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Patterns and correlates of co-occurrence among multiple types of child maltreatment

Kihyun Kim[*], **Ferol E. Mennen**[†], and **Penelope K. Trickett**[†]

[*]Sungkyunkwan University, School of Social Welfare, Seoul, Korea

[†]School of Social Work, University of Southern California, Los Angeles, California, USA

Abstract

This study examined the patterns and correlates of the types of maltreatment experienced by adolescents aged 9–12, participating in an ongoing longitudinal study on the impact of neglect on children's development. Using case record abstraction, the study compared the child protection classification and findings from the case record abstraction with regard to the rates of four types of maltreatment (i.e. physical, sexual, emotional abuse and neglect) as well as co-occurrence across multiple types of maltreatment. Next, the study examined the frequently observed patterns of child maltreatment. Finally, the study investigated whether aspects of caretaker functioning and the detailed incident characteristics in the cases of neglect differed by the number of different types of maltreatment the children experienced. Results showed significant discrepancies between the Child Protective Service classification and case record abstraction. Child Protective Service classification considerably underestimated the rate of co-occurrence across multiple types of maltreatment. Neglect accompanied by physical and emotional abuse was the most common form. Some of the caretaker functioning variables distinguished the number of types of maltreatment. Based on the findings, future-research directions and practice implication were discussed.

Keywords

child abuse; child abuse (neglect); child protection; child protection (policy and practice)

INTRODUCTION

Research on the impact of child maltreatment on children's development and functioning has proliferated over the last several decades, as a number of reviews attest (e.g. Chapman *et al*. 2007; Kendall-Tackett *et al*. 1993; Knutson 1995; Putnam 2003; Senn *et al*. 2008; Trickett & McBride-Chang 1995; Watts-English *et al*. 2006). The research reviews make quite evident that all the forms of abuse and neglect frequently result in adverse effects on children and adolescents over many domains including physical, psychological, behavioural and social functioning.

Correspondence: Kihyun Kim, Sungkyunkwan, University, Graduate School of Social, Welfare – Faculty Hall #211, 53, Myeongnyun-Dong 3-ga, Jongno-Gu, Seoul 110-745, Korea. k.kihyun@gmail.com.

What is also clear from these reviews of research on the impact of abuse and neglect and from the individual research studies is the degree of variability of impact. This variability manifests itself in a number of ways. Main effects between an abuse group and a comparison group are often inconsistently found across studies (Hildyard & Wolfe 2002). Even when an abuse group shows a significantly higher percentage with a certain problem or diagnosis (e.g. clinically elevated behaviour problems) as compared with a control group, it is still true that usually the majority of neither group manifests that problem (e.g. 49.7% of maltreated children evidenced clinical-level of behaviour problems, and thus, 50.3% do not Cicchetti & Rogosch 2001). This study aims to understand the variability of impact from the perspective of variability in the nature and severity of child abuse and neglect experienced by different individuals.

Some of the differences both within and between studies may be due to differences in sample selection, the measures used in different studies, as well as developmental effect. But also, more importantly, some of this variability may be due to significant variations in the nature and severity of the abuse and neglect. For example, the experience of a child who is left alone on one occasion while the mother searches for work and a fire breaks out that results in a charge of abandonment may not be same as that of a child whose mother leaves her children frequently to go out and purchase drugs and does not have sufficient food in the home to meet their nutritional needs. Emerging evidence supports this notion. Knutson *et al.* (2010) found that different types of neglect had different influences on obesity in children depending on the age. Care neglect was associated with higher body mass index (BMI) scores in younger children but not older. Supervisory neglect was related to obesity in older but not younger children.

Co-occurrence of multiple types of maltreatment

In addition to the nature and severity of the abuse and neglect, it is likely that variability of the impact may be due to variations in the patterns or combinations of the different types of child abuse and neglect experienced by different individuals. Many studies show that multiple types of child abuse and neglect often co-occur. Co-occurrence of multiple forms of maltreatment has been found cross-sectionally as well as longitudinally (Jonson-Reid *et al.* 2003).

Out of the 401 youths admitted to a publicly funded psychiatric hospital, 50% of the children had experienced maltreatment and 59% of the victims had experienced two or more types of maltreatment (Boxer & Terranova 2008). The co-occurrence rates among children and adolescents involved in Child Protective Service (CPS) were even higher than the community sample. Samples selected from open caseloads of CPS agencies indicated over 90% of youth had experienced more than one type of maltreatment (Claussen & Crittenden 1991; McGee *et al.* 1995). The co-occurrence rates of childhood maltreatment experiences reported in adult retrospective studies ranged from approximately 30 to 40% (e.g. Edwards *et al.* 2003; for reviews, see Higgins & McCabe 2001). Although the rates of co-occurrence vary by sample characteristics, these studies show that the number of children who experience multiple types of maltreatment is alarmingly high.

Accuracy of using the Child Protective Service official classification

The evidence that co-occurrence of maltreatment is the norm brings into question many of the findings in child maltreatment research. Current knowledge in child abuse and neglect relies heavily on the findings from studies that utilize the official classification of the CPS agency as the indicator of the children's maltreatment status. However, the inaccuracy of the CPS classification has been extensively discussed in child maltreatment research (Bromfield & Higgins 2004; Drake 1995; Runyan *et al.*, 2005). It is especially likely to underestimate the co-occurrence among multiple forms of maltreatment that a child experiences (e.g. McGee *et al.* 1995).

As a result, utilizing the official classification to categorize a single type of maltreatment to study while multiple forms of maltreatment is the norm is to risk giving a spurious prominence to the chosen form of victimization. It is possible that a number of existing studies based on the CPS official designations may have exaggerated the contribution of a single type of victimization to the abused children's adjustments and functioning. The effect of a single type of abuse must be investigated within the totality of a child's maltreatment experiences. It is very important to investigate the co-occurring patterns of child maltreatment and to explore patterns more clearly to lead to a better definition of the actual experience of maltreatment. For the CPS providers, such information can lead to a more efficient allocation of resources and highlight specific subpopulations who need more intensive or enhanced services.

While the importance of multiple types of child maltreatment is being increasingly acknowledged, it is still challenging to explain how and why the sum of the number of different types of maltreatment influences the abused children's adjustments. Theoretical explanation is lacking. As Kinard noted in the early1990's, 'it is not clear whether the impact of multiple types of maltreatment is due to the actual number of different types or a particular combination of types'(Kinard 1994, p.648). It is still difficult to delineate which combinations have the greatest effect. We do not even know whether the single and multiple types of maltreatment share the same or different risk factors and how these risk factors may influence children's functioning.

To take a step to address these issues, the authors have conducted a study abstracting all the CPS case records in a sample of 303 maltreated, urban young adolescents participating in an ongoing longitudinal study on the impact of neglect. As expected, many of these children's files contained multiple incidents as well as multiple forms of reported maltreatment. The current study focused on early descriptive findings from the database. Specifically, the purpose of this study was to expand the literature on the multiple types of child maltreatment by addressing some of the gaps in the existing literature. Most notably, relatively few researchers have focused on the patterns of multiple forms of maltreatment. Further, there is a continuing need for research examining the correlates of the patterns of child maltreatment. Therefore, the present study examined the patterns of child maltreatment. We compared the caretaker functioning characteristics and detailed incident characteristics between cases having one, two, three or four types of maltreatment. Specifically, research questions of this study were as follows:

1. Are there significant discrepancies between CPS study codes and findings from the case records abstraction? Do CPS study codes significantly underestimate the co-occurrence among the multiple types of maltreatment?
2. What are the most frequently observed co-occurring patterns of maltreatment detected in the case record abstraction?
3. What are the caretaker functioning and incident characteristics (e.g. type of perpetrator, action type, frequency and age of onset) correlated with multiple forms of maltreatment? Does co-occurrence of multiple types of maltreatment involve more environmental risks and severe incident characteristics in the cases of neglect?

METHOD

Participants

The subjects of this study were part of a longitudinal study of the effects of maltreatment on adolescent development. Recruitment procedures were approved by the Los Angeles County Department of Children and Family Services (DCFS), the Juvenile Court of Los Angeles County and the Institutional Review Board of the University of Southern California. Each month, DCFS developed lists of new cases in the system that met the recruitment criteria: the child (i) had a new substantiated referral (i.e. report of maltreatment) to DCFS in the preceding month for any type of maltreatment; (ii) was age 9–12 years; (iii) was identified as Latino, African-American or Caucasian (non-Latino); and (iv) resided at the time of the referral to DCFS in one of 10 zip codes in urban Los Angeles County areas.

The sampling plan utilized zip codes in order to ensure that participating children would have similar neighbourhood experiences. In all, 77% of the families sent the invitation letter agreed to participate. A final sample of 303 maltreated children was the sample for this study (Table 1) (A comparison sample of children from the same zip codes was recruited through direct mail lists, but those children are not part of the current study). The caretakers and their children came to the project office where they took part in an interview process. Caretakers and children gave consent (assent) for the study that included their permission to access DCFS case records on the maltreatment. The juvenile court also gave permission to access records.

Maltreatment Case Record Abstraction Instrument

The authors developed a database using SPSS Data Entry Builder 3.0 in which to enter the large amount of information available in each record, the Maltreatment Case Record Abstraction Instrument (MCRAI). We used the Maltreatment Classification System (MCS; Barnett *et al.* 1993) as modified by English and LONGSCAN (English & LONGSCAN, 1997), to explicate the children's detailed information on maltreatment. The decisions about the kinds of information to enter into the system were also made in consultation with a number of experts in child maltreatment and consultants from DCFS. The goal was to create a system that could include a large amount of very specific data about a child's maltreatment

experiences in order to be able to categorize them in a way that would begin to quantify their experience (A copy of the instrument is available from the authors).

The MCRAI was constructed based on maltreatment acts inflicted on a child rather than the child's injury (English & LONGSCAN, 1997). First, it is composed of four major forms of child maltreatment. *Physical abuse* involved willful cruelty or unjustifiable corporal punishment inflicted on a child (e.g. beating, causing bruises, broken bones, welts, medical treatment or hospitalization). Operational definitions of *sexual abuse* included sexual assault or sexual exploitation inflicted on a child. Specific acts involved, for example, kissing the child in a lingering and intimate way, fondling of the child's genitals, adult masturbates self while child observes, child's mouth in contact with offender's genitals, penetration. *Emotional abuse* consisted of spurning (e.g. child is blamed for adult problems and verbal abuse), terrorizing (e.g. parent threatens suicide, child subjected to extreme negativity or hostility), isolating (e.g. parent interferes with other relationships and child is confined or isolated) and exploiting/corrupting (e.g. child is forced to assume inappropriate responsibility, child involved in illegal activity). *Neglect* involved care neglect and supervisory neglect. Care neglect indicates failure to provide basic necessities. This includes care neglect (i.e. failure to food and clothing), environmental neglect (i.e. failure to provide shelter and hygiene), medical neglect and educational neglect. Lack of supervision also indicates failure to provide supervision, which includes left child alone, left child alone with inappropriate substitute care (For details, see Mennen *et al.* 2010).

Second, in addition to the four forms of maltreatment, following the original CPS categorization of maltreatment, two more categories were included in the MCRAI. *Caretaker incapacity* is specific to the caregiver's situation such as the caretaker's absence (e.g. incarceration, hospitalization and whereabouts unknown) and/or caretaker's inability to provide adequate care for the child (e.g. mental illness, physical illness and substance abuse). *Substantial risk* is the designation that applies to a situation in which no clear current allegations exist for the child but places the child at risk for abuse and/or neglect (most often, this has been that the child's sibling was abused and/or neglected).

With one report as a unit of data entry, a new record was created for each new report of maltreatment for a child. All the relevant data for that particular report were entered, including specific actions taken, duration, frequency, perpetrator's relationship to the child, age of onset and other specifics of the abuse (e.g. whether hospitalization occurred and whether marks were left). Also entered in the data base were all the CPS allegations of maltreatment and the investigation status (i.e. whether or not the allegations were confirmed), type of reporting party and the disposition for the individual report. Information about the parents' functioning in relation to substance abuse, domestic violence and mental and physical health was also part of the system.

Procedures for abstracting child maltreatment case records

The study used two retired DCFS supervisors to access the CPS agency's records. They reviewed records, obtained copies of the investigation documents on each report of maltreatment (e.g. emergency referral information, screener narrative, investigation narrative

and contact sheets), court reports, placement history and provided a summary of the child's case.

Two of the authors supervised, trained and checked the record abstraction process performed by social work master's-degree students and psychology undergraduate students. Training consisted of an initial two-hour extensive orientation and close supervision of the first 4–5 case abstractions until the abstractor achieved at least 90% inter-rater agreement with the authors. Abstractors screened and coded maltreatment information from CPS records. Abstracted data were checked by individual case reviews as well as data matching with the case summary that the hired DCFS consultants provided to this study. In cases of inconsistencies, original CPS case records were re-checked, and, if necessary, group decisions were made among the authors and the entries modified. During the data collection process, 20 cases were chosen at random to test inter-rater agreement on the four major types of maltreatment for each referral for each child. This indicated good reliabilities (α's): 0.82, 0.82, 0.79 and 0.75 for physical, sexual, emotional abuse and neglect, respectively.

RESULTS

Results from descriptive analyses

Descriptive analyses, presented in Table 2, examined the presence or absence of four types of maltreatment, physical abuse (PA), sexual abuse (SA), emotional abuse (EA) and neglect (N) as well as caretaker incapacity (CI) and substantial risk (SR) as indicated by three different sources. The first source is the categorization given by DCFS at the time of recruitment into the study. The second is the MCRAI data abstraction for the type (s) of maltreatment present for the report at study entry. The third is the MCRAI abstraction of aggregated maltreatment reports of the previous 4 years from study entry. Table 2 also notes the percent of cases having multiple forms of maltreatment.

As summarized in Table 2, a number of the adolescents had multiple incidents reported to CPS. The total number of referrals made within 4 years from study entry ranged from 1 to 16. As expected, we detected discrepancies in the children's maltreatment experiences by data source. According to the DCFS classifications of the 303 adolescents, 17.8% youth were classified as PA, 5.0% SA, 9.9% EA and 40.6% N. 17.2% youth were classified as CI and 18.8% SR. This contrasts with the results from the MCRAI most recent report that indicated that 24.8% adolescents experienced some form of PA, 7.6% SA, 25.8% EA and 46.9% N, followed by 25.4% and 25.8% for both CI and SR. The differences were statistically significant across all categories except for SA and N. The discrepancy between the DCFS classifications and the MCRAI classifications was even more dramatic when including all maltreatment incidents from the 4 years previous to the first interview date. 50.2% youth were classified as PA, 19.8% SA, 56.5% EA, 69.7% N, 49.9% CI and 51.2% SR. These findings statistically differed from the DCFS classification across all categories at the 0.001 level.

We examined how many youngsters experienced multiple forms of maltreatment within each classification system. According to the CPS classification, the majority of maltreated adolescents experienced one form of maltreatment or only CI and/or SR. We found

somewhat different numbers in the MCRAI analysis of the most recent report. Slightly more than half of the youth had a single type of maltreatment and 24.1% had none of the four categories of maltreatment (i.e. were classified as CI and/or SR). Multiple forms of maltreatment occurred for 23.5% of the youth. The difference in the analysis of the aggregated data was more dramatic: over the prior four years, 65.3% experienced multiple forms of maltreatment, only 25.7% had a single type, and 8.9% had none of the four categories of maltreatment but were classified as CI or SR.

Results from the analyses of co-occurring patterns

Next, we investigated the frequently observed patterns of co-occurrences in maltreatment from the MCRAI data (Table 3). One form of maltreatment was ranked higher in the analysis based on the most recent report, while multiple types were ranked higher and patterns varied in the findings based on multiple reports. For example, with regard to the most recent report, we found N only was the most frequently detected pattern, followed by CI and/or SR, physical abuse only and EA only (Table 3–1). In contrast, in terms of multiple incidents reported within 4 years, the co-occurrence of N, PA and EA was the most frequently observed pattern, followed by N only, co-occurrence of N and EA, the co-occurrence of all 4 forms and CI and/or SR (Table 3–2).

Tables 4 and 5 summarize the results from the group difference tests by the number of different types of maltreatment with regard to caretaker functioning (Table 4) and detailed incident characteristics (Table 5). According to the total number of types of maltreatment experienced by the participating adolescents, we placed them into one of three groups: no or one type of maltreatment (n = 105, 34.7%); two to three different types of maltreatment (n = 175, 57.8%); and four different types of maltreatment (n = 23, 7.6%). Instead of using binary grouping (single vs multiple), we divided the multiple group into two following so that we can observe possible incremental changes. The number of types of maltreatment indicates a net sum of different types of maltreatment. No maltreatment in this sample indicates children were at substantial risk (SR) or exposed to parental incapacity (CI). This category was grouped with one type of maltreatment. Four different types indicate an extreme form of maltreatment where children experienced all the possible combinations of child abuse and neglect. The results show that the three groups did not differ in most of the demographic characteristics such as child's gender, ethnicity, age and parent's education.

We examined the caretaker functioning such as presence or absence of mother's mental illness, substance abuse and domestic violence at the time of incident occurred. We obtained the caretaker functioning information from the case record abstraction. Becasue some youngsters participated in the study with one or more siblings, we randomly selected only one of the siblings and conducted analyses using non-duplicated cases (n = 230). The results showed significant group differences with regard to mother's mental illness and domestic violence. More mothers in the four-different-type group were reported as having mental illness at the time of maltreatment referral. Similarly, children in multiple types of maltreatment were more likely to be reported having lived in a home where domestic violence occurred.

In order to examine whether differences exist in terms of incident details of neglect, we selected all the neglect cases and compared the neglect details (i.e. identity of perpetrator, subtypes of neglect, total number of different subtypes, age of onset and frequency of neglect report) (Table 5). Because each incident could have more than one type of perpetrator and subtypes of neglect, chi-square tests were conducted for the presence or absence of each category. Neglect co-occurring with other types of maltreatment showed more frequent neglect reports and more educational neglect than pure neglect cases. Additional differences were found in medical neglect and total number of different subtypes of neglect. Children who experienced neglect co-occurring with other types of maltreatment were more likely to have reports of medical neglect and to experience various forms of neglect than children who experienced only neglect.

DISCUSSION

This study aimed to examine the patterns and correlates of the co-occurrence among multiple types of maltreatment experienced by the children participating in an ongoing longitudinal study on the impact of neglect on children's development. Using the case record abstraction, the study, first, examined the differences between the DCFS classifications and findings from the case record abstraction in terms of rates of each type of maltreatment as well as co-occurrence of maltreatment. Next, we explored the frequently observed patterns of co-occurrence among the multiple types of maltreatment. Neglect accompanied by physical and emotional abuse was found to be the most common form of maltreatment in this sample. Finally, this study investigated whether the caretaker functioning and the detailed neglect characteristics differed by the number of types of maltreatment.

Differences between the Child Protective Service classification and the case record abstraction

The results showed vast differences between the official designations of children's maltreatment experience and the actual experiences that are documented after careful review of the official records. We found statistically significant differences between the official classification of children's maltreatment type and what we learned from their actual records for all types of maltreatment. For example, while the official records designated only 17.8% of our sample as physically abused, the case record material indicated very different numbers. Nearly one-quarter had physical abuse documented in the most recent referral information and that number jumped to half when reports over the past 4 years were examined. National data documents physical abuse in 18.3% of children reported for maltreatment (U.S. Department of Health and Human Services, Administration on Children, Youth and Families 2013).

This pattern of discrepancies held true for the other types of maltreatment, and differences were most profound with emotional abuse. Official records classified about 10% of children as emotionally abused, but material in the records supported emotional abuse in more than a quarter for the most recent referral and more than half over 4 years. National data reports psychological abuse (the term used by ACYF [Administration on Children, Youth and Families]) at 8.5% (U.S. Department of Health and Human Services, Administration on

Children, Youth and Families 2013). Clearly, emotional abuse is a much more common problem in children in the child welfare system than has been noted in official records, and this is likely as true for national samples as our local one (See also, English & LONGSCAN, 1997).

As with the national incidence data, the largest number of children in the study was victims of neglect. In the statistics from 2006, 64.1% of the victims of maltreatment in the USA were classified as victims of neglect (US Department of Health and Human Services, 2008). In our sample, a lower number, 40.6% were officially classified as neglected by DCFS. We found neglect in 46.9% of the sample when we looked at the most recent report, and when reviewing the aggregated reports from the previous 4 years that rate jumped to 69.7%. Neglect is clearly the most common type of maltreatment for children in the child welfare system, by all reports. The reason for the lower rates of neglect in the official reports in this sample from that in national data is unclear, but may relate to decisions on what kinds of cases to pursue by investigative workers. Looking at children over time, our rates of neglect are slightly higher than those reported in national data.

The most dramatic discrepancy between the official designation and case record abstraction was detected in the rate of co-occurrence of multiple types of child maltreatment. According to DCFS classification, only 6% of the cases had multiple types of maltreatment. However, the case-record abstraction found 23.4% of the cases had experienced more than one type of maltreatment when the data were analysed based on one incident. That rate jumped up to 65.3% when all the incidents reported for the prior 4 years were included in the analysis. Estimates of co-occurring types of maltreatment in the CPS-involved population ranged from 46 to 90% (Lau *et al.*, 2005). The co-occurrence rate of 65.3% detected in this sample is higher than the rate detected in a community sample (e.g. Kilpatrick *et al.* 2000) but lower than the rate of 90% found utilizing the CPS-referred cases (e.g. Claussen & Crittenden 1991). We speculate that the lower rate found in this study may reflect the time frame that this study utilized limiting the incidents reported to within 4 years from the interview intake. The current rate of 65.3% may be a conservative estimate in a sample of CPS-referred children.

Consistently, in our analyses, we found that there were important differences in what we found when we looked at the most recent report of maltreatment versus looking at all the reports of maltreatment over the prior 4 years. The analyses based on one incident (i.e. cross-sectional view) and aggregated data (i.e. accumulated view) yielded a different picture with regard to the rate of co-occurrence (23.4% vs 65.3%) and the rank ordering of maltreatment types. Aggregated data show that the average number of referrals for 4 years was 3.7 ($SD = 2.7$) and ranged from 1 to 16. This suggests that a number of children are reported to the authorities repeatedly and experience multiple types of maltreatment over time. It may suggest that multiply referred children involved with the CPS are not only chronic but also experience multiple types of maltreatment.

This inclusive look at maltreatment is important in discovering the children's actual experiences of maltreatment, because maltreatment is most often not a unique incident (Higgins & McCabe 2001; Saunders 2003). This also leaves open the possibility that one

incident of abuse may be a precursor of other types of maltreatment. In addition, this points to the importance of carefully examining children's past experiences when developing sampling and analytic strategies for research. Failure to do so will result in inaccurate conclusions. For example, if a study included all those children who were neglected but also physically abused, sexually abused, and/or emotionally abused but classified as neglected only (over 50% in this sample), this would confound any results indicating the relationships between neglect and adverse developmental outcomes. The results will fail to account for the co-occurring abuse that influences the behaviour problems. The study conclusions on the influence of neglect on behaviour problems will be compromised by the failure to account for the co-occurring abuse.

Co-occurrence of multiple types of maltreatment

The most common form of co-occurrence of multiple types of maltreatment found in this study was neglect accompanied by physical and emotional abuse. This pattern may reflect situations where children were verbally and physically attacked by caretakers while being neglected in meeting the basic needs. This comprised 19.2% of the sample. Some existing studies have noted this pattern of child maltreatment. McGee *et al.* (1995) conducted a factor analysis of dimensions of maltreatment and found the three factor solution. This pattern of physical, emotional abuse and neglect was distinguished as an independent dimension from domestic violence as well as sexual abuse separately. Also, Ney *et al.* (1994) examined the effects of various patterns of maltreatment on adolescent functioning and found that this pattern exerted the greatest effect on the outcomes.

It is still not clear how and why the number of types is an important determinant of the adolescents' developmental outcomes. Two competing factors could be postulated. It could be the function of environmental risks associated with the multiple types of maltreatment. In other words, children who experience multiple types of maltreatment may live with caretakers who have limited functioning. Multiple types of maltreatment may be markers of this adverse environment. The results from this study provided partial support for this hypothesis. We examined the caretaker's functioning and found that mothers of multiply victimized children were more likely to have mental illness. The children were more likely to have lived in home where domestic violence occurred.

The other factor could be maltreatment incident characteristics. We investigated this hypothesis in the context of neglect. Out of five different characteristics examined, we found that multiply victimized children had experienced more medical and educational neglect, more numbers of different subtypes of neglect and were more frequently reported to CPS because of neglect than the neglected children who did not experience other types of maltreatment. These incident characteristics may be an indication of a severe form of neglect. This finding is in line with the study using a Latina college sample (Clemmons *et al.* 2003). In the case of Larrivee *et al.* (2007), the incident characteristics were compared in the context of physical abuse. The authors found that pure physical abuse was more likely to be a one-time incident than physical abuse accompanied other types of maltreatment. These results suggest that analyses for examining the relationship between multiple types of maltreatment and child outcomes should include the severity factors in the model in order to

accurately investigate the contribution of the number of types of maltreatment to children's developmental outcomes.

What becomes clear from this study is that the official classifications of maltreatment may not be an accurate representation of children's maltreatment experience and are likely to underreport the kinds of maltreatment a child has experienced. Children who come into the child welfare system tend to have multiple experiences of different kinds of maltreatment that occur repetitively.

Our study highlights the importance of comprehensively assessing children's maltreatment experiences. The results suggest that research attempting to look at the impact of types of maltreatment on children's development should address this co-occurrence of maltreatment and funding agencies should recognize this factor and allow for it in budgeting. If not, we are unlikely to ever understand maltreatment's effects on children. It is extremely difficult to attribute an abused child's adaptation or maladaptation to a single type or incident of maltreatment, if it were not investigated in the context of the total amalgam of a child's maltreatment experience.

This failure to look comprehensively at children's maltreatment experiences also has important policy and practice implications. It is important that both national and local policy makers recognize this problem so they can begin to address the complex experiences and needs of children in the child welfare system. A programme designed for a child who has been neglected would look very different from a programme designed for children who were neglected, physically abused and emotionally abused, the most common type of experience in our study. Likewise, programmes aimed at parents who neglect their children might fail to deal with their physically and emotionally abusive behaviours that may co-occur with neglectful behaviour.

This study suggests that child welfare departments should educate workers on the way in which maltreatment co-occurs so that they address its complexities in their treatment planning for children and their families. They can benefit from understanding that the children who come to their attention are likely to have long experiences of various kinds of maltreatment. Judges also need to be educated about the likelihood of multiple types of maltreatment in children so their decisions about children and their families can be made in the light of accurate information.

Caveats

This study has a number of limitations that should be noted. First, our analysis was carried out on the basis of the child welfare records, and thus, only information that was noted by investigative workers was available for analysis. Well-trained abstractors made independent judgments on the children's maltreatment experiences for this study. However, the available resources were limited to CPS records. Thus, it is likely that there were other experiences of maltreatment that were not noted, and thus, our data are likely to underestimate the extent of maltreatment in this sample. Additionally, it is a sample from only one jurisdiction and thus may not be representative of other jurisdictions. Caution should be made when generalizing these findings to those of children under other jurisdictions.

In recent years, increasing attention has been paid to introducing a developmental perspective to understanding maltreated children's outcomes. This study shows that children's maltreatment experiences also may not be a static concept: that is, a child can experience maltreatment repeatedly, and different types of maltreatment may well be interconnected over time. This study examined children's experiences of maltreatment as aggregated data. Future research needs to take into consideration the timing of maltreatment as well as patterns of recurrence in understanding children's maltreatment experiences. This may be a critical research agenda for learning about children's maltreatment experiences and investigating dynamic relationships between risk conditions and developmental outcomes in maltreated children's lives.

CONCLUSIONS

This study highlights the limitations of using official classifications to denote children's experience of maltreatment in research, policy planning, or treatment. Types of maltreatment often happen together, and while the experiences of children may be documented in records, they are missing from the classification that is so often used by official sources to note the extent of maltreatment. Results of this study challenge the methods used to attribute neglected children's adaptation or mal-adaptation to a single type of maltreatment solely based on official designations. As the research on the effects of neglect increase, it is important that we ensure that we are clear about whether the experience we describe as neglect is actually neglect or whether it is neglect in the presence of other types of maltreatment. The present study suggests that environmental and abuse characteristics of co-occurring abuse across multiple types are likely to be different from those of single type, which calls from future research attention.

Our experience tells us that a classification of neglect by CPS seldom means that the child is only neglected, but more commonly is multiply maltreated. This calls for future neglect studies to utilize multiple sources in determining children's maltreatment experiences (e.g. official designation, case records review and self-report) and examine the children's experiences in the context of total amalgam of children's maltreatment experiences. Such efforts may well contribute to developing better classification systems of children's actual neglect experiences in maltreatment research and provide a more accurate picture of understanding exactly what 'neglected' children experience and the effects of their experiences.

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Table 1

Demographic Information on the Study Participants (n = 303)

Characteristics	*n*	*%*
Age at study entry	m = 10.8 (sd = 1.2)	
Parent's education *	m = 12.1 (sd = 3.9)	
Gender		
Male	152	50.2
Female	151	49.8
Ethnicity		
Black	123	40.6
White	35	11.6
Latino	106	35.0
Bi-racial	39	12.9
Placement		
Remain w/bio parent	164	54.1
Relative placement	74	24.4
Foster care (non-kin)	64	21.1
Adoptive home	1	.3

Note.

* Parent's education has a possible range from '0' (none) to '17' (professional degree). *Median value* of parent's education was '13', which indicates high school diploma.

Table 2

Description of maltreatment experiences among the participating children by two different data sources (n = 303)

	A: DCFS Classification		B: MCRAI classification (most recent)		C: MCRAI classification (within 4 years.)[†]		Sig. Test	
	n	***%***	***n***	***%***	***n***	***%***	**A *vs.* B**	**A *vs.* C**
Average # of report	**N/A**		**N/A**		***m* = 3.7 (*SD* = 2.7) ranged 1 to 16**			
% of cases having								
Physical abuse	54	17.8	75	24.8	152	50.2	*	***
Sexual abuse	15	5.0	23	7.6	60	19.8		***
Emotional abuse	30	9.9	78	25.8	171	56.5	***	***
Neglect	124	40.9	142	46.9	211	69.7		***
Caretaker incapacity	52	17.2	77	25.4	151	49.9	**	***
Substantial risk	57	18.8	78	25.8	155	51.2	*	***
% of cases having								
No maltreatment[‡])	101	33.3	73	24.1	27	8.9	**	***
1 form	184	60.7	159	52.5	78	25.7	*	***
2 different forms	15	5.0	56	18.5	101	33.3	***	***
3 different forms	3	1.0	13	4.3	74	24.4	**	***
4 different forms	0	.0	2	.7	23	7.6	*	***
Average # of different forms of maltreatment[§])	*m* = .7 (*sd* = .6)		*m* = 1.1 (*sd* = .8)		*m* = 2.0 (*sd* = 1.1)		***	***

Note.

* $p < 0.05$;

** $p < 0.01$;

*** $p < 0.001$

[†] Analyses were conducted on all the maltreatment reports made within 4 years from the first interview date including the most recent reports.

[‡] That is, cases having only caretaker incapacity and/or substantial risk.

[§] Maximum possible number of maltreatment forms is four, including physical, sexual, emotional abuse, and neglect.

Table 3

Rank order of co-occurring patterns among multiple forms of maltreatment (n = 303)

Rank	Pattern	*n*	%
[3-1] Analysis based on the most recent report			
1	Neglect only	86	28.4
2	Caretaker incapacity and/or Substantial risk	58	19.2
3	Physical abuse only	40	13.2
4	Emotional abuse only	26	8.6
5	Neglect + Emotional abuse	23	7.6
[3-2] Analysis based on the multiple reports made for prior 4 years			
1	Neglect + Physical abuse + Emotional abuse	58	19.2
2	Neglect only	46	15.2
3	Neglect + Emotional abuse	41	13.6
4	Neglect + Physical abuse + Sexual abuse + Emotional abuse	23	7.6
4	Physical abuse + Emotional abuse	23	7.6
6	Caretaker incapacity and/or Substantial risk	22	7.3
6	Neglect + Physical abuse	22	7.3
8	Physical abuse only	14	4.7
9	Emotional abuse only	12	4.0
10	Neglect + Sexual abuse + Emotional abuse	9	3.0
11	Neglect + Sexual abuse	8	2.7

Table 4

Caretaker functioning and environmental correlates by the number of different types of maltreatment

	No or one type of maltreatment		Two to three different types of maltreatment		Four different types of maltreatment		Sig. Test
	n	*(%)*	*n*	*(%)*	*n*	*(%)*	
Child gender							$\chi^2 = .7$
Male	56	(53.5)	84	(48.0)	12	(52.2)	
Female	49	(46.7)	91	(52.0)	11	(47.8)	
Child ethnicity							$\chi^2 = .1$
White	97	(92.4)	153	(87.4)	18	(78.3)	
Minority	8	(7.6)	22	(12.6)	5	(21.7)	
Child's age	*m* = 10.8	*sd* = 1.1	*m* = 10.8	*sd* = 1.1	*m* = 11.1	*sd* = 1.4	*F* = .4
Parent's education	*m* = 11.8	*sd* = 4.1	*m* = 12.3	*sd* = 3.7	*m* = 11.3	*sd* = 3.5	*F* = 1.2
Mother's mental illness							$\chi^2 = 12.3^{**}$
No	78	(92.9)	113	(86.3)	9	(60.0)	
Yes	6	(7.1)	18	(13.7)	6	(40.0)	
Mother's substance abuse							$\chi^2 = 2.5$
No	63	(75.0)	85	(64.9)	10	(66.7)	
Yes	21	(25.0)	46	(35.1)	5	(33.3)	
Domestic violence							$\chi^2 = 18.5^{***}$
No	79	(94.0)	101	(77.1)	8	(53.3)	
Yes	5	(6.0)	30	(22.0)	7	(46.7)	

Note.

$^{*}p < .05$;

$^{**}p < .01$;

$^{***}p < .001$

Table 5

Detailed incident characteristics of neglect by the number of different types of maltreatment

	No or one type of maltreatment		Two to three different types of maltreatment		Four different types of maltreatment		Sig. Test
	n	*(%)*	*n*	*(%)*	*n*	*(%)*	
Identity of perpetrator							
Bio parent	43	(93.5)	139	(96.5)	22	(95.7)	$\chi^2 = .7$
Other parental figure	4	(8.7)	19	(13.4)	4	(17.4)	$\chi^2 = .6$
Other Neglect subtypes **	5	(10.9)	26	(18.3)	6	(26.1)	$\chi^2 = .3$
Care neglect	19	(44.2)	76	(54.3)	10	(47.6)	$\chi^2 = .5$
Environmental neglect	26	(60.5)	89	(63.0)	11	(52.4)	$\chi^2 = .6$
Medical neglect	1	(2.3)	33	(23.6)	2	(9.5)	$\chi^2 = 11.3^{**}$
Educational neglect	6	(14.0)	54	(38.6)	3	(14.3)	$\chi^2 = 12.4^{**}$
Supervisory neglect	26	(60.5)	97	(69.3)	16	(76.2)	$\chi^2 = .4$
No. of different subtypes	*m* = 1.8	*sd* = 1.1	*m* = 2.5	*sd* = 1.2	*m* = 2.0	*sd* = 1.3	$F = 5.9^{**}$
Age of onset	*m* = 8.0	*sd* = 3.4	*m* = 7.9	*sd* = 2.4	*m* = 7.9	*sd* = 2.4	$F = .1$
Frequency of neglect report	*m* = 1.6	*sd* = 1.2	*m* = 2.7	*sd* = 1.8	*m* = 2.1	*sd* = 1.1	$F = 9.2^{***}$

Note.

* $p < .05$;

** $p < .01$;

*** $p < .001$

** Subtypes of neglect include care neglect, environmental neglect, medical neglect, educational neglect and supervisory neglect.