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## Research article

# Child maltreatment among boy and girl probationers: Does type of maltreatment make a difference in offending behavior and psychosocial problems?☆



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## ABSTRACT

This study examined differences in offending behavior and psychosocial problems between juvenile offenders who have been sexually abused ( $n = 231$ ), physically abused ( $n = 1,568$ ), neglected ( $n = 1,555$ ), exposed to multiple forms of maltreatment ( $n = 1,767$ ), and non-victims ( $n = 8,492$ ). In addition, the moderating effect of gender in the association between type of maltreatment and offending behavior/psychosocial problems was examined. Results showed that violent offenses were more common in victims of physical abuse and victims of multiple forms of abuse than in non-victims, both in boys and girls. In boys, sexual offenses were far more common in victims of sexual abuse than in victims of other or multiple forms of maltreatment or in non-victims. In girls, no group differences were found in sexual offending behavior. For both boys and girls, externalizing problems were relatively common in victims of physical abuse and neglect whereas internalizing problems were relatively common in victims of sexual abuse. In victims of multiple forms of maltreatment, both internalizing and externalizing problems were relatively common. Implications for clinical practice are discussed.

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## Introduction

Child maltreatment is an established risk factor for offending behavior (e.g., Lansford et al., 2007; Mersky & Reynolds, 2007; Salzinger, Rosario, & Feldman, 2007; Smith & Thornberry, 1995; Widom, 1989; Widom & Maxfield, 2001) and psychosocial problems (e.g., Cicchetti & Toth, 2005; Gilbert et al., 2009; Kim & Cicchetti, 2006; Widom, 2014). Until now, it is largely unknown whether different types of child maltreatment victimization have different consequences later in life (Higgins, 2004). Researchers often distinguish between five different types of child maltreatment: (a) sexual abuse, (b) physical abuse, (c) psychological maltreatment, including emotional abuse and psychological neglect, (d) physical neglect, and (e) witnessing family violence (Higgins, 2004). Whether this distinction is useful to better understand the consequences of child maltreatment is not clear because, as stated by Higgins (2004), “researchers have avoided asking whether the distinctions between the five broad categories of child maltreatment are helpful in conceptualizing abuse and neglect, or whether there is only one core construct: maltreatment” (p. 51). The aim of the present study was to enhance the knowledge on this topic

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by examining differences between juvenile offenders who were non-victims of child maltreatment, victims of specific types of child maltreatment (sexual abuse, physical abuse and neglect), and victims of multiple types of child maltreatment with regard to offending behavior and psychosocial problems. Particular attention was paid to the role of gender.

### *The Differential Effects of Child Maltreatment Types*

A number of studies indicate that the risk of behavioral or psychosocial problems depends on the type of maltreatment the child has experienced (Fang & Corso, 2007; Steward, Dennison, & Waterson, 2002; Zingraff, Leiter, Johnsen, & Myers, 1994). Some studies have shown that victims of physical abuse are at greatest risk of delinquent behavior (Steward et al., 2002; Zingraff et al., 1994) and externalizing symptomatology (Manly, Kim, Rogosch, & Cicchetti, 2001). Other studies reported that sexual abuse victims are no more at risk of offending (Steward et al., 2002; Zingraff et al., 1994), but more at risk of externalizing (Lynch & Cicchetti, 1998) and internalizing symptomatology (Manly et al., 2001) than non-maltreated children. Furthermore, Lynch and Cicchetti (1998) found that a history of sexual abuse was associated with an increased probability of having externalizing behavior problems, whereas a history of neglect increased the probability of internalizing problems, traumatic stress reactions and depressive symptomatology. Psychological or emotional maltreatment, compared to physical abuse, more strongly predicts psychosocial problems, including internalizing and externalizing disorders, suicidal behavior, and low self-esteem (Briere & Runtz, 1990; Gibb et al., 2001; McGee, Wolfe, & Wilson, 1997; Mullen, Martin, Anderson, Romans, & Herbison, 1996).

Additionally, there is some evidence that specific child maltreatment experiences are associated with specific offending behaviors (e.g., Bagley, Wood, & Young, 1994; Briere & Runtz, 1990; Dutton & Hart, 1992; Ford & Linney, 1995; Hamilton, Falshaw, & Browne, 2002; Jespersen, Lalumière, & Seto, 2009). For instance, juveniles with a sexual abuse history are more likely to commit sexual offenses than juveniles with other child maltreatment experiences (Bagley et al., 1994; Dutton & Hart, 1992), whereas juveniles with physical abuse experiences are more likely to commit violent offenses (Briere & Runtz, 1990; Dutton & Hart, 1992). Still, a number of studies failed to demonstrate these specific associations (e.g., Epps, Swaffer, & Hollin, 1996; Higgins & McCabe, 2000, 2003; Widom & Armes, 1994).

Although these studies shed light on the possible differential associations of types of child maltreatment and behavioral and psychosocial problems, they failed to consider the co-occurrence that often prevails among maltreatment experiences (Finkelhor, Ormrod, & Turner, 2007). Indeed, research has clearly shown that in a substantial proportion of cases, various types of child maltreatment co-occur (e.g., Arata, Langhinrichsen-Rohling, Bowers, & O'Farrill-Swails, 2005; Cyr et al., 2012; Dong et al., 2004; Finkelhor, Turner, Hamby, & Ormrod, 2011; Hamilton et al., 2002). For example, Arata and colleagues (2005) found that 47% of youth with a maltreatment history experienced multiple forms of maltreatment. Finkelhor and colleagues (2011) even found a percentage of poly-victimization of 65%. This co-occurrence of various types of child maltreatment makes it difficult to isolate the effects of a specific type of child maltreatment and may lead to biases when estimating the contribution of a specific maltreatment type to offending behavior and psychosocial problems. In addition, studies often do not identify groups of chronically or multiply victimized children who may be particularly at risk (Finkelhor et al., 2007). Yet, some studies suggested that experiencing multiple types of maltreatment is associated with higher symptom levels than experiencing a single type of abuse (Arata et al., 2005; Finkelhor et al., 2007) and that poly-victims are more symptomatic than children with repeated episodes of the same kind of victimization (Finkelhor et al., 2007).

Moreover, the lack of consideration of the role of gender in the association between child maltreatment and behavioral and psychosocial problems might have contributed to a limited understanding. For instance, Trickett and McBride-Chang (1995) found that neglected and sexually abused children tend to be more socially withdrawn and isolated, whereas physically abused children tend to show more aggressive and disruptive behavior. The authors specified that these observed effects might result from the fact that girls predominate in samples of sexual abuse victimization studies. Therefore, it is possible that the differences found between physically and sexually abused children result from gender differences rather than from the type of abuse experienced (Trickett & McBride-Chang, 1995). Thus, assessing the moderating effect of gender in the association between child maltreatment and different outcomes is of crucial importance.

### *Gender Differences in the Relationship between Child Maltreatment, Offending Behavior and Psychosocial Problems*

Many studies that examined the association between child maltreatment and subsequent offending behavior have focused on male samples (e.g., Farrington, Barnes, & Lambert, 1996). The few studies that examined gender differences found conflicting results. Some studies found the relationship between maltreatment and offending to be stronger in boys than in girls. For example, Asscher, Van der Put, and Stams (2015) found stronger associations between child maltreatment and offending behavior in male compared to female juvenile offenders. Topitzes, Mersky, and Reynolds (2011) found that child maltreatment predicted juvenile delinquency in males, but not in females. However, Topitzes and colleagues (2011) did find that child maltreatment predicted *adult* crime for both genders, which suggests that the effects of child maltreatment on delinquent behavior may be delayed in girls. Other researchers found no gender differences in the relationship between child maltreatment and offending behavior (e.g., Fang & Corso, 2007; Mersky & Reynolds, 2007) or suggested that the consequences of child maltreatment play a greater role in the development of delinquent behavior in females than in males (e.g., Herrera & McCloskey, 2001; Foy, Ritchie, & Conway, 2012; Makarios, 2007; McCabe, Lansing, Garland, & Hough,

**Table 1**  
Background characteristics of the different victim groups.

	Non-victims ( <i>n</i> = 8,492)	Neglect ( <i>n</i> = 1,555)	Physical abuse ( <i>n</i> = 1,568)	Sexual abuse ( <i>n</i> = 231)	Multiple forms ( <i>n</i> = 1,767)	$\chi^2(4)$
Gender						
Girls	21%a	30%b	30%b	60%c	38%d	429.25***
Boys	79%a	70%b	70%b	40%c	62%d	
Ethnicity						
Whites	57%a	56%a	63%b	65%b	61%b	30.46***
Non-whites	43%a	44%a	37%b	35%b	39%b	
Mean age	15.5a ( <i>SD</i> = 1.4)	15.2b ( <i>SD</i> = 1.4)	15.3b ( <i>SD</i> = 1.4)	15.4a,b ( <i>SD</i> = 1.3)	15.2b ( <i>SD</i> = 1.5)	23.92***

Notes. Values sharing the same subscript do not differ significantly.

\*\*\*  $p < .001$ .

2002; Wood, Foy, Layne, Pynoos, & James, 2002). In addition, studies have shown that pathways from child victimization to later offending behavior differ across gender (Topitzes et al., 2011; Widom, Schuck, & White, 2006).

When examining a larger set of outcomes than just delinquency, gender differences are found in the emotional and behavioral outcomes to child maltreatment (e.g., Sullivan, Farrell, & Kliewer, 2006). Males tend to respond in overt ways, including aggressive acts toward others, conduct problems, violence, and risky sexual behaviors, whereas females are more likely to respond to maltreatment with internalizing symptoms, such as depression, self-blame, suicidal ideation/behaviors, and eating disorders (e.g., Leadbeater, Blatt, & Hertzog, 1999; McClellan, Farabee, & Crouch, 1997). In both males and females, experiences of physical and sexual abuse are likely to evoke anger. However, for females this anger is likely to be accompanied by anxiety (e.g., Jang & Johnson, 2005), guilt (e.g., Hay, 2003), depression, and emotional withdrawal (e.g., Sharp, Brewster, & Love, 2005).

### Research Questions

The following research questions were addressed in this study:

- Are there differences in offending behavior between victims of specific types of child maltreatment, victims of multiple types of child maltreatment, and non-victims and does gender have a moderating effect in the association between type of child maltreatment and offending behavior?
- Are there differences in psychosocial problems between victims of specific types of child maltreatment, victims of multiple types of child maltreatment, and non-victims and does gender have a moderating effect in the association between type of maltreatment and psychosocial problems?
- Are child maltreatment types significantly associated with internalizing and externalizing problems and does gender have a moderating effect in this relation?

### Method

#### Sample

For this study, secondary data from the Washington State Juvenile Court Assessment (WSJCA) validation study were used (Barnoski, 2004a). The dataset consisted of Washington State probationers aged 12–18 years. The data were collected from December 2003 until December 2008. The WSJCA is a screening and risk assessment instrument, which comprises two parts: a pre-screen and full assessment (see instrument section). The pre-screen is administered to all youth on probation with the aim to indicate whether a youth is at low, moderate or high risk for reoffending. The full assessment is required only for youth who are assessed as having a moderate or high risk on the pre-screen with the aim to identify a youth's risk and protective factor profile to guide intervention targeting desistance from crime. The sample included those for whom the full assessment was performed, which indicates that the participants had a medium to high recidivism risk on the pre-screen ( $N = 13,613$ ;  $n = 10,111$  boys and  $n = 3,502$  girls).

These juveniles were divided into five subgroups based on histories of physical abuse, sexual abuse and neglect. The following five subgroups were distinguished: non-victims ( $n = 8,492$ ), victims of physical abuse ( $n = 1,568$ ), victims of sexual abuse ( $n = 231$ ), victims of neglect ( $n = 1,555$ ), and victims of multiple forms of child maltreatment ( $n = 1,767$ ). The background characteristics of the subgroups are presented in Table 1. The multiple forms of child maltreatment category included the following combinations: neglect/physical abuse (64.4%), neglect/sexual abuse (6.3%), physical abuse/sexual abuse (10.5%), and neglect/physical abuse/sexual abuse (18.7%).

#### Procedure and Measures

Probation officers complete the WSJCA during the intake, on the basis of information from a structured motivational interview with the youth and his/her family. The WSJCA is a screening and risk assessment instrument developed in

Washington State (Barnoski, 2004a, 2004b). The WSJCA maps out the most important (static and dynamic) risk and protective factors for criminal recidivism on a large number of domains.

The development of the WSJCA was based on a review of the following types of literature: recidivism prediction literature and instruments, for example: the Wisconsin Risk Scale (Baird, Storrs, & Connelly, 1984) and the Youth Level of Service and Case Management Inventory (Hoge & Andrews, 1994), theoretical models for juvenile delinquency, risk and protective factor research, resiliency research, and research on effective juvenile delinquency programs (see Barnoski, 2004a). The selection of domains and items took place on the basis of this review and was then modified, based on feedback from an international team of experts (Barnoski, 2004a).

Validation studies showed that the predictive validity of the WSJCA pre-screen ranged between .63 and .64 (Barnoski, 2004a; Van der Put, Stams, Deković, & Van der Laan, 2014). In the study of Van der Put and colleagues (2014) an AUC of .63 (95% CI = .58–.67) was found and Barnoski (2004a) found an AUC of .64 (CI not reported) in his study. These AUC-values are comparable to the average AUC-value of juvenile justice risk assessment instruments (.64, Schwalbe, 2007).

All questions from the WSJCA were asked to both the youth and the family. If conflicting answers were given by the youth and his family, the probation officer made an estimation of the accuracy of the answers and the most appropriate response. Probation officers are trained in conducting the assessment by certified trainers. This training includes reviewing video-taped interviews and final assessments to ensure the probation officer has mastered the assessment skills. There is a manual available for the WSJCA and quality assurance is an important part of the assessment structure and organization in Washington State (Barnoski, 2004b).

*Child Maltreatment within the Family.* Child maltreatment was retrospectively determined by probation officers when filling out the WSJCA based on information provided by the youth (self-reported child maltreatment). Any history of being a victim of abuse or neglect by a family member that was suspected was included, whether or not substantiated. Only in case a probation officer suspected that the self-reported neglect or abuse was false, the probation officer would verify the self-reported information with CPS workers, school counselors, community health professionals, and other sources of information. Reports of abuse or neglect that were proven to be false were excluded.

Reports of physical abuse, sexual abuse and neglect experienced within the family were operationalized following CPS definitions in the US (Barnoski, 2004b). Physical abuse included any non-accidental physical injury, such as bruises, burns, fractures, bites, or internal injuries caused by physical actions of a family member. Sexual abuse included acts such as indecent liberties, communication with a minor for immoral purposes, sexual exploitation of a child, child molestation, sexual misconduct with a minor, rape of a child, and rape. Neglect included negligence, a dangerous act or omission that constitutes a clear and present danger to the child's health, welfare, and safety, such as: (a) failure to provide adequate food, clothing, shelter, emotional nurturing, or health care, (b) failure to provide adequate supervision given the child's level of development, (c) an act of abandonment with the intent to forego parental responsibilities despite an ability to do so, (d) an act of exploitation, such as requiring the child to be involved in criminal activity, imposing unreasonable work standards, (e) an act of reckless endangerment, such as a parent driving under the influence of alcohol or drugs with children present, and (f) other dangerous acts.

### Outcome Measures

*Offending Behavior.* Offending behavior was based on juvenile court records. Information on juvenile court records was supplemented by asking the youth about his/her offending behavior. The following variables were measured: total number of offenses, number of violent offenses and number of sexual offenses. Both felony and misdemeanor offenses were included.

*Psychosocial Problems.* In the present study we focused on psychosocial problems using the dynamic (treatable) risk factors of the WSJCA. We chose to only include dynamic risk factors as these are changeable and could thus be addressed in interventions. Dynamic risk factors were measured in reference to the last six months. The following domains were examined: (a) *School:* severe behavior problems, poor academic performance (some Ds and mostly Fs), truancy, recent expulsions, not likely to graduate, (b) *Alcohol/drugs:* alcohol and/or drugs causing family conflict and/or disrupting education and/or causing health problems and/or interfering with keeping prosocial friends and/or drugs contributing to criminal behavior, (c) *Relationships:* no prosocial friends, antisocial friends, gang membership, admires or emulates antisocial peers, rarely resists antisocial peer influence, (d) *Family:* youth consistently disobeys family, youth is a runaway or kicked out of home, (e) *Aggression:* low frustration tolerance, believes verbal aggression is often appropriate to solve a conflict, believes physical aggression is sometimes or often appropriate to solve a conflict, hostile interpretation of other's behavior/intentions, (f) *Attitude:* impulsiveness (usually acts before thinking), no or little control over antisocial behavior (believes cannot stop antisocial behavior), no or little empathy (does not have remorse, sympathy, or feelings for victims of criminal behavior), no or little respect for other's property, no or little respect for authority figures, no or little respect for rules/social conventions, does not accept responsibility for behavior, does not think he or she can comply with measures, (g) *Skills:* poor consequential thinking (does not understand about consequences of actions), poor goal setting (does not set any goals or sets unrealistic goals), poor problem-solving behavior (cannot identify problem behaviors), poor situational perception (cannot analyze the situation for use of a prosocial skill), problems in dealing with others (lacks basic social skills), lack of skills in dealing with difficult situations, lack of skills in dealing with feelings/emotions, problems in controlling internal triggers (cannot recognize and

**Table 2**

Number of offenses in non-victims and victims of different forms of child maltreatment and effect sizes (Cohen's *d*) for each variable for the different victims groups in comparison with the non-victim group.

Offending behavior	Non-victims ( <i>n</i> = 8,492)	Neglect ( <i>n</i> = 1,555)	<i>d</i>	Sexual abuse ( <i>n</i> = 231)	<i>d</i>	Physical abuse ( <i>n</i> = 1,568)	<i>d</i>	Multiple forms ( <i>n</i> = 1,767)	
	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )		<i>M</i> ( <i>SD</i> )		<i>M</i> ( <i>SD</i> )		<i>M</i> ( <i>SD</i> )	<i>d</i>
Total number of offenses	3.21 (2.53)	3.34 (2.85)	.05	2.67 (2.09)	.23	3.24 (2.49)	.01	3.67 (3.40)	.15
Violent offenses	.58 (.77)	.61 (.80)	.04	.71 (.85)	.19	.77 (.84)	.24	.79 (.86)	.26
Sexual offenses (boys)	.081 (.282)	.058 (.237)	.09	.326 (.494)	.61	.074 (.282)	.02	.123 (.337)	.14
Sexual offenses (girls)	.020 (.144)	.009 (.093)	.09	.007 (.084)	.11	.004 (.065)	.14	.013 (.115)	.05

monitor internal triggers [thoughts, needs, emotions] that lead the youth into trouble), problems in controlling external triggers (cannot recognize and monitor external triggers [people, situations, events] that lead the youth into trouble), lacks techniques to control impulsive behavior, lacks alternatives to aggression, (h) *Suicidal thoughts*: has serious thoughts about suicide, has recently made a plan to commit suicide, has recently attempted to commit suicide, and (i) *Internalizing mental health problems*: such as psychotic, bi-polar, mood, thought, anxiety, personality and adjustment disorders.

### Data Analysis

Most risk factors of the WSJCA were rated on a 3-point scale (strong protective side, neutral middle part, strong risk side), a 4-point scale (strong protective side, weak protective side, weak risk side, and strong risk side), or a 5-point scale (strong protective side, weak protective side, neutral middle part, weak risk side, and strong risk side). We dichotomized the items as follows: 1 if the weak or strong risk sides were present and 0 if both the weak and strong risk sides were absent.

We then calculated a total risk score for each domain (i.e., school, family, relationships, attitude, aggression, alcohol/drugs, skills, suicidal thoughts, and internalizing mental health problems) by adding the number of risk factors. We calculated the total number of externalizing problems by adding the number of risk factors in the domains of school, family, relationships, attitude, aggression, alcohol/drugs, and skills. We also calculated the total number of internalizing problems by adding the number of risk factors in the domains of internalizing mental health problems and suicidal thoughts. Then, we calculated *Z*-scores of these two variables to be able to compare them.

Subsequently, we performed two-way ANOVA analyses to examine: (a) the main effect of the type of child maltreatment, (b) the main effect of gender, and (c) the interaction effect between type of child maltreatment and gender on the total number of offenses committed, the number of violent offenses committed and the number of sexual offenses committed.

Last, we performed two-way ANOVA analyses to examine: (a) the main effect of type of child maltreatment, (b) the main effect of gender, and (c) the interaction effect between type of child maltreatment and gender on the total risk score for each domain. In both ANOVA analyses, we have controlled for age and ethnicity.

In case of a significant main effect of type of maltreatment, we calculated Cohen's *d* values to examine the effect sizes for each variable, comparing each of the different victims groups with the non-victim group. In case of a significant interaction effect between type of maltreatment and gender, we calculated the Cohen's *d* values separately for boys and girls.

## Results

### Association between Type of Maltreatment and Offending Behavior and the Moderating Effect of Gender

To examine differences in offending behavior between victims of sexual abuse, physical abuse, neglect, multiple forms of child maltreatment, and non-victims, two-way ANOVAs were performed, controlling for age and ethnicity. The main effect of type of child maltreatment was significant for total number of offenses,  $F(4, 13,608) = 20.28, p < .001, \eta_p^2 = .01$ , number of violent offenses,  $F(4, 13,608) = 26.41, p < .001, \eta_p^2 = .01$ , and number of sexual offenses,  $F(4, 13,608) = 15.55, p < .001, \eta_p^2 = .01$ . The main effect of gender was significant for both total number of offenses,  $F(1, 13,611) = 42.60, p < .001, \eta_p^2 = .00$ , and sexual offenses,  $F(1, 13,611) = 207.39, p < .001, \eta_p^2 = .02$ . The interaction effect of type of maltreatment and gender was only significant for sexual offenses,  $F(4, 13,609) = 16.56, p < .001, \eta_p^2 = .01$ . Table 2 presents the mean number of offenses and effect sizes (Cohen's *d*) for each variable for each subgroup in comparison with the non-victim group. Because the interaction effect of type of maltreatment and gender was significant for sexual offenses, these results are presented separately for boys and girls.

Only sexual abuse victims differed from non-victims on the total number of offenses. Sexual abuse victims have a lower number of total offenses than non-victims. Violent offenses were relatively common in victims of physical abuse and victims of multiple forms of abuse compared to non-victims, but the effect sizes were relatively small. In boys, sexual offenses were far more common in victims of sexual abuse than in the other victim groups or in non-victims, whereas in girls no group differences were found in sexual offending behavior.

**Table 3**

Tests of significance for main and interaction effects of type of abuse and gender on psychosocial problems.

Problems in the domains	Type of abuse (main effect)		Gender (main effect)		Gender*Type of abuse (interaction effect)	
	F(4, 13,608)	$\eta_p^2$	F(1, 13,612)	$\eta_p^2$	F(4, 13,608)	$\eta_p^2$
School	15.98***	.01	72.14***	.01	1.67	.00
Alcohol/drugs abuse	8.52***	.00	5.99*	.00	1.49	.00
Relationships	9.10***	.00	30.07***	.00	.71	.00
Family	56.49***	.02	99.41***	.01	1.97	.00
Attitude	66.87***	.02	8.62**	.00	1.84	.00
Aggression	110.90***	.03	.53	.00	3.64	.00
Skills	37.10***	.01	18.48***	.00	1.56	.00
Suicidal thoughts	63.02***	.02	71.07***	.01	4.57**	.00
Internalizing MH problems	120.33***	.04	2.97	.00	.08	.00

\*  $p < .05$ .\*\*  $p < .01$ .\*\*\*  $p < .001$ .**Table 4**Mean number of adverse outcomes in the different domains and effect sizes (Cohen's  $d$ ) for each domain for the different victim groups in comparison with the non-victim group.

Risk factors in the domains	Non-victims (n = 8,492)	Neglect (n = 1,555)		Sexual abuse (n = 231)		Physical abuse (n = 1,568)		Multiple forms (n = 1,767)	
	M (SD)	M (SD)	$d$	M (SD)	$d$	M (SD)	$d$	M (SD)	$d$
School	2.63 (1.53)	2.91 (1.45)	.19	2.54 (1.48)	.06	2.93 (1.44)	.20	2.91 (1.47)	.19
Alcohol/drugs abuse	1.08 (1.27)	1.24 (1.37)	.12	1.01 (1.22)	.06	1.16 (1.29)	.06	1.13 (1.36)	.04
Relationships	2.82 (1.74)	3.17 (1.78)	.20	2.87 (1.77)	.03	2.98 (1.70)	.09	3.03 (1.79)	.12
Family	.98 (.72)	1.17 (.72)	.26	1.08 (.71)	.14	1.22 (.69)	.34	1.28 (.70)	.42
Attitude	3.82 (2.77)	4.77 (2.77)	.35	3.80 (2.68)	.00	4.44 (2.70)	.23	5.00 (2.81)	.42
Aggression	2.29 (1.63)	2.70 (1.60)	.25	2.61 (1.62)	.20	3.01 (1.54)	.45	3.24 (1.60)	.59
Skills	5.12 (2.99)	5.90 (2.79)	.27	5.06 (3.11)	.02	5.71 (2.78)	.21	6.07 (2.82)	.33
Suicidal thoughts (boys)	.04 (.19)	.04 (.21)	.00	.11 (.31)	.27	.08 (.27)	.17	.12 (.33)	.30
Suicidal thoughts (girls)	.07 (.26)	.09 (.28)	.07	.22 (.42)	.43	.17 (.38)	.31	.19 (.39)	.36
Internalizing MH problems	.19 (.39)	.25 (.43)	.15	.46 (.50)	.60	.35 (.48)	.37	.43 (.50)	.53

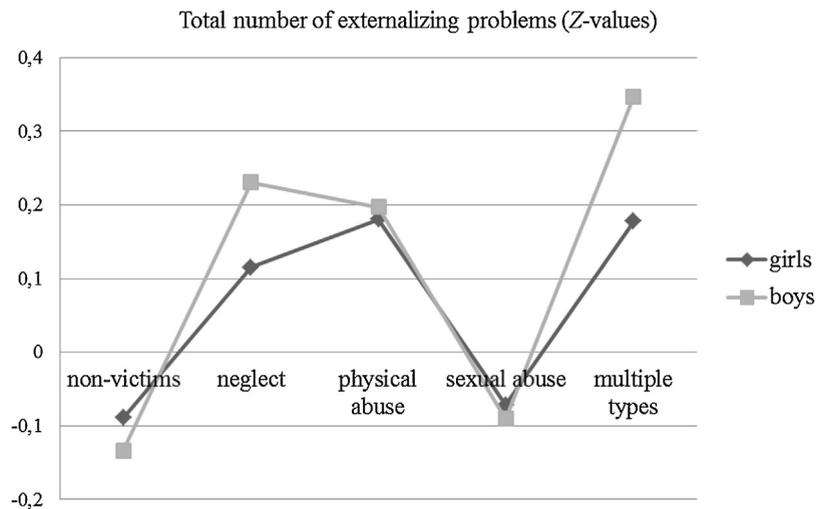
*Relation between Type of Maltreatment and Psychosocial Problems and the Moderating Effect of Gender*

Differences in the presence of psychosocial problems between the different victim groups and non-victims were also examined by two-way ANOVAs. Table 3 shows the tests of significance for main and interaction effects. The main effect of type of child maltreatment was significant for all outcomes. The main effect of gender was significant for the following outcomes: school, relationships, family, skills, and suicidal thoughts. Adverse outcomes in the domains of family ( $d = .22$ ), relationships ( $d = .17$ ), and suicidal thoughts ( $d = .23$ ) were more common in girls than in boys, whereas adverse outcomes in the domains of school ( $d = .26$ ), and skills ( $d = .06$ ) were more common in boys than in girls. The interaction effect of type of maltreatment and gender was significant only for suicidal thoughts.

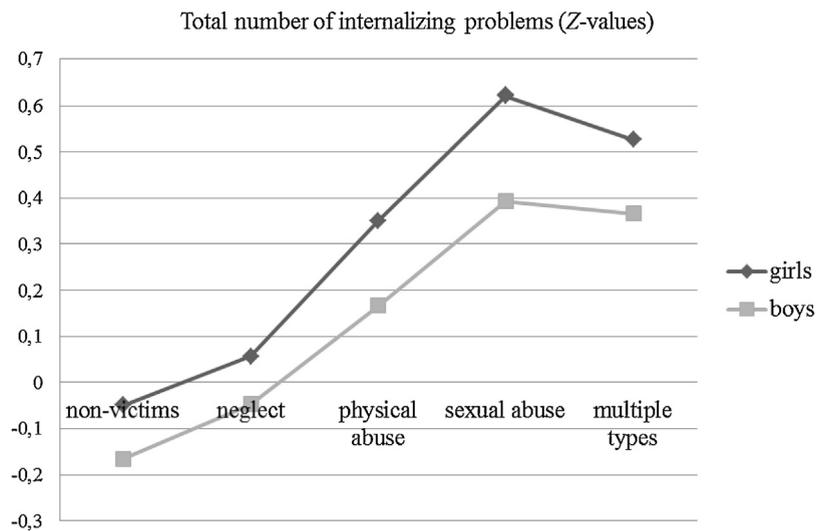
Table 4 presents the mean number of adverse psychosocial outcomes in the different domains and effect sizes (Cohen's  $d$ ) for each domain for each subgroup in comparison with the non-victim group. The results for suicidal thoughts are presented separately for boys and girls because of the significant interaction effect of gender and type of maltreatment. Problems in the areas of school, family, attitude, aggression, and skills were more common in victims of physical abuse, neglect, and multiple forms of abuse than in non-victims (small effect sizes). Internalizing mental health problems were more common in victims of sexual abuse, physical abuse, and multiple forms of abuse than in non-victims. In boys, suicidal thoughts were more common in victims of sexual abuse and multiple forms of abuse, whereas in girls, suicidal thoughts were more common in victims of sexual abuse, physical abuse, and multiple forms of abuse.

*Association between Type of Maltreatment and Total Number of Internalizing and Externalizing Problems and the Moderating Effect of Gender*

The Z-scores for total number of externalizing problems and total number of internalizing problems are presented in Figs. 1 and 2, respectively. For total number of internalizing problems, both the main effect of type of child maltreatment,  $F(4, 13,608) = 129.15, p < .001, \eta_p^2 = .04$ , and the main effect of gender,  $F(1, 13,611) = 23.92, p < .001, \eta_p^2 = .00$ , were significant, whereas the interaction effect between type of child maltreatment and gender was not significant,  $F(4, 13,608) = .59, p = ns$ . For total number of externalizing problems, the main effect of type of child maltreatment,  $F(4, 13,608) = 50.96, p < .001, \eta_p^2 = .02$ , and the interaction effect between gender and type of child maltreatment,  $F(4, 13,608) = 3.39, p < .01, \eta_p^2 = .00$ , were significant, whereas the main effect of gender was not significant, ( $F(1, 13,611) = 1.75, p = ns$ ). Externalizing problems



**Fig. 1.** Z-scores of the number of externalizing problems for each subgroup, separately for boys and girls.



**Fig. 2.** Z-scores of the number of internalizing problems for each subgroup, separately for boys and girls.

were relatively common in victims of physical abuse, victims of neglect, and victims of multiple forms of maltreatment, for both boys and girls. Internalizing problems were relatively common in victims of sexual abuse and victims of multiple forms of maltreatment, for both boys and girls.

## Discussion

In this study, we found differences between juvenile offenders with histories of sexual abuse, physical abuse, neglect, multiple types of maltreatment, and without a history of child maltreatment, in terms of offending behavior and psychosocial problems. In addition, we found that gender did not have a moderating effect on the association between type of child maltreatment and offending behavior/psychosocial problems, with the exception of sexual offending and suicidal thoughts.

### *Maltreatment Type and Offending Behavior*

Violent offending was more common in victims of physical abuse and multiple types of abuse (which in most cases was a combination of physical abuse and another type of abuse) than in victims of sexual abuse, neglect, and non-victims. These results are in line with findings of previous studies, showing that juveniles who have experienced physical abuse are most likely to commit violent offenses (e.g., Briere & Runtz, 1990; Dutton & Hart, 1992; Hamilton et al., 2002). Sexual offending was far more common in victims of sexual abuse than in victims of other types of abuse and non-victims in male juvenile offenders, whereas in female juvenile offenders, no differences were found in sexual offending behavior between

the victims of different types of maltreatment and non-victims. Thus, only in male victims an association between sexual abuse victimization and sexual offending was demonstrated. However, the prevalence of sexual offending in female juvenile offenders was much lower than in male juvenile offenders, making it more difficult to find significant differences. The majority of the studies on the association between sexual abuse victimization and sexual offending have thus far been conducted in male samples (Bagley et al., 1994; Dutton & Hart, 1992). It should be noted that we only examined sexual abuse perpetrated by a family member. This may have made it less likely to find a significant association between sexual abuse and sexual offending in female adolescents. For instance, Van der Put, van Vugt, Stams, and Hendriks (2014) showed that in girls, sexual offending behavior was uniquely explained by sexual abuse victimization outside the family context.

Another possible explanation for the differences between male and female subjects in the association between sexual abuse victimization and sexual offending may lie in the different ways in which male and female victims cope with abuse victimization experiences. Male victims may react more with sexually aggressive behavior, whereas female victims may react more with sexual dysfunction (Briere & Runtz, 1990; Fergusson, Horwood, & Lynsky, 1997).

Both male and female victims of neglect, physical abuse, and multiple forms of abuse did not differ from non-victims in total number of offenses (Cohen's  $d$  values  $< .20$ ). This finding is not in line with previous studies that showed that the propensity for crime was higher in victims of neglect and physical abuse than in juveniles without a history of maltreatment (Steward et al., 2002; Zingraff et al., 1994). Further, it was found that the total number of offenses was relatively low in victims of sexual abuse compared to the other victim groups and non-victims. Former studies in the general population showed that sexual abuse victims were no more at risk of offending than juveniles without child maltreatment histories (Steward et al., 2002; Zingraff et al., 1994). Our results showed that the propensity for crime was even lower in victims of sexual abuse than in non-victims and victims of other abuse types, both in boys and girls. A possible explanation is that sexual abuse victims are more likely to develop internalizing symptoms and are less likely to engage in criminal behavior.

#### *Maltreatment Type and Internalizing and Externalizing Problems*

The main effect of type of child maltreatment was significant for all adverse psychosocial outcomes. Externalizing problems in the school, family, attitudes, aggression, and skills domains were most common in victims of physical abuse, neglect, and multiple forms of abuse, whereas internalizing problems were most common in victims of sexual abuse and multiple forms of maltreatment. These results indicate that the distinction between subtypes of child maltreatment is useful for a better understanding of the consequences of child maltreatment. In victims of multiple forms of maltreatment, both externalizing and internalizing problems were relatively common, compared to the other groups. This is in line with previous studies which found that having experienced multiple types of maltreatment was associated with more symptoms than single type of abuse victimization (Arata et al., 2005; Finkelhor et al., 2007).

The interaction effect of type of maltreatment and gender was significant only for suicidal thoughts. In boys, suicidal thoughts were most common in victims of sexual abuse and multiple forms of abuse, whereas in girls, suicidal thoughts were most common in victims of sexual abuse, physical abuse, and multiple forms of abuse. For all other domains, gender did not have a moderating effect in the association between type of maltreatment and psychosocial problems. Therefore, our results confirm the hypothesis that sexually abused juveniles show more internalizing problems and less externalizing problems than victims of other abuse types, in both boys and girls. The suggestion that differences between sexually and physically abused juveniles may in fact be gender differences (Trickett & McBride-Chang, 1995) is not supported by our findings, as the interaction effect of maltreatment type and gender was not significant for most adverse outcomes.

#### *Limitations of the Study*

There are several limitations worth mentioning. First, the WSJCA only measured *whether* juvenile offenders were neglected, sexually abused and/or physically abused by a family member and not the onset, duration or severity of the abuse. Studies have shown that the severity of the abuse in particular is associated with higher levels of trauma symptoms, internalizing problems, and delinquency (Clemmons, Walsh, DeLillo, & Messman-Moore, 2007; Higgins, 2004; Smith & Thornberry, 1995). Second, the WSCJA was not designed to provide an in-depth examination of risk factors. It is a risk assessment tool that is used by juvenile justice professionals and clinicians to summarize juveniles' risks and needs, to classify their overall risk level, and plan treatment and supervision strategies. Third, the categorization used in our study only included child maltreatment by a family member, whereas most studies tend to include both child maltreatment within and outside the family context. This may explain why in our sample, only 38% of the juvenile offenders reported to have experienced any form of child maltreatment, which is lower than most estimates of child maltreatment in juvenile offender samples. In addition, 35% of the youth with a maltreatment history in our sample experienced multiple forms of maltreatment, whereas in other studies the percentage of poly-victimization is much higher because these studies included both child maltreatment within and outside the family. For example, Arata and colleagues (2005) found a percentage of 47% and Finkelhor and colleagues (2011) found a percentage of poly-victimization of 65%. Fourth, we only measured whether internalizing mental health problems were present and not the number or severity. As a result, some internalizing problems may be underestimated, especially in girls. For example, studies have shown that co-morbidity is more common in girls

than in boys in residential institutions: in addition to antisocial behavior, girls frequently display internalizing problems such as anxiety, depression, and suicidal tendencies (Belknap & Holsinger, 2006; Hipwell & Loeber, 2006; McCabe et al., 2002). Further, there may be an underestimation of the number of disorders, because only those disorders that had already been diagnosed in the past were measured. Finally, there is no information available regarding the interrater reliability of the WSJCA. However, quality assurance is an important part of the assessment structure and organization in Washington State and probation officers received intensive training to adequately administer and score the WSJCA (Barnoski, 2004a, 2004b).

## Conclusions

The present study provides relevant information for clinical practice on differences between victims of sexual abuse, physical abuse, neglect, and multiple types of abuse in offending behavior and in the presence of psychosocial problems. Our results indicate that distinguishing between subtypes of child maltreatment is useful for a better understanding of the consequences of child maltreatment. Results suggest that a one-size-fits-all approach to abuse victimization would not respond to the specific needs of boys and girls with varying maltreatment experiences. A better understanding of the ways in which different types of maltreatment impact youths' pathways into offending appears crucial in order to provide responsive programs and services. For victims of sexual abuse in particular, it seems to be important to focus on internalizing problems in the assessment and treatment of juvenile offenders. For victims of neglect, physical abuse, and multiple types of abuse it seems relevant to focus on both internalizing and externalizing problems.

The deleterious effects of maltreatment victimization have been frequently highlighted to explain girls' pathways into offending (Brennan, Breitenbach, Dieterich, Salisbury, & Van Voorhis, 2012). However, our results suggest that the deleterious effects of maltreatment experiences may not differ much between boys and girls. Therefore, boys with child maltreatment victimization experiences may also benefit from trauma-informed interventions in relation to their offending behavior, which is one of the core components in gender-responsive programs for female offenders (Kerig & Schindler, 2013). Moreover, for sexually abused boys it seems especially important that treatment also focuses on the direct consequences of the sexual abuse because only in male victims a direct association between sexual abuse victimization and sexual offending was demonstrated. Our study provided important insights into the risks-needs-responsivity model of offender treatment (Andrews & Bonta, 2010). Although child maltreatment victimization appears to be more common among justice-involved girls than among justice-involved-boys, our findings suggest that its deleterious effects do not vary much across gender and a maltreatment history needs to be adequately addressed in treatment planning, for both boys and girls.

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