

ORIGINAL ARTICLE 

# Child Maltreatment in Families Receiving Mandatory Versus Voluntary Child Protection Support: A Matched Cohort Study

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## ABSTRACT

Child safety is an important outcome of child protection services (CPSs); however, this is often assessed in terms of official registries (e.g., rereports). Little empirical evidence is available about how the frequency of child maltreatment changes during CPS intervention by using self-report measures. The present study evaluates the frequency of child maltreatment experienced by children receiving mandatory child protection support compared to carefully matched children receiving voluntary child protection support. The current study is part of an ongoing Dutch longitudinal study on family violence consisting of several cohorts with similar designs. Both parents and children reported on the frequency of child maltreatment using validated questionnaires at two timepoints, 12 months apart. To facilitate careful comparison, both groups were matched using propensity scores based on background variables, resulting in two groups of  $N=178$  children. GLMM analyses showed a significant decrease in the mean number of child maltreatment incidents over time in the total group. However, this decrease did not differ for children receiving mandatory and voluntary child protection support. The findings indicate that, despite possible motivational challenges in the mandatory group, mandatory child protection support elicits comparable results as voluntary support. Implications for further research and practice are discussed.

## 1 | Introduction

Growing up in a safe environment is crucial for the healthy development of children (e.g., Norman et al. 2012; Trocmé et al. 2009). In accordance with the Convention on the Rights of the Child (1989), child protection services (CPSs) can intervene in a family when a child's safety is threatened. The term CPS refers to a national safety system that provides both voluntary and mandatory (court-ordered) support to families in which a child's development is endangered (Bruning and Zlotnik 2018). CPSs have the responsibility to protect victims of child maltreatment from further harm (US Department of Health and Human Services Administration for Children and

Families 2012). Child maltreatment<sup>1</sup> refers to "actual or potential harm to the child's health, development or dignity in the context of a relationship of responsibility, trust or power" (World Health Organization 2014, p. 82). The adverse consequences of child maltreatment on various life domains have been repeatedly demonstrated, both in the short and long term (e.g., Carr, Duff, and Craddock 2020; Evans, Davies, and Dilillo 2008; Norman et al. 2012). Furthermore, previous studies have found proof for a clear link between reduced child maltreatment to establish child safety and improved child wellbeing (e.g., Lünemann et al. 2022). For this reason, child safety is often considered one of the most urgent outcomes for the evaluation of CPS (Poertner, McDonald, and

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Murray 2000; Trocmé et al. 2009). However, it is still unclear whether child maltreatment decreases following CPS involvement and whether this differs for mandatory or voluntary forms of involvement.

## 2 | Effects of CPS

The involvement of CPS is intended to reduce or stop child maltreatment. A reduced risk of recurrence was present in children who receive CPS compared to children who do not receive CPS (2015), although this reduced risk appears to diminish over time (Jonson-Reid et al. 2010). However, studies often report high rates of recurrence and rereports of child maltreatment following CPS involvement (e.g., Connell et al. 2009; DePanfilis and Zuravin 2002; Drake, Jonson-Reid, and Sapokaite 2006; Fluke et al. 2005; Fluke et al. 2008; Kim and Drake 2019). These rates differ depending on study characteristics, but for example, 22% of children were rereported after CPS investigation after 2 years (Fluke et al. 2008) and 33% after 5 years (Hélie, Poirier, and Turcotte 2014). This indicates that child maltreatment diminishes over time but does not fully stop or return after CPS involvement. Some studies report no effect of CPS or even higher risks of child maltreatment for families receiving CPS (Bae et al. 2010; Casanueva et al. 2015; Fluke et al. 2008; Fuller and Nieto 2014; Reekers et al. 2018; Russell, Kerwin, and Halverson 2018; White, Hindley, and Jones 2015).

Child safety following CPS involvement is often operationalized as child maltreatment rereports or recurrence (e.g., Casanueva et al. 2015; DePanfilis and Zuravin 2002; Fluke et al. 2008; Fuller and Nieto 2014). Other types of outcomes of CPS include reunion with parents (e.g., Fessinger et al. 2020) or foster care placement (Kohl, Jonson-Reid, and Drake 2009). Outcomes regarding child safety frequently rely on 'file-based' or administrative data derived from official registers or professional reports (e.g., Russell, Kerwin, and Halverson 2018).

As administrative data may provide a limited perspective on the effectiveness of CPS due to potential underreporting (Hambrick et al. 2014; Tierolf, Lünemann, and Stekete 2014), self-report measures of child maltreatment provide a crucial additional perspective. In line with this, compared to official numbers (i.e., CBS Statistics Netherlands), self-report measures are likely to generate a higher number of child maltreatment reports (e.g., Alink et al. 2013; Hambrick et al. 2014). Furthermore, administrative data typically lack information on the actual decrease of child maltreatment frequency or severity of child maltreatment. Given that the level of child maltreatment is a primary predictor of child wellbeing (e.g., Lünemann et al. 2022; Manly, Cicchetti, and Barnett 1994), it is crucial to investigate whether and to what extent the level of child maltreatment has decreased during CPS involvement. Alternatively, self-report provides a means of assessing the frequency and severity of child maltreatment in CPS-involved families and how this changes over time.

## 3 | Mandatory and Voluntary CPSs

In the Netherlands, families entering CPS can receive support on either a voluntary or mandatory basis (i.e., through a court

order). Families usually enter the child protection system via Safe Home, an organization that gives advice and investigates concerns of child maltreatment when reported by professionals and others. Voluntary child protection support is the default, and the decision to impose mandatory child protection support is based on two reasons (Bruning and Zlotnik 2018; Knorth et al. 2023): (1) when the safety and development of one or multiple children from a family is at serious risk or (2) when the parents do not cooperate or accept support. Voluntary child protection support includes a diverse range of care from one or multiple (external) youth care providers, varying in type, intensity and duration and depending on the specific family situation (Knorth et al. 2023). Mandatory child protection measures are executed by youth protection organizations (certified organizations) and usually take the form of a supervision order, sometimes in combination with placing children in alternative care such as residential or foster care. An authorized caseworker (partially) takes over authority in a family. Besides forming an involved relationship with the family, the caseworker coordinates and monitors the necessary care to ensure safety, enhance parenting skills and lower risk factors and stressors (O'Brien 2011), which is in turn provided by external child welfare organizations. Just as is the case in the voluntary context, the type, intensity and duration of care that is set up vary between families and depend on their specific family situation. For a full overview of the Dutch child protection system, please see Knorth et al. 2023.

The effects of mandatory versus voluntary support in general are mixed. Parhar et al.'s (2008) meta-analysis, which compared mandatory and voluntary treatment in reducing recidivism for adult offenders, concluded that voluntary treatment had better outcomes compared to mandatory treatment. In addition, the feeling of being coerced, although this does not necessarily mean that the support is coerced or mandatory (Hachtel, Vogel, and Huber 2019), was linked to less positive outcomes in a sample of psychiatric patients. In contrast, in the context of domestic violence, treatment dropout is identified as a key predictor of recidivism (e.g., Lila et al. 2019). Mandatory treatment has been related to fewer treatment dropouts (Faulkner et al. 1991; Jewell and Wormith 2010). Although not compared to a voluntary program, a mandatory community program for victims of IPV showed reductions in both IPV victimization and perpetration (Macy et al. 2013). Moreover, Fessinger et al. (2020) evaluated a mandatory program for families with allegations of CAN related to substance use and concluded that mandatory services had similar case outcomes compared to the voluntary control group. As the evidence is inconclusive, the effectiveness of mandatory versus voluntary CPS on child safety remains unclear.

This is partly explained by the complexity of investigating the effects of CPS on child safety. Using quasiexperimental designs with control groups (ideally matched on confounding factors) is useful for research in the CPS context (e.g., Fessinger et al. 2020; Fuller and Nieto 2014; Reekers et al. 2018; Russell, Kerwin, and Halverson 2018; Trotter 2008). This avoids the need for randomized groups, which is difficult to combine with CPS practice (De Jong, Schout, and Abma 2015). The difference in child safety between mandatory and voluntary CPS over time has not been studied using these methods. This study will fill this gap.

## 4 | Current Study

The aim of the present study is to make a novel contribution to the field of child safety by examining the difference in the reduction of child maltreatment between children of families receiving mandatory and those receiving voluntary child protection support. This study builds upon prior research by adopting a longitudinal quasiexperimental approach by matching children of families receiving mandatory and voluntary child protection support to make groups as comparable as possible. Moreover, we use self-report measures instead of administrative measures to investigate the decrease of child maltreatment over time.

We propose that the frequency of child maltreatment for children receiving both forms of CPS will diminish over time (H1) because families have become visible to CPS when entering the system and they will receive support. Based on existing empirical evidence, we are unable to formulate a directional hypothesis regarding the difference between mandatory and voluntary CPS. We do not expect differences in the decrease of child maltreatment over time between children of families receiving mandatory and voluntary child protection support (H2).

## 5 | Method

### 5.1 | Data Description

The current study is part of an ongoing Dutch prospective longitudinal study on family violence (Steketee et al. 2020). This overarching study consists of several cohorts of families in the Dutch youth protection system that are followed over the course of 1.5 years. To address the present research questions, we selected families who receive mandatory and voluntary support from CPS. These families were selected from two longitudinal cohorts, cohorts A and B.

Cohort A consists of 302 families that were recruited from seven youth protection organizations that execute child protection measures that are mandated by the court. This is usually a family supervision order, by default temporary for a maximum period of 12 months (with extension possibilities), sometimes in combination with a (temporary) out-of-home placement of the child. During these mandatory child protection measures, an authorized caseworker organizes support and assistance (e.g., from external childcare providers) and the parents are obliged to accept the support. Data collection took place between 2018 and 2020.

Cohort B consists of 1024 families that were recruited through the Dutch organization Safe Home, an organization that gives advice and investigates concerns of child maltreatment when reported by professionals, teachers, neighbours or others. Some of these families received voluntary support; others are assigned mandatory support. Some families were already receiving mandatory support at the time of the report. Recruitment took place in  $N=13$  Safe Home organizations, and data collection took place between 2017 and 2020.

We used data from the first two timepoints of both cohorts: (1) T1: after starting the mandatory measure at the child protection

organization (cohort A) or after entering the child protection system (cohort B) and (2) T2: 12 months later. We preregistered using data from the third timepoint (6 months after T2). However, to enable clearer interpretation of the annual frequency scores over time, we opted to exclude the data of this timepoint and conducted the analyses with two timepoints. Both cohorts have similar designs and data collection procedures. Two groups of families were distilled from these data: a group receiving *mandatory support*, combining information from cohorts A and B, and a group receiving *voluntary support*, from cohort B. For a detailed description of the inclusion and exclusion criteria of the final group composition, see our preregistration: [https://osf.io/3rtku/?view\\_only=f488651c5ca2459bb07ced86123c5d74](https://osf.io/3rtku/?view_only=f488651c5ca2459bb07ced86123c5d74).

### 5.2 | Data Collection and Procedures

The child protection organizations involved are situated in different regions of the Netherlands. The organizations provided information on families who had recently started a mandatory supervision order (cohort A) or were reported to CPSs (cohort B). These families were informed about the research by letter and were subsequently called with the request to participate. Families living at secret addresses were not contacted to ensure their safety. Families were required to have at least one child aged 3–18 years and master the Dutch language. Parents that could not independently finish the questionnaire (e.g., were illiterate or had severe concentration problems) were excluded. For cohort A, additional exclusion criteria for study participation were that parents should still have the legal authority over their children and parents should have contact with their child(ren) on a regular basis (i.e., at least once a week).

At both timepoints, home visits by trained research assistants took place. Parents were asked to fill out questionnaires about child maltreatment and child and parental functioning. Participants were warned beforehand that the questionnaires would contain sensitive topics that might evoke emotions, and the researchers were mindful of this during the home visits. Children of the families could participate if they were between 8 and 18 years old and the children and their parents consented. Parents and children were given the choice to withdraw from the study at any time or request the removal of their data from the dataset. Moreover, during all contacts with the participants, it was emphasized that the study was conducted by independent researchers and that involved professionals and child protection organizations were unaware of which families participated in this study.

Research assistants left a list of organizations providing easily accessible care after the home visit as aftercare. Participants were left with the contact details of an independent researcher whom they could contact at any time. Participants were compensated for their time with €20. Approval to undertake this study (both cohorts) was obtained from the institutional ethical committee of the VU University Amsterdam (cohort A: VCWE-2018-167; cohort B: VCWE-2016-217R1). We ensured the anonymity of the participants in the dataset by assigning each participant a unique participant number. Only the coordinators and research assistants conducting the specific home visit had access to the participants' contact details. We acted in accordance with the

Dutch privacy regulations. For more information about the data collection procedures, see Steketee et al. (2020).

## 5.3 | Measures

### 5.3.1 | Child Abuse and Neglect

A Dutch translation of the Conflict Tactics Scale Parent Child (CTSPC; Straus et al. 1998) was used to determine if (physical and psychological) abuse and neglect took place, and if so, how many incidents took place annually. The CTSPC can be used for both parental and child reports. In the *parent report*, parents are asked to report on the frequency of 23 specific incidents of physical and psychological abuse and neglect (see Table 1) over the last year to a specific child on a 7-point rating scale: (1) *Never happened*; (2) *Once*; (3) *Twice*; (4) *3–5 times*; (5) *6–10 times*; (6) *11–20 times*; (7) *> 20 times*. The *child report* of the CTSPC consists of 39 items (with the same 7-point rating scale) in which children report the frequency of specific incidents of physical and psychological abuse of their caregivers and witnessing interparental violence.

This measure of parental abuse towards their children has been used in recent research (e.g., Lawson, Piel, and Simon 2020; Lee et al. 2022) and has adequate psychometric properties (Straus et al. 1998). In the current sample, the internal consistency was 0.76 for the parent version and 0.85 for the child version.

### 5.3.2 | Interparental Violence

A Dutch translation of the Conflict Tactics Scale (CTS-2; Straus et al. 1996) was used in this study to determine if interparental violence took place in the last year, and if so, how many incidents took place. Parents reported on the frequency of 66 specific incidents of psychological, physical and sexual IPV incidents that occurred during the previous 12 months on a 7-point rating scale: (1) *Never happened*; (2) *Once*; (3) *Twice*; (4) *3–5 times*; (5) *6–10 times*; (6) *11–20 times*; (7) *> 20 times*. Parents reported separately on violence used by themselves and violence used by their partner. The 78 items of the CTS-2 are divided into five subscales, of which four are used (see Table 1). The scale ‘negotiation’ was excluded as it does not reflect IPV. For an indication of the frequency of IPV from the *child’s* perspective, the ‘witnessing IPV’ scale of the CTSPC (Straus et al. 1998) was used, consisting of 15 items (with the same 7-point rating scale) containing both items about both psychological and physical violence (see Table 1).

This self-report measure has demonstrated good internal consistency across a variety of samples (Chapman and Gillespie 2019). In the current sample, the internal consistency was 0.94 for the parent version and 0.84 for the child version.

For both CAN and IPV, each item’s 7-point rating scale was converted into frequencies that correspond to the frequency of the event following the coding conventions of the manual: 0 (*never occurred*), 1 (*once*), 2 (*twice*), 4 (*3–5 times*), 8 (*6–10 times*), 15 (*11–20 times*) and 25 (*20+ times*). The frequencies of all items were then summed to compute a total frequency of CAN and IPV for parent and child reports separately. The frequencies of CAN

(child level) and IPV (family level) were then added to a total child maltreatment score for each child specifically. If we obtained both a parent- and child-reported CAN or IPV frequency score, we included the highest score in the total child maltreatment score.

## 5.4 | Analytic Strategy

For the analyses, one child per family was selected to avoid interdependency within families (see Appendix A). We selected children with available scores on the matching variables, no child maltreatment scores of zero and a child maltreatment score on both timepoints. Moreover, we added two selection criteria to the preregistration and selected children within a family with (1) the highest total child maltreatment score at T1 and (2) the highest total child maltreatment score summed for T1 and T2. This resulted in  $N=178$  children in the mandatory group and 469 children in the voluntary group. To facilitate careful comparison between the group with mandatory and voluntary child protection support, we matched children of families receiving mandatory support to children of families receiving voluntary support in R using nearest neighbour matching (1:1). The matching was based on propensity scores, that is, the probability score of being in the treatment group (mandatory CPS support) for each child. The propensity scores were based on several background variables (family income, education level, paying job, migration background and family situation) and the level of parenting stress.

IBM SPSS Statistics 27 was used to inspect the distribution of child maltreatment incidents across the two timepoints. During the initial data inspection, we noticed that the distribution of child maltreatment was extremely skewed and contained multiple outliers. To keep all information in the analyses, we decided to treat child maltreatment as a ‘count’ variable. Thus, we deviated from our preregistration to test our hypotheses in the most optimal statistical way, and we conducted a series of four generalized linear mixed model (GLMM) analyses with increasing complexity with a negative binomial regression (Yirga et al. 2020) in IBM SPSS Statistics 27 instead of a repeated measures ANOVA. To inspect the change of child maltreatment over time in the total group (H1), we compared a GLMM with the main effect of time (Model 2) with an intercept-only model as a reference (Model 1). The  $-2\log$ likelihood of the models were compared to test for significant differences. To examine whether the decrease of child maltreatment over time differed between groups (H2), we compared a GLMM with the main effect of time and group and the interaction between time and group (Model 4) with a GLMM with the main effects of time and group only (Model 3).

To examine the impact of missing values (a total child maltreatment score) in the analyses, we conducted the same series of GLMM analyses for incomplete cases. To create two similar groups with incomplete cases, we performed a second matching procedure with children of families receiving mandatory and voluntary CPS but including children with missing child maltreatment scores on one timepoint. This process yielded two matched groups of  $N=281$  children of families receiving mandatory CPS and  $N=281$  children of families receiving voluntary

**TABLE 1** | Used questionnaires and scales to construct total maltreatment score.

Type of violence	Informant	Questionnaire	Used scales	# items	Example item	Max. possible range
CAN	P	CTSPC	Physical abuse (corporal punishment/(severe) assault)	13	"...hit with a fist or kicked hard"/"... burned or scolded on purpose"	0–575
			Psychological abuse	5	"...called your child dumb or lazy or some other name like that"	
			Neglect (physical neglect/emotional neglect)	5	"...had to leave child(ren) home alone, even when you thought some other adult should be with him/her"/"... were so caught up with problems that you were not able to show or tell your child that you loved him/her"	
IPV	P	CTSPC	Physical abuse (corporal punishment/(severe) assault)	13	"...my parent hit me with a fist or kicked me hard"	0–425
			Psychological aggression	4	"...my parent threatened to spank or hit me but did not actually do it"	
			Assault	24	"...I choked my partner/my partner choked me"	
IPV	P	CTS-2	Injury	12	"...I had a sprain, bruise, or small cut because of a fight with my partner/my partner had a sprain, bruise, or small cut because of a fight with me"	0–1650
			Psychological violence	16	"...I shouted or yelled at my partner/my partner did this to me"	
			Sexual coercion	14	"...I used threats to make my partner have sex/my partner did this to me"	
IPV	C	CTSPC	Witnessing IPV (physical violence/psychological violence)	15	"...my parent hit my other parent"/"... my parent threatened to hit the other parent or throw something at him/her"	0–375

CPS. These additional steps, comprising the second matching procedure and analyses, supplement our preregistration, in which we planned to perform multiple imputations in cases of insufficient power.

During data inspection and analysis, we observed that the average rate of child maltreatment among children of families receiving voluntary child protection support was higher than the mandatory group. We conducted additional exploratory analyses on incidents of mild and severe child maltreatment, to see whether this yielded different results. We conducted the same series of GLMM analyses as described previously, but separately for mild and severe child maltreatment (based on the CTS-2 manual, Straus 2001; Straus et al. 1996) within the matched group with complete data. As for the analyses for total child maltreatment, we compared GLMM with increasing complexity. A model with the main effect of time (Model 2) was compared to an intercept-only model (Model 1) for H1, and a model with the main effects of time and group and the interaction of both (Model 4) was compared with a model without this interaction effect (Model 3) for H2.

## 6 | Results

### 6.1 | Propensity Score Matching

All of the  $N=178$  selected children of families receiving mandatory support were successfully matched to one of the  $N=469$  children of families receiving voluntary support with a similar propensity score, resulting in two groups of  $N=178$  children with complete cases. The descriptives prior and after matching are described in Table 2.

### 6.2 | Difference in Decrease Child Maltreatment Mandatory and Voluntary Support

To investigate whether there was a decrease in the frequency of child maltreatment incidents over time for the total group

( $N=356$ ; H1), Models 1 and 2 were compared, revealing a significant difference ( $\chi^2(1)=69.5$ ,  $p<0.001$ ), which indicates a significant overall decrease in the number of child maltreatment incidents for the total group over 12 months time, from  $M=73.54$  ( $SD=111.95$ ;  $Mdn=36.00$ ;  $range=0-829$ ) yearly incidents to  $M=29.92$  ( $SD=46.41$ ;  $Mdn=12.00$ ;  $range=0-304$ ) yearly incidents. The results of the GLMM are summarized (e.g., fixed coefficients) in Table B1.

To investigate whether the decrease in child maltreatment differed between children of families receiving mandatory ( $N=178$ ) and voluntary ( $N=178$ ) child protection support (H2), we evaluated the contribution of the interaction effect of group by time comparing Models 3 and 4, which appeared to be nonsignificant ( $\chi^2(1)=0.37$ ,  $p=0.54$ ). As such, the two groups do not differ in the decrease of child maltreatment over time. Figure 1 visualizes the decrease in child maltreatment for both groups.

To assess the impact of missing values, models were rerun after a second matching procedure, including children with missing values (a missing total child maltreatment score), and the results remained similar (Table B2).

### 6.3 | Severity of Child Maltreatment

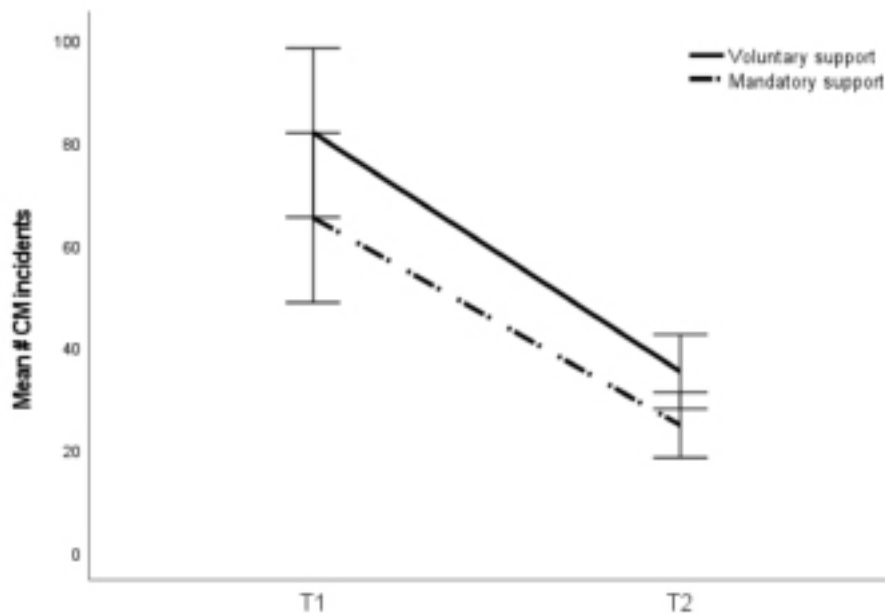
To investigate potential differences in the decrease for mild (i.e., “threw something at partner”) and mild (i.e., “beat up partner”) child maltreatment, exploratory analyses were conducted. Analyses yielded similar patterns (Appendix C): both for mild ( $\chi^2(1)=49.92$ ,  $p<0.001$ ) and severe ( $\chi^2(1)=38.16$ ,  $p<0.001$ ) maltreatment, a significant main effect of time was observed, indicating a significant overall decrease in the number of mild and severe child maltreatment incidents. However, no differences for children of families receiving mandatory or voluntary child protection support were observed. Figure 2 presents an overview of mild and severe child maltreatment incidents for the groups receiving mandatory and voluntary support.

TABLE 2 | Descriptive statistics pre- and postmatching.

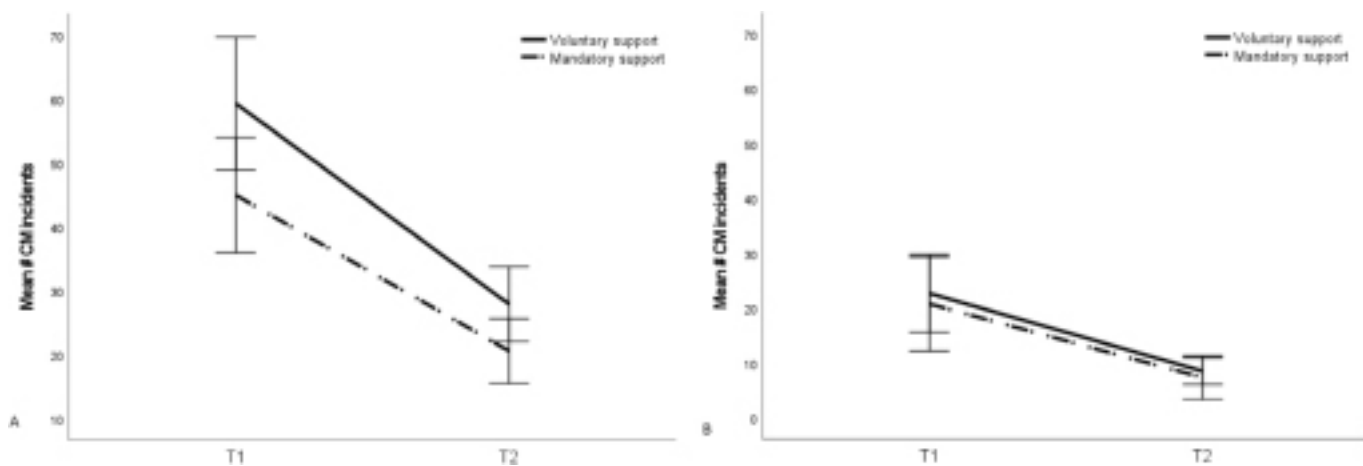
Variable	Scale	Prematched sample		Matched sample	
		Mandatory support ( $N=178$ )	Voluntary support ( $N=469$ )	Mandatory support ( $N=178$ )	Voluntary support ( $N=178$ )
Ethnicity	% Dutch	78	69	78	75
Family situation	% single	62	64	62	63
Paying job > 12 h p/w	% yes	62	61	62	62
Family income <sup>a</sup> , M (SD)	1–3	1.78 (0.70)	1.74 (0.70)	1.78 (0.70)	1.79 (0.72)
Educational level <sup>b</sup> , M (SD)	1–4	2.94 (0.88)	3.00 (0.85)	2.94 (0.88)	3.00 (0.81)
Parenting stress, M (SD)	25–150	62.30 (28.93)	57.35 (25.59)	62.30 (28.85)	64.02 (28.74)

<sup>a</sup>Monthly family income: (1) <1500, (2) 1500–3100 and (3) >3100.

<sup>b</sup>Educational level: (1) primary education, (2) lower secondary education, (3) higher secondary education and (4) higher vocational education/university education.



**FIGURE 1** | Mean number of child maltreatment incidents by group. *Note:* This figure demonstrates that the decrease in the number of child maltreatment incidents is similar for children of families receiving voluntary and mandatory child protection support.



**FIGURE 2** | Mean number of child maltreatment incidents by group by severity: (A) mild and (b) severe.

## 7 | Discussion

The present study is aimed at examining differences in the reduction of child maltreatment for children of families receiving mandatory and voluntary child protection support. First, the analysis revealed a substantial decrease in the frequency of child maltreatment among the total group of children involved in CPS. This is in line with our first hypothesis: whether the provided support is mandatory or voluntary, families have become visible to CPS and they receive support. Receiving child protection support, either mandatory or voluntary, seems to be effective in reducing the frequency of child maltreatment in families. Despite the decrease in child maltreatment, the persistent occurrence of child maltreatment in this group is consistent with previous studies reporting high rates of rereports and reoccurrence of child maltreatment following CPS intervention (Connell et al. 2009; DePanfilis and Zuravin 2002; Drake, Jonson-Reid, and Sapokaite 2006; Fluke et al. 2005; Fluke et al. 2008). We

may nevertheless conclude that involvement of CPS services is related to a substantial decrease of maltreatment. This is promising, as previous research has established a link between a decrease in the frequency of child maltreatment and improved child and parent wellbeing outcomes (Lünnemann et al. 2022; Steketee et al. 2020).

When examining differences between children of families receiving mandatory support and children receiving voluntary support, no differences were observed in the reduction of child maltreatment. This is contrary to the findings from a meta-analysis by Parhar et al. (2008), who concluded that voluntary treatment elicited higher effect sizes compared to mandatory treatment in reducing the recidivism of adult offenders (diverse types of offenders). Jewell and Wormith (2010) and Faulkner et al. (1991) demonstrated lower treatment drop-out rates in mandatory support in the context of domestic violence, and the treatment drop-out rates in this sample were unknown and not taken into account.

The capacity to achieve similar outcomes in mandatory support compared to voluntary support is remarkable, considering the potential motivational challenges in the mandatory group and the fact that this is a group that otherwise would not be supported as they are harder to reach and contact. Despite these 'obstacles', in our study, comparable results are accomplished. The lack of differences in child maltreatment between the mandatory and voluntary support groups could be possibly due to the way parents perceive the level of coercion of the support (Hachtel, Vogel, and Huber 2019; O'Donoghue et al. 2015). In practice, parents who do not accept support generally end up receiving mandatory child protection support (Bruning and Zlotnik 2018), which makes mandatory child protection support a source of external motivation to coercively accept support and attend court-mandated treatment. However, Doelman et al. (Early View) concluded in their interview study that this is more nuanced; parents in mandatory support could be intrinsically motivated for support as well and do not always feel forced to accept the support. On the other hand, the report and investigation of child maltreatment can also be perceived as coerced by parents, even if this results in voluntary child protection support. The perceived coercion of the support might be less separated between both groups, which could suggest that the mandatory component itself affects parents in mandatory child protection support to a lesser extent.

Moreover, our main analyses demonstrated that children of families receiving voluntary CPS reported a higher frequency of child maltreatment at both timepoints compared to children of families receiving mandatory CPS. As the mandatory group typically involves families in which child development is more severely threatened than families receiving voluntary support, a higher mean child maltreatment frequency for the voluntary group contrasted with our expectations based on the criteria for receiving mandatory child protection support (e.g., Bruning and Zlotnik 2018). A possible reason why families receiving mandatory and voluntary CPS vary in the frequency of child maltreatment incidents could be that they differ in the nature of issues occurring within the families, beyond child maltreatment. This could include issues like parental psychiatric problems or parental substance use (e.g., Bromfield et al. 2010; Vis et al. 2021; White, Hindley, and Jones 2015). To explore whether we could find differences in the severity of child maltreatment between groups, the analyses were performed exploratively for mild and severe child maltreatment incidents separately. For both mild and severe child maltreatment, a large decrease was observed. Moreover, the decrease of both mild and severe incidents did not differ between mandatory and voluntary child protection support. Mandatory and voluntary support are just as effective in reducing mild and severe child maltreatment incidents.

## 7.1 | Strengths, Limitations and Future Research Directions

This study contributes to the current body of research by using a longitudinal, quasiexperimental design to examine child maltreatment in families receiving mandatory versus voluntary child protection support. Although randomized trials are seen as the most appropriate design to investigate treatment effects, PSM matching allows to account for selection bias and an

unbiased estimation of treatment effects that is adjusted for several confounding factors (Luellen, Shadish, and Clark 2005). In this study, a group of children of families receiving mandatory child protection support was successfully matched to a comparable group of children of families receiving voluntary child protection support. The limitation of this approach is that there may be other unobserved variables that were not included in the matching procedure, such as parental motivation, feeling of coercion, parental mental health or substance use (e.g., Hachtel, Vogel, and Huber 2019; White, Hindley, and Jones 2015). Future research may include these additional factors.

This study adds a new perspective on previous studies relying on administrative operationalizations of child maltreatment by examining self-report data of parents and children (Hambrick et al. 2014; Tierolf, Lünemann, and Steketee 2014). Because self-report data can raise social desirability issues (Sugarman and Hotaling 1997; Van de Mortel 2008) and previous research has shown that parents are inclined to report lower levels of IPV and CAN than their children (e.g., van Rooij et al. 2015), we used a multi-informant strategy to determine the levels of child maltreatment for each child by including information from parents and child(ren), if available. In this way, it was possible to regard child maltreatment at the level of children instead of a family. Social desirability issues were minimized by informing participants that this research was conducted by independent researchers and outcomes were not measured as performance indicators. Inspecting informant effects or combining administrative data on child maltreatment recurrence following CPS and direct outcomes (e.g., Widom, Czaja, and DuMont 2015) in future research would give more information on the discrepancy between informants and outcome type.

Some limitations should be considered when interpreting the current findings. First, the current study has a high attrition rate. Although we compensated for this limitation by inspecting the impact of missing values, which elicited the same results, future research could take attrition rates into account to eliminate possible biases. Second, given the nature of our data, the subtype and chronicity of child maltreatment prior to entering the child protection system were not considered. Exploring client heterogeneity in future research could be valuable in investigating potential variations in the decrease of child maltreatment for mandatory or voluntary CPS depending on the nature of child maltreatment.

## 7.2 | Implications and Conclusions

Although comparing child protection systems between countries is challenging due to their varying organizational structures, the present study provides significant insights into the effects of mandatory versus voluntary child protection support. The findings demonstrate that the decrease of self-reported child maltreatment in families receiving mandatory CPS is similar to that in families receiving voluntary CPS. Further exploration is needed to contextualize these findings within CPS systems across the globe and in the context of domestic violence.

As mandatory child protection measures can have significant consequences for families, it is essential to continuously monitor



the effects of mandatory child protection support on child maltreatment and other outcomes. This will enable policymakers to make any necessary adjustments and uphold best practices. Acknowledging the impact of coercion on parents can result in more effective support strategies, with a focus on the role of self-determination and the establishment of authoritative therapeutic relationships within CPS interventions (Theodoridou et al. 2012), in which the aims and expectations of the support process are aligned between families and professionals (Doelman et al. [Early View](#)).

This study demonstrates a large decrease in the frequency of child maltreatment in families receiving CPS. Despite the promising finding that child maltreatment declines in families in CPS after a year, it is important to note that violence in these families has not stopped, and child safety, the main concern of CPS (e.g., Trocmé et al. 2009), still has to be established after the 12-month period. This calls for increased attention as the importance of stopping child maltreatment on top of decreasing maltreatment has been previously established (Lünnemann et al. 2022). The current study shows that child maltreatment is a persistent problem and that it is hard to reduce violence in families, but it also makes clear that the efforts made by all those involved in CPS help to improve the wellbeing of children in families at risk.

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#### Conflicts of Interest

The authors declare no conflicts of interest.

#### Data Availability Statement

Research data are not shared.

#### Endnote

<sup>1</sup>We use a broad definition for child maltreatment, which includes direct and indirect forms of maltreatment. Indirect maltreatment, such as witnessing interparental violence (IPV), can have an impact as severe as direct maltreatment (e.g., Doelman et al. 2023; Kitzmann et al. 2003).

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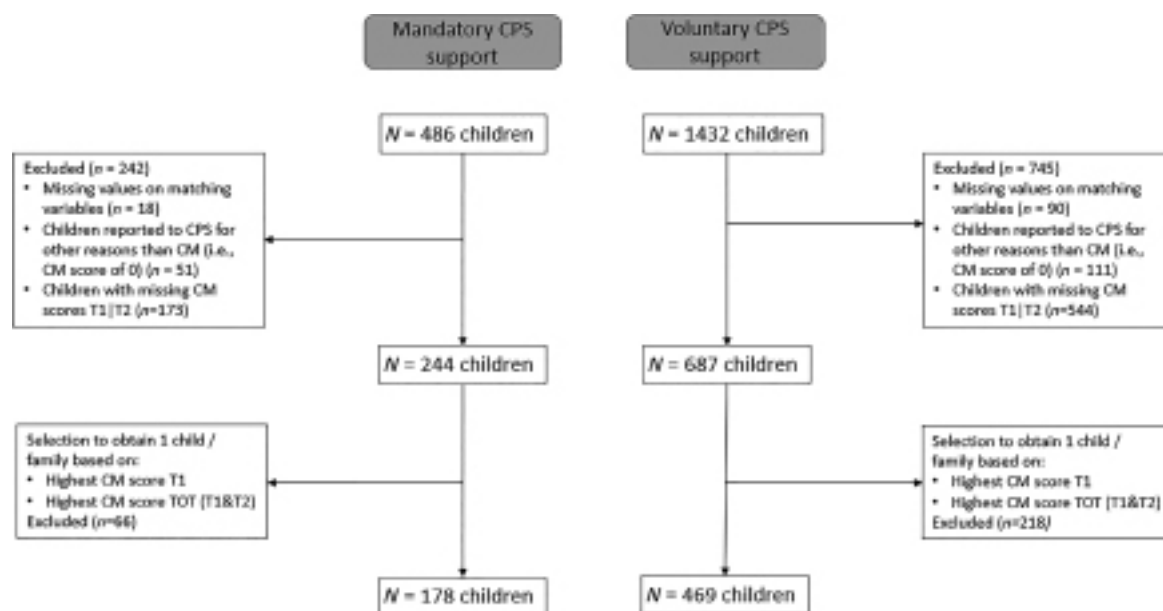
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## Appendix A

### Selection Process Prematching



## Appendix B

**TABLE B1** | Model summary for comparison—complete data.

		-2loglikelihood model	Coefficient	SE	t	p	95% confidence interval	
							Lower	Upper
Model 1	Intercept	6794.62	2.10	0.12	x	x	1.85	2.31
Model 2	Intercept	6725.10	3.40	0.08	41.59	<0.001	3.24	3.56
	Time		0.90	0.12	7.80	<0.001	0.67	1.13
Model 3	Intercept	6717.27	3.24	0.10	31.45	<0.001	3.04	3.44
	Time		0.91	0.12	7.74	<0.001	0.68	1.14
	Group		0.29	0.12	2.47	<0.05	0.06	0.52
Model 4	Intercept	6716.90	3.21	0.12	27.21	<0.001	2.97	3.44
	Time		0.97	0.17	5.85	<0.001	0.65	1.30
	Group		0.35	0.17	2.13	<0.05	0.03	0.68
	Group x time		-0.13	0.23	-0.54	n.s.	-0.59	0.33

Note: Probability distribution: negative binomial.

**TABLE B2** | Model summary for comparison—incomplete data.

		-2loglikelihood model	Coefficient	SE	t	p	95% confidence interval	
							Lower	Upper
Model 1	Intercept	9185.32	2.03	0.10	x	x	1.85	2.24
Model 2	Intercept	9086.27	3.34	0.08	43.40	<0.001	3.19	3.50
	Time		0.97	0.10	9.71	<0.001	0.77	1.16
Model 3	Intercept	9079.77	3.22	0.09	34.57	<0.001	3.04	3.40
	Time		0.98	0.10	9.67	<0.001	0.78	1.17
	Group		0.23	0.10	2.30	<0.05	0.03	0.42
Model 4	Intercept	9079.01	3.17	0.11	28.91	<0.001	2.96	3.39
	Time		1.06	0.14	7.41	<0.001	0.78	1.34
	Group		0.32	0.16	2.06	<0.05	0.02	0.63
	Group × time		-0.16	0.20	-0.79	0.43	-0.56	0.24

Note: Probability distribution: negative binomial.

## Appendix C

**TABLE C1** | Model summary for comparison mild child maltreatment—complete data.

		-2loglikelihood model	Coefficient	SE	t	p	95% confidence interval	
							Lower	Upper
Model 1	Intercept	6202.71	2.02	0.10	x	x	1.82	2.23
Model 2	Intercept	6152.79	3.19	0.07	42.68	<0.001	3.04	3.34
	Time		0.77	0.11	7.30	<0.001	0.56	0.97
Model 3	Intercept	6145.22	3.03	0.09	32.90	<0.001	2.85	3.21
	Time		0.77	0.11	7.26	<0.001	0.56	0.97
	Group		0.29	0.11	2.75	<0.01	0.08	0.50
Model 4	Intercept	6145.21	3.03	0.11	28.39	<0.001	2.82	3.24
	Time		0.78	0.15	5.19	<0.001	0.49	1.08
	Group		0.30	0.15	2.02	<0.05	0.01	0.60
	Group × time		-0.03	0.21	-0.13	n.s.	-0.44	0.39

Note: Probability distribution: negative binomial.

**TABLE C2** | Model summary for comparison severe child maltreatment—complete data.

		-2loglikelihood model	Coefficient	SE	t	p	95% confidence interval	
							Lower	Upper
Model 1	Intercept	4306.07	4.61	0.34	x	x	4.00	5.33
Model 2	Intercept	4267.91	2.07	0.14	14.72	<0.001	1.79	2.34
	Time		1.01	0.20	5.11	<0.001	0.62	1.40
Model 3	Intercept	4267.34	2.01	0.18	11.30	<0.001	1.66	2.35
	Time		1.01	0.20	5.00	<0.001	0.61	1.41
	Group		0.12	0.20	0.59	n.s.	-0.28	0.52
Model 4	Intercept	4267.31	1.99	0.21	9.70	<0.001	1.58	2.39
	Time		1.04	0.29	3.62	<0.001	0.48	1.61
	Group		0.15	0.29	0.52	n.s.	-0.42	0.72
	Group × time		-0.06	0.41	-0.15	n.s.	-0.86	0.74

Note: Probability distribution: negative binomial.