

# Cultural Diversity and Ethnic Minority Psychology

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Online First Publication, July 8, 2013. doi: 10.1037/a0033352

### CITATION

Bombay, A., Matheson, K., & Anisman, H. (2013, July 8). Appraisals of Discriminatory Events Among Adult Offspring of Indian Residential School Survivors: The Influences of Identity Centrality and Past Perceptions of Discrimination. *Cultural Diversity and Ethnic Minority Psychology*. Advance online publication. doi: 10.1037/a0033352

# Appraisals of Discriminatory Events Among Adult Offspring of Indian Residential School Survivors: The Influences of Identity Centrality and Past Perceptions of Discrimination

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As part of a government policy of assimilation beginning in the mid-1800s, a large proportion of Aboriginal children in Canada were forcibly removed from their homes to attend Indian Residential Schools (IRSs), a practice which continued into the 1990s. This traumatic experience had lasting negative effects not only on those who attended but also on their offspring, who were previously found to report higher levels of perceived discrimination and depressive symptoms compared with Aboriginal adults whose families were not directly affected by IRSs. In attempt to elucidate the processes involved in these previous findings, the current study ( $N = 399$ ) revealed that greater levels of past perceptions of discrimination among IRS offspring, together with their greater likelihood of considering their Aboriginal heritage to be a central component of their self-concept (i.e., high identity centrality), were associated with an increased likelihood of appraising subsequent negative intergroup scenarios to be a result of discrimination and as threatening to their well-being. In turn, these altered appraisals of threat in response to the scenarios were associated with higher levels of depressive symptoms relative to non-IRS adults. The apparent reinforcing relationships between past discrimination, identity centrality, and appraisals of discrimination and threat in intergroup interactions highlight the need for interventions targeting this cycle that appears to contribute to heightened psychological distress among offspring of those who were directly victimized by collective race-based traumas.

*Keywords:* appraisals, perceived discrimination, identity centrality, intergenerational, Aboriginal

Stressful events, owing to the neurochemical and/or cognitive changes engendered, have repeatedly been found to favor the development of depressive symptoms, as well as other negative mental and physical health outcomes (Anisman, Merali, & Hayley, 2008; Disner, Beevers, Haigh, & Beck, 2011). Among other pathways by which various forms of discrimination contribute to health disparities (e.g., effects on help-seeking or health care usage), discriminatory experiences engender negative health outcomes among minority group members by making their lives more stressful (Berjot & Gillet, 2011; C. J. P. Harrell et al., 2011; Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003). Indeed, perceptions of discriminatory treatment have been consistently associated with negative health outcomes across a number of minority groups,

including with elevated depressive symptoms (Berjot & Gillet, 2011; C. J. P. Harrell et al., 2011). However, marked differences exist between individual members of minority groups with respect to how often they perceive discrimination and how they are affected by these experiences (Pascoe & Smart Richman, 2009). As observed among African Americans (Branscombe, Schmitt, & Harvey, 1999) and Latino Americans (Eccleston & Major, 2006), even if members of the same minority group are exposed to identical interactions with an out-group member, these individuals may not perceive the encounter in the same way.

The effects of such intergroup encounters on the well-being of individual minority group members ultimately depend upon whether they elicit cognitive appraisals of the incident as being due to discrimination on the part of the out-group member they are interacting with (Barrett & Swim, 1998; Clark, Anderson, Clark, & Williams, 1999; S. P. Harrell, 2000). Still, even when an encounter is appraised as reflecting discriminatory attitudes, some individuals might perceive this experience as threatening and/or significant to one's well-being, whereas others might not be particularly bothered by the incident (Barrett & Swim, 1998; Berjot, Girault-Lidvan, & Gillet, 2012; S. P. Harrell, 2000; Miller & Major, 2000). It is when a discriminatory encounter is appraised as constituting discrimination *and* as a threat to the individual's own identity and/or well-being that negative emotional reactions ensue, followed by behavioral and biological efforts to cope with the situation (Clark et al., 1999; S. P. Harrell, 2000). Therefore, minority group members who have a greater tendency to appraise inter-

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The research was supported by the Canadian Institutes of Health Research. Amy Bombay was supported by the Canadian Institutes of Health Research. Hymie Anisman holds a Canada Research Chair in Neuroscience.

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group encounters as reflecting discrimination, and who appraise discriminatory events as threatening, would be expected to be most negatively affected by these experiences.

In view of the pervasive discrimination that continues to exist toward Aboriginal populations (Bombay, Matheson, & Anisman, 2010; Whitbeck, McMorris, Hoyt, Stubben, & LaFromboise, 2002), the disproportionately high rates of health and social problems among these groups should not be unexpected (Adelson, 2005; Sarche & Spicer, 2008). Particularly with respect to indigenous groups, it has been suggested that the effects of stressors ought to be considered in the context of the historical and collective assaults endured by these groups rather than being viewed as isolated events (Evans-Campbell, 2008). Indeed, the adverse effects of contemporary forms of discrimination might be exacerbated by the historical discriminatory treatment against Aboriginal peoples, just as intergenerational effects of race-based collective traumas have been observed in other historically victimized groups (Yehuda, Halligan, & Grossman, 2001).

Among the many adverse experiences faced by Aboriginal peoples in Canada, as elsewhere, one relatively recent set of events is particularly poignant. Specifically, from the mid-1800s until the 1990s, a relatively large proportion of Aboriginal children were forcibly removed from their families and forced to live at Indian Residential Schools (IRSs) as part of a government policy of assimilation. In addition to the pervasive negative effects that have been documented among those who attended IRSs (e.g., Bombay, Matheson, Yurkewich, Thake, & Anisman, 2012; Corrado & Cohen, 2003), negative effects have also been documented in the subsequent generation. Compared with Aboriginal adults whose families were not directly affected by the IRS system, adult children of those who attended these schools (IRS offspring) were more likely to experience symptoms of depression and suicidal behaviors (Bombay et al., 2011; Elias et al., 2012).

Several factors have been implicated in the intergenerational transmission of IRS trauma. For example, greater exposure to

various forms of childhood adversity among IRS offspring contributed to mediating the positive relationship between parental IRS attendance and depressive symptoms (Bombay et al., 2011), which was consistent with previous reports that IRS attendance negatively influenced the parental care that some IRS survivors were able to provide to their own children (First Nations Centre, 2005). Although greater exposure to childhood trauma could be easily explained, IRS offspring also reported higher levels of perceived discrimination relative to non-IRS Aboriginal adults, which also contributed to their increased depressive symptoms (Bombay et al., 2011). To account for these latter findings, as depicted in Figure 1, it was considered in the present study that IRS offspring may be more likely to appraise intergroup encounters as reflecting discrimination and as a potential threat to them, particularly in situations that are more open to interpretation (i.e., ambiguous in intent). It was expected that these relationships would be mediated by differences in certain aspects of Aboriginal identity among IRS offspring, as ethnic minority individuals who consider their heritage to be a central component of their self-concept (i.e., high centrality) appear to be more likely to appraise negative intergroup encounters as being due to discrimination (e.g., Burrow & Ong, 2010), and to be more affected by discriminatory experiences (e.g., Bombay et al., 2010), possibly by eliciting greater appraisals of threat. Furthermore, the relatively greater perceived exposure to past experiences of discrimination among IRS offspring might also reinforce their tendency to make appraisals of discrimination in response to intergroup encounters, and might also make them more likely to appraise discriminatory encounters as threatening to their well-being (Brondolo et al., 2005; Mendoza-Denton, Downey, Purdie, Davis, & Pietrzak, 2002). Considering the consistent relationship between perceived discrimination and depressive symptoms in Aboriginal (Bombay et al., 2010; Whitbeck et al., 2002) and non-Aboriginal (Donovan et al., 2012; Pascoe & Smart Richman, 2009) populations, when experienced on an ongoing basis, such appraisals of threat in

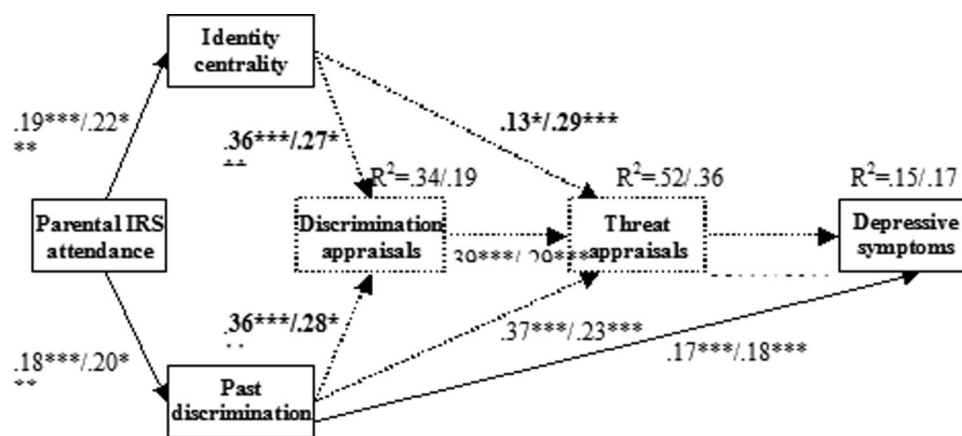


Figure 1. Model depicting the relationships between study variables. Standardized path coefficients and squared multiple correlations for the ambiguous condition are presented before those for the blatant condition, and the bolded coefficients indicate that the strength of the relationship differed significantly between conditions. Dashed rectangles represent the scenario-specific variables and dashed lines represent pathways that were allowed to vary between conditions when testing the unconstrained model. Residual variances between identity centrality and past discrimination appraisals were allowed to correlate as these variables were expected to covary. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

response to intergroup encounters might be expected to contribute to higher depressive symptoms among IRS offspring compared with non-IRS adults.

### Appraisals of Potentially Discriminatory Events

Individual variations of cognitive appraisals in response to potentially discriminatory events have been shown to contribute to within-group differences among minority groups with regard to the potential negative affective and health effects of these experiences (Branscombe et al., 1999; Eccleston & Major, 2006; S. P. Harrell, 2000). Appraisals of stressful events are typically considered in terms of both initial and subsequent evaluations of a potential threat. Primary appraisals comprise cognitive evaluations of an event's potential threat or significance to well-being, which can include threats to one's personal or group identity (Lazarus & Folkman, 1984). In the case of discrimination, as in other potentially stressful situations, the primary appraisal process may involve two components (Mellor, 2004). The first consists of an assessment as to whether the intergroup encounter actually reflects discrimination on the part of the out-group member involved in the interaction (i.e., discrimination appraisal), particularly as such events can often be ambiguous or subtle. If the event is perceived to constitute discrimination, then this is followed by a further appraisal concerning whether the discriminatory event represents a threat to the self (i.e., threat appraisal; Barrett & Swim, 1998; Berjot & Gillet, 2011). Discriminatory encounters are more likely to be regarded as a threat to one's social identity and/or well-being if they are considered to be pervasive against one's group, and hence unavoidable across time or situations, and if the individual has few resources to contend with it (Branscombe et al., 1999; Berjot & Gillet, 2011).

### Past Experiences of Discrimination

Differences in appraisals of intergroup interactions can also be influenced by an individual's past personal experiences with discrimination. According to the rejection sensitivity model (Mendoza-Denton et al., 2002), past experiences of discrimination can elicit anxious expectations of encountering subsequent discriminatory experiences in everyday life. This state of anticipatory threat, in turn, is thought to lower the threshold for perceiving cues from out-group members, suggesting that discrimination has occurred (Mendoza-Denton et al., 2002). This implies a circular relationship whereby exposure to past discriminatory events increases the likelihood of making discrimination appraisals in subsequent intergroup encounters, which then contributes to continued high levels of perceived discrimination. Moreover, it has been suggested that parental sensitivity to discrimination cues might influence their offspring's perceptions of intergroup encounters (Benner & Kim, 2009), which might be particularly likely when the parent has experienced such a traumatic and culturally destructive form of discrimination as represented by the IRS system.

The anticipatory threat caused by past experiences of discrimination may also result in more intense affective, cognitive, and behavioral threat reactions when interactions are perceived as reflecting discrimination (Mendoza-Denton et al., 2002). Thus, even when there is little ambiguity regarding the presence of discrimination from an out-group member, there may be variations

regarding the perceived threat associated with the discriminatory encounter. For example, although appraisals of discrimination typically result in distress among members of disadvantaged groups, appraisals of discrimination among privileged group members tend to be less harmful (e.g., Caucasians, males; Lewis et al., 2009; Lepore & Revenson, 2006; Richman, Bennett, Pek, Siegler, & Williams, 2007; Schmitt & Branscombe, 2002). Among privileged group members, discriminatory events do not elicit the same feelings of threat, likely because it is perceived as an isolated experience as opposed to pervasive discrimination against one's identity, and they may also have greater options for avoiding or circumventing the consequences (Schmitt & Branscombe, 2002). In this regard, stronger associations were observed between perceived discrimination and mental health outcomes among indigenous adults relative to individuals of European ancestry in New Zealand (Harris et al., 2012).

### Ethnic Identity Centrality

Discrimination is psychologically harmful in part because it threatens one of the core aspects of the self—an individual's collective identity (Schmitt & Branscombe, 2002; Branscombe, Ellemers, Spears, & Doosje, 1999), which can be based on group membership according to gender, religion, ethnicity, and any number of different social categories (Tajfel & Turner, 1986). It is thus important to consider ethnic identity when examining the effects of perceived ethnic discrimination, and indeed, relationships have been observed between aspects of ethnic identity and levels of perceived discrimination within Aboriginal (Bombay et al., 2010) and other ethnic minority groups (Sellers & Shelton, 2003). Although Aboriginal identity has not previously been explored empirically in IRS offspring, qualitative evidence suggests that IRS survivors and their offspring often grapple with various aspects of Aboriginal identity (Ing, 2000). Likewise, research with children of Holocaust survivors suggested that their levels of certain facets of Jewish identity may be influenced by their parent's experiences (E. F. Major, 1996; Russell, Plotkin & Heapy, 1985; Sorscher & Cohen, 1997; Weinfeld & Sigal, 1986).

However, ethnic identity is not a monolithic construct, as various frameworks emanating from different disciplines (e.g., developmental psychology, social psychology, sociology) have identified a number of different dimensions of identity that are empirically as well as conceptually distinct (Ashmore, Deaux, & McLaughlin-Volpe, 2004; Markstrom, Whitesell, & Galliher, 2011). In contrast to more behavioral (i.e., enculturation), affective (i.e., collective esteem/pride, in-group affect), and relational (i.e., perceived group belongingness, in-group ties) components of identity, an individual's ethnic "centrality" refers to the degree to which they consider their ethnic background to be a defining feature of the self (Berry, 1999; Cameron, 2004). Although these different dimensions of identity are often positively correlated with each other, they have been shown to have differing relationships with the same outcome variables. For example, in a sample of Aboriginal peoples in Canada, identity centrality and in-group affect (i.e., feelings of pride associated with group membership) had opposing positive and negative relationships with perceived discrimination, respectively (Bombay et al., 2010), which has also been reported among other minority populations (Ramos, Cassidy, Reicher, & Haslam, 2012). In effect, the widespread practice of not



distinguishing between these dimensions of identity has been suggested to be a main factor in contributing to the many divergent findings reported in studies exploring the relationships between identity, perceived discrimination, and well-being, and highlight the importance of clearly describing which aspect of identity is being considered (Ashmore et al., 2004; Markstrom et al., 2011; Ramos et al., 2012).

Although the currently available evidence is somewhat limited, the increasing number of studies that have considered specific aspects of identity separately suggest that, although the other aspects of identity do not seem to have consistent relationships with perceptions of discrimination, identity centrality appears to have a relatively consistent positive relationship with perceived discrimination (Bilali, 2012; Leach et al., 2008; Sellers & Shelton, 2003; Sellers et al., 2003; Shelton & Sellers, 2000; Spencer-Rodgers & Collins, 2006), including within a sample of Aboriginal peoples in Canada (Bombay et al., 2010). Therefore, although the more affective and relational aspects of identity often act as protective factors for certain measures of well-being, such as depressive symptoms (Bombay et al., 2010; Brondolo, ver Halen, Pencille, Beatty, & Contrada, 2009; Ramos et al., 2012; Spencer-Rodgers & Collins, 2006), these benefits can sometimes be mitigated by the fact that minority group members with high levels of identity centrality appear to be more likely to report experiencing high levels of discrimination (Bombay et al., 2010; Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003; Spencer-Rodgers, & Collins, 2006).

Altered appraisals appear to play a role in the relationship between identity centrality and greater reports of past exposure to discrimination, as individuals who considered their collective identity to be central to their self-concept were more likely to appraise negative intergroup interactions as being due to discrimination, particularly in response to ambiguous situations or scenarios (Burrow & Ong, 2010; Eccleston & Major, 2006; B. Major, Quinton, & Schmader, 2003; Outten, Giguère, Schmitt, & Lalonde, 2010; Shelton & Sellers, 2000). The inclination of group members high in identity centrality to appraise an event as comprising discrimination might stem from being more attuned to intergroup inequalities and a greater ability or likelihood to pick up on negative race-related cues (Operario & Fiske, 2001; Sellers & Shelton, 2003). According to self-categorization theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), identification with a given social group is associated with greater cognitive accessibility to categorizations based on group membership. The chronic accessibility of a specific collective identity seems to increase the likelihood that an individual will explain ambiguous events as being due to their membership within that social group, as opposed to attributing the event to another cause (i.e., another collective identity, personal characteristics; Bargh, Bond, Lombardi, & Tota, 1986; Shelton & Sellers, 2000). In this regard, individuals highly identified with their ethnic group were more prone to appraise ambiguous negative interpersonal interactions in terms of their ethnic group membership (McCoy & Major, 2003; Shelton & Sellers, 2000).

In addition to its direct relationship with levels of perceived discrimination, identity centrality has also been shown to moderate the relationship between perceived discrimination and depressive symptoms (Bombay et al., 2010; Burrow & Ong, 2010). In a sample of Aboriginal adults from across Canada, high levels of

identity centrality were associated with a stronger relationship between perceived discrimination and depressive symptoms (Bombay et al., 2010), which has also been observed in other minority groups (Burrow & Ong, 2010; Noh, Beiser, Kaspar, Hou, & Rummens, 1999). It was suggested that the devaluation of one's group might be expected to have a greater impact on those who consider their group identity to be a major part of who they are (i.e., greater identity centrality; Noh et al., 1999), possibly because such discrimination experiences might elicit greater appraisals of threat among high-centrality group members. Thus, if levels of identity centrality are relatively high in IRS offspring, then this might also contribute *directly* to augmented threat appraisals in response to such encounters. Considering the consistent relationship between perceived discrimination and depressive symptoms in Aboriginal and other minority populations (Bombay et al., 2010; Pascoe & Smart Richman, 2009), a greater tendency of making appraisals of discrimination (thereby increasing exposure to discrimination) and of appraising such discriminatory encounters as threatening (thereby increasing the negative impact of discrimination) might contribute to relatively high levels of depressive symptoms in IRS offspring.

## The Present Study

The present study sought to assess whether the relatively higher levels of perceived discrimination previously reported by IRS offspring, relative to Aboriginal adults without a familial history of IRS attendance (Bombay et al., 2011), emanated from differences in how they appraised interpersonal intergroup scenarios. As illustrated in Figure 1, it was hypothesized that parental IRS attendance would be positively associated with appraisals of discrimination in response to intergroup scenarios, which was expected to be mediated by greater perceptions of past discriminatory experiences, and by higher levels of Aboriginal centrality. However, the impact of identity centrality and of past discriminatory experiences were anticipated to be more influential when discrimination appraisals were made in response to ambiguous compared with blatant discrimination scenarios, owing to the greater room for interpretation (i.e., ambiguous vs. blatant condition would moderate these relationships). In turn, the greater likelihood of making discrimination appraisals among IRS offspring was expected to be associated with greater threat appraisals in response to the intergroup scenarios. In addition to the hypothesized indirect effects through discrimination appraisals, it was also expected that the high levels of identity centrality and past discrimination among IRS offspring would be directly associated with increased threat appraisals, which would sequentially be linked with augmented depressive symptoms. As perceived discrimination may affect mental health through still further processes (e.g., health care access, internalization of discrimination), it was also expected that a direct relationship would still exist between past discrimination and depressive symptoms when accounting for its indirect effects through discrimination appraisals and threat appraisals.

## Method

### Participants and Procedures

After obtaining approval from the Carleton University Psychology Research Ethics Board, Aboriginal adults were recruited

through advertisements in community and health centers and postings on various Aboriginal listservs. The sample consisted of 88 males (22.1%) and 311 females (77.9%), ranging in age from 18 to 69 years ( $M = 36.52$ ;  $SD = 12.53$ ), all of whom provided informed consent prior to participation. Most lived off-reserve ( $n = 363$ ; 91.0%), and the large majority self-identified as First Nations ( $n = 331$ ; 83.0%), with a smaller number of Métis ( $n = 63$ ; 15.8%) and Inuit participants ( $n = 5$ ; 1.3%). Of particular interest to the current study, 176 (44.1%) indicated that at least one of their parents attended IRS, compared with 223 (55.9%) who did not have a parent who attended. To assess potential differences between reactions to different types of discriminatory events, IRS offspring and non-IRS adults were randomly assigned to read a series of scenarios depicting either potentially discriminatory events of a *subtle and/or ambiguous* nature ( $n = 196$ ) or a series of scenarios depicting *blatant* discrimination events ( $n = 203$ ).

## Measures

**Aboriginal identity centrality.** Identity centrality was assessed using the Centrality subscale of Cameron's (2004) measure of social identification. The subscale comprises four items rated on a 5-point scale (e.g., "In general, being Aboriginal is an important part of my self-image"), with higher mean scores indicating greater levels of centrality ( $\alpha = .80$ ). The factor structure of the Centrality subscale, and of the other subscales that comprise the full measure (i.e., Ingroup-Ties and Ingroup-Affect), have been reliably assessed in various social groups (Cameron, Duck, Terry, & Lalonde, 2005), including among other ethnic groups and within another sample of Aboriginal peoples in Canada (Bombay et al., 2010).

**Depressive symptoms.** The Beck Depression Inventory–Short Form (BDI-SF; Beck & Beck, 1972), which measures the severity of both cognitive and somatic aspects of depression, was used to assess depressive symptoms. This shorter 13-item version is often used for screening purposes; demonstrates good concurrent validity with other measures of depression (Aalto, Elovainio, Kivimäki, Uutela, & Pirkola, 2012) and correlates highly with the longer versions of this inventory; and has been used reliably in various minority populations, including within a sample of Aboriginal adults (Beck & Beck, 1972; Bombay et al., 2010; Sashidharan, Pawlow, & Pettibone, 2012). Items are scored on a 4-point scale, with higher summative scores indicating greater symptom endorsement ( $\alpha = .91$ ).

**Scenario-specific variables: discrimination appraisals and threat appraisals.** Based on the scale constructed by Branscombe et al. (1999) to measure appraisals of discriminatory events, nine scenarios were developed for the current investigation to reflect specific types of ambiguous discriminatory experiences (i.e., microaggressions) identified in previous research that would be relevant for Aboriginal peoples (Sue et al., 2007). For each ambiguous scenario, a matched scenario depicting blatant discrimination in a similar context was written. Several members of the Aboriginal community (in Ottawa) reviewed these scenarios, and after incorporating a few minor revisions suggested by these individuals, each was deemed to be relevant to the experiences of Aboriginal peoples. An example ambiguous scenario is presented below, followed by the corresponding blatant scenario:

"You are working in an organization with a significant proportion of Aboriginal employees, and a practice has developed to conduct a short traditional smudging ceremony at the beginning of weekly meetings. New management takes over the company, and after a period of time, employees are informed that this practice wastes valuable time at meetings, and will no longer be accepted in the workplace."

"You are working in an organization with a significant proportion of Aboriginal employees, and a practice has developed to conduct a short traditional smudging ceremony at the beginning of weekly meetings. New management takes over the company, and after a period of time, employees are informed that this primitive practice is wasting valuable time, and that they should just celebrate Christmas and Easter like the rest of the employees."

For each scenario, participants were asked to picture themselves in the described situation, and to imagine what they would think and how they would feel as the basis for answering the subsequent questions assessing discrimination appraisals and threat appraisals. Discrimination appraisals were measured by asking, "Was this person's comments/behavior/actions based on prejudice or discrimination?" ( $\alpha = .90$ ). Response categories ranged from 1 (*not at all*) to 7 (*definitely due to discrimination*). Threat appraisals were measured by asking, "Was this event something that could have serious emotional consequences for you personally (i.e., cause feelings of distress, sadness, anxiety, or anger)?" ( $\alpha = .95$ ). Response categories ranged from 1 (*not at all*) to 7 (*serious emotional consequences*). The discrimination appraisal and threat appraisal scores were both obtained by taking the average of responses to the nine scenarios.

**Past discrimination.** A modified version of the Perceived Ethnic Discrimination Questionnaire (PEDQ; Contrada et al., 2001) was used to measure past experiences of perceived discrimination that occurred in the last 12 months as a result of their Aboriginal heritage. This measure assessed the frequency of perceived instances of verbal rejection (i.e., ethnic slurs, insults), avoidance (i.e., shunning), inequality-exclusion (i.e., denial of equal treatment or access), devaluation (i.e., actions expressing negative evaluations), and threat-aggression (i.e., actual or threatened harm). This modified measure has been used reliably in other samples of Aboriginal peoples in Canada, which took into account feedback provided previously by Aboriginal peoples regarding the validity of the items (Bombay et al., 2010). Specifically, one item was added to reflect a common type of devaluation experienced by First Nations ("How often has it been implied or suggested that because you are Aboriginal you must drink or use drugs?"). Further, eight items from the original PEDQ (containing 22 items) that were seen as redundant with other items were either removed or combined with other similar items. The remaining 15 items were rated on a scale ranging from 1 (*never happened*) to 7 (*happened very often*), and mean scores were calculated ( $\alpha = .96$ ). Because it was presented last, 15% ( $n = 61$ ) of the sample did not fill out the PEDQ. Missing values on the PEDQ were imputed with the "hot deck" method using the computational tool provided by Myers (2011) for use with SPSS. This method has been deemed as a more preferable and appropriate statistical method to listwise deletion (Goodin, Smith, Quinn, King, & McGuire, 2012; Myers, 2011), and the inclusion of participants with the imputed PEDQ values did not alter the mean or standard deviation of this measure and or any of the study results.

## Results

Table 1 presents the correlations between study variables when considering the whole sample (i.e., participants in both the ambiguous and blatant scenario conditions;  $N = 399$ ), as well as the means and standard deviations for each variable within the full sample. As expected, assessing differences between the ambiguous and blatant conditions in relation to the scenario-specific variables revealed that the mean values of discrimination appraisals,  $t(397) = -11.86, p < .001$  ( $M = 3.85, SD = 1.22$  vs.  $M = 6.21, SD = .82$ ), and threat appraisals,  $t(397) = -6.75, p < .001$  ( $M = 2.52, SD = 1.56$  vs.  $M = 4.60, SD = 1.65$ ), were significantly higher in the blatant compared with the ambiguous condition.

Also in line with expectations, all of the study variables were positively correlated with each other when considering participants in both the ambiguous and blatant scenario conditions ( $N = 399$ ; Table 1). The exception was that the relationship between parental IRS attendance and discrimination appraisals just fell short of statistical significance. This was not surprising, however, as the relationship between parental IRS attendance and discrimination appraisals was expected to differ as a function of whether participants were exposed to the ambiguous versus the blatant condition. Indeed, when considered separately, the correlation between parental IRS attendance and discrimination appraisals was significant for those in the ambiguous condition,  $r = .21, p < .01$ , but was not significant in the blatant condition,  $r = .09, ns$ . Likewise, the relationship between parental IRS attendance and threat appraisals was significant in the ambiguous condition,  $r = .16, p < .05$ , but not in the blatant condition,  $r = .11, ns$ . For the variables that were not expected to differ as a function of the condition, parental IRS attendance was significantly associated with higher levels of identity centrality, greater perceptions of past discrimination, and higher levels of depressive symptoms.

A multiple-group path analysis using maximum likelihood parameter estimation with AMOS 20 was used to test the model presented in Figure 1. Model fit was assessed using the following goodness-of-fit indices: the chi-square goodness-of-fit statistic ( $\chi^2$ ; nonsignificant values indicate good model fit); the Tucker Lewis index and the comparative fit index (TLI and CFI; values above .90 indicate good model fit); and the standardized root mean square residual and the root mean square error of approximation (SRMR and RMSEA; values below .08 indicate good model fit). The hypothesized indirect effects were assessed using bias-corrected bootstrap 95% confidence intervals produced by AMOS (with 2,000 iterations). First, the

indirect effects were tested by breaking down the model into parts and testing each part of the chain composed of a predictor, mediator, and outcome variable separately. In addition, the four possible sequentially mediated paths from parental IRS attendance to depressive symptoms were also assessed. An omnibus test of the proposed moderation effects of the condition (ambiguous vs. blatant) on the relationships between both past discrimination and identity centrality in relation to discrimination appraisals and threat appraisals (condition-specific variables) was also conducted. This was done by comparing a model in which the paths going to or emanating from the condition-specific variables were allowed to vary between conditions (unconstrained model) to a model in which these paths were constrained to be equal (constrained model). Follow-up pairwise comparisons of path coefficients using the approximate  $z$  test reported by AMOS verified which specific paths differed between conditions.

The hypothesized unconstrained model provided an excellent fit to the data, as the chi-square was not significant and the fit indices all met the predetermined criteria,  $\chi^2(13) = 8.45, TLI = 1.00, CFI = 1.00, SRMR = .04$ , and  $RMSEA = .01$ . Providing support to the proposed moderation effects, the constrained model provided a significantly inferior model fit compared with the unconstrained model,  $\Delta\chi^2(6) = 18.89, p < .01$ . Therefore, the direct and indirect effects were assessed using the unconstrained model. All of the direct paths in the model were significant in the expected directions (see Figure 1 for standardized regression coefficients). Parental IRS attendance was associated with higher levels of identity centrality and past discrimination. In turn, identity centrality (ambiguous:  $b = .16, p < .001$ ; blatant:  $b = .10, p < .001$ ) and past discrimination (ambiguous:  $b = .16, p < .001$ ; blatant:  $b = .09, p < .001$ ) played unique mediating roles in predicting greater discrimination appraisals among IRS offspring in both conditions. However, pairwise comparisons of path coefficients between conditions revealed stronger relationships between identity centrality and discrimination appraisals ( $p < .06$ ), and between past discrimination and discrimination appraisals ( $p < .05$ ), in the ambiguous condition (although the former difference only approached significance). These differences were also apparent in the relatively stronger indirect effects between these variables in the ambiguous compared with the blatant condition. In turn, discrimination appraisals mediated the positive relationships between identity centrality and threat appraisals (ambiguous:  $b = .21, p < .001$ ; blatant:  $b = .15, p < .001$ ), and between past discrimination

Table 1

Means ( $M$ ), Standard Deviations ( $SD$ ), and Bivariate Correlations Between Study Variables ( $N = 399$ )

	$M$	$SD$	1	2	3	4	5
1. Parental IRS attendance	—	—	—	—	—	—	—
2. Centrality	3.64	.99	.20****	—	—	—	—
3. Past discrimination	3.11	1.48	.20****	.26****	—	—	—
4. Discrimination appraisal	5.05	1.57	.09*	.45****	.25****	—	—
5. Threat appraisal	3.58	1.92	.10**	.48****	.39****	.71****	—
6. Depressive symptoms	6.05	5.88	.14****	.18****	.32****	.13****	.28****

Note. IRS = Indian Residential School.

\*  $p < .10$ . \*\*  $p < .05$ . \*\*\*  $p < .01$ . \*\*\*\*  $p < .001$ .



and threat appraisals (ambiguous:  $b = .14, p < .001$ ; blatant:  $b = .10, p < .001$ ).<sup>1</sup>

As expected, identity centrality and past discrimination also had direct relationships with threat appraisals in both conditions (in addition to their indirect effects through discrimination appraisals). Although there was no a priori hypothesis regarding potential differences regarding the strength of these relationships between conditions, the path between identity centrality and threat appraisals was stronger in the blatant condition ( $p < .01$ ). Accordingly, the indirect path between parental IRS attendance and threat appraisals through centrality played a larger role in the blatant condition (ambiguous:  $b = .08, p < .001$  vs. blatant:  $b = .22, p < .001$ ). In contrast, the strength of the relationship between past discrimination and threat appraisals did not differ between conditions, and the indirect paths between parental IRS attendance and threat appraisals through past discrimination were comparable (ambiguous:  $b = .21, p < .001$  vs. blatant:  $b = .15, p < .001$ ).<sup>2</sup> In turn, threat appraisals mediated the three indirect paths from centrality (ambiguous:  $b = .20, p < .01$ ; blatant:  $b = .56, p < .001$ ), past discrimination (ambiguous:  $b = .38, p < .001$ ; blatant:  $b = .27, p < .001$ ), and discrimination appraisals (ambiguous:  $b = .51, p < .001$ ; blatant:  $b = .60, p < .001$ ) to depressive symptoms.

Past discrimination was the only other variable that had a direct relationship with depressive symptoms, which provided an additional indirect pathway between parental IRS attendance and depressive symptoms ( $b = .40, p < .01$ ). In addition to assessing each step of the model separately, the unstandardized coefficients for the five sequentially mediated indirect pathways from parental IRS attendance to depressive symptoms were all significant and are presented in Table 2. Although the pathways that ran through discrimination appraisals and threat appraisals accounted for over half of indirect effects between parental IRS attendance and depressive symptoms (ambiguous:  $.46/.86 = 53.5\%$ ; blatant:  $.49/.89 = 55.0\%$ ), the pathway through perceived discrimination also accounted for a significant amount of the indirect effect between parental IRS attendance and depressive symptoms (ambiguous:  $.40/.86 = 46.5\%$ ; blatant:  $.40/.89 = 45.0\%$ ), suggesting that perceived discrimination may also put IRS offspring at a greater risk for mental health problems through other mechanisms.

As the data were correlational in nature, the ability to draw causal conclusions was limited. However, as noted earlier, it is likely that reciprocal relationships exist between perceived discrimination, identity centrality, and discrimination, and other potential mutually reinforcing relationships within the proposed are also very possible. For example, although there is evidence that greater levels of group identification lead to greater threat appraisals (Burrow & Ong, 2010), individuals have also been shown to react to appraisals of group-based threat by increasing identification with their group (i.e., rejection-identification model; Branscombe, Schmitt, & Harvey, 1999). Thus, threat appraisals and identity centrality might serve to reinforce each other. Likewise, although the link between stressors and negative mental health outcomes is well established, depression and subsyndromal symptoms of depression have also been associated with altered appraisals of interpersonal events (Krackow & Rudolph, 2008), and can inflate the recall of past negative events such as discriminatory experiences (Schraedley, Turner, & Gotlib, 2002). Thus, reciprocal relationships might also exist between discriminatory experiences and depressive symptoms. Two alternative directional

Table 2

*Unstandardized Coefficients for the Sequential Indirect Effects From Parental IRS Attendance to Depressive Symptoms for the Ambiguous and Blatant Conditions*

Indirect pathways from parental IRS attendance to depressive symptoms	Ambiguous	Blatant
Past discrimination	.40**	.40**
Identity centrality → threat appraisals	.08**	.22***
Past discrimination → threat appraisals	.22***	.15***
Identity centrality → discrimination appraisals → threat appraisals	.08***	.06***
Past discrimination → discrimination appraisals → threat appraisals	.08***	.06***
Total indirect effects	.86***	.89***
Total direct effect	.86***	.89***

Note. IRS = Indian Residential School.

\*\*  $p < .01$ . \*\*\*  $p < .001$ .

models tested these possibilities, which also took into account modification indices suggested by AMOS if they made theoretical sense, and indeed, provided good fits to the data. However, the hypothesized directional model had the lowest Akaike information criterion (AIC) value ( $AIC = 66.45$ ), suggesting that it provides a better fit to the data compared with the alternative models depicted in Figure 2A ( $AIC = 72.88$ ) and 2B ( $AIC = 76.57$ ) (Kline, 2005). Although this does not rule out the possibility of bidirectional causality, it might suggest that the effects in the hypothesized direction may be stronger.

## Discussion

As observed among other minority groups who have undergone major ethnicity-based collective traumas (Yehuda et al., 2001), compared with Aboriginal adults whose families were not directly affected by the IRS system, IRS offspring were at an increased risk for experiencing depressive symptoms, in part due to their higher levels of perceived discrimination (Bombay et al., 2011). In assessing the processes by which children of IRS survivors come to perceive higher levels of discrimination, the current study revealed that IRS offspring reported higher levels of Aboriginal centrality and greater perceptions of past discriminatory experiences, which, in turn, were associated with a greater likelihood of making appraisals of discrimination in response to intergroup scenarios. Providing support for the proposition that past discrimination and identity centrality accomplish this by increasing sensitivity to discriminatory cues (B. Major et al., 2003; Operario & Fiske, 2001), these variables had more of an influence when the scenarios depicted subtle or ambiguous interactions compared with blatant

<sup>1</sup> The addition of a path between parental IRS attendance and discrimination appraisals did not improve model fit, providing further support for the mediation effects.

<sup>2</sup> The strength of the relationships between past discrimination and threat appraisals, and between discrimination appraisals and threat appraisals, did not differ between conditions.



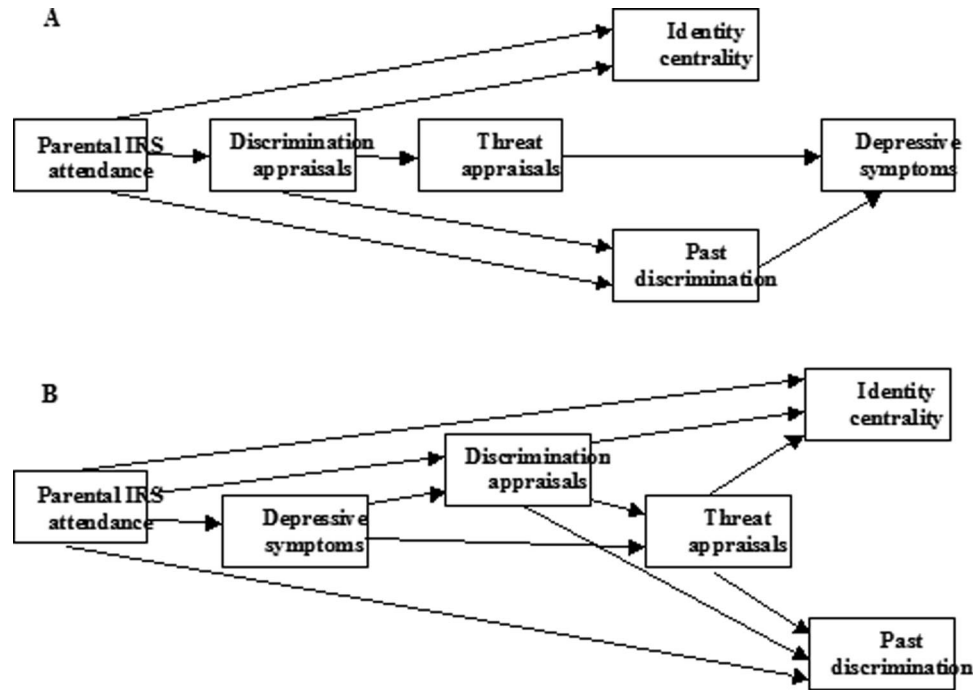


Figure 2. Alternative directional models that were compared with hypothesized model.

discriminatory scenarios that were less open to interpretation. As expected, the greater propensity among IRS offspring to make discrimination appraisals were linked with greater threat appraisals in response to these situations. Furthermore, their greater levels of past discrimination and Aboriginal centrality also appeared to be directly linked to heightened threat appraisals in children of IRS survivors. Thus, it seems that, in addition to perceiving higher levels of discrimination, due to their relatively increased tendency to make discrimination appraisals, IRS offspring also appeared to be more affected by these experiences, as their augmented threat appraisals were predictive of increased depressive symptoms relative to non-IRS adults.

Although the model presented in the current study depicts a directional process whereby past discrimination leads to a greater tendency to appraise negative intergroup encounters as reflecting discrimination, this tendency would also be expected to result in higher levels of current and future perceptions of discrimination. This would imply a mutually reinforcing relationship, wherein past discriminatory experiences are accompanied by increased sensitivity to discriminatory cues, as well as greater subsequent levels of perceived discrimination. Indeed, longitudinal relationships have been observed between initial and subsequent levels of perceived discrimination among other minority groups (Ramos et al., 2012). This propensity to make appraisals of discrimination in intergroup situations also appeared to be fueled by the higher levels of Aboriginal centrality among IRS offspring, and should therefore also be expected to contribute to higher levels of perceived discrimination over time. Indeed, longitudinal positive relationships have also been reported between initial levels of identity centrality and subsequent levels of perceived discrimination among African Americans and Latino Americans (Sellers & Shelton, 2003; Thomsen et al., 2010; Umaña-Taylor & Guimond,

2010). The increased discriminatory experiences might, in turn, serve to reinforce the high levels of Aboriginal centrality among IRS offspring, as group-based threats can result in increased identification with one's group (Branscombe et al., 1999). In this regard, perceptions of discrimination elicited in laboratory-based studies have been shown to augment group levels of centrality, particularly among those who were already highly identified (Jetten, Branscombe, Schmitt, & Spears, 2001; McCoy & Major, 2003).

The disposition toward making discrimination appraisals in intergroup encounters can negatively affect well-being, partially due to the fact that this tendency can result in otherwise innocuous intergroup interactions being appraised as threatening. For example, African American women who appraised an ambiguous negative intergroup scenario to be a result of discrimination reported greater perceived stress compared with those who did not make such an appraisal (King, 2005), possibly because the appraisal of discrimination increased feelings of threat elicited by the encounter. This was also the case in the current study, as the greater likelihood of making discrimination appraisals among IRS offspring predicted greater threat appraisals compared with that evident in non-IRS adults. However, higher levels of appraised threat also had direct relationships with levels of past discrimination, which is consistent with studies reporting that past discriminatory experiences were linked with heightened threat appraisals in subsequent interactions appraised as reflecting discrimination (Bron-dolo et al., 2005), and with increased negative affect among Black men who attributed an ambiguous scenario to discrimination (Bennett, Merritt, Edwards, & Sollers, 2004). The heightened threat appraisals elicited by discriminatory encounters among individuals with increased reports of past discrimination is likely in part explained by increased perceptions of the stable and pervasive

nature of discrimination against their in-group (Branscombe et al., 1999; Eccleston & Major, 2006). As well, the anticipatory threat caused by past experiences of discrimination may also contribute to increased threat appraisals (Kaiser, Vick & Major, 2006). In this regard, Latina woman who anticipated discrimination in an intergroup scenario reported more stress and showed greater cardiovascular responses after the interaction compared with those who did not expect to be discriminated against (Sawyer, Major, Casad, Townsend, & Mendes, 2012). Indeed, a qualitative investigation suggested that experiences of racism among Aboriginal peoples in Australia elicited anticipation of racism in subsequent interactions with White Australians (Mellor, 2004).

Identity centrality also had a direct relationship with threat appraisals, which makes intuitive sense, as those who consider their group membership as central to their self-concept would be expected to be more affected by the devaluation of their group identity. This is consistent with our past research among Aboriginal adults in Canada, in which the relationship between perceived discrimination and depressive symptoms was stronger among those with high levels of centrality (Bombay et al., 2010). This exacerbating effect of centrality on the impacts of perceived discrimination has also been observed among other racial groups (Noh et al., 1999) and in relation to negative impacts of other types of ethnicity-related stressors (French & Chavez, 2010). Though not anticipated, the direct relationship between centrality and threat appraisals was stronger in the blatant than in the ambiguous condition, which might simply be due to the fact that the interactions depicted in blatant scenarios were inherently more insulting. Whatever the reason, this finding suggests that the higher levels of centrality among IRS offspring may not only put them at greater risk for suffering negative consequences when faced with ambiguous discriminatory encounters but also appeared to exacerbate the effects of blatant experiences of discrimination.

It has previously been pointed out that identity centrality not only appears to be predictive of appraisals and reactions to personally experienced intergroup events but also seems as though centrality may have a particularly strong link with perceptions and reactions to in-group victimization in general (Bilali, 2012). For example, although centrality was not associated with reactions to historical instances of ingroup *harmdoing*, individuals with higher levels of centrality reported increased anger toward the perpetrator of their group's victimization, more sympathy toward in-group members who were directly victimized, and greater perceived importance of the historical trauma (Bilali, 2012). Thus, it is possible that identity centrality might be a key factor involved in the observed and proposed relationships between historical collective traumas and individual reactions to contemporary intergroup interactions (Evans-Campbell, 2008; Whitbeck, Chen, Hoyt, & Adams, 2004). However, as emphasized earlier, historical memories and contemporary intergroup interactions might also influence identity centrality, as well as various other dimensions of identity (Bilali, 2012).

A limitation of the current study that should be acknowledged concerned the cross-sectional nature of the study. Clearly, a longitudinal study would help elucidate the causal nature of the relationships between identity centrality, perceptions of past discrimination, and appraisals of discrimination and threat. However, as one of the main goals of the study was to assess differences between IRS offspring and non-IRS adults, this does not detract

from the group differences that were observed in relation to these variables, as all appear to be involved in the higher levels of distress reported by IRS offspring. Another limitation was the self-selected sample. Indeed, it is possible that individuals who chose to participate had a greater self-interest in the topic or were in some fashion particularly affected. This possibility certainly cannot be denied, but it is significant that the observed outcomes were consistent with our earlier reports documenting the relationship between parental IRS attendance, perceived discrimination, and psychological distress. Indeed, these relationships were apparent in both self-selected samples (Bombay et al., 2011) and in a representative national sample of First Nations adults living on-reserve (Bombay, Matheson, & Anisman, 2013). Finally, the current investigation did not consider the possibility that some Aboriginal peoples might appraise such negative intergroup experiences as challenges rather than threats, which might be linked with more positive health outcomes (Berjot et al., 2012; Vick, Seery, Blascovich, & Weisbuch, 2008).

Despite these limitations, the current study adds to the mounting evidence that perceived discrimination can jeopardize well-being by acting as powerful stressor, as our hypothesized model based on the transactional stress framework was generally supported in the current sample of Aboriginal adults in Canada (Clark et al., 1999; S. P. Harrell, 2000). The findings also suggest that being intimately affected by a collective trauma can influence levels of identity centrality and perceived discrimination in subsequent generations, which seem to be associated with the increased likelihood of making appraisals of discrimination and threat in response to later intergroup encounters. The apparent cyclical nature between past collective and personal discriminatory intergroup experiences and an increased tendency to appraise subsequent intergroup encounters as reflecting discrimination highlight the chronic nature of the ethnicity-related stress faced by many stigmatized group members. Like the effects of other types of stressors (Schilling, Aseltine, & Gore, 2008), discriminatory experiences are both distressing in the immediate situation and may have a cumulative negative impact on well-being (Feagin & Sikes, 1994; Mellor, 2004). Although the current study only explored these factors in relation to depressive symptoms, chronic ethnicity-related stress has been linked with a broad range of negative physical and mental health outcomes among indigenous populations (Chae & Walters, 2009; Harris et al., 2012; Priest, Paradies, Stewart, & Luke, 2011).

In addition to the influence of altered appraisals among IRS offspring in contributing to their greater risk for depressive symptoms, the direct pathway from past discrimination to depressive symptoms also remained significant in the current study. This suggests that other factors related to perceived discrimination contribute to the increased risk for poor well-being among IRS offspring, which should also be identified and incorporated with the current findings related to altered appraisals in the development of interventions (Ziersch, Gallaher, Baum, & Bentley, 2011a). In addition to potential interventions targeting appraisals of intergroup scenarios and coping strategies for dealing with these experiences, based on evidence that the self-reinforcing relationships between identity and perceptions of discrimination might be established prior to adulthood (Seaton, Yip, & Sellers, 2009), preventative efforts beginning early in life might be particularly beneficial for intergenerational survivors of collective traumas. For example, minority youth who received extensive parental mes-

sages about having pride in one's group identity, and moderate levels of messages aimed at preparing these children for potential bias, were more resilient to the negative effects of perceived discrimination on self-esteem (Harris-Britt, Valrie, Kurtz-Costes, & Rowley, 2007).

Although it is hoped that the current findings will help inform the development of effective interventions aimed at reducing the impacts of discrimination, this should not be interpreted to suggest that the perceptions of IRS offspring are objectively inaccurate, as this cycle might also be reinforced by actions of out-group members. For instance, white Americans displayed greater biases toward Black and Latinos with high, compared with relatively low, levels of racial centrality (Kaiser & Pratt-Hyatt, 2009). As noted by others, it should not be the responsibility of stigmatized group members to adapt to the discrimination they are exposed to (Ziersch et al., 2011a). Instead, societal responses to such accounts of pervasive and harmful discrimination against indigenous populations should be aimed at eradicating discrimination through social and political processes that reduce discrimination and its effects (Harris et al., 2012; Ziersch et al., 2011a). Such systematic efforts should also include an approach to address health and social inequities that acknowledges and addresses the harm done by historical policies such as the IRS system (Ziersch, Gallaher, Baum, & Bentley, 2011b). In the meantime, it is nevertheless still important to identify how discriminatory experiences affect mental health and who is at most risk so that these individuals can be targeted to receive the help they require to deal with injustices they continue to face on a regular basis.

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