Substantiated Child Maltreatment: Which factors do workers focus on when making this critical decision?

Article *in* Children and Youth Services Review · April 2018

4 authors, including:

Some of the authors of this publication are also working on these related projects:

Planification d'une recherche sur la valeur sociale et économique des centres de pédiatrie sociale au Québec (Canadian Institutes of Health Research (CIHR) – Planning and Dissemination Grants – Institute Community Support) View project

Child Welfare View project
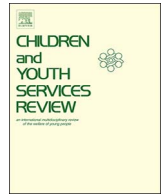
Substantiated Child Maltreatment: Which factors do workers focus on when making this critical decision?

Stoddart J.K.[a,*], Fallon B.[b], Trocmé N.[c], Fluke J.[d]

[a] *Factor-Inwentash Faculty of Social Work, University of Toronto, Canada*
[b] *University of Toronto, Canada*
[c] *McGill University, Canada*
[d] *University of Colorado Denver, United States*

A R T I C L E   I N F O

Keywords:
Substantiation decisions
Policy initiatives
Ontario
Child maltreatment
Risk

A B S T R A C T

The decision to substantiate child maltreatment is one of the many complex decisions workers must make daily. Utilizing data from the Ontario Incidence study 2013, this paper examines what child, family and environmental characteristics workers paid attention to when making the determination that a child had experienced maltreatment. This study adds to the Canadian body of research on factors that influence the decision to substantiate maltreatment by exploring the Ontario population. Caregiver risk factors, uncooperative parents, older children, and children with emotional or mental health concerns all increase the likelihood of substantiation. The decision to substantiate current maltreatment was strongly influenced by the workers' assessment of the future risk of maltreatment. Further research is need to explore worker and organizational factors that also influence this risk focus and how much of an influence the current risk assessment tools have on the workers' assessment of future risk and substantiation.

1. Introduction

Every day, child welfare workers are faced with complex decisions which impact the lives of children and their families. Once a referral has been accepted and an investigation is completed, the child welfare worker must determine if there is credible evidence to substantiate maltreatment. Child welfare workers must consider multiple clinical factors related to the child and family when making the substantiation decision. This important decision can influence how parents are defined by child welfare systems, how the courts view the parents, whether criminal charges are laid, what services a child and family receives from child welfare systems (including whether children are removed from their parent's care), and how child maltreatment prevalence is calculated by governments and in research (Cross et al., 2010; Child Welfare Information Gateway, 2003; Drake, 1996; Jedwab et al., 2015; Slep & Heyman, 2006; Trocmé, Knoke, Fallon, & McLaurin, 2009). Based on the data from the 2003 Canadian Incidence Study of Reported Child Abuse and Neglect (CIS-2003), Trocmé et al. (2009) conducted the first Canadian study exploring clinical case characteristics that were associated with decisions to substantiate maltreatment. Utilizing data from the 2013 cycle of the Ontario Incidence Study, this paper will explore what clinical factors influence workers in Ontario to substantiate

maltreatment, adding to the sparse Canadian research literature on substantiation decision-making.

Risk has become a dominant lens in child welfare that shapes the heuristics professionals use to make sense of complex situations. It has now become an almost taken for granted way for social workers to assess and practice child welfare (Houston, 2015; Swift, 2011; Turnell, Munro, & Murphy, 2013). As the focus on the concept of risk increases, the threshold of risk required to intervene in a family decreases, resulting in a widening of the net, or an extension of the reach of child welfare systems into new areas. This expansion, in turn, results in an ever-increasing pressure on child welfare workers to keep up with the latest assumed risk to children's safety (Clapton, Cree, & Smith, 2013; Swift, 2011; Turnell et al., 2013). Utilizing data from the most recent 2013 Ontario Incidence Study of Child Abuse and Neglect (OIS-2013), this paper will explore what child, family, and environmental characteristics workers paid attention to when making the determination that a child had experienced maltreatment.

2. Literature review

Child maltreatment occurs around the world and has physical and psychological implications for the well-being of children and their

---

families (Benbenishty et al., 2015; Gilbert et al., 2009; Slep, Heyman, & Foran, 2015). The decision to substantiate maltreatment generally means that the worker has determined that there is sufficient credible evidence to indicate that abuse or neglect indeed occurred (Jedwab et al., 2015; Slep & Heyman, 2006). The decision made by child welfare workers to substantiate maltreatment often has a significant impact on the children and their families. Decisions such as pressing criminal charges and removing children from their parents' care often follow the decision to substantiate maltreatment (Cross & Casanueva, 2009; Trocmé et al., 2009). In many States and in some provinces in Canada, such as Alberta and Quebec, cases cannot receive ongoing services unless the investigation is substantiated (Sinha, 2013). Given the importance of this decision and the potential impact for the child and family, it is important to understand how these decisions are made and to examine factors beyond the details of the event, which may influence a worker's decision.

3. Factors influencing substantiation

Research into factors influencing substantiation decisions have identified a number of clinical characteristics of children and families, such as the child's age (Cross & Casanueva, 2009; Scannapieco & Connell Carrick, 2003; Trocmé, Fallon, MacLaurin, & Neves, 2005; Williams, Tonmyr, Jack, Fallon, & MacMillan, 2011), gender (Cross & Casanueva, 2009; Font, 2015), and parent health and functioning, including mental health and substance abuse (Jedwab et al., 2015; Scannapieco & Connell Carrick, 2003; Trocmé et al., 2009).

More recent research studies have explored the impact of the ethno-racial status of families on the substantiation decision (Cheng & Lo, 2013; Dettlaff et al., 2011; Jedwab et al., 2015; Miller, Cahn, Anderson-Nathe, Cause, & Bender, 2013; Sinha, 2013), with some studies indicating an increased likelihood of cases of black or Aboriginal children being substantiated even when controlling for non-racial factors such as income and other risk factors, suggesting racial bias (Ards, Myers, Malkis, Sugrue, & Zhou, 2003; Font, 2015; Sinha, Ellenbogen, & Trocmé, 2013).

In addition to the clinical characteristics of children and families, other case factors associated with substantiated maltreatment include the family's previous child protection involvement, the type and severity of the maltreatment, as well as the quality of the evidence and the level of harm (Cross & Casanueva, 2009; Dettlaff et al., 2011; English, Marshall, Coghlan, Brummel, & Orme, 2002; Jent et al., 2011; Trocmé et al., 2009). Environmental factors, such as the values and policies of agencies and the community, time pressures, distractions, and the workers' role, have also been found to affect worker judgment (Arad-Davidson & Benbenishty, 2008; Christianson-Wood, 2011; Margolin, 1997). Other research has demonstrated that professional judgment and personal subjectivity, including attitudes and values, do have an impact on decisions, including judgments about risk, determinations about child neglect, and time spent with families (Arad-Davidson & Benbenishty, 2008; Parada, Barnoff, & Coleman, 2007; Stokes & Schmidt, 2011; Stokes & Taylor, 2014). While these additional factors are important, this study aims to explore which case based factors influence worker decision-making.

4. Substantiation classifications

In 1996, Drake proposed a harm/evidence model that provided a framework for understanding factors which influenced substantiation decisions. Drake (1996) suggested that workers make the decision regarding substantiation based on the level of harm experienced by the child and by the strength of the evidence. Only when the threshold of both harm and evidence are met would the case be substantiated. Drake (1996) urged researchers and child welfare agencies to consider a three-tiered classification that included *suspected*, in addition to *substantiated* and *unfounded*, to capture these cases.

5. Assessment of risk

In 2009 Cross and Casanueva proposed adding risk to Drake's original theoretical model and suggested that workers use harm, risk, and evidence when making substantiation decisions. The institutionalization of risk has had an impact on the process of decision-making in child welfare. Social workers are increasingly asked to use a range of risk assessment management technologies as a means to label and categorize risks to children, while also identifying individual responsibility and blame, to concepts of child abuse and neglect (Broadhurst, Hall, Wastell, White, & Pithouse, 2010; McDonald, Marston, & Buckley, 2003; Parton, 1998).

Risk assessment tools are intended to improve worker decision making in order to increase the safety and outcomes for children and families. However, the focus on risk assessment tools also draws our attention away from decision-making errors, and may lull workers into a false sense of security regarding their decisions (Fluke, Baumann, Dalgleish, & Kern, 2014). Risk assessment measures do not allow child welfare workers to predict with certainty if a specific parent will abuse her or his child again, and therefore, errors are inevitable (Gambrill, 2005, 2008; Munro, 2004).

Assessing risk focuses on future behavior while substantiation decisions concern current behavior (Pecora, 1991; Wald & Woolverton, 1990). Several studies have identified that the worker's assessment of the future risk of maltreatment was a significant factor in making the substantiation decision (Benbenishty et al., 2015; Dettlaff et al., 2011; English et al., 2002). This study will explore whether the introduction of a risk assessment framework, which includes an assessment of future risk of maltreatment, has influenced the decision-making regarding the substantiation of child-maltreatment.

6. Canadian context

The research into factors influencing substantiation decisions in the United States is extensive and can be helpful in guiding Canadian studies; however, it is important to understand the Canadian context of this important decision. According to the 2013 cycle of the Ontario Incidence Study (OIS-2013; Fallon, Trocmé, MacLaurin, Sinha, & Helle, 2015), 44% of all maltreatment investigations conducted in Ontario were substantiated, more than double the rate of substantiation reported in the United States (US Department of Health and Human Services – Administration of Children & Families, 2016). Based on data from the 2003 Canadian Incidence Study of Reported Child Abuse and Neglect (CIS-2003), researchers conducted a study exploring clinical case characteristics that were associated with decisions to substantiate maltreatment (Trocmé et al., 2009). This study found that the clinical profile of substantiated cases was significantly different from cases that were unfounded. This finding differed from similar studies conducted in the US, which have found that there was often little difference between the profiles of substantiated vs unfounded cases (Kohl, Jonson-Reid, & Drake, 2009). Rates of substantiation also differed based on the form of maltreatment, with the substantiation of sexual abuse being as low as 20%, while substantiation of exposure to domestic violence occurred in 76% of the case. Similar to other studies in the US, this study found that signs of emotional or physical harm and previous substantiated maltreatment were strong predictors of substantiation (Haskett, Wayland, Hutcheson, & Tavana, 1991).

Unlike US studies, child age was not found to be a factor in the overall substantiation decisions; however, the study also found that factors that influence the decision to substantiate differ by form of maltreatment. In physical abuse cases, older children had a higher likelihood of substantiation, while younger children had a higher likelihood of substantiated neglect and emotional maltreatment. This study was also consistent with other research that found caregiver risk factors such as alcohol and drug abuse, mental health concerns, criminal activity, cognitive impairment, as well as lack of social support and

domestic violence to be important factors in the decision to substantiate (English et al., 2002; Trocmé, McPhee, & Tam, 1995). Unlike the suspected and unfounded cases, child functioning concerns were associated with specific forms of maltreatment. Child behavior was associated with overall maltreatment as well as physical abuse substantiation, and a child's emotional concerns were associated with sexual abuse substantiation. The study concluded that the clinical factors that appeared to influence the decisions to substantiate each form of maltreatment were relatively consistent with the literature at the time.

7. Ontario policy context

Ontario's first structured and standardized approach to case decision-making was introduced in the Ontario Risk Assessment Model (ORAM) in 1998. Since these changes, significantly more children and families have been subjected to investigations by child welfare agencies annually (Trocmé et al., 2005; Trocmé, Lajoie, Fallon, & Felstiner, 2007). In response to the significant expansion of the child welfare mandate, and the resulting increase in services and expenditures, the Ministry of Children and Youth Services introduced "Child Welfare Transformation 2005: A strategic plan for a flexible, sustainable and outcome oriented service delivery model." According to this document, the expansion in child-welfare was influenced by multiple factors, and "represents a dramatic expansion of the types of situations in which child welfare services become involved in particular with respect to child neglect, emotional maltreatment and exposure to domestic violence. The profile of children and families served by the child welfare system has changed dramatically" (p. 3–4). Responding to growing concern across the US, Canada, and other countries that intense protection investigations focused on gathering evidence were not appropriate for all cases, the new model expanded the array of available assessment tools beyond risk assessment. The new policy was intended to re-balance child welfare practice by introducing the option of differential response to lower risk situations, focusing less on evidence gathering and more on engaging families (MCYS, 2005).

Data from the Ontario Incidence Study (OIS-2013) provides an opportunity to explore what factors Ontario Child welfare workers focus on when determining whether a child has experienced maltreatment or neglect. Similar to the CIS-2003 on which the Trocmé et al. (2009) study was based, the OIS-2013 has a range of child, family and maltreatment-related information, and uses a three-tiered substantiation classification. If they believe, based on the probability of the evidence that the child was maltreated, they are asked to classify the case as 'substantiated.' If they believe, based on the probability of evidence that the child did not experience maltreatment, they are asked to classify the cases as 'unfounded'; and if they are unable to determine either of the above categories based on the probability of evidence, they are asked to classify the case as 'suspected.' The OIS instructs workers to make the substantiation decision based on whether they believe that the child (or children) were the victims of child maltreatment. This paper compares the profile of substantiated and unfounded cases to explore what factors distinguish substantiated and unfounded cases in OIS-2013.

8. Methodology

The Ontario Incidence Study of Reported Child Abuse and Neglect (OIS) is a provincial study examining the incidence of reported child abuse and neglect in Ontario. The primary objective of the OIS is to gather reliable data regarding the rates of investigation and substantiation of maltreatment. This study utilizes secondary data from 2013 cycle of the OIS. The OIS tracks a sample of investigations involving children up to 15 years of age conducted in sites across Ontario. Child welfare agencies are the primary sampling unit for the OIS. The term child welfare agency is used to describe any organization that has the authority to conduct child protection investigations. Each of the

cycles of the OIS utilized a multi-stage sampling design, first to select a representative sample of child welfare agencies across Ontario, then to select cases within the three-month sampling period, and finally to select child investigations that met the study criteria from the sampled cases. The OIS-2013 gathered data on 5265 children who were the subject of investigations of maltreatment from a representative sample of 17 child welfare organizations. The sample was then weighted to reflect provincial annual and regional estimates 125,280 investigations in 2013.

The OIS collected information directly from investigating workers at the conclusion of the investigation. Site researchers provided training to workers covering key definitions and study procedures and conducted follow-up visits to verify adherence to the sampling protocol and data collection on the OIS forms. The data collection forms describe the alleged maltreatment, in addition to other child, family, and investigation-related information that included: (a) child age, sex, Aboriginal status, and a child functioning checklist; (b) family size, structure and housing conditions; (c) caregiver age, education, ethnicity, income, and a caregiver risk factor checklist; and (d) source of report, caregiver response to investigation, ongoing service status, service referrals, out-of-home placement, child welfare court application, as well as police and criminal court involvement. Reflecting a broad definition of child maltreatment, the OIS distinguishes five primary categories of maltreatment: physical abuse, sexual abuse, neglect, emotional maltreatment, and exposure to domestic violence. Every investigation could be classified as up to three forms of maltreatment (i.e., primary, secondary, and tertiary). For each form of maltreatment, the study tracked information on substantiation, duration, perpetrator, physical harm, and use of punishment. A case was considered substantiated if the balance of evidence indicated that abuse or neglect had occurred. If there was not enough evidence to substantiate maltreatment, but there remained a suspicion that maltreatment had occurred, a case was classified as suspected. A case was classified as unfounded if there was sufficient evidence to conclude that the child had not been maltreated. Workers were asked to complete a three-page Maltreatment Assessment Form with additional pages for each child included in the investigation. This study will rely on secondary data collected by these Maltreatment Assessment Forms in each of the two cycles.

9. Outcome variables

Substantiation status. Workers classified forms of maltreatment as substantiated, suspected, or unfounded. If the primary form of maltreatment identified was substantiated, the case would be considered substantiated for this analysis. When classifying cases, workers coded the maltreatment as substantiated if the evidence indicated that maltreatment occurred. If the evidence was insufficient, or the worker was unable to determine the harm to the child, but the incident of maltreatment could not be ruled out, the worker classified the investigation as suspected. If the evidence indicated that maltreatment did not occur, workers classified these cases as unfounded. The 2009 Trocmé et al. Canadian study found that the cases classified as suspected were distinct enough in their characteristics that they should not be collapsed into either the substantiated cases or the unfounded cases. Suspected cases were less likely to involve physical or emotional harm than substantiated cases and the presence of caregiver risk factors increased the likelihood that the investigations would be suspected rather than unfounded. Based on the findings from this study, instead of collapsing cases coded as suspected into either substantiated or unfounded, they were excluded from the analysis regarding substantiation factors, and this study will only explore substantiated and unfounded cases.

10. Independent variables

The decision about which variables to include in the analysis was informed by the Trocmé et al. (2009) study that utilized CIS-2003 data.

These include a range of household, caregiver, and child factors that influence the probability that a maltreatment investigation would be substantiated. The variables included have been updated to reflect some of the more recent findings on factors influencing substantiation decisions, including the future risk of maltreatment.

Forms of maltreatment. Workers identify the primary, and up to two other forms of maltreatment, based on five categories of maltreatment: physical abuse, sexual abuse, neglect, emotional maltreatment, and exposure to intimate partner violence. Multiple forms of abuse and maltreatment are included in each of the five categories. For this analysis, only the primary forms of maltreatment will be used: physical abuse only, sexual abuse only, neglect only, emotional maltreatment only, and exposure to domestic violence only.

Primary caregiver ethno-racial status. The ethno-racial status of the primary caregiver was used in this analysis, thus collapsing these categories into four: White, Black, Aboriginal, and "other" minority.

Primary Caregiver risk factors. Workers indicated whether the following caregiver risk factors were present at the time of the investigation: Alcohol abuse, drug or solvent abuse, cognitive impairment, mental health issues, physical health issues, few social supports, victim of intimate partner violence, perpetrator of intimate partner violence, and history of foster care or group home. The number of risk factors noted by the worker to be suspected or confirmed were summed for the primary caregiver. Because the distribution of risk factors was positively skewed, the number was collapsed into three categories: none, one, two or more risk factors.

Caregiver response to the investigation. The worker indicated whether contact with the primary or secondary caregiver in response to investigations was co-operative, uncooperative, or not contacted. Responses for both individual caregivers were collapsed into one variable: Y = one or both caregivers were uncooperative.

Child's functioning concerns. Three domains of child functioning were derived for these analyses based on the Trocmé et al. (2009) study: (a) emotional and or mental health concerns, which include depression, anxiety, suicidal thoughts, self-harm, and attachment issues; (b) cognitive and or physical functioning concerns, including intellectual disabilities, physical disabilities and a number of developmental concerns; and (c) behavioral concerns, including aggression, running, inappropriate sexual behavior, involvement with the youth justice system, and substance and alcohol use.

Source of referral. Referral sources will be grouped into two categories: professional (i.e. police, schools), and non-professional referral source (i.e. neighbor).

Maltreatment history. Workers document whether there was previous maltreatment history and whether this history had been substantiated for the investigated child. Only cases that had been substantiated were coded as Y for this variable.

Housing risk. Each of the following housing risks were given a score of one: family residing in a shelter, public housing, "other" housing, unsafe housing, overcrowded home, two or more moves in the past 12 months, and if the household ran out of money for food, housing, or utilities in the past six months. Given the factors included in this variable, one could argue that this provides a proxy for the existence of poverty. For purposes of analysis, scores were then collapsed into no housing risk, one risk, or two or more risks (Trocmé et al., 2009).

Physical harm. This was a dichotomous variable asking the worker if physical harm was evident. Physical harm included bruises, cuts, scrapes, broken bones, burns, scalds, and head trauma.

Future risk of maltreatment. This is a dichotomous variable asking workers if they believed there was a significant risk of future maltreatment. The question on the collection tool reads "indicate, based on your clinical judgement, if there is significant risk of future maltreatment."

11. Analysis plan

To examine the rates of substantiated maltreatment, bivariate and multivariate analyses were conducted. Independent-sample *t*-tests were conducted to identify rates of substantiation. Chi-square bivariate analyses were used to examine the relationship between the types of maltreatment and whether the investigation was classified by the worker as substantiated, suspected, or unfounded. Chi-square bivariate analyses were used to examine the relationship between case characteristics and the decision by workers whether to classify the cases as substantiated, suspected, and unfounded. Logistic regression analysis was conducted to examine, specifically, the factors that distinguished substantiated from unfounded maltreatment. Suspected investigations were dropped from the multivariate analysis (*n* = 253 unweighted) because previous research has demonstrated that suspected investigations differ from both unfounded and substantiated investigations (Trocmé et al., 2009). Variables entered in the logistic regression were selected utilizing a theory-driven approach drawing from previous research on substantiation decision-making. Logistic regression is suited to the analysis of the OIS data as many of the dependent variables of interest are dichotomous and the relationships among the independent and dependent variables are not necessarily linear (Walsh & Ollenburger, 2001).

12. Results

Rates of substantiation. Table 1 presents the primary form of maltreatment by the substantiation status for the 2013 cycle. The tables provide the rate per 1000 children in Ontario for each of the substantiation subtypes. Less than three per 1000 children are the subject of substantiated maltreatment for physical abuse, less than one per 1000 children for sexual abuse, and roughly four per 1000 for neglect. Two out of every 1000 children were substantiated for emotional maltreatment and almost nine per 1000 children were substantiated for exposure to domestic violence in 2013. > 50% of all cases investigated for emotional maltreatment (53%) and exposure to domestic violence (65%) were substantiated in 2013. Conversely, < 20% of all sexual abuse investigations were substantiated in 2013.

Profile of substantiated cases. Table 2 presents bivariate relationships between substantiation status and a variety of case characteristics in the 2013 full weight sample of 97,951, excluding children involved in risk only investigations. Chi-square analyses were conducted with the weighted sample of 5210 cases to determine which variables were related to substantiation; all of the selected variables were statistically significant.

A logistic regression analysis was conducted to identify the factors that influenced substantiation decisions (Table 3). The relatively small numbers for some of the variables in the model precluded examining

Table 1
Primary form of maltreatment by substantiated status-rate per 1000 children in Ontario (weighted) – 2013.

Primary form of maltreatment investigated	Unfounded		Suspected		Substantiated		Total	
	Rate	%	Rate	%	Rate	%	Rate	%
Physical abuse	7.76	72.8%	0.44	4.1%	2.45	23%	10.65	100%
Sexual abuse	1.31	72.1%	0.14	8.0%	0.36	19.9%	1.81	100%
Neglect	2.21	56.8%	0.50	4.4%	4.42	38.8%	11.39	100%
Emotional maltreatment	1.75	38.8%	0.37	8.1%	2.39	53.1%	4.51	100%
Exposure to domestic violence	3.53	26.5%	0.99	8.2%	8.69	65.3%	13.32	100%
Total	20.82	49.9%	2.54	6.1%	18.32	44.0%	41.68	100%

Note: $\chi2(8) = 14{,}250$, $p < .001$.

Table 2

Primary form of substantiated maltreatment by case characteristics– OIS 2013 *N* = 97,951(weighted sample).

Case characteristics	Physical only (n = 25,030)		Sexual abuse only (n = 4262)		Neglect only (n = 26,767)		Emotional abuse (n = 10,592)		eIPV only (n = 31,300)	
PC ethnicity***										
White	13,496	54%	3223	76%	19,146	72%	6954	66%	19,574	62%
Black	2583	10%	214	5%	1069	4%	612	6%	2394	8%
Aboriginal	698	3%	223	5%	3258	12%	430	4%	1905	6%
Other	8253	33%	602	14%	3294	12%	2596	24%	7427	24%
Total caregiver risks***										
No risks	17,162	69%	3137	74%	11,639	44%	5290	50%	5893	19%
One risk	5031	20%	732	17%	6260	23%	3016	29%	10,648	34%
Two risks	17,47	7%	169	4%	4362	16%	1144	11%	8196	26%
One/both caregiver response to investigation***										
Co-operative	22,152	93%	38,683	95%	23,043	89%	9765	94%	28,026	90%
Not co-operative	1669	7%	187	5%	2904	11%	694	5%	3160	10%
Child's gender***										
Male	14,287	57%	1764	41%	14,397	54%	4930	46%	14,866	48%
Female	10,743	43%	2498	59%	12,370	46%	5671	54%	16,435	52%
Child functioning concerns										
Emotional/mental***	4962	20%	867	20%	6061	23%	2455	23%	3502	11%
Cognitive/physical***	7263	29%	790	19%	8004	30%	2544	24%	3958	13%
Behavioral***	7500	30%	1315	31%	6705	25%	2282	22%	3636	12%
Substantiated child recurrence***	6359	25%	1012	24%	10,871	41%	3753	36%	11,141	36%
Professional referral***										
Nonprofessional	3214	13%	1357	32%	11,235	42%	2470	23%	6061	19%
Professional	21,815	87%	2905	68%	15,521	58%	8123	77%	25,239	81%
Housing risks***										
No risks	21,052	84%	3852	90%	17,058	64%	7932	75%	23,051	74%
One risk	2311	9%	344	8%	5235	20%	1989	19%	5791	19%
Two or more risks	1667	7%	65	2%	4474	17%	671	6%	2457	8%
Physical harm***	3069	65%	135	3%	1221	26%	49	1%	231	5%
Future risk of maltreatment***	3288	14%	503	14%	7162	30%	1966	21%	8598	34%
Age of child (mean/SD)***	8.05	3.88	8.92	3.88	7.52	4.44	8.11	4.48	6.69	4.34

Note: ***p < .001 based on unweighted sample *N* = 5219.

each type of maltreatment independently, so all forms were collapsed into one logistic regression and the different types of maltreatment were included as independent variables. Of the twelve predictor variables in the model, all but caregiver ethnicity and previous substantiated maltreatment for the investigated child were significant predictors of whether a maltreatment investigation was substantiated rather than unfounded. The factor that had the most dramatic effect on the odds of substantiation was the workers' assessment of the future risk of maltreatment. This predictor variable increased the likelihood by 6.6 times that a case would be substantiated rather than unfounded.

Controlling for other factors in the model, the likelihood of maltreatment differs depending on the form of maltreatment. Sexual abuse is less likely than physical abuse to be substantiated than unfounded. Neglect cases are 1.4 times more likely than physical abuse cases to be substantiated, emotional maltreatment was 4.3 times more likely to be substantiated, and the form of maltreatment most likely to be substantiated was exposure to intimate partner violence, which was five times more likely than physical abuse to be substantiated than unfounded.

Cases in which the primary caregiver had one or two or more risk factors were 2.2 and 3.9 times more likely to be substantiated than unfounded, respectively. Cases in which the parent was not cooperative with the investigation increased the likelihood of substantiation by 1.5 times. Controlling for all the variables in the model, including forms of maltreatment, cases involving male children were less likely than female children to be substantiated than unfounded.

Cases in which the child displayed emotional and or mental functioning concerns were 1.7 times more likely to be substantiated, and cases in which the child displayed cognitive and or physical functioning concerns were less likely to be substantiated than unfounded. Behavioral concerns noted in the focal child did not significantly influence the substantiation decision when controlling for the other

variables in the model. When the referral source was professional the cases were1.8 times more likely to be substantiated than cases in which the referral source was nonprofessional. In cases in which there was evidence of physical harm to the focal child the case was 2.8 times more likely that the worker would substantiate the maltreatment.

Classification accuracy. The logistic regression model was statistically significant: χ^2 (21) = 1413.66. The model explained 46% (*Nagelkerke R^2*) of the variance in differentiating between unfounded and suspected cases and correctly classified 79% of cases. The model accurately classified 83% of unfounded cases and 73% of the substantiated cases.

13. Discussion

The present study examined what factors currently influence a worker's decision to substantiate maltreatment. The rates of substantiated physical and sexual abuse are very low compared to rates of substantiated exposure to intimate partner violence (eIPV). This reflects the shift in focus from events of maltreatment that have already occurred, such as physical or sexual abuse, to a focus on the future risk of well-being for children exposed to environments that may be damaging to their development, such as exposure to intimate partner violence (IPV). The impact on children exposed to IPV can vary depending on several factors, including frequency, developmental stage, resilience and protective factors (Edleson, 2004; MCYS, 2016). Since research is not able to indicate which children are safe, and which will develop problems, child welfare workers investigating incidents of exposure to IPV are instructed to assess the degree to which the child was involved in the violent events and the level of physical or emotional harm evident (MCYS, 2016). Almost 46% of all substantiated maltreatment investigations in 2013 involved children who had been exposed to intimate partner violence. Of those children only 5% had any evidence of

Table 3
Logistic regression – 2013 - substantiated versus unfounded maltreatment (all forms).

Predictors	Exp (β) unfounded vs. substantiated
Form of maltreatment	
Physical abuse only	
Sexual abuse only	0.88*
Neglect only	**1.46****
Emotional maltreatment only	**4.32*****
Exposure to intimate partner violence only	**5.03*****
PC ethnicity	
White	
Black	1.32
Aboriginal	0.98
Other	1.18
Total caregiver risks recoded	
No risks	
One risk	**2.22*****
Two risks	**3.87*****
PC: response to investigation	
Co-operative	
Not co-operative	**1.55****
Age of child	**1.02****
Child gender (male)	**0.78*****
Child functioning	
Emotional concerns	**1.77*****
Physical concerns	**0.70****
Behavioral concerns	1.22
Substantiated CH recurrence	1.19
Professional referral	**1.79*****
Housing risks	
No risks	
One risk	1.05
Two or more risks	**1.59****
Physical harm	**2.83*****
Future risk of maltreatment	**6.61*****
Model fit	χ^2 (21) = 1413.66***, *Nagelkerke* R^2 = 0.46

Note. Unfounded is the comparison category. The Exp(β) reflects the effect of the odds that the cases will be substantiated rather than unfounded. The larger the Exp(β), the more likely it is that the investigation will be substantiated.

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

physical harm and only 11% to 12% had any child functioning concerns, yet in 34% of these cases, the worker was concerned about future risk of maltreatment. This appears to be an example of the increasing focus on risk of what might happen to children instead of what has happened to them.

Cases in which there were two or more housing risks, a proxy measure for poverty, were more likely to be substantiated when controlling for all the other variables in the model. This supports numerous other studies which suggest that children living in poverty are at greater risk of maltreatment (Kotch et al., 1995; Sidebotham, Heron, Golding, & The ALSPCA Study Team, 2002; Townsend, 1987).

Cases in which at least one caregiver was uncooperative were associated with increased likelihood of substantiation. One might think that an uncooperative parent might inhibit the worker's ability to assess the evidence, yet these cases were almost two times more likely to be substantiated. This supports the findings of other research which suggests that the relationship between the parent and the workers has a significant impact on decision-making (Holland, 2010; Platt, 2007).

Unlike the CIS-2003 study, this study did not find evidence that the ethno-racial status of caregivers influenced the decision to substantiate maltreatment, despite recent concerns about an over-representation of black and Aboriginal children in the Ontario Child welfare system (Antwi-Boasiako et al., 2016; MCYS, 2011; OACAS, 2016; Toronto Star, 2014). Based on the bivariate analysis above, ethno-racial status of parents correlated with substantiated maltreatment differently depending on the type of maltreatment. This study did not have enough

statistical power to conduct the multivariate analysis by maltreatment type that might be needed to detect the effect of ethno-racial status on substantiation decision making. Further, the inclusion of the risk of future maltreatment as a specific variable could be associated to ethno-racial status of parents. Miller et al. (2013) interviewed child welfare workers regarding individual and system biases that may contribute to racial disproportionality and disparity. One theme that emerged was that focus group participants suspected that workers were more likely to suspect future risk of maltreatment in families that were culturally or racially different from the norm. The current study is unable to assess what factors the workers considered when assessing risk of future maltreatment. Future research in Ontario could examine what influences workers in their clinical assessment of risk of future maltreatment.

The presence of emotional and or mental health concerns increased the likelihood of substantiation, which may indicate that workers were assessing the impact on the child. Physical or developmental concerns had an inverse effect on substantiation, indicating that investigations involving children with physical or developmental concerns were less likely to be substantiated. While this may be because it is often difficult to interview or interpret information from these children, this finding is concerning given the vulnerability of this group of children, as research suggests that children with developmental delays are much more likely to suffer abuse or neglect (Fluke, Shusterman, Hollinshead, & Yuan, 2005; Fudge-Schormans & Brown, 2002; Kahn & Schwalbe, 2010; Sullivan & Knutson, 2000).

This study was consistent with other research, including the Canadian study by Trocmé et al. (2009) that found caregiver risk factors were important factors in the decision to substantiate (English et al., 2002; Trocmé et al., 1995). The presence of two or more primary risk factors was one of the factors which had the strongest effect on the odds that a case would be substantiated. When workers assessed two or more caregiver risk factors, the case was 3.9 times more likely than cases with fewer caregiver risk factors to be substantiated. Unlike previous studies (Cross & Casaneuva, 2009; Haskett et al., 1991; Trocmé et al., 2009), historical substantiated child maltreatment was not significantly related to substantiation decisions when controlling for the other factors in the model.

Reflecting on Drake's harm/evidence model (1996), these findings are consistent with previous studies that found that the presence of physical harm was a strong predictor of case substantiation (Haskett et al., 1991; Trocmé et al., 2009). However, it was very interesting to note that the worker's assessment of the future risk of maltreatment was an even stronger predictor, increasing the likelihood of substantiation by 6.6 times as compared to 2.8 times for the presence of physical harm when controlling for all other variables in the model.

When using the harm, risk, evidence model suggested by Cross and Casaneuva (2009) to theorize the results, one could argue that very few of the factors found in this model would be considered items that are *evidentiary*. Rather, the majority of factors in this model that were related to substantiation decision-making are risk factors believed to be associated with maltreating behavior. Assessing risk focuses on future behavior while substantiation decisions concern current behavior (Pecora, 1991; Wald & Woolverton, 1990). This study adds to the research which has found that a worker's assessment of the risk of future maltreatment influences their decisions regarding substantiation. When these findings are considered, it begs the question whether the spiraling focus of risk has resulted in a focusing bias, in which workers place too much importance on their assessment of the child's future risk of maltreatment, and pay less attention to the harm that has already occurred to children.

14. Limitations

It is important to note that, despite the large amount of case information used to predict the decision, there is still a significant

proportion of unexplained variance. This supports previous research findings regarding additional confounding or explanatory variables that were outside the scope of this study. This variance includes individual worker factors, such as knowledge, skill and attitudes; organizational factors, such as climate, culture and structure; and external factors, including policies and legislative requirements as well as the level of moral panic in the community (Arad-Davidson & Benbenishty, 2008; Bauman, Kern, & Fluke, 1997; Benbenishty et al., 2015; Christianson-Wood, 2011; Margolin, 1997; Parada et al., 2007; Stokes & Schmidt, 2011; Stokes & Taylor, 2014). The relatively small numbers for some of the variables in the model precluded examining each type of maltreatment independently, and instead, maltreatment typologies were handled as independent variables. While the current study found that the type of maltreatment was a predictor in the substantiation, it did not allow for an exploration of the differences in factors influencing substantiation by typology.

As is common in studies that utilize secondary data, in the current study, variables are limited to those available in the Ontario Incidence Study. The OIS has other specific limitations as a data set, including the fact that the data is limited to the initial stage of investigations and only tracks decisions made within the first 30 days, is based on assessments provided by the investigating child welfare workers, and that the information provided by workers is not independently verified.

15. Conclusion

There is a growing body of research in the United States on factors which influence the decision to substantiate maltreatment. This study adds to the Canadian context by exploring the Ontario population. Forty-four percent of all maltreatment investigations conducted in the province are substantiated. Cases involving neglect and emotional maltreatment are more likely to be substantiated for maltreatment than physical or sexual abuse, and cases involving exposure to intimate partner violence are five times more likely than cases involving physical abuse to be substantiated rather than unfounded.

Caregiver risk factors, uncooperative parents, older children, and children with emotional or mental health concerns all increase the likelihood of substantiation. Female children are more likely to be involved in substantiated maltreatment cases than male children, and professional referral sources increase the odds of substantiation. Having unsafe, unstable housing increases the odds of substantiation, and the existence of physical harm makes it two times more likely the case will be substantiated.

However, when controlling for multiple factors previously found to influence substantiation decisions, by 2013 the caseworker perceptions of risk emerged as one of the strongest explanatory factors. The purpose of assessing risks is to attempt to predict future behavior; the decision to substantiate is about assessing whether abuse or neglect has already occurred (Pecora, 1991; Wald & Woolverton, 1990). In Ontario, caregivers' actions should meet the legal definition of abuse and neglect for a case to be substantiated, and substantiation should not be based on a prediction of future risk of maltreatment for the child.

The decision to substantiate current maltreatment was strongly influenced by the workers' assessment of the future risk of maltreatment. Exploring how workers assess the future risk of maltreatment is an important next step to gain a more complete picture of decision-making regarding substantiated maltreatment in Ontario. It is also important to note that, despite the large amount of case information used to predict the decision, there is still a significant proportion of unexplained variance. This suggests that there are additional confounding or explanatory variables that need to be examined. Further research is needed to explore worker and organizational factors that influence this risk focus and how much of an influence the current risk assessment tools have on the workers' assessments of future risk and substantiation.

References

Antwi-Boasiako, K., King, B., Black, T., Fallon, B., Trocmé, N., & Goodman, D. (2016). *Ethno-racial categories and child welfare decisions: Exploring the relationship with poverty. CWRP information sheet #178E.* Toronto, ON: Canadian Child Welfare Research Portal.

Arad-Davidson, B., & Benbenishty, R. (2008). The role of workers' attitudes and parent and child wishes in child protection workers' assessments and recommendations regarding removal and reunification. *Children and Youth Services Review, 30,* 107–121.

Ards, S. D., Myers, S. L., Malkis, A., Sugrue, E., & Zhou, L. (2003). Racial disproportionality in reported and substantiated child abuse and neglect: An examination of systematic bias. *Children and Youth Services Review, 25*(5/6), 375–394.

Bauman, D., Kern, H., & Fluke, J. (1997). Foundations of the decision making ecology and overview. In H. Kern, D. J. Baumann, & J. Fluke (Eds.). *Worker improvements to the decision and outcome model (WISDOM): The child welfare decision enhancement project.* Washington, D.C.: The Children's Bureau.

Benbenishty, R., Davidson-Arad, B., Lopez, M., Devaney, J., Spratt, T., Koopmans, C., ... Hayes, D. (2015). Decision making in child protection: An international comparative study on maltreatment substantiation, risk assessment and interventions recommendations, and the role of professionals' child welfare attitudes. *Child Abuse & Neglect, 49,* 63–75.

Broadhurst, K., Hall, C., Wastell, D., White, S., & Pithouse, A. (2010). Risk, instrumentalism and the humane project in social work: Identifying the informal logics of risk management in children's statutory services. *British Journal of Social Work, 40,* 1046–1064.

Cheng, T. C., & Lo, C. C. (2013). Racial disparity in risk factors for substantiation of child maltreatment. *Children and Youth Services Review, 35,* 1962–1969.

Child Welfare Information Gateway (2003). *Decision-making in unsubstantiated child protective services cases: Synthesis of recent research.* Washington, DC: U.S. Department of Health and Human Services.

Christianson-Wood, J. (2011). Risk assessment in child welfare: Use and misuse. In K. Kufeldt, & B. McKenzie (Eds.). *Child welfare: Connecting research policy and practice* (pp. 369–384). (2nd ed.). Waterloo, Canada: Wilfrid Laurier University Press.

Clapton, G., Cree, V., & Smith, M. (2013). Moral panics, claims-making and child protection in the UK. *British Journal of Social Work, 43,* 803–812.

Cross, T., Fluke, J., Fallon, B., Drake, B., Fuller, T. L., & Neito, M. G. (2010). Rethinking child protective services substantiation: Research perspectives on evolving policy. *Conference presentation at children 2010 CWLA national conference, Washington, D.C., January 24, 2010.*

Cross, T. P., & Casaneuva, C. (2009). Caseworker judgments and substantiation. *Child Maltreatment, 14*(1), 38–52.

Dettlaff, A. J., Rivaux, S. L., Baumann, D. J., Fluke, J. D., Rycraft, J. R., & James, J. (2011). Disentangling substantiation: The influence of race, income, and risk on the substantiation decision in child welfare. *Children and Youth Services Review, 33*(9), 1630–1637.

Drake, B. (1996). Unraveling "unsubstantiated". *Child Maltreatment, 1*(3), 261–271.

Edleson, J. (2004). Should childhood exposure to adult domestic violence be defined as child maltreatment under the law? In P. Jaffe, L. Baker, & A. Cunningham (Eds.). *Protecting children from domestic violence: Strategies for community intervention* (pp. 8–29). New York, NY: Guilford Press.

English, D. J., Marshall, D. B., Coghlan, L., Brummel, S., & Orme, M. (2002). Causes and consequences of the substantiation decision in Washington State child protective services. *Children and Youth Services Review, 24,* 817–851.

Fallon, B., Trocmé, N., MacLaurin, B., Sinha, V., & Helle, S. (2015). Provincial comparisons in the Canadian incidence study of reported child abuse and neglect – 2008: Context for variation in findings. *International Journal of Child and Adolescent Resilience, 3*(1), 125–142.

Fluke, J., Baumann, D. J., Dalgleish, L. I., & Kern, H. D. (2014). Decisions to protect children: A decision-making ecology. In J. E. Korbin, & R. D. Krugman (Vol. Eds.), *Handbook of child maltreatment. 2. Handbook of child maltreatment* (pp. 463–476). Netherlands: Springer.

Fluke, J. D., Shusterman, G. R., Hollinshead, D. M., & Yuan, Y. Y. T. (2005). *Re-reporting and recurrence of child maltreatment: Findings from NCANDS.* Washington: U. S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation.

Font, S. (2015). Child protection investigations in out-of-home care: Perpetrators, victims and contexts. *Child Maltreatment, 20*(4), 251–257.

Fudge-Schormans, A., & Brown, I. (2002). An investigation into the characteristics of maltreatment of children with developmental delays and the alleged perpetrators of this maltreatment. *Journal on Developmental Disabilities, 9*(1), 1–19.

Gambrill, E. (2005). Critical thinking, evidence based practice and mental health: Mental disorders in the social environment. *Critical Perspectives,* 247–269.

Gambrill, E. (2008). Decision making in child welfare: Constraints and potentials. *Child*

welfare research: Advances for practice and policy (pp. 175–193). .

Gilbert, R., Widom, C. S., Browne, K., Fergusson, D., Webb, E., & Janson, S. (2009). Burden and consequences of child maltreatment in high-income countries. *Lancet, 373*, 68–81.

Haskett, M. E., Wayland, K., Hutcheson, J., & Tavana, T. (1991). Characteristics of repeated referrals to child protective services in Washington State. *Child Maltreatment, 4*(4), 297–301.

Holland, S. (2010). *Child and family assessment in social work practice* (2nd ed.). London: Sage Publications.

Houston, S. (2015). Reducing child protection error in social work: Towards a holistic-rational perspective. *Journal of Social Work Practice.* http://dx.doi.org/10.1080/02650533.2015.1013526.

Jedwab, M., Benbenishtly, R., Chen, W., Glasser, S., Siegal, G., & Lerner-Geva, L. (2015). Child protection decision to substantiate hospital child protection teams report of suspected maltreatment. *Child Abuse & Neglect, 40*, 132–141.

Jent, J. F., Eaton, C. K., Knickerbocker, L., Lambert, W. F., Merrick, M. T., & Dandes, S. K. (2011). Multidisciplinary child protection decision making about physical abuse: Determining substantiation thresholds and biases. *Children and Youth Services Review, 33*(9), 1673–1682.

Kahn, J., & Schwalbe, C. (2010). The timing to and risk factors associated with child welfare system recidivism at two decision-making points. *Children and Youth Services Review, 32*, 1035–1044. http://dx.doi.org/10.1016/j.childyouth.2010.04.011.

Kohl, P. L., Jonson-Reid, M., & Drake, B. (2009). Time to leave substantiation behind: Findings from a national probability study. *Child Maltreatment, 14*(1), 17–26.

Kotch, J. B., Browne, D. C., Ringwalt, C. L., Stewart, P. W., Ruina, E., Holt, K., ... Jung, J. W. (1995). Risk of child abuse or neglect in a cohort of low-income children. *Child Abuse & Neglect, 19*, 1115–1130.

Margolin, L. (1997). *Under the cover of kindness: The invention of social work.* Charlottesville: University Press of Virginia.

McDonald, C., Marston, G., & Buckley, A. (2003). Risk technology in Australia: The role of the job seeker classification instrument in employment services. *Critical Social Policy, 23*(4), 498–525.

Miller, K., Cahn, K., Anderson-Nathe, B., Cause, A. G., & Bender, R. (2013). Individual and systemic/structural bias in child welfare decision making: Implications for Children and families of color. *Children and Youth Services Review, 35*, 1634–1642.

Ministry of Child and Youth Services (2005). Child welfare transformation 2005: A strategic plan for a flexible, sustainable and outcome oriented service delivery model. Retrieved from http://www.cdrcp.com/pdf/CWTransformation-FINAL-rev'd20July2011-ek.pdf.

Ministry of Child and Youth Services (2011). The aboriginal advisor's report on the status of aboriginal child welfare in Ontario. Retrieved from http://www.children.gov.on.ca/htdocs/English/professionals/indigenous/child_welfare-2011.aspx.

Ministry of Child and Youth Services (2016). Ontario child protection standards. Available online at http://www.children.gov.on.ca/htdocs/English/documents/childrensaid/Child-Protection-Standards-2016.pdf.

Munro, E. (2004). Improving practice: Child protection as a systems problem. *Children and Youth Services Review, 27*, 375–391.

Ontario Association of Children's Aid Societies (2016). One vision one voice: Changing the Ontario child welfare system to better serve African Canadians. Retrieved from http://www.oacas.org/what-we-do/government-and-stakeholder-relations/one-vision-one-voice./.

Parada, H., Barnoff, L., & Coleman, B. (2007). Negotiating 'professional agency': Social work and decision making within the Ontario child welfare system. *Journal of Sociology and Social Welfare, XXXIV*(4).

Parton, N. (1998). Risk, advanced liberalism and child welfare: The need to rediscover uncertainty and ambiguity. *British Journal of Social Work, 28*, 5–27.

Pecora, P. (1991). Investigating allegations of child maltreatment: The strengths and limitations of current risk assessment systems. *Child & Youth Services, 15*, 73–92.

Platt, D. (2007). Congruence and co-operation in social workers' assessments of children in need. *Child & Family Social Work, 12*, 326–335.

Scannapieco, M., & Connell Carrick, K. (2003). Families in poverty: Those who maltreat their infants and toddlers and those who do not. *Journal of Family Social Work, 7*(3), 49–70.

Sidebotham, P., Heron, J., Golding, J., & The ALSPAC Study Team (2002). Child maltreatment in the "children of the nineties": Deprivation, class and social networks in a UK sample. *Child Abuse & Neglect, 26*, 1243–1259.

Sinha, V. (2013). Substantiating neglect of first nations and non-aboriginal children. *Children and Youth Services Review, 35*(12), 1243–1259.

Sinha, V., Ellenbogen, s., & Trocmé, N. (2013). Substantiating neglect of first nations and non-aboriginal children. *Children and Youth Services Review, 25*, 2080–2090.

Slep, A. M. S., & Heyman, R. E. (2006). Creating and field-testing child maltreatment definitions: Improving the reliability of substantiation determinations. *Child Maltreatment, 11*, 397–408.

Slep, A. M. S., Heyman, R. E., & Foran (2015). Child maltreatment in DSM-5 and ICD-11. *Family Process, 54*(1), 17–54.

Stokes, J., & Schmidt, G. (2011). Race, poverty and child protection decision making. *British Journal of Social Work, 41*(6), 1105–1121.

Stokes, J., & Taylor, J. (2014). Does type of harm matter? A factorial survey examining the influence of child neglect on child protection decision making. *Child Care in Practice, 20*(4), 383–398. http://dx.doi.org/10.1080/13575279.2014.905456.

Sullivan, P. M., & Knutson, J. F. (2000). Maltreatment and disabilities: A population-based epidemiological study. *Child Abuse & Neglect, 24*(10), 1257–1273.

Swift, K. J. (2011). Canadian child welfare: Child protection and the status quo. *Child protection systems: International trends and orientations* (pp. 36–59). .

Toronto Star (2014). Why are so many black children in foster and group homes? Retrieved from https://www.thestar.com/news/canada/2014/12/11/why_are_so_many_black_children_in_foster_and_group_homes.html.

Townsend, P. (1987). Deprivation. *Journal of Social Policy, 16*, 125–146.

Trocmé, N., Fallon, B., MacLaurin, B., & Neves, T. (2005). What is driving increasing child welfare caseloads in Ontario? Analysis of the 1993 and 1998 Ontario incidence studies. *Child Welfare, 84*, 341–362.

Trocmé, N., Knoke, D., Fallon, B., & McLaurin, B. (2009). Differentiating between substantiated, suspected and unfounded maltreatment in Canada. *Child Maltreatment, 14*(1), 4–16.

Trocmé, N., Lajoie, J., Fallon, B., & Felstiner, C. (2007). *Injuries and deaths of children at the hands of their parents. CECW Information Sheet No. 57E.* Toronto: University of Toronto Faculty of Social Work.

Trocmé, N., McPhee, D., & Tam, K. K. (1995). Child abuse and neglect in Ontario: Incidence and characteristics. *Child Welfare, 74*(3), 563–586.

Turnell, A., Munro, E., & Murphy, T. (2013). Soft is hardest: Leading for learning in childwelfare system. protection services following a child fatality. *Child Welfare, 92*(2).

U.S. Department of Health & Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau (2016). Child maltreatment 2014. Retrieved from http://www.acf.hhs.gov/programs/cb/research-data-technology/statistics-research/child-maltreatment.

Wald, M., & Woolverton, M. (1990). Risk assessment: The emperor's new clothes? *Child Welfare, LXIX*(6) (November-December).

Walsh, A., & Ollenburger, J. C. (2001). *Essential statistics for the social and behaviour sciences: A conceptual approach.* (Prentice Hall).

Williams, G., Tonmyr, L., Jack, S. M., Fallon, B., & MacMillan, H. L. (2011). *Determinants of maltreatment substantiation in a sample of infants involved with the child.*