sufficient to detect moderate to large effect sizes.

## Results

With respect to perceived social support, participants indicated strong social support, with average scores on the 5-point scale ranging from 3.67 (indicating strong disagreement) for “there is no one who really understands you” to 4.17 (indicating strong agreement) for “you have a friend or relative whose opinions you trust”. Females scored significantly higher on social support than males ( $p = 0.018$ ). Two items were significantly higher for females than males: “you have at least one friend or relative to whom you could confide your deepest secrets” (males 3.77, females 4.06;  $p = 0.008$ ), and “you have at least one friend or relative you want to be with when you feel down or discouraged” (males 4.03, females 4.22;  $p = 0.025$ ).

About 26.8% of participants (30.8% females, 22.0% males) met criteria for having experienced either depression or anxiety or both in the past year. The difference between males and females was not significant ( $p = 0.053$ ). The 3 most frequently experienced losses related to being a First Nations person were: “loss from the effects of alcohol or drugs on our people”; “loss of our language” and “loss of our culture”. Males’ and females’ scores on the overall scale were not significantly different.

The 3 most frequently experienced situations of unfair treatment were: “by the police, security personnel, lawyers, or in a court of law”; “by staff at restaurants, bars, etc. or when getting any other services” and “by other people on the street or at shopping centres”. Males experienced unfair treatment by police and other law personnel significantly more often than did females ( $p < 0.001$ ). The overall scale ratings were not significantly different for males compared to females.

On average, participants experienced 2–3 traumatic or stressful events during childhood or adolescence; females reported significantly more events (2.9) compared to males (2.3) ( $p = 0.001$ ). The 3 most frequently reported traumatic childhood events were: “either of your parents drank or used drugs so often that it caused problems for the family” (43.0% males, 55.0% females) with the percent of females being significantly higher than the percent of males ( $p = 0.004$ ); “something happened that scared you so much you thought about it for years after” (32.6% males, 53.9% females) with females being significantly higher ( $p < 0.001$ ); and “your parents got a divorce” (35.5% males, 35.0% females).

We regressed depression/anxiety onto each of the three trauma and loss measures (historical losses, perceived racism and childhood adversities). As shown in Table 1, each of the 3 trauma/loss measures, controlling for age and sex, were significantly associated with a greater likelihood of depression/

**Table 1.** Odds ratios (and 95% confidence intervals) for the relationship between depression/anxiety and historic losses, unfair treatment, childhood adversities and social support (controlling for age and sex) and separately for males and females (controlling for age).

	Total sample		Males		Females	
	OR	(CI)	OR	(CI)	OR	(CI)
Historic losses	1.030***	(1.013,1.045)	1.018	(.993,1.044)	1.034**	(1.013,1.055)
Unfair treatment	1.043**	(1.021,1.075)	1.025	(.986,1.066)	1.059**	(1.024,1.095)
Childhood adversities	1.451***	(1.284,1.636)	1.571***	(1.292,1.910)	1.382***	(1.195,1.599)
Social support	0.886***	(0.843,0.935)	0.939	(0.863,1.022)	0.861***	(0.807,0.918)

\* Statistically significant at  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

anxiety. Social support was associated with a lower likelihood of depression/anxiety. When examined separately by gender, these associations held for females, but only childhood adversity was significantly related to depression for males.

Analyses examining interaction effects were only conducted for females because social support was not significantly related to depression/anxiety for males. In the sample of females, we tested the following 3 interaction terms with depression/anxiety modelled as the outcome variable: historical losses  $\times$  social support, perceived racism  $\times$  social support and childhood adversities  $\times$  social support. The odds ratio for the interaction between childhood adversities and social support was less than 1 (odds ratio=0.969) and significant ( $p < 0.05$ ).

To examine this interaction effect further, we compared those who reported low social support versus those who reported high social support in terms of whether childhood adversity affected levels of depression. As shown in Table 2, among females who perceived a lower level of social support, experiencing a childhood adversity was significantly related to a higher likelihood of depression/anxiety (41%) compared to those with no childhood adversity (10.5%). However for females with a high level of social support, the association between childhood adversity and depression was not statistically significant. Overall, these findings suggest a buffering effect of social support on the impact of childhood adversities on depression/anxiety.

**Table 2.** Number (and percent) of female participants who met criteria for depression/anxiety by whether or not they experienced any childhood adversity and whether they experienced higher than average or at or below average social support.

	Low social support		High social support		Whole sample
	N	(%)	N	(%)	
No childhood adversity	2	(10.5%)	2	(8.0%)	4 (9.1%)
One or more childhood adversities	56	(41.3%) <sup>a</sup>	26	(26.5%) <sup>b</sup>	82 (34.9%)
Total with depression/anxiety	58	(37.6%)	28	(22.8%)	86 (30.8%)

<sup>a</sup> $p=0.011$ ; <sup>b</sup> $p=0.061$  (Chi-square test comparing depression/anxiety for those with any childhood adversity compared to those with none).

## Discussion

Similar to previous research among Indigenous populations [18], our findings suggest a high level of social support in 2 First Nations that participated in the study, particularly for females. Higher social support was significantly related to a lower likelihood of depression/anxiety for females, but not for males, similar to findings in other Indigenous and non-Indigenous populations [18,27].

Our results suggest social support may have a buffering effect on the relationship between childhood adversities and depression/anxiety for females only. Previous research found similar sex-specific effects in non-Indigenous populations [25,26]. Our power calculations indicated that moderate to large effect sizes could be detected with the current sample sizes. Thus, it is possible that the sample size for males was not sufficient to detect significant associations. However, we were able to detect some significant effects for men such as the effect of childhood adversities on depression/anxiety, and odds ratios for non-significant effects were very close to 1. Thus, given the consistency of our results with previous research, it is possible that non-significant findings for men represent real outcomes and are not the result of low power.

A possible explanation for the lack of association between social support and depression/anxiety among males is that men and women rely on different kinds of social supports [27]. Moreover, the measure of social support used in the present research may not capture optimal sources of social support for First Nations men or their lived experiences, such as traditional conceptualisations of men's roles that are deeply rooted in a community's social, economic or political system [28], spiritual practices and relationships to the land, and how these interact with masculinity in the colonial context. In the future, epidemiological research on Indigenous mental health could benefit from more nuanced measures that can capture the types and quality of gendered and Indigenous-specific social support, and not just the presence or absence of supports.

It is also possible that men and women experience depression and anxiety for different reasons, which is supported by our findings that while males and females had similar rates of historical losses and perceived racism, these measures were associated with depression/anxiety only for females. Research with Inuit communities in northern Canada found that the most significant social changes due to colonialism for men were the loss of their role as hunters, the introduction of alcohol and the normalising of violence against women [34,35]. In contrast, for women the most pressing social problem was domestic violence [34,35]. In many Indigenous communities in Canada, colonialism disrupted and transformed men's roles. In a contemporary context for First Nation men, new roles may not be well-articulated or valued. Women on the other hand, may still hold an overt role of carrying, bearing and raising the next generation of family and community. As such, the supports women draw on in the community may dampen the negative impacts of loss or trauma.

Another possible explanation for the present findings is that the measures of trauma, loss and depression in this study may not reflect Indigenous men's lived experiences. A study in a rural Australian community found that many of the Indigenous men in the community did not want to be perceived as needing mental health support, instead projecting a type of "tough" masculinity that was perceived to be necessary in the face of poverty, unemployment and racism [36]. In future research, it will be important to derive concepts of trauma, loss and depression that are meaningful for men.

The findings and implications from this study are important to consider when designing and implementing initiatives that build on local community strengths and resilience. For example, women may benefit from social support groups where they are able to share feelings, talk about their experiences and support one another. However, men may benefit more from social groups that focus on creating or working collaboratively on tangible projects that are based on mentoring, such as a drum circle or woodworking. Such contexts may provide men with the opportunity to guide by example, in supportive, kinship-type environments. Men's groups that address the disruption of gender roles, natural kinship networks and support systems in a community can help build a sense of self-determination and self-esteem [37].

### Limitations

While there are similar and shared histories of colonisation for Indigenous peoples across Canada, USA, Australia and New Zealand, we acknowledge that the ways in which Indigenous people experience racism, access care and practice culture and language vary

greatly. The findings from the present study are based on data from 2 participating First Nation communities in Ontario and might not be generalisable to other communities or populations. The study is also limited in that gender diversity was not captured, and transgender participants in particular were not given the opportunity to self-identify as such.

Nelson and Wilson [28] caution researchers to look beyond the inclusion of "cultural activities" and examine the role of locally relevant social and economic systems, as well as jurisdictional considerations, that might impact the mental well-being of Indigenous people across genders. A focus on the mitigating effects of social support for the individual, while important, must not be used to pathologise or minimise the effects of colonisation. Nor should it detract from the importance of structural factors that affect mental well-being among First Nations, such as poverty, inadequate housing, food insecurity and other inequities, as well as a lack of culturally appropriate mental health services.

### Conclusion

We found that a higher level of perceived social support was related to less depression/anxiety and might buffer the impact of childhood stresses on depression and/or anxiety among females in these 2 Ontario First Nations. The same relationships were not found for males. Possible reasons are that males and females might experience depression/anxiety differently or the measures of social support, loss, trauma and depression might not reflect Indigenous men's lived experiences. Further research is needed that is inclusive of all gender identities and examines whether social support buffers against the negative impacts of trauma and loss for other Indigenous communities.

### Acknowledgments

We are very grateful to the Community Advisory Circles in both communities for their valuable advice and direction throughout the project. We also wish to thank all of the study participants for their important contributions to this research.

### Disclosure statement

No potential conflict of interest was reported by the authors.

### Funding

Funding for this research was provided by Canadian Institutes of Health Research (CIHR) Project [PJT – 153256]. Data for this secondary analysis were collected as part of a CIHR Team

[CBG – 101926]. Dr. Mushquash's involvement was partially supported by the Canada Research Chairs Program.

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