

Substantiating neglect of first nations and non-aboriginal children

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Abstract

First Nations (Native American) children are greatly overrepresented in the Canadian child welfare system, and disproportionality in the substantiation of maltreatment contributes to this overrepresentation. This study explores the factors driving disproportionality in the substantiation of maltreatment and, more specifically, neglect. Data from the Canadian Incidence Study of Reported Child Abuse and Neglect (2008) are used in multivariate analyses which examine the relationship between the substantiation of maltreatment/neglect and worker assessments of case, child, household, and caregiver characteristics. These case factors fully explain disproportionality in maltreatment substantiation for First Nations and non-Aboriginal children; the disproportionality reflects underlying differences in the case, child, household and caregiver characteristics identified in First Nations and non-Aboriginal investigations. However, case factors do not fully explain disproportionality in substantiation of neglect-only investigations. Further analysis indicates that the weight that workers assigned to caregiver substance abuse, housing problems, and presence of a lone caregiver when substantiating neglect also differed for First Nations and non-Aboriginal children. Discussion of these findings explores possible explanations for these differences, and links to broader discussions around definitions of neglect and the role of substantiation in child welfare decision making processes.

1. Introduction

Aboriginal children are greatly overrepresented in the Canadian child welfare system; analyses of provincial/territorial administrative data indicate that the proportion of children in care who are Aboriginal is between 3 and 7 times higher than the proportion of Aboriginal children in the total child population across jurisdictions (Sinha et al., 2011). The Aboriginal population in Canada includes three federally recognized groups — First Nations, Métis and Inuit; First Nations are the largest of these groups. First Nations children constitute 64% of the Aboriginal child population in Canada (Statistics Canada, 2008) and there is evidence that they are more highly overrepresented in the child welfare system than Métis or Inuit children (First Nations Child Family Caring Society of Canada, 2005). The overrepresentation of First Nations children in out of home care extends a long historical pattern of state-sponsored removal of First Nations children from their homes. This pattern started with the residential school system, which was designed to further colonial assimilationist goals (Milloy, 1999), and continued under the auspices of provincial/territorial child welfare systems (Johnston, 1983). Both the current overrepresentation in care and the historical context of overrepresentation of First Nations children in Canada parallel patterns for Aboriginal populations in the U.S. and Australia (Sinha, Trocmé, Fallon, & MacLaurin, 2013).

Within the child welfare system, the overrepresentation of children from specific ethno racial groups accumulates across a series of decisions. Substantiation of maltreatment, which typically involves assessment of whether or not a child experienced maltreatment, is one such decision. Analyses of two cycles of the Canadian Incidence Study of Reported Child Abuse and Neglect (CIS-2003 and CIS-2008) suggest that overrepresentation of First Nations children in the child welfare system is evident at the point of first contact with child welfare agencies and is compounded by the substantiation decision. Data from the First Nations component of the CIS-2008, indicated that investigation rates for First Nations children served by a large sample of child welfare agencies in Canada were 4.2 times that for non-Aboriginal children (140.6 investigations per 1000 First Nations children vs. 33.5 investigations for every 1000 non-Aboriginal children served by sampled agencies in 2008; Sinha et al., 2011). The

disproportionality in investigation rates was compounded by substantiation disproportionality; while 58% of maltreatment investigations involving First Nations children were substantiated, 47% of non-Aboriginal investigations were substantiated. CIS-2003 also showed that a greater proportion of maltreatment investigations involving First Nations and Aboriginal children than non-Aboriginal children were substantiated; 52% of First Nations investigations and 47% of non-Aboriginal investigations were substantiated (Trocmé, Knoke, & Blackstock, 2004; Trocmé et al., 2006). Multivariate analysis of factors predicting substantiation of investigations included in the CIS-2003 showed that the differential odds of substantiation for First Nations and non-Aboriginal children were fully explained by case factors (Trocmé et al., 2006); substantiation disproportionality reflected underlying differences in case, child, household and caregiver characteristics. Analysis of CIS-1998 showed a similar pattern for Aboriginal investigations (Trocmé et al., 2004).

This study further explores factors driving the difference in substantiation rates for First Nations children and non-Aboriginal children, using data from CIS-2008. First we replicate analyses of the factors determining maltreatment substantiation, that were conducted using data from prior CIS cycles (Trocmé et al., 2004; Trocmé et al., 2006). We then repeat this analysis for a subset of neglect investigations, adding interaction terms to the model in order to examine the possibility that caseworkers assign different weights to caregiver and household risk factors when making substantiation decisions, depending upon First Nations status. Thus, for example, we examine the possibility that confirmation of caregiver substance abuse has a different impact on substantiation of neglect for First Nations children than for non-Aboriginal children. In discussing the implications of these findings, we link them to questions about the role of the substantiation decision in child welfare processes and about the definition of neglect.

2. Substantiation as a construct

Child welfare agencies receive reports based on concerns that a child may have been maltreated. Although there is no single child maltreatment classification system used by child welfare agencies and researchers, four categories are consistently recognized: (1) physical abuse, (2) sexual abuse, (3) neglect, and (4) emotional maltreatment (see, for example, Ellenbogen, Trocmé, & Wekerle, 2013; Leeb, Paulozzi, Melanson, Simon, & Arias, 2008; MacLeod, Tonmyr, & Thornton, 2004). In addition, child welfare agencies in Canada increasingly treat “exposure to intimate partner violence” as a distinct form of maltreatment (Black, Trocmé, Fallon, & MacLaurin, 2008). Substantiation of maltreatment involves determining whether or not a child has been maltreated, based on the assessment of evidence collected through practices such as interviews, face to face contact with the investigated child, and medical exams. In general, substantiation of maltreatment depends on the coexistence of strong evidence that maltreatment occurred and demonstrable harm or significant risk of harm (Drake & Pandey, 1996). However, from a conceptual perspective, it seems likely that a worker may take different factors into account when substantiating categories of maltreatment as distinct as exposure to intimate partner violence, physical abuse or sexual abuse. Indeed, there is empirical evidence that suggests that the factors affecting substantiation decisions might differ by type of maltreatment (see, for example, Cross & Casanueva, 2009).

There is ongoing discussion about the importance of substantiation in the child welfare process. Some argue that the focus of child welfare should be to address needs, rather than identify cases of maltreatment (Kohl, Jonson-Reid, & Drake, 2009). Others downplay the importance of the substantiation decision, pointing out that it typically does not directly determine service provision, and thus, may have fewer consequences than other steps in the child welfare process (Fluke, Harden, & Jenkins, 2010b). Still others argue that substantiation is an important decision, citing, for example, the U.S. Department of Health and Human Services found that “96% of children who are placed in out-of-home care [in the U.S.] are involved in investigations in which allegations of maltreatment are substantiated” (as cited in Dettlaff et al., 2011). In a similar vein, others suggest that, whether or not the substantiation decision should be a focus of the child welfare process, the widespread use of substantiation decisions for enumeration/definition of samples of maltreated children, and to measure recidivism, attests to the

current importance of the measure (Trocmé, Knoke, Fallon, & MacLaurin, 2009). Empirical evidence on the importance of substantiation is also mixed. For example, Kohl et al. (2009) followed a cohort of children who did not experience out of home placement for 36 months after their first child welfare report. They found that, controlling for demographics, maltreatment type, poverty, developmental status, and caretaker education, substance abuse and mental health, substantiation did not affect re-report. In contrast, however, Fuller and Nieto (2009) tested a similar model on a different sample and found that substantiation did predict re-report, and Trocmé et al. (2009) found that the clinical profile of substantiated cases differed significantly from that of cases which were deemed unfounded.

The Decision-Making Ecology framework is useful for understanding the substantiation process because it describes the systemic context for child welfare decisions. This framework highlights the ways in which case, decision maker, organizational, and external factors interact to shape child welfare decisions. Baumann, Dalgleish, Fluke, and Kern (2011) recently integrated the General Assessment and Decision Making Model (ADM; Dalgleish, 2003) into this framework, incorporating the psychological processes of child welfare decision-making. GADM specifies that decision-making involves comparing an assessment (i.e., worker's interpretation of factors in a particular case) to a decision threshold (i.e., the point at which the quantity or quality of evidence is deemed sufficient for substantiation). As depicted in Fig. 1, a worker identifies and reviews case factors in order to assess the evidence that a child was harmed or exposed to significant risk of harm. If the assembled evidence meets the worker's substantiation threshold, maltreatment is substantiated; if the evidence does not meet the substantiation threshold, maltreatment is not substantiated. According to this integrated framework, differences in the substantiation rates for ethno-racial groups (substantiation disproportionality) might be driven by differences at several stages of the substantiation process: identification/review of case factors, assessment of harm/risk of harm, and determination of substantiation threshold. Moreover, each of these stages might be shaped by a complex mix of worker, organizational and external factors.

2.1. Substantiation in the Canadian context

The child welfare system in Canada has a decentralized structure in which responsibility for protecting and supporting children at risk of abuse and neglect falls under the jurisdiction of the 13 Canadian provinces/territories and a system of Aboriginal child welfare organizations (Gough, Shlonsky, & Dudding, 2009). All provincial and territorial child welfare systems share certain basic characteristics. However, there is considerable variation in the organization of service delivery systems, child welfare statutes, regulations and standards, assessment tools and competency-based training programs; this variation is even more pronounced when it comes to child welfare services for First Nations children and families (Sinha & Kozlowski, 2013). This pattern of commonality and variation also extends to the definition of and processes for substantiating maltreatment. Definitions of maltreatment are similar across Canadian jurisdictions; they include physical abuse, sexual abuse, neglect, emotional maltreatment and exposure to intimate partner violence. In addition, legislation in all jurisdictions identifies risk of harm as a sufficient basis for child protection intervention; a finding that a child actually experienced harm as a result of maltreatment is not necessary in order to substantiate maltreatment (Sinha, 2013). However, the operationalization and role of substantiation vary across jurisdictions. In some provinces, such as Quebec and Alberta, substantiation of maltreatment is a necessary precursor to delivery of ongoing services. In others, access to services is not as closely linked with the substantiation of maltreatment. In Ontario, for example, a worker might determine that a specific child maltreatment concern was unverified, but then provide family with ongoing services based on verification of an alternate code from a risk eligibility spectrum that includes concerns such as 'request for counseling' or 'caregiver history of abuse/neglect'. The overlap between substantiation and service provision is evident in CIS-2008 data; nationally, 79% of maltreatment investigations which were to remain open for services were substantiated (Sinha, 2013).

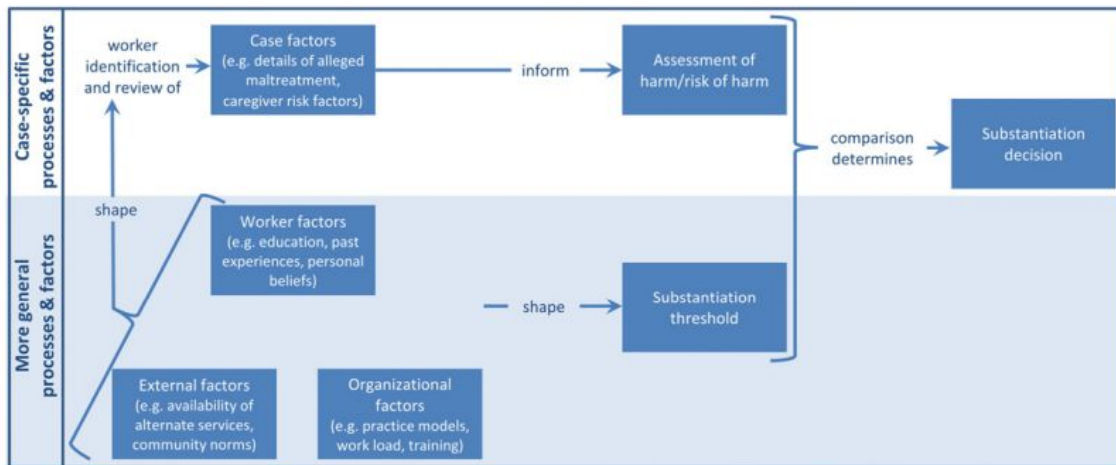


Fig. 1. The decision making ecology framework (based on Baumann et al., 2011).

2.2. Substantiation disproportionality for First Nations children

Several researchers have examined the question of whether the disproportionality in substantiation decisions contributes to the overrepresentation of children from ethno-racial minority groups in the child welfare system. Much of this research has focused on Black children in the U.S., and involves documenting differences in the rates of substantiation for different groups and using multivariate analyses to examine explanatory factors (Fluke et al., 2010). The results are mixed. Some found that substantiation differences persist in models that control for additional characteristics (Ards, Myers, Erin, & Zhou, 2003; Cappelleri, Eckenrode, & Powers, 1993; Rolock & Testa, 2005; Zuravin, Orme, & Hegar, 1995), while others found that factors other than race/ethnicity fully explain the association between race and substantiation (Font, Berger, & Slack, 2012; Trocmé et al., 2004). A recent study by Dettlaff et al. (2011) directly drew on general assessment and decision making framework to examine the factors contributing to substantiation disproportionality for Black and White children in Texas. In multivariate analyses controlling for many additional child and case characteristics, income was the primary explanatory variable in a model using race and income to predict the odds of substantiation. However when worker perception of risk (a composite worker ratings across seven areas of concern: child vulnerability, caregiver capability, quality of care, maltreatment pattern, home environment, social environment and response to intervention) was also controlled, race became statistically significant. Workers were more likely to substantiate maltreatment for Black children than for White children with similar risk profiles. Building on earlier work by Rivaux et al. (2008), the authors concluded that these findings may reflect a pattern in which workers have lower substantiation thresholds for maltreatment of Black children than White children.

Research on substantiation disproportionality for First Nations and other Aboriginal children is limited, but existing literature indicates that substantiation disproportionality contributes to Aboriginal overrepresentation in the U.S. (Ortega, Grogan-Kaylor, Ruffolo, Clarke, & Karb, 2009), Australia (Tilbury, 2009), and Canada (Sinha et al., 2011; Trocmé et al., 2004, 2006). U.S. data suggest that disproportionality for American Indian children may differ across categories of substantiated maltreatment (Ortega et al., 2009), with substantiation rates for sexual abuse and educational maltreatment being higher for Native American children than others, while rates of substantiation of neglect are lower. In the Canadian context, most information about substantiation of Aboriginal maltreatment investigations comes from the CIS. Data from CIS-2008 shows that, among sampled agencies, maltreatment was substantiated in 58% of maltreatment investigations involving First Nations children and 43% of non-Aboriginal investigations, a statistically significant difference. CIS-2003 data revealed a smaller, but still statistically significant difference (52% of First Nations investigations substantiated vs. 47% of non-Aboriginal investigations). However, after maltreatment, child, household and caregiver characteristics were controlled, this difference was reduced to non-significant levels

(Trocmé et al., 2006). The odds ratio for 'First Nations' in the initial model, with no controls, was 1.66 (p < .001); the adjusted odds ratio for 'First Nations' once controls were included was 1.1 (p < .05). The reduction in size and significance of the First Nations coefficient was most pronounced with the introduction of controls for caregiver characteristics (alcohol abuse, maltreated as a child, number of caregiver functioning concerns, and female caregiver under age 30). A comparable result was found in analyses of CIS-98 data. In the initial model, the odds ratio for 'Aboriginal' was 1.46 (p < .001); the adjusted odds ratio once case factors were controlled was 1.05 (p < .05; Trocmé et al., 2004).

3. Neglect as a construct

Child neglect is the most prevalent form of substantiated child maltreatment in Canada; neglect was the primary category of maltreatment in 34% of substantiated maltreatment investigations in both 2003 and 2008 (Trocmé et al., 2005; Trocme et al., 2010). Over the long term, chronic neglect can have severe, negative impacts on cognitive and psychosocial development (Gilbert et al., 2009; Hildyard & Wolfe, 2002; Shonkoff & Phillips, 2000). Existing literature indicates that neglect is associated with complex caregiver/household risk factors, including: poverty, number of people in the home, unemployment/ underemployment, presence of a lone parent, maternal age, caregiver mental health, caregiver substance abuse, and lack of social supports (Connell-Carrick, 2003). The association between poverty and child neglect is particularly strong (Drake & Pandey, 1996; Sedlak & Broadhurst, 1996).

Substantiation of neglect must be understood within a framework which acknowledges challenges in defining and assessing neglect. There is currently no consensus definition of neglect, and the conceptualization of this construct varies both within and across disciplines (Hearn, 2011). Historical constructions of neglect have included situations in which the parental actions or inaction have resulted in harm to a child, and situations in which there was no demonstrable harm to a child, but there were concerns about parental behavior that was deemed morally objectionable (Swift, 1995). Accordingly, the factors that have been identified as essential to the rigorous assessment of neglect include but are not limited to: separation of parent behavior from child harm, separation of parent behavior from motives/causes, and development of age-appropriate standards of neglect (Straus & Kantor, 2005). Assessment of such factors is difficult, and becomes even more complicated in jurisdictions which identify the risk of harm as being sufficient criteria for child protection involvement. In the absence of rigorous methods for assessing neglect, the default is to operationalize neglect as the failure to comply with normative standards of parenting behavior (Combs-Orme, Wilson, Cain, Page, & Kirby, 2003). However, the standards by which normative parenting behaviors are assessed are usually unclear, and are potentially grounded in culturally based understandings of parenting which may not be shared by all families (Hearn, 2011).

3.1. Neglect and First Nations children

Neglect cases are a primary driver of the overrepresentation of First Nations children in the child welfare system in Canada. Analysis of CIS- 2008 showed that disproportionality in the rate of investigations for First Nations and non-Aboriginal children served by a large sample of child welfare agencies was greatest for neglect investigations; the rate of investigations which focused only on neglect was six times higher for First Nations children than for non-Aboriginal children (Sinha et al., 2013). This investigation-stage disproportionality was compounded by the substantiation decision; the rate of substantiated neglect investigations was eight times greater for First Nations than for non-Aboriginal children (Sinha et al., 2011). Prior analyses of CIS-2003 and CIS-2008, also show that the overrepresentation of First Nations children is linked with household and caregiver risk factors often associated with neglect, including caregiver substance abuse, housing problems, and low incomes (Sinha et al., 2011; Trocmé et al., 2006).

In neglect cases involving First Nations children, these household and caregiver risk factors must be understood in the context of social and economic conditions in First Nations communities. Current conditions have been shaped by colonial, Canadian, and provincial/territorial policies and

practices that dispossessed people from traditional lands, disrupted functioning economic systems, suppressed First Nations cultures and languages, and separated generations of children from their parents (Frideres, 1988; Milloy, 1999; Royal Commission on Aboriginal Peoples, 1996). Recent years have seen improvements in the socioeconomic situations of many First Nations peoples and communities, but significant barriers to economic development remain (Minister of Indian Affairs et al., 2009). First Nations people continue to lag behind non-Aboriginal Canadians on most major economic indicators. For example, Census 2006 data indicate that the median income for non-Aboriginal people was \$25,955, while the median income for First Nations people was \$14,477 (Make First Nations Poverty History Expert Advisory Committee, 2009). Poor economic conditions, in combination with restrictions on private property ownership in reserve communities, are also linked with poor housing conditions. First Nations peoples are more likely than non-Aboriginal people to live in overcrowded houses (14.7% vs. 2.6% respectively) and in houses in need of major repairs (28% vs. 7%; Make First Nations Poverty History Expert Advisory Committee, 2009). For First Nations families and children, the risks associated with these poor socioeconomic conditions may also be compounded by the intergenerational effects of colonial/ Canadian/provincial/territorial policies, which can manifest at the individual, family and community levels (Evans-Campbell, 2008). For example, child removal policies may have prevented transmission of healthy parenting skills, instilled doubts about traditional parenting, or resulted in negative behaviors acquired in abusive, neglectful or culturally inappropriate settings (Horejsi, Craig, & Pablo, 1992). On the individual level, intergenerational trauma has also been linked with substance abuse, guilt, depression and other psychosocial problems that may impact parenting (Brave Heart, 1999, 2000; Evans-Campbell, 2008; Whitbeck, Adams, Hoyt, & Chen, 2004).

The ability to address the needs of First Nations children, families and communities has also been limited by a legislative framework in which health and social services for on-reserve, Status First Nations children are funded by the federal government, while services for all others are funded by provinces/territories (Blackstock, 2011). In the domain of child welfare, multiple evaluations have identified federal underfunding of on-reserve services and criticized the formula used to determine funding for most Aboriginality governed, on-reserve child welfare agencies between 1991 and 2007, suggesting that it underfunds child welfare services and contributes to the overrepresentation of First Nations children in care (Auditor General of Canada, 2008; First Nations Child Family Caring Society of Canada, 2005; House Standing Committee on Public Accounts, 2010; Indian and Northern Affairs Canada — Departmental Audit and Evaluation Branch, 2007; McDonald et al., 2002). The federal government is currently in the process of shifting to a new funding formula; however, the impact of this funding shift is still unknown. The Canadian Human Rights Tribunal is currently hearing a complaint charging the federal government with discriminating against First Nations children by systematically underfunding on-reserve child welfare services (Blackstock, 2011). Disparities in child welfare funding are compounded by gaps in complementary health and social services on-reserve (e.g. Allec, 2005; Auditor General of Canada, 2011; Lemchuk-Favel, 2007; Stout & Harp, 2009) and poor linkages between First Nations communities and organizations in the voluntary sector (Blackstock, 2005), which translate into additional burdens for child welfare agencies providing on-reserve services (Auditor General of Canada, 2011).

4. Overview of the study

The persistent overrepresentation of First Nations children in the Canadian child welfare system starts at the point of first contact and is compounded by the substantiation decision. First Nations overrepresentation is driven largely by neglect cases, the reasons for which are presumably linked to complex household and caregiver risk factors that can only be understood in the context of past and current treatment of First Nations peoples. The purpose of this study is to advance understanding of the factors that contribute to substantiation disproportionality for First Nations and non-Aboriginal children. Building on prior research, which examined disproportionality in substantiation of maltreatment, we look more specifically at disproportionality in the substantiation of neglect. Our analyses examine the

possibility that both case factors and the weight that workers assign to these factors when making substantiation decisions differ for First Nations and non-Aboriginal children.

4.1. The Canadian Incidence Study of Reported Child Abuse and Neglect 2008 (CIS-2008)

The Canadian Incidence Study of Reported Child Abuse and Neglect (CIS) is the only national level study of child maltreatment in Canada; the first cycle of the study took place in 1998, the second in 2003 and the third in 2008. The CIS-2008 used a case file review procedure, in which investigating workers completed 'Maltreatment Assessment Forms' within four to six weeks of opening investigations. Workers provided standardized information, based on a study definitional framework and their clinical assessments. Site researchers regularly visited agencies to collect forms, respond to questions, and monitor study progress. Each form was twice verified by research team members to ensure completeness and response consistency. Data collection forms were completed for 96% of sampled investigations and completion rates were over 98% on most items (Trocme et al., 2010). The First Nations component of the CIS-2008 (FNCIS-2008) is a partnership between the CIS research team and an FNCIS-2008 Advisory Committee composed of representatives from major organizations supporting/coordinating First Nations child welfare agencies (Sinha et al., 2011). The goals of the FNCIS-2008 are to support the inclusion of First Nations child welfare agencies in the CIS-2008 sample, and to analyze, interpret and disseminate information about investigations involving First Nations children. Close collaboration between the CIS research team and the FNCIS-2008 advisory committee facilitates Aboriginal ownership/control over research processes (First Nations Child Family Caring Society of Canada, 2005) and development of the contextual knowledge needed for interpretation of FNCIS-2008 findings (Sinha, Montgomery, & Trocme, 2011). The analyses presented here build on the Kiskisik Awasisak report (Sinha et al., 2011), which summarized results of primary FNCIS-2008 analyses. Members of the FNCIS-2008 advisory committee played a critical role in the interpretation and framing of the analyses presented in Kiskisik Awasisak; their feedback on preliminary results also informed the framing and interpretation of the results presented here.

4.2. Sample

The FNCIS-2008 combines data from a stratified random sample of 89 provincial/territorial agencies with data from 22 large, Aboriginally governed agencies. Aboriginally governed agencies were sampled from each of the eight provinces in which they conduct child welfare investigations. They include two urban Aboriginal agencies, 18 agencies serving children on-reserve and two agencies serving both on and off reserve populations. All were purposely selected because they were thought to have the human resources and information management infrastructure necessary for study participation. Approximately one in four Aboriginally governed agencies and provincial/territorial agencies were sampled. Within agencies, data were collected on new, maltreatment-related investigations opened between October 1 and December 31, 2008. Provincial/territorial agencies provided data on 2,143 child maltreatment-related investigations involving First Nations children (ages 0–16) living in 1087 households and 12,240 maltreatment-related investigations involving non-Aboriginal children (7,717 households). Aboriginally governed agencies provided data on 963 investigations involving First Nations children living in 482 households. Data on investigations involving Inuit, Métis and "other Aboriginal" children were excluded from analysis because the CIS research team currently lacks the community partnerships required to support analysis. The sample analyzed for this study excludes data on 4004 "risk investigations," in which there was no allegation/suspicion that maltreatment already occurred and the focus was on assessing whether there was a significant risk of future maltreatment. In addition, 1099 maltreatment investigations in which workers 'suspected' maltreatment but lacked the evidence to substantiate were excluded. Thus, the sample analyzed in this study includes 8293 investigations involving non-Aboriginal children and 1950 investigations involving First Nations children. We also present analyses of a subset of 2236 non-Aboriginal and 804 First Nations investigations which focused on neglect only (29.7% of the full sample). The large sample of maltreatment investigations included in the CIS-2008 affords great opportunity for understanding the relationships between variables in the

dataset; however, because this unweighted sample includes a disproportionate number of cases from five provinces in which child welfare agencies were oversampled, and cases from purposely selected Aboriginally governed agencies, the results presented here cannot be generalized.

4.3. Measures

Substantiation — The CIS used a three-tiered substantiation framework, allowing workers to conclude that maltreatment is substantiated, unfounded, or suspected. The suspected category provides a clinically meaningful option for cases in which the evidence of maltreatment is not strong enough to substantiate but worker concerns are pronounced enough that he/she feels uncomfortable concluding that maltreatment was unfounded (Trocmé et al., 2009). Indeed, analysis of suspected maltreatment cases in the CIS-2003 indicated that they could not be distinguished from either the unfounded or substantiated cases using available data. Accordingly, suspected cases were excluded from analyses presented here and substantiation is represented by a dichotomous variable distinguishing 'substantiated' from 'unfounded' investigations.

Investigation type — For maltreatment investigations, workers identified up to three forms of investigated maltreatment from a list of 32 forms of maltreatment subsumed under five categories: physical abuse, sexual abuse, neglect, emotional maltreatment and exposure to intimate partner violence (Fluke, Chabot, Fallon, MacLaurin, & Blackstock, 2010; Fluke et al., 2010). The category of neglect, for example, included eight forms of maltreatment: failure to supervise resulting in risk of physical harm, failure to supervise resulting in risk of sexual abuse, permitting criminal behavior, physical neglect, medical neglect (including dental), failure to provide psychiatric or psychological treatment, abandonment, and educational neglect. For each investigation, the data on investigated forms of maltreatment have been collapsed to create 6 investigation categories: "physical abuse only", "sexual abuse only", "neglect only", "emotional maltreatment only", "exposure to intimate partner violence (IPV) only", and "multiple categories of investigated maltreatment".

Physical harm — Workers were asked to document whether they noted evidence of physical harm which they suspected or knew to have been caused by the investigated maltreatment.

Referral sources — Workers chose among 19 referral source categories, which have been collapsed into three variables presented here: professional referral, non-professional referral and other/anonymous referral. Workers were asked to code each independent referral involving a case. Thus, if a case was referred by a teacher and the child's uncle, two referral sources were coded: school (professional referral) and relative (non-professional referral).

Child characteristics — Workers completed a child functioning checklist, consisting of 18 child functioning issues commonly identified during an initial child maltreatment investigation, for each investigated child. They assessed child functioning issues ranging from developmental disabilities and delays to serious externalizing behaviors, to more common issues such as academic difficulties. Workers identified each child functioning issue as "confirmed", "suspected", "no concern", or "unknown". Data presented here identify the number of "confirmed" risk factors/functioning issues (none, one, or multiple). Because the child functioning concerns included in the checklist vary in severity, chronicity, and typical age of onset/diagnosis, this variable provides only one, very rough measure of case complexity.

Household characteristics — Workers also provided data about family structure, income sources, housing quality and residential stability; these have been collapsed into three, household-level indicators. Low income identifies households which "regularly ran out of money for basic necessities" or in which the primary household income source (based on data for up to two caregivers living in the home) was employment insurance, social assistance, other benefits or no known income source. Housing problems identifies families that moved at least twice during the year preceding the investigation, lived in overcrowded housing (no definition was provided to respondents) or lived in homes with health/injury hazards (e.g. poisons, electrical hazards, insufficient heat or unhygienic conditions). Lone caregiver indicates households in which workers identified only one adult caregiver.

Caregiver characteristics — Workers completed risk factor checklists for up to two caregivers living in the home. They identified each risk factor as: confirmed, suspected, no concern, or unknown. Data presented here identify confirmed risk factors. Primary and second caregiver risk factors have been combined and collapsed into five variables: “substance misuse (alcohol or drug/solvent)”, “domestic violence (victimization or perpetration)”, “having few social supports”, “health issues (mental, physical or cognitive)”, and “history of foster care/group home”. Each variable indicates whether or not the risk factor was confirmed for at least one caregiver.

4.4. Analytic methods

We use bivariate and logistic regressions to examine predictors of maltreatment substantiation, mirroring prior analysis of substantiation stage disproportionality in CIS-1998 and CIS-2003 (Trocmé et al., 2004; Trocmé et al., 2006). Descriptive, bivariate analyses are presented in Table 1; Tables 2 and 3 present analyses which controlled for case factors (child, caregiver, household, case characteristics) that were similar to those used in prior work. A dichotomous dependent variable distinguished substantiated maltreatment investigations from those that were unfounded; the independent variables were entered in 5 blocks — First Nations (a variable differentiating investigations involving First Nations and non-Aboriginal children), investigation characteristics, child characteristics, household characteristics, and, finally, caregiver characteristics. We report the effects on the First Nations coefficient of adding each subsequent block of independent variables (Table 2) and results for the full model (Table 3).

We then replicated this logistic regression for the subset of cases which involved investigation of neglect only; all other cases were dropped from analysis (see Tables 2 and 3). A final multivariate analysis further specified this model, introducing interactions between the First Nations variable and caregiver/household characteristics — those blocks of characteristics which were most strongly associated with substantiation disproportionality in First Nations and non-Aboriginal investigations. Interaction terms were added to the model in two blocks; the first block included First Nations * caregiver risk factor interaction terms, the second included First Nations * household risk factor interaction terms. The introduction of interaction terms allowed the relationship between substantiation and household/caregiver characteristics to differ for First Nations and non-Aboriginal children. While the initial model assessed whether or not substantiation disproportionality was fully explained by differences in measured caregiver, household and case characteristics, this more specified model probed the possibility that the weight workers assigned to these characteristics when making substantiation decisions differed depending on whether the investigation involved a First Nation or non-Aboriginal child. The multivariate results (Table 3) give the size and statistical significance of the relationship between household/ caregiver characteristics in non-Aboriginal investigations, as well as the size and statistical significance of the difference in the relationship between household/caregiver characteristics in non-Aboriginal and First Nations investigations. For ease of interpretation, we also present the size and statistical significance of the relationships between those household/caregiver characteristics for which there were statistically significant interaction terms and odds of substantiation, for First Nations children (Fig. 2). Finally, in order to better parse the meaning of these multivariate findings, we present the bivariate relationships, for First Nations and for non-Aboriginal children, between substantiation and those caregiver/household risk factors for which the multivariate model yielded statistically significant interaction terms and use this data to calculate unadjusted odds ratios (Fig. 3).

Table 1
 Case factors for maltreatment and neglect investigations involving non-Aboriginal and First Nations children.

	% of all maltreatment investigations			% of neglect only investigations		
	Non-Aboriginal	First Nations	Difference	Non-Aboriginal	First Nations	Difference
Substantiated investigations	55.50%	65.90%	***	46.20%	61.20%	***
Investigation characteristics						
Investigated maltreatment						
Physical abuse only	21.3%	9.7%	***	–	–	
Sexual abuse only	5.1%	3.7%	*	–	–	
Neglect only	27.0%	41.2%	***	–	–	
Emotional maltreatment only	5.4%	3.9%	**	–	–	
Exposure to IPV only	18.4%	17.6%	–	–	–	
Multiple maltreatment categories	22.9%	23.8%	–	–	–	
Referral source						
Professional	72.5%	65.6%	***	62.3%	58.6%	
Non-professional	22.8%	30.5%	***	28.3%	34.3%	**
Anonymous/other	7.2%	7.8%	–	11.2%	10.8%	
Physical harm	6.8%	6.1%	–	4.6%	3.2%	
Child characteristics						
Age						
<1	5.9%	8.5%	***	8.3%	8.3%	
1 to 3	16.6%	23.1%	***	18.5%	24.3%	***
4 to 7	25.6%	25.9%	–	23.9%	26.6%	
8 to 11	26.3%	19.8%	***	25.7%	18.2%	***
12 to 15	25.6%	22.7%	**	23.6%	22.6%	
Child functioning concerns						
None	58.1%	60.1%	–	57.7%	60.9%	
One	14.6%	11.8%	**	14.4%	10.7%	**
Multiple	27.3%	28.2%	–	27.9%	28.4%	
Household characteristics	100.0%					
Low income	31.2%	57.8%	***	42.8%	64.6%	***
Housing problems	17.4%	27.5%	***	26.1%	28.9%	
Lone caregiver	36.4%	46.5%	***	48.8%	56.5%	***
Caregiver risk factors						
Health	18.0%	13.8%	***	20.2%	12.9%	***
Domestic violence	25.3%	34.7%	***	9.2%	15.9%	***
Foster care/group home	6.5%	15.3%	***	8.0%	14.6%	***
Few social supports	16.7%	20.3%	***	19.2%	21.8%	
Substance abuse	11.6%	34.5%	***	11.3%	35.8%	***

*p value < .05, ** p value < .01, *** p value < .001.

5. Findings

Table 1 presents descriptive statistics for the full sample and a subset of cases in which neglect was the only category of maltreatment investigated. It shows that the substantiation rate for investigations involving First Nations children (65.9%) is significantly higher than that for investigations involving non-Aboriginal children (55.5%). Neglect only investigations represented the largest category of investigation for First Nations children, and the proportion of First Nations cases which involved investigation of neglect only was significantly higher than the proportion of non-Aboriginal neglect-only investigations (41.2% and 27% respectively). In addition, Table 1 shows that there was a 15 percentage point difference in the proportions of First Nations and non-Aboriginal neglect-only investigations which were substantiated (61.2% and 46.2%). Further analysis of substantiation rates within investigation categories showed that there were no statistically significant differences in substantiation for First Nations and non-Aboriginal investigations involving investigation of physical abuse only, sexual abuse only, or emotional maltreatment only, but that there were significant differences in substantiation rates for exposure to intimate partner violence only (90.1% for First Nations and 79.6% for non-Aboriginal) and multiple maltreatment categories (76.8% and 67.9%).

The findings presented in Table 1 demonstrate the relative complexity of First Nations investigations in comparison with non-Aboriginal investigations. All but one of the household and caregiver risk factors were identified in a greater proportion of First Nations than non-Aboriginal investigations. The sole exception to this pattern was health problems, which were identified in a greater proportion of investigations involving non-Aboriginal children. Further analyses (not presented here) also confirmed that a greater proportion of First Nations than non-Aboriginal investigations involved co-occurring household and caregiver risk factors. The pattern of caregiver and household risk factors was similar in the subset of neglect-only investigations. The difference in the proportion of First Nations and non-Aboriginal investigations involving housing problems and few social supports were reduced in size and were statistically non-significant in the subset of neglect cases. However, the size and significance of all other differences were in keeping with the pattern in the full sample.

Table 2
 Effect, on the First Nations odds ratio, of adding case factors to logistic regression models predicting substantiation of maltreatment and neglect.

	All maltreatment investigations		Neglect only investigations	
	First Nations odds ratio	Block X ²	First Nations odds ratio	Block X ²
Block 1: First Nations	1.55***	71.7***	1.85***	54.7***
Block 2: Case characteristics	1.60***	1488.3***	1.96***	116.8***
Block 3: Child characteristics	1.60***	247.2***	1.99***	119.3***
Block 4: Household characteristics	1.46***	152.8***	1.0***	101.0***
Block 5: Caregiver risk factors	1.10	836.1***	1.32***	310.2***
Block 6: Household interaction terms			0.91	16.1**
Block 7: Caregiver interaction terms			0.66*	43.5***

* p value < .05.
 ** p value < .01.
 *** p value < .001.

Table 3
 Logistic regression models predictors of the substantiation of maltreatment and neglect.

	All maltreatment investigations			Neglect only investigations							
	Model 1			Model 2				Model 3			
	B	Odds ratio	SE	B	Odds ratio	SE	Sig	B	Odds ratio	SE	Sig
First Nations	0.10	1.10	0.06	0.28	1.32	0.10	**	-0.42	0.66	0.20	.
Investigation characteristics											
Investigated maltreatment											
Neglect only		Reference									
Physical abuse only	-0.40	0.67	0.07 ***								
Sexual abuse only	-0.59	0.56	0.11 ***								
Emotional maltreatment only	0.34	1.40	0.10 **								
Exposure to IPV only	1.14	3.14	0.08 ***								
Multiple maltreatment categories	0.57	1.77	0.07 ***								
Physical harm noted	1.21	3.36	0.10 ***	1.24	3.46	0.23	***	1.23	3.43	0.23	***
Referral source											
Professional		Reference									
Non-professional	0.57	1.77	0.06 ***	0.65	1.92	0.09	***	0.65	1.91	0.10	***
Anonymous/other	-0.16	0.86	0.10	-0.14	0.87	0.15		-0.18	0.84	0.15	
Child characteristics											
Age											
<1	-0.01	0.99	0.11	-0.07	0.94	0.17		-0.06	0.94	0.17	
1 to 3	0.04	1.04	0.07	0.09	1.10	0.12		0.06	1.07	0.13	
4 to 7		Reference			Reference				Reference		
8 to 11	-0.04	0.96	0.07	-0.16	0.85	0.12		-0.16	0.85	0.12	
12 to 15	0.14	1.15	0.07 *	-0.21	0.81	0.12		-0.24	0.78	0.12	.
Child functioning concerns											
None		Reference			Reference				Reference		
One	0.46	1.58	0.07 ***	0.56	1.75	0.13	***	0.59	1.80	0.13	***
Multiple	0.68	1.97	0.06 ***	0.87	2.39	0.11	***	0.91	2.48	0.11	***
Household characteristics											
Low income	0.12	1.13	0.06 *	0.09	1.09	0.09		0.04	1.04	0.11	
Housing problems	0.32	1.37	0.06 ***	0.60	1.82	0.10	***	0.71	2.03	0.11	***
Lone caregiver	0.05	1.06	0.05	0.09	1.10	0.09		-0.04	0.96	0.10	
Caregiver risk factors											
Health	0.09	1.09	0.07	-0.08	0.93	0.11		0.02	1.02	0.12	
Domestic violence	1.07	2.90	0.07 ***	0.04	1.04	0.14		-0.12	0.89	0.17	
Foster care/group home	0.11	1.11	0.10	0.02	1.02	0.15		0.07	1.08	0.18	
Few social supports	0.58	1.79	0.07 ***	0.86	2.36	0.11	***	0.87	2.40	0.13	***
Substance abuse	1.45	4.26	0.08 ***	1.88	6.55	0.13	***	1.23	3.42	0.16	***
First Nations * household characteristics											
Low income								0.31	1.37	0.23	
Housing problems								-0.50	0.61	0.24	.
Lone caregiver								0.67	1.96	0.22	**
First Nations * caregiver risk factors											
Health								-0.45	0.64	0.31	
Domestic violence								0.37	1.45	0.33	
Foster care/group home								-0.03	0.97	0.33	
Few social supports								0.05	1.05	0.28	
Substance abuse								1.77	5.85	0.30	***
Model fit: % accurately predicted		71%				69%			69%		

* p value < .05, ** p value < .01, *** p value < .001.

Tables 2 and 3 summarize the results of multivariate analysis of the factors associated with substantiation of maltreatment and of neglect. Table 2 presents the changes in the relationship between the First Nations variable and the odds of substantiating maltreatment/neglect as subsequent blocks of case factors were added. Table 3 presents full results for three models. In Model 1, five blocks of case factors (First Nations status, case characteristics, child characteristics, household risk factors, and caregiver risk factors) were used to predict the odds of substantiating maltreatment. In Model 2, the same five blocks of case factors were used to predict the odds of substantiating neglect. In Model 3, two blocks of interaction terms (First Nations * caregiver risk factors and First Nations * household risk factors) were added to model 2.

When only the First Nations variable was in the model predicting substantiation of maltreatment, the odds of substantiation for First Nations children were significantly higher than for non-Aboriginal

children (First Nations odds ratio = 1.55***). The introduction of investigation, child and household characteristics had little effect on this disproportionality. However, the introduction of caregiver risk

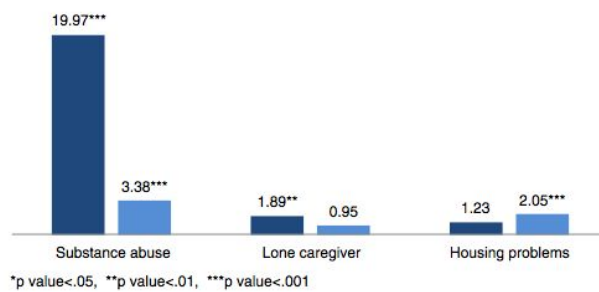


Fig. 2. Odds ratios for relationship between household/caregiver risk factors and substantiation for First Nations and non-Aboriginal children (based on Model 3, logistic regression results controlling for all case factors, presented in Table 3).

factors into the model reduced the First Nations odds ratio to 1.1, and rendered it statistically insignificant. Thus, as in analyses of data from prior CIS cycles, this analysis suggests that disproportionality in substantiation rates is fully explained by case factors, and that caregiver risk factors play a particularly strong role in explaining substantiation disproportionality. The results for Model 1 presented in Table 3 show that domestic violence, having few social supports, and substance abuse had a statistically significant relationship to the odds of

substantiation once other factors were controlled. In keeping with the bivariate analyses presented in Table 1, the results presented in Table 3 indicate that the odds of substantiation differed by category of investigated maltreatment, with the odds of substantiation in investigations involving emotional maltreatment, exposure to IPV and multiple maltreatment categories being significantly higher than the odds of substantiation in neglect investigations and the odds of substantiation for physical and sexual abuse being lower than for neglect.

Model 2 replicated the analysis performed on the full sample for the subset of neglect-only investigations. Table 2 shows that the general pattern of changes in the First Nations coefficient was similar to that in analysis of the full sample. When only the First Nations variable was in the model, the odds of substantiation for First Nations children were significantly higher than for non-Aboriginal children (First Nations odds ratio= 1.85***). Introduction of case, child and household characteristics had little effect on this disparity. Introduction of caregiver risk factors did reduce the First Nations odds ratio, but, in contrast to the analysis of the full sample, the First Nations coefficient remained statistically significant even with caregiver risk factors added to the model (1.32***). The implication is that differences in household characteristics and caregiver risk factors only partially explained the disproportionate rates of neglect substantiation for First Nations and non-Aboriginal children.

In order to further specify the factors contributing to disproportionate substantiation of neglect, an additional model, including interactions between the First Nations variable and household/caregiver risk factors, was tested. Model 3 allowed the weight assigned to household and caregiver risk factors in making the substantiation decision to vary depending on whether the investigation involved a First Nations or non-Aboriginal child. Table 2 shows that addition of the interaction terms for household characteristics reduced the First Nations odds ratio from 1.32*** to .91 and rendered it statistically insignificant. With addition of the caregiver risk factor interaction terms, the First Nations odds ratio was further reduced and became statistically significant (.66*). Thus, the combination of differences in household characteristics/ caregiver risk factors and differences in the weight assigned to these factors in neglect cases involving First Nations and non-Aboriginal children fully explained the higher substantiation rates for First Nations children. Indeed, once both the household/caregiver risk factors and differences in the weight assigned to these factors were controlled, the odds of substantiation were lower in First Nations neglect investigations than in neglect investigations involving non-Aboriginal children.

Table 3 presents the full results for Model 3. There were statistically significant interactions between the First Nations variable and caregiver substance abuse, presence of a lone caregiver, and housing problems. The coefficients for the interaction terms represent the difference in the relationship between these variables and the odds of substantiation in neglect investigations involving First Nations children and non-Aboriginal children (interaction $b = \text{First Nations } b - \text{non-Aboriginal } b$). For ease of

interpretation, Fig. 2 presents the overall increases in odds of substantiation associated with housing problems, presence of a lone caregiver and caregiver substance abuse for First Nations children, contrasting them with overall increases in odds of substantiation associated with these variables for non-Aboriginal children. Worker identification of housing problems significantly increased the odds of substantiation in neglect investigations involving non-Aboriginal children (odds ratio= 2.03*), but not in neglect investigations involving non-Aboriginal children (odds ratio = 1.23). The presence of a lone caregiver did not significantly affect the odds of substantiation for non-Aboriginal children (.96, statistically

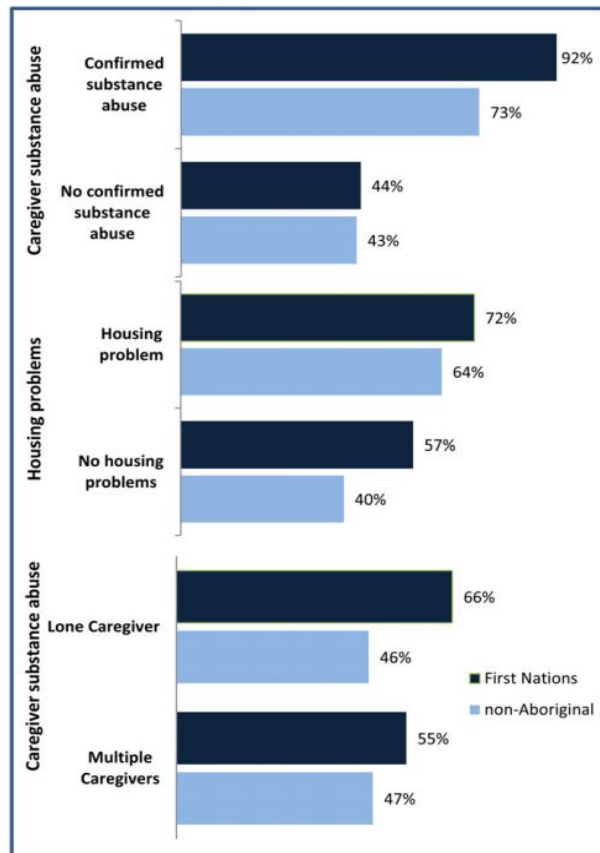


Fig. 3. Bivariate relationships between household/caregiver risk factors and substantiation of neglect, for First Nations and non-Aboriginal children.

non-significant), but did significantly increase the odds of substantiation in neglect investigations involving First Nations children (odds ratio = 1.89**). Finally, while worker confirmation of caregiver substance abuse did significantly increase the odds of substantiation in neglect investigations involving non-Aboriginal children (odds ratio = 3.38**), the increase in odds of substantiation was much greater in First Nations neglect investigations (odds ratio= 19.97***).

The adjusted odds ratio for substance abuse in neglect investigations involving First Nations children is extremely large. An odds ratio of 19.98 means that the odds of substantiation for a First Nations neglect investigation in which the worker confirmed caregiver substance abuse were roughly 20 times greater than the odds of substantiation in a First Nations neglect investigation in which caregiver substance abuse was not confirmed. Indeed, as seen in Fig. 3, the strong relationship between confirmed caregiver substance abuse and substantiation of neglect for First Nations children is evident even in bivariate analyses. Neglect was substantiated in 92% of First Nations neglect investigations in which

workers confirmed caregiver substance abuse and 44% of First Nations neglect investigations in which caregiver substance abuse was not confirmed. The resulting unadjusted odds ratio is 14.64. In contrast, 73% of non-Aboriginal neglect investigations in which workers confirmed caregiver substance abuse, and 43% of non-Aboriginal neglect investigations in which caregiver substance abuse was not confirmed, were substantiated; the resulting, unadjusted odds ratio is 3.58. Bivariate analyses of substantiation rates in neglect cases involving housing problems and single parents also yield unadjusted odds ratios which mirror the patterns seen in multivariate analysis. The unadjusted odds ratio for housing problems is 1.94 for First Nations investigations and 2.67 for non-Aboriginal investigations; the unadjusted odds ratios for presence of a lone caregiver is 1.59 for First Nations and .96 for non-Aboriginal investigations.

6. Conclusion/Discussion

Using data from the CIS-2008, we examined disproportionality in the substantiation of maltreatment and of neglect for First Nations and non-Aboriginal children who were investigated by a large sample of child welfare agencies in Canada. Our findings for substantiation of maltreatment are

consistent with prior research (Trocmé et al., 2006); the percentage of maltreatment investigations that were substantiated was significantly higher for First Nations than non-Aboriginal children. Case factors – investigation, child, caregiver and household characteristics – fully explained the disproportionality in substantiation of maltreatment, with the bulk of the difference being explained by caregiver characteristics. These findings reinforce the conclusion, drawn in some prior studies (e.g. Trocmé et al., 2009), that substantiated cases are clinically distinguishable from unsubstantiated cases. They also reinforce prior findings suggesting that substantiation disproportionality for First Nations and non-Aboriginal children reflects differences in the clinical profiles of the investigation (Trocmé et al., 2004; Trocmé et al., 2006).

This latter finding, however, did not apply to the subset of neglect-only investigations. Neglect-only was the largest category of investigations for First Nations children and a difference in the rate of neglect substantiation First Nations and non-Aboriginal children partially drove disproportionality in maltreatment substantiation rates. We found that neglect was significantly more likely to be substantiated for First Nations children than for non-Aboriginal children, and that a statistically significant difference in the odds of substantiation persisted even after controlling for investigation, child, caregiver and household characteristics. Examination of interaction effects showed that that this disproportionality in neglect substantiation of neglect is also linked to differences in the weight that workers assign to mitigating factors. Worker confirmation of caregiver substance abuse was associated with a much greater increase in the odds of neglect substantiation for First Nations than for non-Aboriginal children. The presence of a lone caregiver increased the odds of neglect substantiation for First Nations, but not non-Aboriginal children. Finally, worker identification of housing problems significantly increased the odds of neglect substantiation for non-Aboriginal children; they did not do so for First Nations children. These findings reinforce those from previous work (Dettlaff et al., 2011; Rivaux et al., 2008) which suggest that the association between specific factors and substantiation decision may differ across ethnoracial groups.

Viewed in terms of the Decision-Making Ecology framework presented in Fig. 1, there are many potential explanations for differences in the rate of substantiation in First Nations and non-Aboriginal investigations involving caregiver substance abuse, a lone caregiver, or housing problems. Substantiation disproportionality might be driven by differences in the case factors identified for children from different ethno-racial groups, differences in the assessment of harm/risk of harm based on these case factors, or differences in the threshold for substantiating maltreatment. At each stage, worker assessments and decision might be shaped by a complex mix of worker, organizational and external factors. Thus, for example, the difference in the increase in odds of neglect substantiation associated with caregiver substance abuse may reflect systematic differences in case factors – such as the severity, chronicity, or specific form of substance abuse – which workers take into account when making substantiation decisions, but which are not accounted for in the models tested in this study. Alternatively, it might reflect differences in practice models of the agencies in which First Nations cases were clustered and other agencies. For example, some Aboriginally governed agencies take a harm reduction approach, and may substantiate neglect in cases involving caregiver substance abuse in order to provide support services such as respite care or funds for child care (personal communication with FNCIS-2008 Advisory Committee, October 2, 2013). If this approach was more prevalent in agencies serving First Nations populations, it could explain the substantiation disproportionality. Another possibility is that caseworkers who serve First Nations and non-Aboriginal children have different personal experiences or beliefs, which lead them to differentially identify and review case factors, assess risk based on equivalent case factors, or to substantiate based on different thresholds of risk for First Nations and non-Aboriginal children.

Accordingly, the possible explanations for the differential association between worker confirmation of caregiver substance abuse and neglect substantiation for First Nations children range from the possibility that First Nations children experience elevated risks of harm because of case or contextual factors, to the possibility that substantiation decisions reflect ethno-racial bias on the part of investigating workers. The finding of a differential association between caregiver substance abuse and

substantiation, in combination with the range of possible explanations for this finding, raises important questions about the nature of substantiation decisions, the factors that workers take into account when making these decisions, and the clinical emphasis that should be placed on substantiation. Moreover, the strength of the association between caregiver substance abuse and substantiation of neglect for First Nations children means that these findings also raise question about the definition of neglect itself. Neglect was substantiated in 92% of the First Nations neglect investigations in which workers confirmed caregiver substance abuse. Thus, within the context of a neglect investigation involving a First Nations child, confirmation of caregiver substance abuse is practically equivalent with substantiation. Neglect has historically been constructed including both situations in which actions/inaction by parents place a child at risk of harm and those situations in which a caregiver is seen to be acting in ways that may transgress normative parenting standards but do not impose a risk of harm. Neglect investigations in which workers confirm caregiver substance abuse could potentially fall into either of these categories, and distinguishing transgressive parental behavior from risk of harm is difficult (Straus & Kantor, 2005). Accordingly, this finding poses questions about how far we have moved beyond problematic historical constructions of neglect.

As with the substance abuse findings, difference in the rates of substantiation in First Nations and non-Aboriginal investigations involving lone caregivers or housing problems could possibly arise at any point in the decision making model depicted in Fig. 1. Among the most plausible explanation is the possibility that workers perceive that First Nations children with lone caregivers are at higher risk because the strains of single parenthood are more often compounded by additional risk factors such as low incomes and caregiver substance abuse. Potential explanations for the finding that housing problems increase the odds of neglect substantiation for non-Aboriginal children, but not for First Nations children, are less straightforward. One possibility is tied to disparity in housing conditions for First Nations and non-Aboriginal people (Auditor General of Canada, 2011; Make First Nations Poverty History Expert Advisory Committee, 2009), which is well documented at the national level and is mirrored in data describing the sample examined in this study. The disparity in housing conditions suggests a possibility that workers may adapt to the poorer average quality of First Nations housing and lack of First Nations control over housing situations on reserve, by lowering standards for assessing risk, or by raising the threshold for substantiating neglect based on housing problems when it comes to First Nations children. Viewed from the perspective in which substantiation of neglect reflects a moral failure on the part of caregivers, it makes sense to place less weight on housing problems when substantiating neglect First Nations children; the abilities of First Nations families to provide appropriate housing are limited by structural factors beyond their control, some of which do not apply to non-Aboriginal families. However, viewed from perspective in which substantiation of neglect is an indicator that a child is at risk of harm, the possibility that workers apply different standards when assessing the impact of housing problems on First Nations and non-Aboriginal children raises troubling questions about the child welfare system's commitment to the well-being of First Nations children and, accordingly, about operational definitions of substantiation and neglect.

The analyses presented here indicate that, substantiation disproportionality in neglect investigations involving First Nations and non-Aboriginal children is partially driven by differential relationships between substantiation and household/caregiver risk factors which are routinely assessed during maltreatment investigations. The DecisionMaking Ecology framework suggests multiple possible explanations, with very different practical implications, for these differential relationships. Unfortunately, the CIS data analyzed in this study are not sufficient to support analyses that definitively identify the reasons for the differential relationships reported in this study. The CIS collects worker reports on case factors typically identified and decisions made during an investigation and, accordingly, mirrors investigation stage decision making processes. While the case level data collected by the CIS are extensive, they consist of relatively simple measures designed for ease of use by caseworkers; accordingly, they may not capture full range of the factors they take into account and only include proxies for some measures, such as income (proxies include: income source and regularly running out of money for necessities) which have been shown to be important in a large body of prior work.

Moreover, the CIS captures only worker assessments of investigated cases; these assessments cannot be independently verified and, thus, it is not possible disentangle underlying case characteristics from the complex factors which shape worker assessments. Finally while prior studies using CIS data indicate that both organizational factors (Fallon et al., 2013; Fluke et al., 2010) and external factors, such as variation in provincial/ territorial policies or practices (Jud, Fallon, & Trocmé, 2012) impact worker decisions during the investigation period, these factors were not examined in the study presented here.

Short term follow up to this study should build on the findings here through multi-level analyses which incorporate measures of organizational and external factors which may impact the substantiation decision. In the longer term, the development of more thorough understanding of the factors which inform substantiation decisions requires three distinct types of research: (1) studies which include case factor data provided by both investigating workers and independent assessors, (2) phenomenological studies which provide rich description of workers' experiences of making substantiation decisions and perceptions of the factors which inform these decisions, and (3) quantitative studies which include both case factors and theoretically grounded, high quality measures of ecological/ contextual factors which may impact substantiation processes.

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