Running head: Effects of child abuse and exposure to violence

Full title: Child maltreatment poly-victimization: Rates and short-term effects on adjustment in a representative Hong Kong sample

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Declaration: The manuscript has not been published elsewhere, and is not under consideration by any other journal.

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Abstract

Objective. This article examines the unique effects of multiple forms of victimization, namely child abuse and neglect (CAN) and exposure to parental intimate partner violence (IPV), on children's self-blame, feelings of being threatened, self-esteem, and ability to control anger.

Method. The cross-sectional study recruited a population-based sample of 2,062 children aged 12-17 years in Hong Kong. Structured questionnaires were used to collect data from the children. The prevalence rate of the co-occurrence of exposure to IPV and CAN in the Chinese population and the unique impacts of exposure to IPV and CAN on children were examined.

Results. The results show that 13.1% had experienced CAN and 6.5% had witnessed parental IPV. Among those families characterized by IPV, 61.1% were involved in child abuse in the preceding year of the study. Participants who had experienced both CAN and exposure to parental IPV reported lower levels of self-esteem and higher rates of being aggressive and violent, and feeling threatened. These children also reported the highest levels of feeling that their well-being was threatened and of blaming themselves for parental violence and parental discipline.

Conclusions. The findings re-emphasize the important need for public policy on child and youth victimization that encourages social workers and Child Protective Services to screen for child polyvictimization in cases of suspected/reported child abuse.

Keywords: Child Abuse and Neglect, Corporal Punishment, Intimate Partner Violence, Polyvictimization

There is a growing recognition of the need to understand the effects on children of exposure to more than one type of violence. The co-occurrence rate of intimate partner violence (IPV) and child physical maltreatment is estimated at 6% in community samples and 40% in clinical samples (Appel & Holden, 1998). Although recent research has provided information about both the rate of overlap and the strength of association between IPV and child abuse and neglect (CAN) (Edleson, 2001; Gewirtz & Edleson, 2007; Margolin, et al., 2009; Tajima, 2000), the majority of existing studies focus on either child abuse or spousal violence and so have concentrated on only one form of victimization. Child abuse researchers have often overlooked the existence of spousal violence in the families they have studied. Likewise, researchers investigating IPV have often neglected child abuse in their studies. Recent research has identified the importance of studying multiple forms of victimization or *polyvictimization* among children (Finkelhor, Ormrod, Turner, & Hamby, 2005; Finkelhor, Ormrod, & Turner, 2007; Finkelhor, Orrarod, & Turner, 2007; Leventhal, 2007). The concept of polyvictimization leads one to recognize that past studies which focused on distinct types of violence may have exaggerated the contribution of a single type of victimization to children's outcomes, because they did not delineate the interrelationships of different types of victimization and their effects on children's development. To unravel the impact of polyvictimization on children, Finkelhor and his colleagues have evaluated 34 specific victimization types and found that children exposed to polyvictimization tended to have more serious trauma symptoms and behavioral problems, both in the current year and in their lifetime (Finkelhor, Ormrod, & Turner, 2009; Finkelhor et al., 2007b). These findings are in line with the previous research addressing adjustment problems associated with the experience of polyvictimization (Higgins & McCabe, 2001; Vranceanu, Hobfoll, & Johnson, 2007).

The co-occurrence of multiple forms of victimization, namely exposure to IPV and CAN, is associated with more deleterious effects among children across cognitive, physical, psychological, behavioral, and social domains. Children who are simultaneously exposed to IPV and abused by their parents are more likely to have lower cognitive functioning and hence poorer academic performance and

well-being (Carlson, 1991; Margolin & Gordis, 2000). Such children also report more severe emotional and behavioral problems, such as externalizing and internalizing symptoms, emotional regulation (Shipman, Rossman, & West, 1999), depression, anxiety, PTSD, aggression, trauma symptoms (Finkelhor et al., 2007b; Grych, Jouriles, Swank, McDonald, & Norwood, 2000), and emergency room visits (Casanueva, Foshee, & Barth, 2005). In terms of social problems, these children are more likely to be socially avoidant and to have attachment problems, hence finding it difficult to form peer and partner relationships (Margolin & Gordis, 2000; O'Keefe, 1995). Children's exposure to violence is associated with adjustment problems not only in childhood but also in adulthood, including adult low self-esteem (Shen, 2009b), trauma symptoms (Shen, 2009a; Silvern et al., 1995), behavioral problems (Shen, 2009a), adult social avoidance and problems with partner relationships (Feerick & Haugaard, 1999), and suicide attempts (Dube et al., 2001). Research also finds similar adjustment problems among adolescents exposed to polyvictimization. These adolescents are more likely to have psychological symptoms (Gustafsson, Nilsson, & Svedin, 2009), distress (Richmond, Elliott, Pierce, Aspelmeier, & Alexander, 2009; Finkelhor, Ormrod, & Turner, 2009), and academic problems (Elliott, Alexander, Pierce, Aspelmeier, & Richmond, 2009).

Research also suggests that there are gender differences in terms of the outcomes of polyvictimization (Grych et al., 2000). Girls who are exposed to IPV and who are also victims of CAN show more internalizing symptoms than boys with the same maltreatment exposure. The proportion of female victims in the clinical range for externalizing symptoms is also higher compared to boys (Bourassa, 2007). Similar findings were reported in another study, which suggested that women appear to be more susceptible to the effects of multiple and differing forms of violence (Heyman & Slep, 2002). However, not all of the findings support this pattern: some studies have shown that boys have more externalizing problems than girls (Jouriles & Norwood, 1995) or even that there are no gender differences in terms of displaying internalizing and externalizing problems (O'Keefe, 1995). These variations regarding the outcomes of violence may be explained by the presence of: (1) confounding risk factors that are associated with internalizing and externalizing problems, such as alcoholic and drug-abusing parents

(Bourassa, 2007), unemployment, low income level, maternal stress, and negative life events (Guille, 2004); and/or (2) protective factors, such as the presence of a highly accepting and responsive mother, peer support (Guille, 2004), low levels of feeling threatened and self-blame (Grych et al., 2000), an ability to remain calm (Shipman et al., 1999), intelligence, and positive coping skills (Herrenkohl, Sousa, Tajima, Herrenkohl, & Moylan, 2008).

In this study, we investigate the prevalence rate of the co-occurrence of exposure to IPV and CAN in the Chinese population and identify the unique impacts of exposure to IPV and CAN on children. In the Chinese culture, which is predominantly influenced by the traditional philosophies of Confucianism, people believe in fatalism to account for life's misfortunes such as family violence (Shen, 2009a). Such fatalistic belief systems lead the individual victim to feel that they have no control over their life and can only accept and endure the unfortunate destiny they experience (Shen, 2009b). Research has supported that the acceptance of fatalism might decrease the maltreated child's motivation to seek help and hence these children exhibit greater behavioral problems and trauma symptoms (Shen, 2005). In addition, Chinese culture values family honor, face saving, and respect for parents. Thus, Chinese people tend to keep family matters private in order to minimize conflicts that might bring shame to the family (Ho, 1990). This may exacerbate the difficulties maltreated child have with revealing their misfortunes and their ability to cope with the impact of violence. Therefore, the impact of Chinese culture upon maltreated child in China may be unique and different from previous Western samples. This study will contribute to the understanding of maltreated children in the Chinese population.

This study collected a representative sample of Chinese children in Hong Kong. Certain types of family violence may be more salient for children, and children's self-reports provide a better estimate than that of other third parties of children's actual experiences and awareness of violence and its impacts on them (Grych et al., 2000). Hence, relative to professional ratings, children's ratings are better predictors of internalizing symptomatology compared to other adult reporters (Achenbach, Mcconaughy, & Howell, 1987; McGee, Wolfe, Yuen, Wilson, & Carnochan, 1995; Reynolds, 1992). In summary, this study employed a Chinese population, extending our knowledge of polyvictimization and its influence on

children in China.

Method

Study design and sample

The data were collected from a representative sample of children in Hong Kong aged from 12 to 17. Households from the Register of Quarters maintained by the Census and Statistics Department of the Government of Hong Kong were sampled using stratified random sampling. Children and parents who met the inclusion criteria were invited to participate. The inclusion criteria were being a Chinese child aged 12 to 17, who was living with a parent or caregiver. Face-to-face interviews were carried out by research assistants who had been trained to conduct household research interviews. Informed consent was given by the children and their parents prior to being interviewed. Both parents and children were informed that they could refuse to answer any of the questions and that no identifiable information would be kept. A parent of each child respondent was also interviewed to provide demographic information on the parents and children. The children respondents were asked to self-report on their exposure to IPV and CAN, as well as their responses to violence. The procedures were approved by the ethics committee of the University of Hong Kong.

A total of 2,062 children successfully participated in the study, representing a response rate of 70%. There were slightly more boys (51%) than girls (49%) in the sample. The respondents were more or less evenly spread across the different age groups within the range of 12 to 17 years, with boys' mean age (14.6, *SD* = 1.7) being significantly greater than that of the girls (14.4, *SD* = 1.8). More than half of the children were in lower secondary education. Of the child participants, 47.7% were the only child in the family, 41.6% had one sibling, 9.3% had two siblings, and 1.4% had three siblings. Girls were more likely than boys to have siblings. About 7% of the children were new immigrants from Mainland China and 0.2% of children were physically disabled.

With regard to the parents, 82.3% of the fathers and 73.0% of the mothers were aged between 40 and 54. More than half of the parents had only received an education at Secondary 3 level or below

(equivalent to grade 9 or below in the U.S.). The great majority (93.1%) of the parents were married or cohabiting at the time of their interview. Most of the men had a higher income than the women, although more males than females were unemployed. The new immigrants from Mainland China were mostly female (7.0%) rather than male (0.9%). Regarding the financial condition of these families, 7.2% of the children's families were dependent on social security and 8.5% had some level of indebtedness. Less than one percent reported that they had a disability, but 16.3% indicated that they were suffering from a chronic illness at the time of interview.

Measures

Intimate partner violence. The child version of the Revised Conflict Tactics Scale (CTS2-CA) was used to measure violence between parents in terms of the prevalence of violence over the lifetime of their relationship and in the preceding year. The CTS2-CA consists of 39 items on 5 subscales. Like the CTS2, this scale covers behaviors from negotiation, psychological aggression, physical aggression, and injury to sexual coercion. The psychometric characteristics (Straus, 1990) and cross-cultural reliability (Straus, 2004) of the CTS2 in the measurement of different types of spousal conflict has been well-documented. The internal consistency reliability of the CTS2 scales is generally high (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). With regard to criterion validity, an increasing severity of tactics has been shown to correlate with increasing injury severity (Coben, Forjuoh, & Gondolf, 1999). The CTS2-CA has been translated and back translated into Chinese and has demonstrated a satisfactory reliability (α range from .77 to .88) in the present study.

In the present study, partner violence witnessed by children was defined as acts of physical assault, psychological aggression, and physical injury perpetrated by a current marital or cohabiting partner, as measured by the CTS2-CA, within a specified timeframe preceding the interview. This timeframe was confined to the preceding year and the lifetime of the relationship. Respondents who reported exposure to the aforementioned acts in the preceding year and within the lifetime of the relationship were coded as having been exposed to IPV.

Child abuse and neglect. For the purpose of obtaining information on CAN, the Parent-Child Conflict

Tactics Scale (CTSPC) (Straus & Hamby, 1997; Straus, Hamby, Finkelhor, Moore, & Runyan, 1998; Straus, Hamby, & Warren, 2003) was used in the questionnaire that was administered to the child respondents. In the present study, we asked children to respond to five subscales of the CTSPC: physical maltreatment like slapping, hitting, throwing and knocking and severe physical maltreatment such as beating, grabbing, burning and threatening with weapons (8 items), psychological aggression such as shouting, yelling, cursing and naming (5 items), corporal punishment like pinching and shaking (5 items), non-violent discipline such as time-out, taking away privileges, and explanation (4 items), and neglect like being left at home alone, not being given food and medical care when in need of them (5 items). The psychometric characteristics of the instrument, including its reliability as well as discriminant and construct validity, have been well documented (Straus et al., 1998). The CTSPC was translated into Chinese and examined by a group of experts, including a psychologist, a sociologist, and social work scholars. In the present study, the Chinese version of the CTSPC demonstrated a satisfactory reliability for non-violent discipline ($\alpha = .77$), psychological aggression ($\alpha = .87$), corporal punishment ($\alpha = .86$), physical maltreatment and severe physical maltreatment ($\alpha = .88$), and neglect ($\alpha = .82$).

Children's perception of interparental conflict and parental discipline. The Children's Perception of Interparental Conflict Scale (CPIC) (Grych, Seid, & Fincham, 1992) was used to measure the impacts of children witnessing IPV. The CPIC initially included four subscales describing dimensions of marital conflict (items including frequency, intensity, resolution, and content), four subscales describing children's reactions to or interpretations of conflict (items including self-blame, feeling threatened, coping efficacy, and perceived stability of the causes of conflicts), and one subscale to understand the stressfulness of conflict for children. The full CPIC scale has been adopted in studies of children living in a refuge for battered women (Chan, 2002) and of secondary students (Yeung, 1998). In this study, the reliability of the subscales, as measured by Cronbach's alpha, were, on average, higher than .60.

In the present study, two CPIC subscales were selected, namely self-blame (2 items) and feeling threatened (4 items), because they were found to be most relevant to Hong Kong children in previous studies (Chan, 2002; Yeung, 1998). Two similar subscales were self-constructed, with reference to the

CPIC, to measure children's perceptions of parental discipline: self-blame (4 items) and feelings of being threatened (4 items). The Cronbach's alpha of the subscales ranged from .80 to .89.

Self-Esteem Scale. The Rosenberg Self-Esteem Scale (Rosenberg, 1965) was completed by the children to measure their self-esteem. This scale consists of 10 items, each of which uses a 4-point Likert scale ranging from strongly agree to strongly disagree. Examples of the items include a person's worth and qualities, feelings of failure, uselessness, positive, satisfied, proud etc. A total score was calculated by summing each response to the 10 items: the higher the score, the higher the respondent's self-esteem. In this sample, the Self-Esteem Scale demonstrated adequate internal consistency reliability ($\alpha = 0.67$).

Children's attitudes and responses to anger. Four items were adopted from the Children Witness to Violence Interview (Jaffe, Wolfe, & Wilson, 1990) to examine the children's skill in dealing with violent incidents. Four hypothetical scenarios were presented and then questions were asked about them, such as "What do you usually do: if someone your own age teases you?; if someone your own age takes something without asking?; if someone your own age hits you?; when you're really mad at something or someone?" The 4-item scale was translated into Chinese and was validated in a study of children living in a refuge for battered women (Chan, 2000; 2002). For each item, the actions that may be taken by the children in responding to the hypothetical scenarios were listed, including acting violently, threatening others and using nonviolent means. The responses to each action included *never, sometimes* or *always*. In this study, the Children Witness to Violence Interview demonstrated adequate internal consistency reliability ($\alpha = 0.60$).

Statistical analyses

Descriptive statistics were used to examine the gender differences between lifetime and preceding-year prevalence of IPV and CAN. The co-occurrence rate was computed and tested. The perceptions of IPV and child abuse, self-esteem, and responses toward anger were also compared and tested. The demographic characteristics, and the exposure to IPV and CAN were compared between children who had feelings of self-blame or feelings of being threatened and those who had not had such feelings through the use of crude odds ratios. An odds ratio greater than one indicates that an increase in

the independent variable is associated with an increase in the odds of the dependent variable. An odds ratio below one indicates that an increase in the independent variable is associated with a decrease in the odds of the dependent variable. Logistic regression is an appropriate technique for predicting a dichotomous dependent variable from a set of independent variables. Multiple logistic regressions were performed using the demographic factors to assess the impact of IPV and CAN on self-blame and feeling threatened. The nominal level of significance was taken as 5% and SPSS version 17 was used to carry out the statistical analysis.

Results

Prevalence Child Maltreatment

Exposure to IPV. Table 1 shows the prevalence of children's exposure to IPV as self-reported by the child respondents. With regard to lifetime prevalence, psychological aggression (71.6%) was the most common type of IPV witnessed by children, followed by physical assault (27.1%) and injury (14.0%). The rates of perpetration of physical assault, injury, and psychological aggression that were witnessed by the sampled children were similar for both parents. The same pattern was found in terms of preceding-year prevalence. For lifetime and preceding-year prevalence rates, no gender differences were found in terms of children's exposure to different forms of IPV including the use of partner physical or psychological abuse, or partner-inflicted injury.

Child Abuse and Neglect. Regarding the prevalence of CAN, a majority of the children reported experiencing non-violent discipline at some point in their lifetime (79.2%) or in the year preceding the study (66.6%). The use of psychological aggression was pervasive in these families. Among the child respondents, 72% and 57.6% reported being psychologically abused by their parents in their lifetime and in the preceding year, respectively. Regarding physical discipline, 45.1% and 23.3% of the children reported that they had been physically punished by their parents in their lifetime and in the preceding year, respectively; corporal punishment was the most common type, followed by physical maltreatment and severe physical maltreatment. The percentages of children reporting parental use of physical maltreatment

in their lifetime and in the preceding year, respectively, were as follows: 40.8% and 19.2% (corporal punishment); 28.5% and 14.1% (physical maltreatment); and 9.1% and 4.1% (severe physical maltreatment). With respect to neglect, 36% and 27.4% of parents engaged in this behavior at some point in their lifetime and in the preceding year respectively. There were no gender differences in the lifetime and preceding-year prevalences of CAN reported by the children.

[Table 1 about here]

Co-occurrence of exposure to IPV and CAN. Table 2 shows the preceding-year prevalence, and co-occurrence of physical/injury IPV and child physical maltreatment. About 13.1% and 6.5% reported child abuse only and IPV only respectively. About 10.2% of children reported co-occurrence of exposure to both IPV and CAN. There are no gender differences in any of these types of violence. It is also noteworthy that among those families characterized by IPV, 61.1% were involved in child abuse in the preceding year of the study.

[Table 2 about here]

Perceptions of Parental IPV and child abuse

Multivariate logistic regression models assessing the association between the demographic characteristics, the types of violence to which the children were exposed, and the perceptions of parental IPV are presented in Table 3. After controlling for all variables in the model, boys (aOR = 1.371) had greater odds of self-blame. Exposure to parental IPV (aOR = 2.624 and aOR = 2.320, respectively) significantly increased the odds of a child blaming themselves and feeling threatened. Similarly, being a victim of corporal punishment (aOR = 1.800 and aOR = 2.135, respectively) and child abuse (aOR = 2.303 and aOR = 2.540, respectively) significantly increased the odds of a child blaming themselves and feeling threatened.

[Table 3 about here]

In terms of their perception of child abuse, children with no siblings had greater odds of self-blame. Gender and age effects were found in relation to the feelings of being threatened by child abuse: boys (aOR = 0.674) and older children (aOR = 0.936) were less likely to feel threatened when their

parents used violence against them. Exposure to parental IPV (aOR = 1.503 and aOR = 2.400, respectively) significantly increased the odds of a child blaming themselves and feeling threatened. Similarly, being a victim of corporal punishment (aOR = 2.852 and aOR = 1.552, respectively) and child abuse (aOR = 3.442 and aOR = 2.158, respectively) significantly increased the odds of a child blaming themselves and feeling threatened (Table 4).

[Table 4 about here]

Impact on Children's Self-Esteem and Anger

Table 5 shows that the rate of self-esteem did not vary with gender of the child. However, gender differences were found in children's use of violence in response to anger, with the boys (89.2%) being more likely to threaten others than girls (83.6%)(X^2=6.244, p=.012). Compared to children who had suffered corporal punishment, those who had experienced child abuse had significantly lower self-esteem, and were more likely to respond to anger with violence (90.3%)(X^2=42.898, p<.000). The children who had suffered corporal punishment were, in turn, worse than the no abuse group. The children who had witnessed parental IPV had significantly lower self-esteem and were more violent than the no IPV group (89.5% versus 73.6% respectively) (X^2=55.244, p<.000).

[Table 5 about here]

Discussion

It is important to distinguish the occurrence of marital violence in a family and the children's actual exposure to that violence (Grych, Jouriles, Swank, McDonald, & Norwood, 2000). Children have different perceptions and evaluations of violence perpetrated by their mothers or fathers (O'Keefe, 1995). The rates for adolescents' exposure to parental IPV (physical assault, injury and psychological aggression) were similar for both parents in the present study, which was different from previous research stating that fathers were the main perpetrators of IPV against mothers (Arias & Corso, 2005; Phelan, et al., 2005). However, this finding was consistent with studies conducted by Straus and colleagues (2006). Johnson (1995) pointed out that studies employing representative samples of married, cohabiting, and dating couples could reveal very different results from those using women from refuges or men on

violence treatment programs. By using adolescent participants to examine the adjustment problems of children, this research overcomes a major limitation of past research on the prevalence and functioning of maltreated children that has focused on either parental reports or official reports of cases of child maltreatment. In contrast with a previous study which suggested that the co-occurrence rate of CAN and IPV, as reported by parents in a population-based sample, was 6% (Appel & Holden, 1998), the prevalence of co-occurrence found in the current study using child participants was 10.2%. To present the figures differently, among those families characterized by IPV, 61.1% were involved in child abuse in the preceding year of the study, which was higher than the rate of 41% child maltreatment for kids who have witnessed IPV found by Appel & Holden (1998). The possible explanation of the higher rate is the involvement of children as the subjects of the study. In this study, children reported higher rate of child maltreatment than parents did. The present study shows that children who witnessed IPV or experienced child abuse had lower self-esteem, and this was consistent with previous research (Shen, 2009). Moreover, children suffering from either IPV or child abuse were more likely to respond to anger with violence. These findings were consistent with previous studies that have indicated that learning to be violent occurs among children who have been abused or who have witnessed IPV (Shipman, Rossman, & West, 1999).

Overall, the results of this study suggest that witnessing domestic violence and being abused by parents has a negative impact on children. The present study found that girls were more likely to feel threatened when experiencing child abuse, which was in line with the studies suggesting girls are more vulnerable to the effects of violence (Heyman & Slep, 2002). On the other hand, boys were more likely to have a feeling of self-blame when exposed to IPV. Cultural factors are a possible explanation for this gender difference. Since "children" may be regarded as one of the factors leading to IPV (Wang, Parish, Laumann, & Luo, 2009), especially in Chinese culture which holds higher expectations for males because of the expectation that they will be the inheritor of the family clan (Lam, 1992), boys tend to have a strong achievement orientation compared to girls. When boys are exposed to parents' conflict about their school performance and behaviors, they may be more likely to blame themselves about their misbehaviors or failure to fulfill their parents' expectations. Except for the gender effect, several mediating factors that

may affect the ways that children cope with domestic violence have been identified in the literature (Guille, 2004; Herrenkohl, Sousa, Tajima, Herrenkohl, & Moylan, 2008; Shipman et al., 1999). Consistent with Grych et al.'s (2000) study, the present research demonstrated that there were higher levels of self-blame and feelings of being threatened among children who perceived both parental violence and child abuse. Consistent with past research, the co-occurrence of child abuse and parental IPV further intensifies such negative effects (Bourassa, 2007; Casanueva, Foshee, & Barth, 2005; Finkelhor et al., 2007b).

The present study provides strong evidence for negative adjustment in children exposed to child abuse and parental IPV. However, the study undertook a retrospective approach and relied heavily on respondents' memories. Any bias in their recall and responses might have had an undetectable effect on the results. Moreover, the causal relationship between the variables and their associated factors cannot be established on the basis of the cross-sectional design used in this study. Aggressive and violent children may be more likely to be physically punished by parents; thus, being violent may be a cause of CAN rather than a result of it. A longitudinal research design is needed to understand the direction of the effect between these variables. Additionally, this study only assessed a limited number of impacts of experiencing child abuse and parental IPV. Future studies should include other indices of the impact of child maltreatment on children, such as academic performance, emotional regulation, social relations, and cognitive functioning, in order to gain a more thorough understanding of how co-occurrence of exposure to IPV and CAN influences children's development.

Despite these limitations, the sample utilized in this study was representative, which allows generalization to the entire population of Hong Kong. This large-scale Chinese sample study adds to the empirical knowledge of the impact of experiencing IPV and CAN on a child's self-esteem and ability to control anger and frustration. It also highlights the need for culturally sensitive interventions to address the unique impact of culture on maltreated children in China. In addition, many studies have often concentrated on one form of victimization without screening for other possible forms of violence occurring within the same family. This fragmentation affects our understanding of family violence and

hence the social services we provide to victims. Domestic violence organizations and Child Protective Services (CPS) have often addressed child abuse and spousal violence separately, and there are only a few comprehensive programs that deal with both forms of family violence (O'Keefe, 1995). In light of the severe impacts of multiple forms of victimization, social workers, CPS, and public policy on child and youth victimization should consider a more integrated and diverse intervention program to help with abused children's adjustment.

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Table 1. Lifetime and Preceding-Year Prevalence of Parental IPV & CAN

	N	Rate %	Boys %	Girls %	*p* value
Parental IPV (Lifetime prevalence)					
Physical assault (by father)	2052	23.1	23.1	23.1	0.974
Physical assault (by mother)	2058	20.9	19.8	22.0	0.232
Physical assault (by either parent)	2049	27.1	26.5	27.7	0.529
Injury (to mother)	2058	11.3	10.4	12.2	0.176
Injury (to father)	2052	11.3	11.2	11.4	0.933
Injury (to either parent)	2049	14.0	13.5	14.5	0.524
Psychological aggression (by father)	2052	66.7	66.8	66.6	0.914
Psychological aggression (by mother)	2058	67.0	66.5	67.6	0.601
Psychological aggression (by either parent)	2057	71.6	71.1	72.0	0.658
Physical or Injury (by father)	2058	24.9	24.7	25.2	0.800
Physical or Injury (by mother)	2052	23.3	22.6	24.0	0.442
Physical or Injury (by either parent)	2049	28.4	27.8	29.0	0.550
Parental IPV (Preceding-year prevalence)					
Physical assault (by father)	2052	12.6	12.2	13.1	0.558
Physical assault (by mother)	2058	11.4	10.7	12.0	0.350
Physical assault (by either parent)	2049	15.5	14.6	16.5	0.254
Injury (to mother)	2058	5.5	4.8	6.2	0.187
Injury (to father)	2052	5.7	5.3	6.0	0.528
Injury (to either parent)	2049	7.2	6.8	7.7	0.437
Psychological aggression (by father)	2052	49.5	48.9	50.1	0.573
Psychological aggression (by mother)	2058	51.4	50.0	52.7	0.222
Psychological aggression (by either parent)	2056	55.6	54.6	56.8	0.313
Physical or Injury (by father)	2058	13.9	13.5	14.4	0.537
Physical or Injury (by mother)	2052	12.8	12.3	13.3	0.514
Physical or Injury (by either parent)	2049	16.6	15.8	17.5	0.281
CAN (Lifetime prevalence)					
Nonviolent discipline	2047	79.2	78.6	79.8	0.477
Psychological aggression	2047	72.0	70.1	74.0	0.055
Neglect	2047	36.0	34.7	37.2	0.241
Corporal punishment	2047	40.8	41.9	39.6	0.291
Physical maltreatment	2047	28.5	28.8	28.2	0.779
Severe physical maltreatment	2047	9.1	9.2	9.1	0.934
Physical maltreatment or Severe physical maltreatment	2047	29.3	29.5	29.1	0.869
Corporal punishment or Physical maltreatment or Severe physical maltreatment	2047	45.1	45.9	44.2	0.434
CAN (Preceding-year prevalence)					
Nonviolent discipline	2047	66.6	65.6	67.6	0.358
Psychological aggression	2047	57.6	55.8	59.5	0.091
Neglect	2047	27.4	25.7	29.0	0.094
Corporal punishment	2047	19.2	18.0	20.5	0.156
Physical maltreatment	2047	14.1	13.2	15.0	0.251
Severe physical maltreatment	2047	4.1	3.3	4.9	0.061
Physical maltreatment or Severe physical maltreatment	2047	14.9	14.0	15.8	0.253
Corporal punishment or Physical maltreatment or Severe physical maltreatment	2047	23.3	22.4	24.3	0.320

Table 2**.** Preceding-Year Prevalence of Co-occurrence of exposure to IPV and CAN

	Prevalence %	Boys %	Girls %	*p* value
Non-abuse group	70.2	70.8	69.6	0.341
Child abuse only	13.1	13.4	12.9	
IPV only	6.5	6.8	6.2	
Co-occurrence of exposure to IPV and CAN	10.2	9.0	11.4	
Child abuse among children exposed to IPV	61.1	57.0	64.8	

Table 3. Logistic Regression on Perceptions of Parental IPV

	Self-Blame aOR (95% CI)	Feeling threatened aOR (95% CI)
Gender		
Boys	1.371* (1.072, 1.755)	0.953 (0.775, 1.172)
Girls	1.000	1.000
Age	0.997 (0.927, 1.071)	1.055 (0.993, 1.12)
Have sibling	0.942 (0.736, 1.205)	0.991 (0.805, 1.22)
Disability	1.963 (0.222, 17.323)	1.510 (0.135, 16.925)
Exposure to IPV	2.624*** (1.935, 3.558)	2.320*** (1.682, 3.202)
Child abuse		
Child abuse group (Physical Maltreatment/ Severe Physical Maltreatment)	2.303*** (1.658, 3.2)	2.540*** (1.809, 3.565)
Corporal punishment only	1.800** (1.199, 2.702)	2.135*** (1.433, 3.179)
Nonchild abuse group	1.000	1.000

Note. aOR – adjust all variables in the same table.
* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

Table 4. Logistic Regression on Perceptions of Child Abuse (Physical Maltreatment/Severe Physical Maltreatment)

	Self-Blame aOR (95% CI)	Feeling threatened aOR (95% CI)
Gender		
Boy	1.018 (0.826, 1.255)	0.674*** (0.547, 0.83)
Girl	1.000	1.000
Age	1.000 (0.942, 1.062)	0.936* (0.881, 0.993)
Have sibling	0.761* (0.617, 0.939)	1.087 (0.882, 1.339)
Disability	--	1.939 (0.194, 19.375)
Exposure to IPV	1.503** (1.106, 2.045)	2.4*** (1.735, 3.32)
Child abuse		
Child abuse group (Physical Maltreatment/ Severe Physical Maltreatment)	3.442*** (2.468, 4.801)	2.158*** (1.546, 3.012)
Corporal punishment only	2.852*** (1.938, 4.196)	1.552* (1.062, 2.268)
Nonchild abuse group	1.000	1.000

Note. aOR – adjust all variables in the same table.
* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

Table 5. Impact of Child Abuse

Characteristics	Total	Boys	Girls	Nonchild abuse	Corporal punishment only	Child abuse	Non-IPV	IPV
		%	%	%	%	%	%	%
Self-esteem score								
mean	2.91	2.92	2.90	2.93	2.94	2.79***	2.93	2.82***
SD	0.37	0.37	0.38	0.36	0.40	0.40	0.36	0.40
Response toward anger								
Acting violently	76.6%	75.3%	78.0%	72.6%	82.6%	90.3%***	73.6%	89.5%***
Threatening others	86.8%	89.2%	83.6%*	86.1%	88.9%	87.6%	86.7%	86.4%
Using nonviolence means	99.3%	99.3%	99. 3%	99.1%	100%	99.7%	99.3%	99.4%

Note. * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.