

The relationship between types of childhood victimisation and young adulthood criminality

KATHRYN H. HOWELL¹, ÅSA K. CATER², LAURA E. MILLER-GRAFF³,
LAURA E. SCHWARTZ¹ AND SANDRA A. GRAHAM-BERMANN⁴

¹Department of Psychology, University of Memphis, 356 Psychology Building, Memphis, TN 38152-3230, USA; ²Örebro University, 701 82 Örebro, Sweden; ³University of Notre Dame, 107 Haggard Hall, Notre Dame, IN 46556, USA; ⁴Department of Psychology, University of Michigan, 530 Church Street, Ann Arbor, MI 48109-1043, USA

ABSTRACT

Background *Previous research suggests that some types of childhood abuse and neglect are related to an increased likelihood of perpetrating criminal behaviour in adulthood. Little research, however, has examined associations between multiple different types of childhood victimisation and adult criminal behaviour.*

Aims *We sought to examine the contribution of multiple and diverse childhood victimisations on adult criminal behaviour. Our central hypothesis was that, after controlling for gender, substance use and psychopathy, each type of childhood victimisation – specifically experience of property offences, physical violence, verbal abuse, sexual abuse, neglect and witnessed violence – would be positively and independently related to criminal behaviour in young adults.*

Methods *We examined data from a large, nationally representative sample of 2244 young Swedish adults who reported at least one form of victimisation, using hierarchical regression analysis to also account for gender, substance use and psychopathy.*

Results *Experiences of physical assaults, neglect and witnessing violence as a child were significantly associated with adult criminal behaviour, but not experiences of property, verbal or sexual victimizations.*

Conclusions *Our findings help to identify those forms of harm to children that are most likely to be associated with later criminality. Even after accounting for gender, substance misuse and psychopathology, childhood experience of violence – directly or as a witness – carries risk for adulthood criminal behaviour, so such children need targeted support and treatment. Copyright © 2016 John Wiley & Sons, Ltd.*

Traumatic experiences during childhood are known to be associated with mental health problems, aggressive behaviour and criminality in adulthood (e.g. Eitle and Turner, 2002; Fagan, 2005; Miller et al., 2014; Widom and Maxfield, 2001; Whitfield et al., 2003). Such adverse childhood experiences are not uncommon; the prevalence of victimisation by a parent or caretaker is between 25% and 29% in the USA and European countries (Centers for Disease Control, 2014; Gilbert et al., 2009; Hussey et al., 2006; May-Chahal and Cawson, 2005). In Sweden specifically, the prevalence of parental abuse during childhood is about 15–22% (Annerbäck et al., 2010; Janson et al., 2011). While parental abuse is well documented, many children are exposed to other forms of victimisation (Cater et al., 2014; Finkelhor et al., 2005), each of which may have unique effects on developmental psychopathology. Types of childhood victimisation include physical harm, witnessing violence, exposure to community violence, peer/sibling victimisation, sexual assault and property offences such as robbery. To date, this broad array of experiences have not been evaluated simultaneously to allow for interactions and determine specific relationships with adult criminality.

Previous research has typically focused on the assessment of single forms of victimisation in isolation (e.g. child maltreatment). Such research indicates that victims of child abuse and neglect are significantly more likely than non-victims to become one-time or recurring criminal offenders (Fagan, 2005; Thornberry et al., 2001; Widom and Maxfield, 2001). They are also more likely to be arrested at earlier ages (Widom and Maxfield, 2001) and to have a history of drug-related offences (Ireland and Widom, 1994; Thornberry et al., 2001; Widom and Maxfield, 2001). Mersky and Reynolds (2007) evaluated the effects of childhood neglect and physical abuse on criminality and found that each experience was independently associated with an elevated rate of violent and nonviolent offending. In contrast, Yun et al. (2011) found that sexual abuse and neglect, but not physical abuse, predicted violent deviancy in adulthood. Finally, English et al. (2002) reported that, of the 79 victims of sexual abuse within their study, 16.5% were arrested for a violent crime, compared to 32.1% of the 78 victims of emotional abuse.

Although these studies have made important contributions to our understanding of how specific types of child maltreatment may place individuals at risk for deviant and criminal behaviours, they tend to be confined to subtypes of child abuse and neglect and do not include the full variety of children's victim experiences. Eitle and Turner's study (Eitle and Turner, 2002) is one of the few exceptions. They found that childhood witnessing of community violence significantly predicted future criminal behaviour, whereas witnessing intimate partner violence did not. This study, however, only examined criminality as a binary outcome and did not control for substance use or mental health problems, both of which have also been linked to criminal behaviour.

In studies of the relationship between childhood victimisation and criminal outcomes, researchers often use a distinct theoretical framework referred to as the 'Intergenerational Transmission of Family Violence' (Widom, 1995, 1996; Widom and Maxfield, 2001). In this model, it is proposed that pro-violence norms may increase the likelihood of violence-exposed children becoming violence-perpetrating adults. Although the arrest rate among maltreated children is high (27% arrested as juveniles: 17% of non-exposed children; 42% arrested as adults: 33% of non-exposed children), it is important to note that many children exposed to violence do not become violence perpetrators as adults (Widom and Maxfield, 2001). Thus, it is essential to identify other contributing factors to this relationship. One such variable consistently linked to criminality is gender. Many studies have indicated that males are more likely to behave in a criminal manner than females (Herrera and McCloskey, 2001; Jung et al., 2015). Substance misuse is another potentially important mediator (Grann and Fazel, 2004). Alcohol is particularly likely to be associated with repeated violent offences (Bohman, 1996), while mental health problems offer another important link (e.g. Goethals et al., 2008). Hare (2003) and Hart and Hare (1997) have argued that psychopathy may be a primary catalyst through which childhood victimisation contributes to adulthood criminality.

In sum, the extant literature suggests strong links between childhood victimisation and adult criminality. There are, however, gaps in knowledge and understanding. First, few studies have simultaneously examined multiple types of childhood victimisation, although children may be exposed to a wide variety of it, so it is unclear which types of victimisation are most potent in predicting future criminality. In addition, many studies of childhood victimisation and criminality do not include robust controls for other variables known to contribute to criminality, such as gender, substance use and mental health. For these reasons, it is unclear whether there are simple, direct effects of victimisation on criminality or whether this relationship is affected by other environmental and intrapersonal influences.

Aims and hypothesis

Our aim was to explore the relationship between multiple types of trauma in childhood and adult criminality, allowing for relevant contextual variables. Our hypotheses were that: (1) male gender, substance use, and psychopathy will be significantly associated with adult criminal behaviour and (2) after controlling for these effects, each different type of childhood victimisation, including property offences, physical violence, verbal abuse, sexual abuse, neglect and witnessed violence, will be positively and independently related to criminal behaviour in young adults.

Methods

Participants

Participants included 2244 Swedish young adults between the ages of 20 and 24 years (*mean age* 22.16, *standard deviation (SD)* 1.39) from the *Retrospective Study of Young Men's and Women's Experiences* project (Cater et al., 2014) who endorsed experiencing, while under the age of 18, at least one form of childhood victimisation of any type, including: physical assaults, serious property offences such as a robbery at home, verbal abuse, witnessed/indirect violence, sexual abuse or neglect; just over half of the sample was female. Thus, participants were asked to recall victimisation experiences that may have taken place up to 20 years or more previously. The sample was identified from the Swedish national inhabitant register based on proportional draws from different geographic regions, and was nationally representative.

Procedure

This study was approved by the regional ethical review board in Uppsala, Sweden and all participants gave informed consent.

Potential participants were contacted via telephone by a survey company whose employees were trained in the interviewing protocol by the research team. This company was responsible for all participant recruitment and measure administration. The survey staff collecting the data were selected for their previous experience with interviews of a sensitive nature, and all interviewers were at least 30 years old. Participants were scheduled for an interview that took place at a time and location of their choosing, typically at their home or in a public place, such as a library. All data were collected in 2011.

Basic demographic information was gathered in a brief structured interview. Participants then completed an electronically administered survey about their history of victimisation and current psychosocial functioning. This self-report questionnaire was completed in about 1 hour. Interviewers were present throughout administration to answer any questions. At the conclusion of the assessment, participants were debriefed and provided with information about mental health services; completers were also given a voucher for 400 Swedish Kronor.

Measures

Criminality

Participants reported on 19 items about any criminal behaviour on their part during the year prior to interview. These items have been used in several studies on Swedish young adults (e.g. Andershed et al., 2002; Cater et al., 2014). Responses were on a 5 point scale with options from (1) *no that has not happened*

to (5) *has happened more than 10 times*. Items were summed to create a total criminality score.

Substance use

Participants' alcohol misuse was examined using the Alcohol Use Disorders Identification Test (AUDIT; Allen et al., 1997). This 10 item self-rating measure quantifies alcohol consumed and its consequences over the year before interview (e.g. 'How often during the last year have you failed to do what was normally expected of you because of your drinking?'). Items were rated on a 5-point scale (0) *never*, (1) *less than monthly*, (2) *monthly*, (3) *weekly*, (4) *daily/almost daily*. Higher total scores indicate more alcohol-related concerns. With regard to drug use, participants responded to four questions about the frequency of their lifetime drug use, including 'Have you ever sniffed?', 'Have you ever used testosterone, anabolic steroids or any similar growth hormone which is not prescribed by a doctor?', 'Have you ever tried marijuana?' and 'Have you ever used drugs other than marijuana?'. Items were rated on a 7-point scale (1) *Never*, (2) *1 time*, (3) *2–4 times*, (4) *5–10 times*, (5) *11–20 times*, (6) *21–50 times*, (7) *>50 times*. Higher total scores indicate more substance use.

Psychopathic traits

Personality traits were measured with the Youth Psychopathic Traits Inventory-Short version (YPI-S; van Baardewijk et al., 2010; Colins & Andershed, 2015). The YPI-S consists of 18 items with a response scale from (1) *does not apply at all* to (4) *applies very well*. It includes subscales measuring three dimensions of psychopathology including *Interpersonal* (6 items related to grandiosity and manipulation), *Affective* (6 items related to callous and unemotional affect) and *Behavioural* (6 items related to impulsivity and irresponsibility).

Childhood victimisation

Participants completed 33 items asking them to retrospectively report on their childhood victimisation experiences. Items were drawn from either the Juvenile Victimization Questionnaire (Finkelhor et al., 2005; Hamby et al., 2004) or from violence prevalence studies conducted in Europe (Janson et al., 2011; May-Chahal and Cawson, 2005). Items were summed within six domains of childhood victimisation, including *physical assaults*, such as being attacked with a weapon, burned or choked; *verbal assaults*, including insults and name calling; *property crimes*, such as having their childhood home robbed or having property destroyed; *sexual abuse*, including threatened or forced sexual contact; *neglect*, such as abandonment or lack of food and safe living conditions; and *witnessed/indirect violence exposure*, including seeing or hearing about others being harmed. Each item was rated on a 4-point scale from (0) *not at all* to (3) *occurred five times or more*. Items were averaged within each domain to create a mean score for each form of victimisation.

Data analysis

Study hypotheses were examined using hierarchical linear regression analyses in SPSS version 22.0. In all analytical models, adult criminal behaviour was the dependent variable. Gender was entered as the sole independent variable in Model 1. Alcohol misuse, drug use and psychopathy were added as independent variables in Model 2. Last, physical assaults, property offences, verbal abuse, witnessed/indirect violence, sexual abuse and neglect were added separately in the third and final model, which also controlled for gender, substance use and psychopathy simultaneously.

Results

Physical assaults were the most commonly experienced form of childhood victimisation (*mean* 2.65 per person; *SD* = 2.13, range 0–3), followed by property offences (*mean* 1.72 per person; *SD* = 1.04, range 0–3). Table 1 shows further details. Intercorrelations among the offending (dependent) variable and the continuous (independent) variables ranged from $r = 0.04$ to 0.46, as shown in Table 2. Table 2 also illustrates that criminality was significantly correlated with each type of victimisation, with the strongest correlation to childhood physical victimisation and the weakest correlation with childhood verbal victimisation.

Table 3 presents results of the hierarchical linear regression models. Model 1, with gender as the sole independent variable, showed a significant association between adult criminality and gender ($F(1, 2052) = 139.27$; $p < 0.001$). This model accounted for 6.4% of the total variance in criminality. Male participants

Table 1: Descriptive statistics of key study variables

	M(SD)	Range
<i>Criminality</i>	0.63(1.08)	0–6
<i>Substance use</i>		
Alcohol misuse	7.60(4.64)	1–31
Drug use	5.80(3.20)	4–25
<i>Psychopathy</i>		
Interpersonal	1.77(0.61)	1–4
Affective	1.46(0.48)	1–4
Behavioural	2.03(0.55)	1–4
<i>Victimisation</i>		
Physical assaults	2.05(0.84)	0–3
Property offences	1.72(1.04)	0–3
Witnessed/indirect exposure	1.63(0.90)	0–3
Verbal abuse	1.51(1.03)	0–3
Neglect	0.39(0.30)	0–3
Sexual abuse	0.18(0.32)	0–3

Table 2: Correlations between continuous study variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Criminality	1.00											
2. Alcohol	0.40**	1.00										
3. Drug Use	0.46**	0.40**	1.00									
4. YPI-1	0.24**	0.25**	0.24**	1.00								
5. YPI-A	0.18**	0.19**	0.13**	0.46**	1.00							
6. YPI-B	0.30**	0.29**	0.32**	0.40**	0.30**	1.00						
7. CV Property	0.20**	0.14**	0.18**	0.15**	0.10**	0.18**	1.00					
8. CV Physical	0.31**	0.21**	0.25**	0.22**	0.19**	0.23**	0.35**	1.00				
9. CV Witness	0.27**	0.22**	0.26**	0.20**	0.15**	0.18**	0.22**	0.34**	1.00			
10. CV Sexual	0.05**	0.06**	0.12**	0.06**	-0.01	0.10**	0.12**	0.14**	0.11**	1.00		
11. CV Verbal	0.04*	0.02	0.05*	0.04*	0.01	0.13**	0.18**	0.25**	0.12**	0.24**	1.00	
12. CV Neglect	0.10**	0.06**	0.08**	0.09**	0.10**	0.15**	0.19**	0.17**	0.16**	0.23**	0.24**	1.00

* $p < 0.05$.

** $p < 0.01$.

YPI-1 = Youth Psychopathic Traits Inventory Interpersonal; YPI-A = Youth Psychopathic Traits Inventory Affective; YPI-B = Youth Psychopathic Traits Inventory Behavioural; CV = Childhood Victimization.

Table 3: Summary of hierarchical regression analysis predicting to adulthood criminality

	Criminality				
	B	t	R ²	ΔR ²	F
Model 1			0.064	—	139.27**
Gender	-0.252	-11.80**			
Model 2			0.305	0.241	149.85**
Gender	-0.147	-7.49**			
Alcohol misuse	0.202	9.71**			
Drug use	0.313	15.17**			
YPI-B	0.114	5.34**			
YPI-I	0.025	1.11			
YPI-A	0.023	1.09			
Model 3			0.330	0.025	83.79**
Gender	-0.121	-5.71**			
Alcohol misuse	0.185	8.99**			
Drug use	0.281	13.51**			
YPI-B	0.094	4.45**			
YPI-I	0.010	0.46			
YPI-A	0.010	0.48			
CV property	0.033	1.65			
CV physical	0.111	5.17**			
CV witnessed	0.075	3.75**			
CV sexual	0.000	-0.016			
CV verbal	-0.022	-1.11			
CV neglect	0.043	2.05*			

* $p < 0.05$.

** $p < 0.001$.

Male = 1 Female = 2. YPI-B = Youth Psychopathic Traits Inventory Behavioural; YPI-I = Youth Psychopathic Traits Inventory Interpersonal; YPI-A = Youth Psychopathic Traits Inventory Affective; CV = Childhood Victimization.

Criminality and substance use variables exhibited significant skew, so analyses were run with both non-transformed and transformed variables. The direction and significance of effects were the same in both sets of analyses. Thus, results presented reflect analyses conducted without variable transformation.

reported significantly higher rates of criminality in young adulthood than did female participants ($\beta = -0.25$; $p < 0.001$). When alcohol misuse, drug use and psychopathy were added into Model 2, the model was also significant ($F(6, 2047) = 149.85$; $p < 0.001$), and a substantial increase in the amount of variance was explained ($R^2 = 0.305$; $\Delta R^2 = 0.241$). Here, alcohol misuse in young adulthood was related to higher levels of criminality ($\beta = 0.20$; $p < 0.001$), as was current drug use ($\beta = 0.31$; $p < 0.001$) and the behavioural subscale of the Youth Psychopathic Inventory ($\beta = 0.11$; $p < 0.001$).

When each type of childhood victimisation was separately entered into the final model, the overall model was significant ($F(12, 2041) = 83.79$; $p < 0.001$),

and significantly more of the variance was explained ($R^2=0.330$; $\Delta R^2=0.025$). In this model, multiple forms of childhood victimisation emerged as significantly related to young adulthood criminality, including experiencing physical violence ($\beta=0.11$; $p<0.001$), witnessing violence ($\beta=0.08$; $p<0.001$) and neglect ($\beta=0.04$; $p=0.047$). The other forms of childhood victimisation, including sexual abuse, verbal abuse and property offences, were not significantly associated with young adulthood criminality ($p>0.05$). Thus, after controlling for gender, alcohol misuse, drug use and psychopathy, we found that higher levels of physical violence, witnessing violence and neglect during childhood were each significantly associated with higher levels of criminal behaviour during young adulthood. Multicollinearity diagnostics were examined using the variance inflation factor (VIF), and all values fell within an acceptable range ($VIF<3$).

Discussion

We identified unique relationships between specific forms of childhood victimisation and young adulthood criminality. By using a hierarchical modelling approach, we were able to identify the relative, independent contributions of each type of childhood victimisation after controlling for gender, substance use and psychopathy. Among young Swedish adults, criminality was significantly associated with childhood experiences of physical violence, witnessed violence and neglect, but not with being the victim of property crimes, verbal abuse or sexual abuse. These findings are largely consistent with other research in child populations on types of violence exposure and aggressive behaviour during childhood (Miller et al., 2012; O'Keefe, 1997). In fact, witnessing intimate partner violence (e.g. Miller et al., 2012) and experiencing physical abuse (e.g. Petrenko et al., 2012) have both been linked with aggressive, delinquent or externalising behaviours during childhood and adolescence. The present study extends these findings into both a new developmental period – young adulthood – and a geographic region not previously studied in this way (Sweden).

Given that previous studies have identified an association between childhood sexual abuse and later aggressive behaviour (e.g. Lewis et al., 2007), the lack of a relationship with criminality in our study was unexpected. Other studies that specifically assess sexual abuse have found that it relates to sexually maladaptive behaviour, juvenile sexual offending, adult sex crimes and prostitution (Briere and Runtz, 1990; DeLisi et al., 2014). We examined criminality more generally and did not include items assessing a range of specific sex crimes, which may explain the lack of an association between childhood sexual victimisation and criminality. Further, sexual victimisation in the current sample was infrequently endorsed by males (only 6% reported childhood sexual abuse), who were more likely than females to

commit criminal acts during young adulthood, so the lack of an association may simply be an artifact of our methods and participant pool.

The absence of an association between criminality and childhood property victimisation or childhood verbal abuse also warrants additional exploration. Property crimes were the only type of childhood victimisation that did not have an interpersonal component. All other victimisations involved experiencing or directly witnessing assault. It may be that future criminality is related to experiencing harm at the hands of another person in the form of an interpersonal violation, rather than having items stolen or property damaged. With regard to verbal assault, this form of victimisation did not significantly impact criminality once more severe forms of victimisation were accounted for separately in the model. Thus, verbal victimisation, which included being yelled at or demeaned, did not uniquely impact adulthood criminality once other forms of victimisation were accounted for in the modelling. While this cross-sectional and retrospective data precludes any causal associations, these findings call attention to the importance of examining specific forms of childhood victimisation when evaluating criminality among young adults.

Clinical implications

This study provides promising implications for clinical work with both victimised children and adults displaying criminal behaviour. First, given the pernicious, long-term impact of childhood victimisation, findings underscore the importance of early identification and intervention with children who are experiencing any form of victimisation. Further, findings indicate that future problematic functioning may arise not only if children experience direct victimisation, but also if they witness others being victimised. Therefore, victimisation should be defined and evaluated broadly to include both personal assaults as well as indirect exposure to violence. These findings also highlight the potential utility of appropriate assessment and screening tools that clinicians could utilise with adults who have committed criminal acts. Such materials might assess their history of specific forms of victimisation, current substance use, and current symptoms of psychopathy. Such a thorough assessment will help clinicians develop tailored intervention strategies for perpetrators that may more effectively address future criminality and recidivism. The relationships between behavioural aspects of psychopathy, substance use, and criminality illuminate potentially important areas of intervention with adult offenders. Beyond a thorough assessment for violence exposure, if possible, it would be critical for intervention paradigms to intervene on these specific risk factors for criminality as a way of reducing recidivism.

Limitations

We used a nationally representative sample of young Swedish adults to examine unique associations between type of childhood victimisation and adult criminality, but there were nevertheless limitations to be considered when interpreting results. First, the cross-sectional design precludes causal inferences. Second, the retrospective design may lead to recall biases of childhood experiences. Third, we relied entirely on self-report measures and did not include symptom ratings completed by other important life figures, or police records. Although all questionnaires were completed privately and participants were assured of personal confidentiality, it is possible that responses were biased by individuals who felt a need to 'fake good' with respect to criminal behaviour, psychopathic traits or substance use. Finally, we did not have access to information about socioeconomic factors and other family dysfunction variables that could be related to criminal behaviour. Given the well-established relationship between socioeconomic status and criminality, it is of utmost importance that future studies account for this factor when evaluating victimisation and criminal behaviours.

Acknowledgements

This study was financially supported by the National Board of Health and Welfare in Sweden. The findings and conclusions in this manuscript are those of the authors only.

References

- Allen JP, Litten RZ, Fertig JB, Babor T (1997) A review of research on the Alcohol Use Disorders Identification Test (AUDIT). *Alcoholism: Clinical and Experimental Research* **21**: 613–619.
- Andershed HA, Kerr M, Stattin H, Levander S (2002) Psychopathic traits in non-referred youths: a new assessment tool. In Blaauw E, Sheridan L (eds) *Psychopaths: Current International Perspectives*. The Hague: Elsevier pp. 131–158.
- Annerbäck EM, Wingren G, Svedin CG, Gustafsson PA (2010) Prevalence and characteristics of child physical abuse in Sweden—findings from a population-based youth survey. *Acta Paediatrica* **99**: 1229–1236.
- Bohman M (1996) Predisposition to criminality: Swedish adoption studies in retrospect. *Genetics of Criminal and Antisocial Behaviour* **194**: 99–114.
- Briere J, Runtz M (1990) Differential adult symptomatology associated with three types of child abuse histories. *Child Abuse & Neglect* **14**: 357–364.
- Cater AK, Andershed AK, Andershed H (2014) Youth victimization in Sweden: prevalence, characteristics and relation to mental health and behavioral problems in young adulthood. *Child Abuse & Neglect* **38**: 1290–1302.
- Centers for Disease Control. (2014) Adverse Childhood Experiences (ACE) Study: data and statistics. Retrieved from www.cdc.gov.

- Colins OF, Andershed H (2015) The Youth Psychopathic Traits Inventory-Short Version in a General Population Sample of Emerging Adults. *Psychological Assessment*. DOI:10.1037/pas0000189.
- DeLisi M, Kosloski AE, Vaughn MG, Caudill JW, Trulson CR (2014) Does childhood sexual abuse victimization translate into juvenile sexual offending? New evidence. *Violence and Victims* **29**: 620–635.
- Eitle D, Turner RJ (2002) Exposure to community violence and young adult crime: the effects of witnessing violence, traumatic victimization, and other stressful life events. *Journal of Research in Crime and Delinquency* **39**: 214–237.
- English DJ, Widom CS, Brandford C (2002) Childhood Victimization and Delinquency, Adult Criminality, and Violent Criminal Behavior: A Replication and Extension, Final Report. Washington, DC: U.S. Department of Justice.
- Fagan AA (2005) The relationship between adolescent physical abuse and criminal offending: support for an enduring and generalized cycle of violence. *Journal of Family Violence* **20**: 279–290.
- Finkelhor D, Ormrod R, Turner H, Hamby S (2005) The victimization of children and youth: a comprehensive, national survey. *Child Maltreatment* **10**: 5–25.
- Gilbert R, Widom CS, Browne K, Fergusson D, Webb E, Janson S (2009) Burden and consequences of child maltreatment in high-income countries. *The Lancet* **373**: 68–81.
- Goethals K, Willigenburg L, Buitelaar J, Van Marle H (2008) Behaviour problems in childhood and adolescence in psychotic offenders: an exploratory study. *Criminal Behaviour and Mental Health* **18**: 153–165.
- Grann M, Fazel S (2004) Substance misuse and violent crime: Swedish population study. *British Medical Journal* **328**: 1233–1234.
- Hamby SL, Finkelhor D, Ormrod RK, Turner HA (2004) The Juvenile Victimization Questionnaire (JVQ): Administration and Scoring Manual. Durham, NH: Crimes Against Children Research Center.
- Hare RD (2003) Manual for the revised psychopathy checklist.
- Hart SD, Hare RD (1997) Psychopathy: assessment and association with criminal conduct. In Stoff DM, Brieling J, Maser J (eds) *Handbook of Antisocial Behavior*. New York, NY: Wiley pp. 22–35.
- Herrera VM, McCloskey LA (2001) Gender differences in the risk for delinquency among youth exposed to family violence. *Child Abuse & Neglect* **25**: 1037–1051.
- Hussey JM, Chang JJ, Kotch JB (2006) Child maltreatment in the United States: prevalence, risk factors, and adolescent health consequences. *Pediatrics* **118**: 933–942.
- Ireland T, Widom CS (1994) Childhood victimization and risk for alcohol and drug arrests. *Substance Use & Misuse* **29**: 235–274.
- Janson S, Jernbro C, Långberg B (2011) Physical punishment and other types of violation of children in Sweden—a national survey. *Stiftelsen Allmänna Barnhuset [Children's Welfare Foundation Sweden]*.
- Jung H, Herrenkohl TI, Klika JB, Lee JO, Brown EC (2015) Does child maltreatment predict adult crime? Reexamining the question in a prospective study of gender differences, education, and marital status. *Journal of Interpersonal Violence* **30**: 2238–2257.
- Lewis T, Leeb R, Kotch J, Smith J, Thompson R, Black MM, Pelaez-Merrick M, Briggs E, Coyne-Beasley T (2007) Maltreatment history and weapon carrying among early adolescents. *Child Maltreatment* **12**: 259–268.
- May-Chahal C, Cawson P (2005) Measuring child maltreatment in the United Kingdom: a study of the prevalence of child abuse and neglect. *Child Abuse & Neglect* **29**: 969–984.
- Mersky JP, Reynolds AJ (2007) Child maltreatment and violent delinquency: disentangling main effects and subgroup effects. *Child Maltreatment* **12**: 246–258.

- Miller LE, Cater ÅK, Howell KH, Graham-Bermann SA (2014) Perpetration patterns and environmental contexts of IPV in Sweden: relationships with adult mental health. *Child Abuse & Neglect* **38**: 147–158.
- Miller LE, Grabell A, Thomas A, Bermann E, Graham-Bermann SA (2012) The associations between community violence, television violence, intimate partner violence, parent–child aggression, and aggression in sibling relationships of a sample of preschoolers. *Psychology of Violence* **2**: 165.
- O’Keefe M (1997) Predictors of dating violence among high school students. *Journal of Interpersonal Violence* **12**: 546–568.
- Petrenko CLM, Friend A, Garrido EF, Taussig HN, Culhane SE (2012) Does subtype matter? Assessing the effects of maltreatment on functioning in preadolescent youth in out-of-home care. *Child Abuse & Neglect* **36**: 633–644.
- Thornberry TP, Ireland TO, Smith CA (2001) The importance of timing: the varying impact of childhood and adolescent maltreatment on multiple problem outcomes. *Developmental Psychopathology* **13**: 957–979.
- van Baardewijk Y, Andershed H, Stegge H, Nilsson KW, Scholte E, Vermeiren R (2010) Development and tests of short versions of the Youth Psychopathic Traits Inventory and the Youth Psychopathic Traits Inventory—Child Version. *European Journal of Psychological Assessment* **26**: 122–128.
- Whitfield CL, Anda RF, Dube SR, Felitti VJ (2003) Violent childhood experiences and the risk of intimate partner violence in adults: assessment in a large health maintenance organization. *Journal of Interpersonal Violence* **18**: 166–185.
- Widom CS (1995) *Victims of Childhood Sexual Abuse: Later Criminal Consequences*. Washington, DC: US Department of Justice, Office of Justice Programs, National Institute of Justice.
- Widom CS (1996) Childhood sexual abuse and its criminal consequences. *Society* **33**: 47–53.
- Widom CS, Maxfield MG (2001) *An Update on the Cycle of Violence*. Washington, DC: National Institute of Justice.
- Yun I, Ball JD, Lim H (2011) Disentangling the relationship between child maltreatment and violent delinquency: using a nationally representative sample. *Journal of Interpersonal Violence* **26**: 88–110.

Address correspondence to: Kathryn H. Howell, Department of Psychology, University of Memphis, 356 Psychology Building, Memphis, TN 38152-3230, USA. E-mail: k.howell@memphis.edu

Contract/grant sponsor: National Board of Health and Welfare.