Child Abuse & Neglect 131 (2022) 105708

Contents lists available at ScienceDirect

Child Abuse & Neglect

journal homepage: www.elsevier.com/locate/chiabuneg

The impact of case factors on the initial screening decision in child welfare investigations in Norway

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ARTICLE INFO

Keywords:
Child welfare
Child protection
Referral
Report
Decision making
Case factors

ABSTRACT

Background: When a child welfare service agency receives a report of concern, there is an initial screening to decide whether an investigation needs to be initiated. In addition to the decision maker, case factors, external factors, and organizational factors have an impact on decision making in Child Welfare Services (CWS). Few recent studies have considered the impact of case factors on the initial screening.
Objective: This study examined case factors that have an impact on the decision to investigate in the Norwegian CWS.
Participants and setting: Participants included randomly drawn samples of case files from 16 agencies (N = 1365).
Methods: The study was designed as a cross-sectional case file study. Researchers coded the data on site at the agencies. To examine the association between a decision to investigate and case specific variables, multilevel logistic regression (generalized linear mixed model) analysis was conducted to account for case clustering effects within agencies.
Results: The rate of investigation was 82.3 %. Concerns of physical and sexual abuse (OR = 2.61***), parents' health and stressful events (OR = 2.20***), domestic violence or witnessing violence (OR = 2.52***), and concerns related to finances, housing, and employment (OR = 3.25**) lowered the threshold for investigation. Prior referrals were found to raise the threshold for investigation (OR = 0.88). (**p < .01, ***p < .001).
Conclusion: Although large differences between agencies exist in decision-making processes in the Norwegian CWS, there are common case factors affecting the initial screening of referrals.

1. Introduction

When receiving a report of concern, Child Welfare Services (CWS) must decide whether an investigation needs to be initiated. This initial screening decision has the dual purpose of: (i) identifying potential cases of children in need of assistance and (ii) managing

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https://doi.org/10.1016/j.chiabu.2022.105708
Received 18 December 2020; Received in revised form 27 May 2022; Accepted 7 June 2022
Available online 15 June 2022
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referral volume. It is of great interest to study this topic since the decision to initiate an investigation may have far reaching consequences for children and families. The threshold for investigating should be low enough to reduce the risk of not identifying serious cases of child maltreatment. This is necessary to ensure children's rights to safety and provision (Art. 19, United Nations Convention on the Rights of the Child, 1989). Nonetheless, a CWS investigation is a potentially adverse intervention into a family's life that requires legitimacy so as not to encroach on other human rights (Art. 12, United Nations General Assembly, 1948). Finding the "right" balance for these screening decisions and taking into account the specific characteristics of each individual case is something every country must contend with. The phenomenon of screening decisions, however, should also be understood based on the context in which CWS operate.

In Norway, the national rate of investigated referrals has held stable at an average of about 81 % during the last decade. For example, a total of 44,133 referrals were investigated in 2019; the equivalent of 44.7 cases per 1000 children. That same year, 38 % of the investigations led to interventions (The Norwegian Directorate for Children, Youth and Family Affairs, 2020a). Norwegian research on screening decisions has identified rather large variations between agencies in both investigation rates and methods for case processing (Ellingsen et al., 2015; Lurie, 2015; Vis et al., 2014). However, because those studies focus mainly on organizational factors, other questions pertaining to case factors are left unanswered, e.g., child and family characteristics, the content of the referral, and how such factors may impact the screening decision. This is a study regarding concerns reported to Norwegian CWS and how case factors influence the decision to investigate. Because administrative data on child welfare in Norway is very limited with respect to the content of referrals, we needed to develop an instrument for data collection. A case file study was conducted to determine how different types of referral concerns impact the screening process.

1.1. The Norwegian screening process

The municipal CWS agencies are responsible for receiving, handling, and making decisions on all referrals concerning children aged 0–17. Within one week a decision must be made on whether to investigate the referral or not. Government guidelines for the case handling process are limited. Although some agencies have locally developed screening tools for referrals (Vis et al., 2014), professional discretion is primarily used for the initial screening process (Samsonsen & Turney, 2017).

The Norwegian Child Welfare Act states that CWS should investigate when there is a risk to the child's health or safety and/or conditions that may be detrimental to the child's development (The Child Welfare Service Act, 1992). In an official guidance issued by The Norwegian Directorate for Children, Youth and Family Affairs (2019), it is clearly stated that the threshold for admitting a referral for further investigation should be low. If it is reasonable to assume that the child needs any type of service that is offered by CWS, an investigation should be opened. Consequently, there are many valid reasons, aside from concerns of abuse and neglect, to report a family to CWS.

One of the primary functions of CWS in Norway is to complement universal or targeted social and health care services. Based on an assessment of needs, CWS offer support to families when there is a belief that it may alleviate or prevent future problems. The interventions are principally offered by CWS on a voluntary basis, i.e., not adjudicated by the courts. The most common voluntary intervention involves general counseling aimed at supporting and strengthening parenting competence (in 70 % of all cases receiving intervention) (Christiansen et al., 2015). Other, less common voluntary support measures, such as financial support (20 %) or respite care (27 %), are aimed at alleviating temporary socioeconomic problems or stress within the family. In more severe cases, CWS may ask the courts to mandate interventions that are involuntary. In 2019, the County Social Welfare Boards (2020) mandated intervention for a total of 921 new child cases. This represents only 1.6 % of the total number of children referred to CWS that year. During that same year, a total of 9832 children lived in foster homes, while 1146 children lived in residential care (The Norwegian Directorate for Children, Youth and Family Affairs, 2020a). In total, 72 % of all interventions in 2019 were voluntary and 28 % were court mandated. Out of all children living in foster homes, 15 % were placed with the parents' acceptance, and the corresponding figure for those in residential care was 30 %. Needing service thus gives a broad definition of what constitutes a reason for conducting a child welfare investigation.

Children with immigration background are overrepresented among recipients of CWS interventions in Norway (Staer & Bjørknes, 2015). According to Statistics Norway (2020a, 2020b), the share of immigrants and Norwegian-born children with immigrant background was 16.8 % of the total population in 2017, while they were simultaneously represented in 30.3 % of the CWS referrals.

1.2. Theory of decision making

A distinction is drawn between strategic decisions and choices in decision-making theory (Nutt & Wilson, 2010). Whereas choices are made by individuals, strategic decision making refers to decisions made within an organization. A screening decision within CWS is never a personal decision because the CWS organization is the formal decision maker. However, it is not entirely clear whether each decision is made by a single person or in collaboration with others. The most common practice across CWS agencies in Norway is for referrals to be screened at intake meetings held once or twice a week by a designated team, led by a manager (Lauritzen et al., 2019). Here, decisions are made in agreement with other professionals and sanctioned by a manager. Nonetheless, when assessed as severe and acute, a referral may sometimes require an immediate response that, by definition, qualifies as a screen-in. In such cases, the formal screening decision may still be made at a later point. Therefore, if we think of a CWS screening decision as lying somewhere on a continuum between a personal choice and a collaborative strategic decision made by an organization, it would be best characterized as the latter in Norway.

The theoretical framework called "The Decision-Making Ecology" acknowledges that decision making in Child Welfare Services is a

complex process affected not only by case factors but also by organizational and external factors, as well as the decision maker (Fluke et al., 2014). Considerable differences in investigation rates between agencies have been identified in several studies across countries (Ellingsen et al., 2015; Lurie, 2015; Steen & Duran, 2014; Vis et al., 2014; Wells et al., 1995). For example, Ellingsen et al. (2015) found that the rate for screening out referrals varied from 12 % to 40 % among agencies in Norway, whereas Wells et al. (1995) found rates that varied from 1 % to 71 % among sites in the U.S. Wells et al. concluded that children's chances of being investigated depended strongly on the agency, even when case characteristics were considered.

1.3. Screening decisions in different child welfare systems

Existing literature has pointed out disparities between child welfare systems (Gilbert et al., 2011), differences that are also relevant in the context of screening decisions at intake. The investigative approach used to identify family needs, in addition to ensuring the safety of the child, is called a family service orientation, and is typically found in the Scandinavian countries, including Norway (Skivenes, 2011). Child Welfare Services in the United States and Canada have been described as having a child protection orientation where the main purpose of investigations is to determine whether the allegation of child abuse or neglect may be substantiated (Berrick, 2011; Swift, 2011). Thus, in North America, the initial screening decision is mainly focused on determining if the referral meets a certain statutory definition of child abuse and/or neglect. However, several states in the U.S. have introduced differential response, making a response also possible for cases where the risk is assessed as being too low for a traditional investigation. The differential response offers services for low-to-moderate risk families and focuses on family needs rather than identification of maltreatment. This response emphasizes family engagement and collaboration (Berrick, 2011) and, therefore, may be seen as having similarities to the Norwegian CWS.

Although considerable differences in rates of initial screening have been observed between various states (Tumlin & Green, 2000), the average rate in 2017 in the United States was about 57.6 % cases screened in. There were approximately 2.4 million referrals, concerning 3.5 million children (U.S. Department of Health & Human Services, 2020). With the broader definition of what constitutes a valid reason for conducting child welfare investigation in the family service-oriented system, it is not surprising that the threshold for screening in a referral for investigation is considerably lower in Norway than it is in the United States.

1.4. Previous studies of case factors' impact on screening decisions in CWS

There have been a few Norwegian studies examining case factors and how they may influence the screening decision, however, few statistically significant results were identified (Drugli & Marthinsen, 1996; Havnen et al., 1998; Holtan, 1997). The studies used mainly qualitative analyses in addition to bivariate statistical analyses. Two other studies from Norway have focused on the reported concerns in screened-out referrals. The first was carried out as part of a nationwide audit of CWS (The Office of the Auditor General of Norway, 2012). Here, 169 screened-out referrals from 39 agencies were studied. Two former CWS agency managers reviewed all the documentation in these cases, independent of each other. In 53 % of the cases, they agreed that it had been correct to dismiss the referral. In 22 % of the cases, they concurred that it had not been appropriate to dismiss the case, and in 25 % of the cases their opinions were split. The findings do suggest that, although there may be agreement about the facts of a case, those same facts may be interpreted quite differently. This may, in turn, lead to very contrasting conclusions. Kjær and Mossige (2013) looked at 92 screened-out referrals from seven agencies concerning sexual or other physical abuse. They found that dismissal rates varied from zero to 53 % among the agencies. Although no statistical analysis was carried out to control for other factors, they concluded that the professional judgement seemed arbitrary and that the reasoning was unclear in many cases. In summary, the results from Norwegian research to date have mostly focused on the judgement of social workers in the decision-making process. No Norwegian study has yet been designed to sufficiently identify to what degree, and under which circumstances, case factors impact the screening decision.

In a recent systematic literature review of factors associated with the decision to investigate referrals (Damman et al., 2020), 18 quantitative studies published during a 35-year period were identified. Seventeen of those studies were conducted in the United States and one in Canada. Most of the studies investigated case factors related to the referral, the child, and the caregiver. A major finding was that, across all studies from North America, 51 % to 68 % of the cases were screened in for investigation. Steen and Duran (2014) investigated referral and screened-in rates across 44 U.S. states and concluded that reporting and intake systems only accounted for 9 % of the variability in screening rates. The most important predictor for variation was a centralized versus local reporting system. Thus, it seems that case factors play a large role in explaining variability in screening decisions. In the review, Damman et al. (2020) found evidence that the case factors associated with intake decisions included type of reporter, nature of the report, severity of the allegation, child's age, family's prior CWS involvement, and type of maltreatment.

1.4.1. Characteristics of the referral

Damman et al. (2020) concluded that, in North America, mandated reporters were associated with decisions to investigate, but that the effect differed across types of concerns. In particular, a referral more likely concerned physical abuse when it came from law enforcement, while emotional abuse was more likely to be investigated when the referral came from a doctor. It is thus possible that reports are taken more seriously when the reporter is considered an expert or holds a specific position to uncover the alleged abuse. It should be noted, however, that these findings were based on only three studies, all of which were more than 25 years old. The effect of reports submitted by family friends and neighbors was inconclusive.

Wells et al. (1995) included 2504 referrals from 12 agencies in five different U.S. states. They found that when parents, children, friends, and relatives referred a case, the report did not lead to investigation. A study by Karski (1999) included data from 557 cases

and 23 social workers in California. Karski found that type of abuse was a major factor influencing the screening decision and, therefore, stratified the data by referrals concerning sexual abuse, physical abuse, or neglect. No relation was found between the referrer and the screening decision. A study by Östberg (2014) was based on 260 cases in Sweden, for which data was collected through questionnaires and interviews with 42 social workers in two agencies representing different organizational structures. Östberg found that referrals from professionals other than the police lowered the threshold for investigation (OR = 7.0).

Various results have been found concerning the influence of previous knowledge of the child. In their multivariable analysis, Wells et al. (1995) did not find that previous referrals had an impact on the threshold for investigation. Karski (1999) found that, for referrals with allegations of neglect, the factor of previous case investigations resulted in a higher likelihood of investigation (OR = 3.47), whereas the number of prior referrals was not found to be significant.

1.4.2. Characteristics of child and family

The existing research revealed that the sex and age of the child had varied effects on the screening decision. Referrals concerning girls have been found to be associated with both higher odds (OR = 3.0) of investigation (Östberg, 2014) and higher odds of being screened out (OR = 1.56) (Wells et al., 1995). Wells et al. (1995) found that there were higher odds of investigation for a child less than two years old (OR = 1.57) than for older children. Karski (1999) found that children aged 10–17 were investigated more often if there was evidence of abuse in the referral. She also found that children aged 0–9 were investigated more frequently when the family was receiving financial support and evidence of abuse was present. Östberg (2014) did not find the child's age to be significantly associated with investigation. The large variability of age and gender effects found in previous research indicates that the effects may be linked to the study design, e.g., participant selection and analytical strategies.

Racially biased intake practices have been blamed for contributing to the disproportionate number of African American children in the child welfare system. Howell (2009) conducted a study to examine the influence of race and parental drug use on intake screening decisions made in Virginia, USA. The study used a hypothetical vignette by which race and drug concerns were manipulated across participants (n = 87). The study concluded that there was no support for racial bias in hypothetical intake decisions. It is, therefore, possible that racial disparities are confounded by other factors. It should be noted that racial disparities have been identified in the U.S. child protection systems at later stages of the decision-making continuum but that race-related effects are not easily disentangled from other risk factors (Putnam-Hornstein et al., 2012; Drake et al., 2011). Ethnicity did not have an impact on the investigation rate in the multivariable analysis for the studies of Wells et al. (1995) and Karski (1999).

1.4.3. Content of referral

Referral content may be categorized into three main domains or types of concerns: (i) the child's health and needs, (ii) parenting, neglect, or child abuse, and (iii) family risk factors (British Department of Health, 2000). In terms of the referral content, both parental competency and problems related to family and environment have been found to be significant predictors for screen in. Concerns related to a child's developmental needs have not been extensively studied. Some variables related to the child's needs were included in the studies by Wells et al. (1995) and Östberg (2014). Wells et al. used the variables “child problems” and “injury”, which included any reported injury to the child. Östberg used the variables of “child substance abuse”, “mental health”, and “family conflict” (referring to relational difficulties with adults). However, no significant associations between children's needs and screening decisions were found.

With respect to the domain of parenting, neglect, and child abuse, Karski (1999) and Wells et al. (1995) found that sexual abuse was significantly associated with investigation and was the most likely allegation to be investigated. Hutchison (1989) studied 228 new referrals in Massachusetts, USA, and found that the best referral content predictors for screening decision were sexual abuse, physical abuse, and neglect. Silva (2011) found that sexual abuse concerns were more likely to be screened in if the alleged perpetrator was a family member or had continual access to the child. Östberg (2014) did not distinguish between physical and sexual abuse but found these allegations, combined, to be significantly related to the decision to investigate (OR = 17.3). Östberg also examined the concern of neglect but did not find a significant association. It should be noted, however, that Östberg's study appears somewhat underpowered (N = 260) and not particularly suited to identifying the true effects of referral content.

When it comes to the domain of family and environmental risk factors, Wells et al. and Östberg found that parental mental health problems and substance abuse had no significant impact on the decision to investigate (Östberg, 2014; Wells et al., 1995). Howell (2009), on the other hand, concluded that decision makers were more likely to recommend that a case be screened in if there were concerns of parental substance abuse. Karski (1999) found a lower threshold for investigation when families were receiving financial support, both for referrals concerning neglect (OR = 4.91) and those concerning physical abuse (for children aged 0–4, OR = 22.46, and children aged 5–9, OR = 6.45) Wells et al. (1995) did not find that issues of insufficient income or inadequate housing had a significant impact on the decision to investigate. Only the study of Wells et al. (1995) had included domestic violence in their analysis. However, the reporting of domestic violence was not found to influence the decision to screen in.

In a family service-oriented system, the number of concerns that constitute a reason to investigate is higher than in a child protection-oriented system. Thus, for a valid study on the impact of case factors in the Norwegian CWS, we found it necessary to include a considerable variety of concerns.

1.5. Objective of the study

The purpose of this study is to examine case factors that may impact the decision to investigate a referral to the Norwegian CWS. Based on previous research, our assumption is that cases that include suspected sexual or physical abuse are more likely to be investigated. Signs of poverty, previous knowledge of the child, the child's sex and age, as well as the type of referrer, may also be

important.

The study is of interest for several reasons. Firstly, it is well established that discrepancies between agencies influence the investigation rate, however, there is scarce knowledge on the actual impact of case factors when agency differences are controlled for. Secondly, little is known about what type of reported concern is most likely to trigger an investigation. Thirdly, few studies have been done on screening decisions in a family service-oriented system and the existing research may be considered as outdated. Investigating the importance of case factors will provide a more profound understanding of what kind of information CWS emphasize when assessing whether a child's health and development are at risk.

2. Methods

The study was designed as a cross-sectional case file study. Data were collected retrospectively from case records at 16 different child welfare agencies. The participating agencies were selected from the four geographical regions of Norway, representing 13 municipalities. Population ranged from 8000 to 680,000 in the participating municipalities. A total of 1365 cases were randomly drawn from all referrals registered in the participating agencies during the period of January 2015 to December 2017. The draft was performed using a sample selection computer program (Rørnes, 2017). According to the size of the agencies, the number of cases ranged from 50 to 150. This was done to ensure that the proportion of drawn referrals versus total referrals was consistent between agencies.

2.1. Ethics and procedures

The study protocol was reviewed by the Norwegian National Research Ethics Committees, while the data handling procedures were reviewed by the Norwegian Centre for Research Data. Researchers were granted access to the case files through a legal decision made by the Norwegian Directorate for Children, Youth and Family Affairs. The Norwegian Data Protection Authority issued the license to handle all data.

The instrument for collection of data was developed in several steps. A pilot study was performed to identify information typically found in case files. The cases for the pilot were randomly drawn from two agencies. Based on this, the coding form was developed and tested for interrater reliability by two researchers who independently coded 20 cases. The average interrater agreement was 86.9 %. A low reliability was found for 13 variables. Due to difficulties in obtaining reliable information, three variables were eliminated while the 10 remaining variables were reformulated. A second test was performed by two researchers coding 42 cases. The interrater agreement was then 90.8 %, which is considered acceptable (McHugh, 2012). The researchers were provided access to the case files by the agencies. The cases were then coded on site using a web-based entry form.

2.2. Measures

The predefined dimensions included characteristics of child, family, referral, and reported concerns. Age, sex, primary caregiver, and immigration background were the characteristics listed for the child and family. Variables related to characteristics of the referral included “previous referrals”, “previous interventions”, and “the referrer”. Variables associated with reported concerns were categorized as follows: “child's developmental needs”, “parental competency”, and “family and environmental factors”. All variables were registered in the registration form as “present” or “not present”. To simplify the statistical analyses in this study, some of the registered concerns were consolidated. Correlation and theoretical coherence between variables were considered prior to merging. The item “not parent”, listed under the variable “main caregiver”, for example, could refer to children living alone, children in juvenile institutions or unaccompanied minor asylum seekers.

We used the term “immigration background” when at least one parent or the child was foreign-born. By using this definition, 39.5 % of the children in the study had immigrant background. Our definition differed from that of Statistics Norway, which designates “immigrants” as persons born abroad who have two foreign-born parents and four foreign-born grandparents (Statistics Norway, 2020a). They further define children born in Norway with two foreign-born parents as “persons with immigrant background”. The CWS case files did not contain sufficient information on parents' or grandparents' birthplace. Therefore, we were not able to follow the guidelines of Statistics Norway. Indigenous background and race were not registered in our study since this information was not recorded in the case files.

The dimension *child's developmental needs* consisted of four variables. The variable “child's health and development” included concerns for the child's mental and somatic well-being and/or late development. “Externalized behavior” referred to the child's delinquency, drug and substance abuse, and concerns related to the child's behavior. The variable “internalized behavior” related to reported concerns for the child's emotional problems. Social behavior included the child's relationship to peers and their caregivers/close adults, and conflicts with adults. The fourth variable was the “child's functioning at school/kindergarten”.

Parental competency consisted of five items: “sexual and physical abuse”, “emotional abuse”, “medical and educational neglect”, “basic care and physical neglect”, and “parenting”. “Medical and educational neglect” referred to concerns about parental failure to follow up on health care and other childcare services. The variable “basic care and physical neglect” referred to absence of caregiver and concerns about basic care and protection of the child. “Parenting” covered concerns regarding parental stimulation, guidance, and boundaries.

The dimension *family and environmental factors* included seven items: “parents' health/stressful events”, “parental conflict”, “domestic violence/witnessing violence”, “social integration”, “finances/housing/employment”, “parents' substance abuse”, and “parents'

delinquency". The variable "parents' health/stressful events" included concerns about parental mental and somatic health, exhaustion, and stressful events. "Domestic violence" referred to a child witnessing violence. "Social integration" included concerns regarding the family's social network, social integration, and cultural background. "Finances/housing/employment" included concerns regarding poverty, inadequate housing, and employment. Inadequate housing could be related to safety, hygiene, and the like. Concerns regarding employment could be related to insufficient income through unemployment but could also include concerns about the caregiver's job situation not being consistent with caring for a child.

2.3. Statistics

The statistical analyses were performed by using IBM SPSS Statistics version 26.0.

To study the association between decision to investigate and case specific variables, multilevel logistic regression (generalized linear mixed model) analysis was conducted to account for clustering effects of cases (level 1) within agencies (level 2). Most of the measures were dichotomous, but "type of residence" and "referrer" were nominal. For these variables, the category with the highest score was chosen as a reference. Collinearity between all variables was tested and found acceptable. Possible interaction between "age" and the variables describing reported concerns were tested by combining all the interaction terms in a multivariable model. No significant interaction effects were found. The fit of this model was compared to the fit of a model without interaction terms, showing that the latter model had a significantly better model fit. Hence, the interaction terms were omitted from further analysis. To get the most

Table 1
Case characteristics.

Variables	Screened out N (% of total screened out)	Investigated N (% of total investigated)
Total (1365)	242 (17.7)	1123 (82.3)
Sex of child		
Male	140 (57.9)	595 (53.0)
Female	102 (42.1)	528 (47.0)
Age of child - Mean (SD)	9.97 (5.35)	8.90 (5.05)
Main caregiver		
Both parents	62 (25.6)	461 (41.1)
One parent	108 (44.6)	387 (34.5)
Shared custody	20 (8.3)	98 (8.7)
One parent and partner	25 (10.3)	141 (12.6)
Not parent	27 (11.2)	36 (3.2)
Immigration background (n = 1272)		
Yes	53 (24.9)	441 (41.6)
No	160 (75.1)	618 (58.4)
Number of previous referral - Mean (SD) (n = 1345)	1.95 (2.83)	1.10 (1.79)
Previous recipient of support interventions (n = 1318)		
Yes	76 (34.1)	299 (27.3)
No	147 (65.9)	796 (72.7)
Referrer		
Public health services	45 (18.6)	223 (19.9)
Neighbors/friends/anonymous	28 (11.6)	126 (11.2)
Social services	30 (12.4)	145 (12.9)
Police	65 (26.9)	172 (15.3)
Education (school/kindergarten)	32 (13.2)	231 (20.6)
Child, parents, close family	33 (13.6)	124 (11.0)
Internal CWS	1 (0.4)	68 (6.1)
Other	8 (3.3)	34 (3.0)
Concerns regarding child's developmental needs		
Child's health and development	35 (14.5)	160 (14.2)
Externalized behavior	64 (26.4)	254 (22.6)
Internalized behavior	27 (11.2)	132 (11.8)
Social behavior	44 (18.2)	181 (16.1)
Functioning in school/kindergarten	22 (9.1)	150 (13.4)
Concerns regarding parental competency		
Physical/sexual abuse	17 (7.0)	226 (20.1)
Emotional abuse	12 (5.0)	98 (8.7)
Medical and educational neglect	10 (4.1)	83 (7.4)
Basic care and physical neglect	61 (25.2)	322 (28.7)
Parenting	21 (8.7)	162 (14.5)
Concerns regarding family and environmental factors		
Parents' health/stressful events	41 (16.9)	273 (24.3)
Parental conflict	34 (14.0)	218 (19.4)
Domestic violence/witnessing violence	20 (8.3)	210 (18.7)
Social integration	9 (3.7)	72 (6.4)
Finances/housing/employment	11 (4.5)	119 (10.6)
Parents' substance abuse	45(18.6)	195 (17.4)
Parents' delinquency	33 (13.6)	63 (5.6)

accurate effect estimate in the multivariable analysis, we used the principles described by Hosmer et al. (2013) for purposeful selection of variables. Using the results from the univariable analysis, variables with a p-value > .25 were excluded from the first step of the multivariable analysis. In the second step, non-significant variables were excluded. The model fit of the smaller model was compared to that of the initial model to verify that the smaller model had a significantly better model fit. The estimated coefficients in the smaller model were then compared to the respective values from the initial model to verify that the change was not substantial (Hosmer et al., 2013). In the final step, the variables not selected for the original multivariable model were reinstated and retained, if significant ($p < .05$). Due to missing data for some variables, the sample size was n = 1227 in the final multivariable analysis.

3. Results

Case characteristics for investigated and screened-out referrals are presented in Table 1. Of the children included in the referrals, 54 % were boys and the mean age was 9.1 years (*SD* = 5.1). The investigation rate was 82.3 %, close to the average Norwegian investigation rate for 2015–2017, which was 82 % (Statistics Norway, 2020b). This indicates that our sample was quite representative with respect to overall investigation rates. Our data showed a variance in rates of investigated cases between agencies ranging from 56 % to 96 %. The children in the investigated cases were younger (*M* = 8.90, *SD* = 5.05) than the children in referrals that had been screened out (*M* = 9.97, *SD* = 5.35). The most common type of caregiver was both parents, at 40.0 %, whereas 34.9 % lived with one parent. About 38.8 % of the children had immigrant background. Of those, 38.9 % were from Asia, 28.3 % from Africa, and 14.8 % were from Eastern Europe. About half of the referrals (49.8 %) concerned children that had previously been reported to a CWS agency.

Table 2
Results of generalized mixed model analysis, assessing associations between case characteristics and the decision to investigate.

Case characteristics	Univariable analysis			Multivariable analysis, final model		
	t	OR	95%CI for OR	t	OR	95%CI for OR
Sex of child (male)	−1.06	0.85	(0.62, 1.15)			
Age of child	−3.06**	0.95	(0.92, 0.98)	−0.95	0.98	(0.95, 1.02)
Main caregiver	F = 7.12***			F = 4.34**		
Both parents	Reference			Reference		
One parent	−3.92***	0.48	(0.33, 0.69)	−2.66**	0.59	(0.40, 0.87)
Shared custody	−1.01	0.74	(0.41, 1.33)	−0.45	0.87	(0.47, 1.61)
One parent and partner	−0.61	0.85	(0.50, 1.44)	0.63	1.20	(0.68, 2.12)
Not parent	−4.36***	0.22	(0.11, 0.44)	−3.01**	0.33	(0.16, 0.68)
Immigration background	2.86**	1.69	(1.18, 2.42)			
Number of previous referrals	−4.47***	0.86	(0.80, 0.92)	−3.54***	0.88	(0.82, 0.95)
Previous recipient of support measures	−1.54	0.77	(0.55, 1.07)			
Referrer	F = 4.67***					
Public health services	Reference					
Neighbors/friends/anonymous	0.11	1.03	(0.56, 1.91)			
Social services	−0.27	0.93	(0.53, 1.62)			
Police	−3.11**	0.46	(0.29, 0.75)			
Child, parents, close family	1.71	1.61	(0.93, 2.78)			
Education (school/kindergarten)	−1.85	0.60	(0.34, 1.03)			
Internal CWS	2.09*	8.56	(1.14, 64.50)			
Other	−0.66	0.74	(0.31, 1.80)			
Concerns re. child's developmental needs						
Health and development	0.10	1.02	(0.65, 1.60)			
Externalized behavior	−0.04	0.99	(0.68, 1.44)			
Internalized behavior	0.76	1.20	(1.03, 2.31)			
Social behavior	0.86	1.22	(0.77, 1.93)			
Functioning at school/kindergarten	2.79**	2.14	(1.25, 3.64)			
Concerns re. parental competency						
Physical/sexual abuse	3.94***	2.89	(1.70, 4.89)	3.44***	2.61	(1.51, 4.50)
Emotional abuse	2.70**	2.68	(1.31, 5.49)			
Medical and educational neglect	1.45	1.72	(0.83, 3.57)			
Basic care and physical neglect	1.36	1.28	(0.90, 1.83)			
Parenting	2.47*	1.90	(1.14, 3.17)			
Concerns re. family and environmental factors						
Parents' health/stressful events	3.01**	1.89	(1.25, 2.85)	3.57***	2.20	(1.42, 3.38)
Parental conflict	1.58	1.39	(0.92, 2.11)			
Domestic violence/witnessing violence	3.85***	2.74	(1.64, 4.58)	3.37***	2.52	(1.47, 4.32)
Social integration	1.51	1.80	(0.84, 3.89)			
Finances/housing/employment	2.58**	2.68	(1.27, 5.65)	3.00**	3.25	(1.50, 7.02)
Parents' substance abuse	−0.02	1.00	(0.67, 1.48)			
Parents' delinquency	−3.47***	0.42	(0.26, 0.69)			

Note. n = 1272; OR = odds ratio; CI = confidence interval.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

The children previously known to CWS had a lower investigation rate (79.3 %) than those who had not been previously reported (87.8 %). The range was from one to 22 previous referrals ($M = 2.6$, $SD = 2.27$). Almost one third of the children (27.3 %) had previously received support interventions. Public health services, educational services and police were the groups that reported most often, each of them reporting around 20 % of the cases. On average, more than one concern had been registered in 72.6 % of the cases ($M = 2.94$, $SD = 2.03$). Overall, the results show that referrals to Norwegian CWS include a very wide range of concerns related to the child's needs, parental competency, and different kinds of abuse, in addition to risk factors within the family or close environment. Most of the referrals contained concerns about parental competency (63.8 %) and family and environmental factors (69.2 %). Concerns about the child's development and needs were present in 41.0 % of the referrals. It is worth noting that less than one in five referrals (17.8 %) contained suspicion or allegation of outright physical or sexual abuse. The most reported concern was regarding basic care and physical neglect, which was present in 28.1 % of the referrals, whereas the least reported concern was the family's social integration (5.9 %).

The results from the logistic regression analyses are presented in Table 2. By using purposeful selection (Hosmer et al., 2013), seventeen variables were omitted from the final model. Apart from age, which we chose to leave in the model for theoretical reasons, only significant variables remained. After considering both confounding effects and interaction effects, this final model represents our best approximation of the impact case factors have on screening decisions in Norwegian CWS. Significant predictors for admission to investigation were physical/sexual abuse (OR = 2.89, CI = 1.70–4.89), parental health and stressful events (OR = 1.89, CI = 1.25–2.85), domestic violence (OR = 2.74, CI = 1.64–4.58), and concerns related to housing, financial problems, and employment (OR = 2.68, CI = 1.27–5.65). Living with one parent or not living with parents gave a higher threshold for investigation than living with both parents (OR = 0.48, CI = 0.33–0.69). Previous referrals predicted a higher threshold for screening into investigation (OR = 0.86, CI = 0.33–0.69). None of the referrals directly related to children's problems significantly predicted the screening decision.

4. Discussion

The objective of the study was to examine case factors that affect the decision to investigate a referral to Norwegian CWS. Because referrals to CWS in Norway do not predominantly concern cases with suspected abuse, we designed a study that set out to analyze the impact of a wider variety of case-related factors than typically included in previous studies. By conducting a mixed model analysis, we were able to study how variability in factors at the case level may affect the initial screening decision, while accounting for clustering of cases within agencies. In the final multivariable logistic regression analysis, six variables remained significant: characteristics of the caregiver, number of previous referrals, physical/sexual abuse, parents' health and stressful events, domestic violence/witnessing violence, and finances/housing/employment. The significance of these variables clearly indicates that multiple factors of concerns may lead to an investigation by CWS.

We believe that the high proportion of screened-in cases in Norway is explained by external factors such as legislation and policy guidelines. In the Norwegian guidelines for case processing, it is clearly stated that the threshold for intake should be low and that, generally, a more in-depth needs assessment should be carried out unless the referral is obviously unjustified.

As for differences in investigation rates between agencies, our findings were similar to the results from previous studies (Ellingsen et al., 2015; Lurie, 2015; Steen & Duran, 2014; Vis et al., 2014; Wells et al., 1995). We believe that a multitude of factors may impact differences in screen-in rates at the agency level. This may include availability of resources (Bunkholdt & Kvaran, 2015; Wells et al., 2004), variations in case processing routines (Lurie, 2015; Vis et al., 2014), differences in the interpretation of child welfare legislation (Lauritzen et al., 2019; Lurie, 2015), and disparities in population demographics. However, because this study was not designed to explain differences between agencies, but rather to investigate the effects of case factors while controlling for agency clustering, we cannot conclude which agency level factors are most important in this study.

4.1. Characteristics of child and family

The multivariable analysis shows that the age of the child had no direct effect. Although the confounding effect of age was quite small in this model, we decided to keep age in the model for theoretical reasons. Some types of concerns are more likely to be reported if the child is older, e.g., criminal activity and substance abuse. Other types of problems are more commonly reported for younger children, such as issues related to attachment and child safety. There were no interaction effects between age and any type of referral content.

Referrals concerning children living with one parent had lower odds of investigation than those pertaining to children living with both parents. This is a somewhat unexpected finding, since single parents have been found to have a higher rate of CWS involvement than the general population (Staer, 2016). One possible explanation is that referrals regarding conflicts about care and visitation arrangements are considered to fall under the jurisdiction of other public services and, therefore, screened out. Furthermore, when referrals regarding parental criminal activity or drug abuse pertained to a parent who did not live with the child, the child was not affected by the concerns and the referral was screened out.

In the group of investigated referrals, we found that cases concerning children with immigrant background were overrepresented. However, the multivariable analysis showed that other concerns were more important as predictors for investigation. Thus, this overrepresentation is partly explained by the presence of other risk factors in the immigrant background group. This may include concerns such as low socio-economic status and cultural differences in the understanding of a “healthy upbringing”; for example, the use of physical punishment as a form of discipline, which is illegal in Norway while being common in other cultures (Paulsen et al., 2014).

In contrast to previous studies (Östberg, 2014; Wells et al., 1995), we did not find that the referrer was significant. In this sample, it seems as if the bivariate association between referrer and screening decision is fully confounded by the referral content.

4.2. Previous referrals predict screen-out

The results show that the only factor found to deviate from previous U.S. studies on the decision not to investigate was "previous referrals" (Karski, 1999; Wells et al., 1995). This may be explained by the difference in the respective child welfare systems. Nonetheless, differential response is employed in an increasing number of states since its introduction to the United States, and the use of such response is associated with lowered rates of children being re-reported (Fluke et al., 2019). Taking this into account, it is possible that the results from the studies of Karski (1999) and Wells et al. (1995) may be outdated. In our study, almost 50 % of the children were previously known to CWS. Almost one third of the children had already received an intervention. Hence, we can assume that CWS knew these children and their families well. Reasons for not investigating referrals on a child previously known to CWS in Norway have been studied by Havnen et al. (1998). They found that if the new referral did not provide any new information regarding the child's situation, it was very likely that the referral would not be investigated. Therefore, we may assume that CWS already had enough information on file to conclude that there was no risk in such cases, or that the concerns in the referral had already been investigated. Due to the higher screening threshold in a child protection-oriented system, a larger proportion of the re-reported cases have a history of being screened out at the previous screening. Thus, it would be reasonable to consider a re-referral as an indicator of increased risk. This may explain why previous knowledge of the child can predict a screen in for child protection-oriented systems while predicting a screen out in Norway.

4.3. Predictors for screen in

Our assumptions that sexual and physical abuse lowered the threshold for investigation were confirmed, and this corresponds with previous studies (Hutchison, 1989; Karski, 1999; Östberg, 2014; Silva, 2011; Wells et al., 1995). The impact of these allegations on decision making in both child protection- and family service-oriented systems was expected, since these acts are a clear violation of the law and are cause for serious concern for the child's safety. Parents' health and stressful life events were also significant in lowering the threshold for investigation in our study. This finding differs from previous research (Östberg, 2014; Wells et al., 1995). Parental mental illness can affect parenting behavior in several negative ways and is considered a risk factor for the child's development (Daniel et al., 2010). Since the 1990s, there has been growing attention on the impact of parental mental health on children in Norway (Lauritzen, 2014). This has generated more knowledge and focus on the effect of parental mental health which, in turn, is likely to affect decision making.

Our study shows that a concern regarding domestic violence lowers the threshold for investigation. Apart from Wells et al. (1995), who found domestic violence to be not significant, this factor has been absent from previous studies (see Damman et al., 2020). Domestic violence and witnessing interparental violence are shown as risk factors for a child's development (Kitzmann et al., 2003). Children who are experiencing domestic violence are at greater risk of maltreatment and abuse (Holt et al., 2008). As such, it is somewhat surprising that previous studies have focused to a lesser degree on domestic violence.

We found concerns regarding finances, housing, and employment to be significant predictors for investigation, similar to the findings of Karski (1999). There could be several reasons to explain the impact of this factor. These concerns are visible and specific, and cases that provide hard evidence may be more likely to be automatically screened in. Karski's findings did not clarify whether poor finances alone were considered a risk or whether the stigmatizing of poor families increased the odds for investigation. This question also remains unanswered by our analysis.

Our findings that substance abuse is not significant are in line with the results from the studies of both Östberg (2014) and Wells et al. (1995). Nonetheless, the results are surprising since substance abuse is associated with various types of maltreatment (Chaffin et al., 1996; Walsh et al., 2003). Alleged parental substance abuse has also been found to increase the perception of the child's risk of harm among social workers in referrals of maltreatment (Berger et al., 2010). Östberg (2014) suggested that the lack of significance of parental substance abuse could be related to a more uncertain outcome for the child than in cases concerning more evident risk, such as physical and sexual abuse. We find this explanation plausible.

None of the concerns regarding the child's developmental needs contributed significantly to lowering or raising the threshold for opening an investigation. Concerns regarding the child's developmental needs may not always be caused by insufficient parental competence or capacity. Problems in development, behavior, social skills, and learning abilities may also be pathological. In such instances, the case may instead be the responsibility of health and educational services. This may explain why the child's developmental needs do not seem to impact the screening threshold.

5. Implications for practice

We may imagine the processing of CWS referrals as a stream of cases flowing through a funnel (Östberg, 2014; Parton et al., 1997). The funnel may have different shapes depending on the external factors that constitute the context in which CWS agencies operate. In Norway, the funnel is quite wide at the top, allowing for all sorts of concerns to be admitted for investigation. However, after the investigations are concluded, about 60 % of the cases are dismissed. Some are discarded because it turns out that the case is not serious enough. Others are declined because CWS do not have access to adequate assistance measures, and some are dismissed because the family does not want any help (Christiansen et al., 2019). Consequently, CWS in Norway use a lot of resources on in-depth assessments

in cases that end up being dismissed at a later stage. Additionally, these investigations constitute adverse interventions into family life that could have been avoided. Perhaps it would be better to have a narrower opening at the top end of the funnel, i.e., screening out more cases at an early stage and focusing more resources on providing effective help for families with the most serious problems. We do not claim to have a definitive answer to this. However, the results from Norwegian studies regarding health and quality-of-life outcomes for children growing up in out-of-home care (Backe-Hansen et al., 2014) indicate a high risk of marginalization in all areas of life, increased risk of mental health problems, disability, imprisonment, and early death. This tells us definitively that more should be done to increase the quality of services.

In the year 2020, a new centralized nationwide system for electronic referrals to CWS was developed and is now being introduced in Norway. This will function in conjunction with local reporting by phone or letter (The Norwegian Directorate for Children, Youth and Family affairs, 2020b). As seen from the analysis on how different reporting systems impact screening decisions in the U.S. (Steen & Duran, 2014), we would expect that such a system change will impact screening decisions in Norway as well. Although we are not ready to provide detailed recommendations for such a system, we would urge stakeholders to closely follow its implementation and monitor the impact it has on how screening decisions develop over time. At the very least, the system should prompt reporters to provide sufficient information in the initial referral to make the screening process as efficient as possible.

Additionally, many of the same families are investigated repeatedly. This development is driven, at least in part, by criticism from auditors and researchers targeted at agencies with high screen-in thresholds (e.g., The Office of the Auditor General of Norway, 2012; Kjær & Mossige, 2013). It is quite likely that many Norwegian agencies and/or social workers, fearing criticism, believe they risk less by initiating an investigation. Thus, they investigate despite past experience that has shown that nothing will come of it. It may be a worthwhile exercise for public health officials everywhere to carefully consider if the shape of their funnel is designed to serve the needs of managers and organizations or the families and children they are meant to support.

6. Strengths and limitations

To embrace the complexity of the initial decision making in CWS, we examined case factors by developing a statistical model that showed the association of variables and outcomes when all variables were considered. When including variables that may be confounding, the estimation of the association becomes more accurate. The statistical analysis accounted for clustering effects at the agency level. By using this approach, we identified systematic patterns in the use of information across agencies. This research, however, does not provide clear insight into how the decision maker is operating.

Even though the participating agencies were limited to 16, the sample size and extent of this research is still unique as a study of Norwegian Child Welfare Services. The size of the sample makes the data representative for decisions concerning referrals. The large sample also enables the complex statistical analysis that allows us to see how the variables interact when agency clustering effects are taken into account. For this study, we created an instrument to collect information in the referrals. We consider the use of multiple items as a more comprehensive collection of the information CWS had access to than previously used. Nonetheless, there may be shortcomings in our data when compared to the information that was actually available to CWS at the point of decision making, which is a common limitation of archive studies. The instrument also has its natural limitations since the individual composition and situation of families are too varied to entirely capture.

7. Conclusion

Although there are considerable differences in decision-making processes and investigation rates between agencies in Norwegian CWS, common case factors associated with the initial screening process have been found. Even though a vast majority of referrals are investigated in Norway, our results showed that several of the reported concerns further lowered the threshold for investigation. These concerns were evident, specific, and often related to severe allegations of risk. On the other hand, previous knowledge of the child was found to increase the threshold for investigation. In Norway, which has a low threshold for investigation and aims to separate no-risk cases from high-risk and low-risk cases, the findings indicate that more information predicts screen out.

Declaration of competing interest

All authors declare that there are no conflicts of interest.

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