



# Perceptions of danger, tolerance of delinquency, and economic disadvantage: Examining neighborhood influences on child physical abuse

Marijana M. Kotlaja<sup>a,\*</sup>, Abigail A. Fagan<sup>b</sup>, Emily M. Wright<sup>c</sup>

<sup>a</sup> Department of Criminology and Criminal Justice, Missouri State University, 901 S. National Ave., Springfield, MO 65897, United States

<sup>b</sup> Department of Criminology and Law, University of Florida, 3362 Turlington Hall, Gainesville, FL 32611, United States

<sup>c</sup> School of Criminology and Criminal Justice, Nebraska Center for Justice Research, University of Nebraska, Omaha, 6001 Dodge Street, 218 CPACS, Omaha, NE 68182-0149, United States

## ARTICLE INFO

### Keywords:

Child abuse  
Neighborhoods  
Culture  
Dangerousness  
Social disorganization

## ABSTRACT

**Background:** Social disorganization theory posits that both structural and social features of a particular geographic unit are associated with criminal behavior. Despite many tests of social disorganization theory, few studies have assessed its relevance to child abuse.

**Objective:** This study seeks to explain neighborhood variation in child maltreatment. The goal of the current study is to fill this gap by investigating whether or not child physical abuse is related to neighborhood economic disadvantage, perceptions of the dangerousness of the neighborhood, and norms regarding delinquency.

**Participants and Setting:** Data were drawn from the Project on Human Development in Chicago Neighborhoods (PHDCN) and included 2364 respondents from 79 neighborhoods. The dependent variable, the variety or number of acts of severe child physical abuse, was reported by caregivers, while neighborhood characteristics were based on information from the U.S. Census Data and adult respondents living in Chicago neighborhoods.

**Methods:** A multilevel, over-dispersed, Poisson regression models were utilized to predict the variety of acts of severe physical abuse that a child living within a given neighborhood would experience.

**Results:** Neighborhood economic disadvantage was not significantly associated with greater variety of physical abuse. However, neighborhoods perceived as dangerous had greater variety of physical abuse ( $b = .25, p < .05$ ), while those with a greater tolerance for deviance had somewhat lower variety of physical abuse ( $b = -.69, p \leq .10$ ).

**Conclusions:** These results suggest that some contextual factors may help explain child maltreatment and should be subject to additional research.

## 1. Introduction

As a form of family violence that exists “behind closed doors” (Gelles, 1979), child physical abuse is often attributed to parental psychopathology and/or deficits in caregiver characteristics (Cicchetti & Toth, 2005; Daro & Dodge, 2009). Indeed, research has found that a variety of caregiver factors are associated with an increased risk of child abuse perpetration, including parents’ low

\* Corresponding author.

E-mail addresses: [marijanakotlaja@missouristate.edu](mailto:marijanakotlaja@missouristate.edu) (M.M. Kotlaja), [afagan@ufl.edu](mailto:afagan@ufl.edu) (A.A. Fagan), [emwright@unomaha.edu](mailto:emwright@unomaha.edu) (E.M. Wright).

<https://doi.org/10.1016/j.chiabu.2020.104562>

Received 9 November 2019; Received in revised form 11 May 2020; Accepted 21 May 2020

Available online 29 May 2020

0145-2134/ © 2020 Elsevier Ltd. All rights reserved.

socio-economic status, alcohol and drug use/abuse, mental health problems, and their own prior abuse (Gilbert et al., 2009; IOM (National Research Council and Institute of Medicine) and NRC (National Research Council and Institute of Medicine) (2014); Zielinski & Bradshaw, 2006). Nonetheless, it is also understood that child abuse is the result of multiple risk factors that exist across contexts (IOM (National Research Council and Institute of Medicine) and NRC (National Research Council and Institute of Medicine) (2014)), including the neighborhoods in which children and families reside.

Although research examining community influences on child abuse has not been extensive, there is evidence that rates of child maltreatment are not equally distributed across geographical areas (Gracia, Lopez-Quilez, Marco, & Lila, 2017; Morris et al., 2019; Paulsen, 2003) and that some community characteristics are related to abuse and neglect (Coulton, Crampton, Irwin, Spilsbury, & Korbin, 2007; Daro & Dodge, 2009; Maguire-Jack, 2014). For example, Coulton, Korbin, and Su (1999) reported that official rates of child maltreatment varied from a low of 11.6 (representing the number of cases divided by the total number of children living in the area) to a high of 70.6 across 20 Cleveland neighborhoods. Similarly, an examination of child physical abuse in a suburban, Maryland county indicated that official rates of physical abuse ranged from 0 to 32 cases per 1000 families and were clustered in the eastern and central parts of the county (Ernst, 2000).

Variation in the spatial distribution of child maltreatment cases suggests that there are ecological factors that influence the likelihood of abuse and neglect. There is some evidence to support this hypothesis, particularly from studies indicating that community-level rates of maltreatment are associated with contextual factors such as economic deprivation, residential instability, and child care burden (i.e., the amount of resources devoted to child care) (Coulton et al., 2007; Freisthler, Merritt, & LaScala, 2006; Maguire-Jack, 2014). However, this body of research is limited. The majority of studies have been conducted at the macro level and cannot adequately test whether variation in child maltreatment is due to the community context (i.e., characteristics of the neighborhood) or to the community composition (i.e., the individuals within a neighborhood) and/or selection effects (i.e., the possibility that certain types of families are likely to reside in disadvantaged neighborhoods) (Coulton et al., 1999, 2007; Maguire-Jack, 2014). In addition, most studies have focused on examining the role of structural factors, most often economic disadvantage (Coulton et al., 2007; Maguire-Jack, 2014; Molnar et al., 2016), rather than social and normative factors, such as residents' tolerance of crime and their perceptions of the neighborhood as a dangerous environment.

The goal of this paper is to advance the understanding of how communities may influence caregivers' perpetration of child physical abuse. Analyses examine the role of community economic disadvantage as well as two non-structural factors: neighborhood norms regarding crime and perceptions of the neighborhood as a dangerous place to live. We seek to understand whether norms regarding general deviance and perceptions of the neighborhood are associated with child abuse in a similar way as other forms of crime. Unlike most prior research, multilevel models are used to estimate the unique contributions of the contextual factors, while also accounting for family and individual characteristics that may be associated with abuse. In addition, measures of contextual factors are drawn from random samples of residents living in Chicago neighborhoods, while caregiver reports are used to measure a variety of acts representing severe physical abuse.

## 2. Theoretical explanations of the relationship between neighborhood context and child physical abuse

This study is guided by social disorganization theory, a criminological theory originally formulated to explain geographic variation in juvenile delinquency (Shaw & McKay, 1942), but since expanded to incorporate adult offending, including intimate partner violence (Pinchevsky & Wright, 2012; Wright & Benson, 2011) and, in a few studies, child maltreatment (Maguire-Jack, 2014; McLeigh, McDonnell, & Lavenda, 2018). Social disorganization theories posit that both structural and social features of a particular geographic unit (i.e., a community or neighborhood) are associated with criminal behavior (Bursik, 1988; Sampson & Groves, 1989; Shaw & McKay, 1942). Structural deficits like economic deprivation and residential instability lead to social disorganization (Shaw & McKay, 1942), or problems in how residents interact with another, as well as social isolation when residents have minimal contact with groups or individuals that represent mainstream beliefs and opportunities (Sampson & Wilson, 1995). In particular, poverty and residential turnover can undermine the ability of residents to know and trust each other, provide social support for one another, agree on norms to regulate behavior, and work together to prevent crime (Bursik & Grasmick, 1993; Sampson, Raudenbush, & Earls, 1997; Shaw & McKay, 1942). The accumulation of structural and social problems may produce high rates of crime, which can, in turn, amplify feelings of isolation, increase fear of crime, and lead to a perpetuation of criminal behaviors (Geis & Ross, 1998; Hill, Ross, & Angel, 2005; Kim & Ross, 2009; Ross & Mirowsky, 2009; Ross, Mirowsky, & Pribesh, 2001; Sampson & Wilson, 1995; Skogan, 1986).

Although social disorganization theory was developed to explain public forms of crime like interpersonal violence, it may have utility for explaining child maltreatment. Communities experiencing economic deprivation typically have fewer social services and supports that can help to alleviate the stressors caused by poverty and neighborhood conditions. Caregivers residing in such areas may engage in child physical abuse as a reaction to chronic stress (Freisthler & Maguire-Jack, 2015; Maguire-Jack & Wang, 2016). Parents who also feel socially isolated may be more vulnerable to stress, and they may be less likely to perceive that their perpetration of abuse will be discovered or punished (Stets, 1991; Straus, Gelles, & Steinmetz, 2006; Wright & Benson, 2011).

Structural problems and social disorganization can also undermine the ability of community members to agree on norms that specify acceptable and unacceptable behaviors, including abuse. They may also lead to a tolerance of violence and criminal behaviors among residents who have few prosocial role models or opportunities to engage in prosocial behaviors (Anderson, 1999; Sampson & Wilson, 1995). Neighborhoods with attenuated mainstream values (Kornhauser, 1978; Warner, 2003) may foster cognitive landscapes (Sampson & Wilson, 1995) whereby residents view violence (including violence within families) as somewhat acceptable under some conditions, as normative, and/or as a private matter (e.g., Sampson & Bartusch, 1998; Sampson & Bean, 2006; Sampson & Wilson, 1995). If tolerant of such behaviors, community norms can send a message to parents that: (1) neighbors are unwilling to

intervene to stop child abuse and/or (2) behaviors such as child abuse are not wholly unacceptable, at least under certain situations or contexts (Anderson, 1999; Korbin, Coulton, Lindstrom-Ufuti, & Spilsbury, 2000; Wright & Fagan, 2013). Even if some residents are ambivalent about family violence (Berg, Stewart, Brunson, & Simons, 2012; Harding, 2007), and others fiercely condemn such behaviors, the overall effect may be a reluctance to intervene (e.g., "none of my business," see also Kirk & Papachristos, 2011). The social norms and controls that would otherwise prevent such behavior will thus be weakened, essentially "freeing" people to behave more aggressively (Hirschi, 1969; Sykes & Matza, 1957).

Communities may also influence child abuse via residents' attitudes about their neighborhoods. Residents of disorganized, high crime areas may be especially likely to express a fear of crime and view the neighborhood as a dangerous place to live (Ross & Mirowsky, 2009; Ross et al., 2001; Skogan, 1986; Wilson & Kelling, 1982). In such communities, caregivers may believe that overly restrictive and punitive discipline strategies are necessary to keep children safe and may even help "toughen them up" so they are better prepared for the violent interactions they are likely to face on the streets (Anderson, 1999; Furstenberg, Cook, Eccles, Elder, & Sameroff, 1999; Ness, 2004). In these environments, child abuse may be viewed as a necessary survival strategy, not as a harmful behavior. It is also possible that perceiving one's neighborhood as dangerous entices parents to keep their children at home more, rather than outside, so they are less exposed to violence in the neighborhood (Anderson, 1999). Paradoxically, this can increase the opportunity for child abuse to occur.

### 3. Prior research examining the relationship between neighborhood context and physical abuse

Although historically viewed as a private form of family violence, child abuse is increasingly viewed as a public health problem that can be influenced by the community setting (Daro & Dodge, 2009). Accordingly, a small but growing number of studies have investigated neighborhood factors that may affect the perpetration of abuse and/or neglect. Reviews of this literature have indicated that the most commonly studied community-level construct is economic disadvantage, and most studies have found an association between community disadvantage and elevated levels of abuse and/or neglect (Coulton et al., 2007; Freisthler et al., 2006). This relationship has been demonstrated across different measures of disadvantage (e.g., poverty or unemployment rates, income levels, etc.) and across different cities (Coulton et al., 2007). In one of the first studies to examine this relationship across 177 census tracts (i.e., neighborhoods) in Cleveland, Ohio, Coulton, Korbin, Su, and Chow (1995) found a significant, positive association between economic impoverishment, measured from the U.S. Census, and official reports of child maltreatment.

While prior studies have consistently demonstrated positive relationships between disadvantage and child maltreatment, only a subset of this literature has relied on multilevel analytic models that are better able to distinguish the impact of community poverty from family socioeconomic status. For example, one literature review identified only five multilevel studies that had examined the impact of community characteristics on child maltreatment (Maguire-Jack, 2014). According to the review, four of the five studies demonstrated significant, positive relationships between neighborhood poverty (measured using various indicators from the U.S. Census) and child maltreatment, even when controlling for one or more measures of family socioeconomic status.

Since that review, a few additional multilevel studies have indicated mixed support that neighborhood poverty affects child maltreatment (Freisthler & Maguire-Jack, 2015; Maguire-Jack & Font, 2017; Molnar et al., 2016). Molnar et al. (2016) found that in Chicago, neighborhood poverty was positively associated with official reports of child maltreatment, even when neighborhood social processes were included in models. However, a study of 50 California cities found that neighborhood poverty was not significantly related to parent reports of child physical abuse or neglect when neighborhood social processes were included in models (Freisthler & Maguire-Jack, 2015; Maguire-Jack & Font, 2017).

These recent studies indicate the importance of examining structural as well as social conditions that may influence child maltreatment. Few studies published prior to 2000 measured neighborhood social processes (Coulton et al., 2007; Freisthler et al., 2006) likely because such indicators were not publicly available (as are Census data). Since that time, some studies have included surveys of residents in urban and suburban areas to ask about neighborhood social conditions such as the presence of disorder (i.e., visible crime or disorderly conduct), social networks/interactions, social cohesion or support, and/or collective efficacy, or the degree to which residents trust each other and are willing to intervene to prevent crime (Coulton et al., 1999; Maguire-Jack & Font, 2017; Maguire-Jack, 2014; McLeigh et al., 2018; Molnar, Buka, Brennan, Holton, & Earls, 2003, 2016; Sampson et al., 1997). Some of these studies have found significant relationships between certain social constructs and particular types of child maltreatment, but it is difficult to draw conclusions about the results given the paucity of research (Maguire-Jack, 2014).

Our review of the literature did not reveal any studies that have examined whether or not neighborhood normative beliefs about delinquency/crime are associated with child maltreatment. Likewise, we did not find any quantitative research investigating whether or not residents' beliefs regarding the dangerousness of their neighborhoods were related to maltreatment. The most similar body of research indicates a positive relationship between residents' reports of neighborhood disorder and parent (Freisthler & Maguire-Jack, 2015) and official (Molnar et al., 2016) reports of maltreatment.

As this review suggests, studies assessing the impact of community factors on maltreatment are increasing but still relatively uncommon, especially when considering non-structural features of a neighborhood. Moreover, such studies vary in whether or not they use multilevel analyses to assess relationships and the degree to which they include individual or family factors that may also be related to maltreatment (Coulton et al., 1999, 2007; Maguire-Jack, 2014; Zielinski & Bradshaw, 2006). The current study seeks to overcome these limitations by investigating whether or not child physical abuse is related to neighborhood economic disadvantage, norms regarding delinquency, and perceptions of the dangerousness of the neighborhood. Multilevel analyses are conducted and include a variety of child, caregiver, and family characteristics that may also impact abuse. We examine two research questions to understand the mechanisms by which neighborhoods influence child abuse:

- 1 What is the impact of neighborhood perceptions of dangerousness on caregiver reports of severe child physical abuse, controlling for relevant individual-level covariates and neighborhood concentrated disadvantage?
- 2 What is the impact of neighborhood tolerance for deviance on caregiver reports of severe child physical abuse, controlling for relevant individual-level covariates and neighborhood concentrated disadvantage?

#### 4. Methods

##### 4.1. Sample

This paper involves secondary data analysis of information collected as part of the Project on Human Development in Chicago Neighborhoods (PHDCN). The Principal Investigators of the PHDCN collected data in accordance with the ethical standards and principles of human subjects research set forth by their home institutions. The current analyses utilize de-identified data from the PHDCN that were made available through the National Archive of Criminal Justice Data on the Inter-university Consortium for Political and Social Research (ICPSR) website. As such, the study did not constitute human subjects research.

The PHDCN is a multi-component, multi-wave study designed to examine how neighborhood context impacts individual-level development (Earls, Brooks-Gunn, Raudenbush, & Sampson, 2002). To measure neighborhood context, the PHDCN researchers divided Chicago's 847 census tracts into 343 geographically contiguous neighborhood clusters that varied in race/ethnicity and socioeconomic status. In 1994–1995, they conducted a Community Survey (CS) by sampling city blocks and dwelling units within blocks, then interviewing randomly selected adults within selected dwellings to assess their perceptions of the neighborhood. The Longitudinal Cohort Study (LCS) was initiated in 1994 to collect data on youth development. It involved the collection of prospective data from households in 80 of the 343 neighborhood clusters, randomly selected after stratification by race/ethnicity and SES. Households that contained children from seven age cohorts (0, 3, 6, 9, 12, 15, and 18) were randomly selected to participate in the study, with 6228 caregivers and children interviewed at baseline. The PHDCN also includes information about structural characteristics of the neighborhood clusters based on data from the 1990 U.S. Census.

The current study utilizes data from all three components of the PHDCN. Information on child physical abuse was collected from primary caregivers with children in the 3–12 age cohorts who were interviewed in the first (1994–1997) and second (1997–1999) waves of the LCS. Given our focus on child maltreatment, analyses were restricted to youth from four age cohorts (Cohorts 3, 6, 9, and 12) of the LCS. Respondents resided in 79 out of 80 neighborhood clusters; one neighborhood did not have any participants from Cohorts 3–12. Of the 3628 youth in Cohorts 3–12 who participated in the study at wave one, 2364 (65 % of the original sample) were utilized in the analyses; due to listwise deletion on variables of interest and attrition of cases across waves one and two, 1264 of the 3628 wave one youth participants were dropped from the analyses. A comparison of the sample of all youth in Cohorts 3–12 participating at wave one ( $N = 3628$ ) and the analyses samples yielded no significant differences on the primary independent or dependent variables.

##### 4.2. Measures

The dependent variable, *severe physical child abuse (PCA)*, was measured using the Conflict Tactics Scale for Parents and Children (CTS-PC), which has previously been shown to have acceptable reliability and validity as a measure of child physical abuse across different racial/ethnic groups (Cotter, Proctor, & Brestan-Knight, 2018; Straus, Hamby, Finkelhor, Moore, & Runyan, 1998). At wave two, primary caregivers reported whether or not they had used any of the six forms of severe physical abuse in the past year: kicked, bit, hit with a fist, hit with something, beat up, or burned their child. These dichotomous items were summed to reflect the number of types (or variety) of child physical abuse reported by caregivers. The variety score was used to capture multiple instances of physical abusive acts that range in severity, with the expectation that neighborhood factors will be more likely to predict an increased number and/or severity of physically abusive behaviors compared to the presence or absence of abuse (if measured using a dichotomous indicator). For example, contextual factors may not matter if most residents find it acceptable to commit one or two acts of abuse or less severe forms of physical abuse (e.g., hitting a child), perhaps to help children learn to protect themselves in dangerous situations. In contrast, neighborhood influences may predict a greater number of and/or more severe acts (e.g., burning a child), differences that are best detected with the variety score.

##### 4.2.1. Neighborhood variables

Drawing from prior research (Cerdeira, Sanchez, Galea, Tracy, & Buka, 2008; Molnar, Cerda, Roberts, & Buka, 2008), neighborhood *concentrated disadvantage* was operationalized as a principal components factor analysis using information from the 1990 U.S. Census. Three poverty-related items loaded on one factor representing economic disadvantage, including the percentage of residents in a neighborhood who were living below the poverty line, receiving public assistance, and unemployed ( $\alpha = .805$ ). Higher values reflect greater concentrated economic disadvantage.

Two measures from the Community Survey were used to capture adult residents' perceptions of neighborhood social/cultural conditions. Recall that the Community Survey includes information about the 80 neighborhood clusters in which the LCS youth and caregiver respondents live, but the data about these neighborhoods were obtained from adult residents rather than from the youth or their caregivers. Eight items were used to assess *tolerance of deviance* (Sampson & Bartusch, 1998; Wright & Fagan, 2013). Respondents were asked their opinion regarding how wrong it is for 13 year-olds and 19 year-olds to smoke cigarettes, use marijuana, drink alcohol and get into fistfights. Respondents provided responses on a 5-point scale from extremely wrong (1) to not wrong at all

(5). A multilevel Rasch model was used to create this measure (Raudenbush, Johnson, & Sampson, 2003). Higher scores equate to higher levels of tolerance for these behaviors. The neighborhood internal consistency reliability of .51 is considered to be moderate according to the guidelines suggested by Sampson and Raudenbush (1991) (i.e., poor: 0–.20; fair: .21–.40; moderate: .41–.60; substantial: .61–.80; and nearly perfect agreement: .81–1.0).

#### 4.2.2. Perceived neighborhood dangerousness

Perceived neighborhood dangerousness was measured with three items reflecting the degree to which residents reported fear going outside at night, that they can identify areas where trouble is expected, and that they believe they are taking a chance walking alone after dark ( $\alpha = .82$ ). Respondents rated responses to these items on a 5-point scale from strongly disagree (1) to strongly agree (5). Like the tolerance of deviance measure, this measure was created using a multilevel Rasch model; higher values indicate that neighbors perceived their neighborhood as more dangerous.

#### 4.2.3. Control variables

Multiple control variables were included in the analyses in order to account for possible predictors of severe physical child abuse. Such variables include child demographics (sex, age, and race/ethnicity), individual and family characteristics (household salary, parent-child conflict, parent-child warmth, and child externalizing problems), and parent characteristics (parent drug problem, criminality, and depression). Further description of these measures as well as the mean scores and the standard deviations of all dependent, independent and control variables are presented in Table 1.

#### 4.3. Statistical analyses

We tested multilevel, over-dispersed, Poisson regression models to predict the variety of acts of severe physical abuse that a child living within a given neighborhood would experience. The multivariate multilevel model relies on hierarchical data, in which persons are nested within neighborhoods (Raudenbush et al., 2003). Two models were used in order to examine the impact of neighborhood characteristics on child abuse: (1) a reduced model that controlled only for individual-level child demographic information (e.g., child sex, age race/ethnicity) – as is most common in this literature – and (2) a full model, which controlled for demographic characteristics and all individual-level correlates of child abuse (e.g., parent-child warmth, parent conflict, parent drug use, parent criminality, parent depression). The initial null model provided the variance for calculation of the intraclass correlation (ICC) value for severe child abuse (.055), providing support for the subsequent multilevel analyses. In this study, 5.5 % of the variation in the severe child abuse variety index is due to differences between neighborhoods. All of the individual-level effects were grand mean centered and fixed across neighborhoods. Multicollinearity was not a problem in any of the models, as tolerance values were above .40 (Allison, 1999).

### 5. Results

Table 2 presents the results of the reduced model examining the relationship between neighborhood characteristics and severe physical child abuse controlling for child demographic characteristics. The results suggest that all demographic characteristics were significantly related to severe physical child abuse. Children who were male, younger, and of a minority race/ethnicity experienced a greater variety of physical abuse than females, older children, and Caucasian youth. The bottom half of the table shows the neighborhood direct effects on physical child abuse. Model 2 indicates that neighborhood concentrated disadvantage did not significantly increase the variety of physical child abuse within a neighborhood when controlling only for demographic characteristics. Model 3 demonstrates that areas perceived as more dangerous did not experience greater variety of child physical abuse. In Model 4, neighborhood tolerance of deviance was not statistically related to abuse. When all three neighborhood variables were included in Model 5, none were significantly related to child physical abuse.

The results in Table 3 included all level-one control variables. In Models 1–5, all individual-level demographic characteristics were statistically significant except age and salary, and were related to child abuse in the same ways as in the reduced models. Two of the additional individual-level variables were significantly ( $p < .05$ ) related to child physical abuse in all models. Children with greater levels of externalizing behaviors had a greater variety of physical abuse, as did those in households that reported more conflict and disagreements.

Regarding the neighborhood variables, concentrated disadvantage was not significantly associated with physical child abuse in the models controlling for additional covariates. Contrary to the demographic-only model (see Table 2), perceived neighborhood dangerousness was significantly and positively associated with severe physical child abuse in these models, even with concentrated disadvantage included in the analyses (Model 3), with results indicating a greater variety of abuse in neighborhoods with more perceived dangerousness. Model 4 demonstrated that tolerance of deviance was somewhat negatively related to child abuse, suggesting that neighborhoods that were more tolerant of deviance experienced somewhat fewer types of physical abuse against children. This pattern of findings was generally the same in Model 5 when all neighborhood variables were included: concentrated disadvantage was not significantly related to child abuse, neighborhoods perceived as more dangerous experienced greater variety of child abuse, and neighborhoods that were more tolerant of deviance experienced fewer types of child physical abuse, though this effect was only marginally significant. The neighborhood predictors account for ~10.76 of the between-group variance explained in Model 5.

**Table 1**  
Descriptive information for dependent, independent, and control variables.

Dependent variable	Mean	SD	Min–Max
Severe Physical Child Abuse	.99	1.60	0–6
Six- item measure indicating the number of types (variety) of physically abusive acts reported by the PC in the past year (hit with a fist/kicked/ bitten, hit with something, beat up or burned) from the Conflict Tactics Scale for Parent and Child (Straus et al., 1998) (wave 2)			
Neighborhood-level variables			
Concentrated Disadvantage	.00	1.00	–1.51–2.35
Principal components factor analysis using three items (reliability = .805) from the 1990 Census: Percentage of families below the poverty line, receiving public assistance, and unemployed.			
Tolerance of deviance	–.00	.27	–.52–.61
Item-response model of 8 survey questions tapping neighborhood level of tolerance for deviance (e.g., smoke cigarettes, use marijuana, drink alcohol, get into fist fights). Responses were aggregated to the NC-level (reliability = .511)			
Perceived neighborhood dangerousness	.03	1.12	–2.80–2.20
Item-response model of whether adults perceived the neighborhood to be dangerous (reliability = .574), such as being afraid to go out at night, expecting trouble in certain areas, and taking a chance to walk alone after dark. Responses were aggregated to the NC-level			
Individual-level control variables			
Child Sex (Male)	.50	.50	0–1
Child Age	7.37	3.36	1.84–13.25
Child Caucasian <sup>a</sup>	.14	.35	0–1
Child Hispanic	.47	.50	0–1
Child African American	.34	.48	0–1
Child Other Race	.04	.19	0–1
Household Salary	3.93	1.91	1–7
Child Externalizing Behavior	–.01	.97	–1.25–5.69
Maximum household salary, reported by the PC, ranging from less than \$5000 (1) to over \$50,000 (7) (wave 1)			
Parent-Child Warmth	6.47	2.07	0–9
Standardized sum scale of 32 items ( $\alpha = .89$ ) reflecting the extent to which the PC reported that the child has exhibited symptoms of aggression, hyperactivity, or non-compliance (wave 1)			
Parental Conflict	2.60	1.96	0–9
Parent warmth displayed toward children, as observed by PHDCN staff during in-home interviews, who rated whether they saw each of nine behaviors (alpha = .76) including praise, encouragement, and affection offered to children (wave 1)			
Parental Drug Use	.13	.34	0–1
Parental Criminality	.16	.37	0–1
Parental Depression	.13	.33	0–1
Variety score based on nine dichotomous questions asking about verbal disagreements and criticism present in the home ( $\alpha = .72$ ) reported by the PC on the Family Environmental Scale (FES, Moos & Moos, 1981) (wave 1)			
Dichotomous variable indicating that the PC reported that either parent had a drinking problem and/or a drug use problem (wave 1)			
Dichotomous variable indicating that the PC reported that either parent had “trouble with the police or been arrested”(wave 1 or 2)			
Dichotomous variable indicating that the PC reported that either parent suffered from depression(wave 1)			

Note: Based on 2364 respondents within 79 neighborhood clusters. PC = Primary Caregiver.

<sup>a</sup> Caucasian is reference category.

**Table 2**

Direct effects of individual and neighborhood characteristics on severe physical child abuse (Reduced model including child demographic characteristics).<sup>a</sup>

	Model 1		Model 2		Model 3		Model 4		Model 5	
	b	(SE)	b	(SE)	b	(SE)	b	(SE)	b	(SE)
Intercept	-.05	(.04)	-.05	(.04)	-.06	(.05)	-.06	(.04)	-.06	(.04)
Individual-level effects										
Child Sex (Male)	.24**	(.06)	.24**	(.06)	.24**	(.06)	.24**	(.06)	.24**	(.06)
Child Age	-.02†	(.01)	-.02†	(.01)	-.02**	(.01)	-.02†	(.01)	-.02†	(.01)
Child Hispanic <sup>b</sup>	.90**	(.15)	.88**	(.15)	.83**	(.15)	.86**	(.15)	.81**	(.15)
Child African American <sup>b</sup>	1.21**	(.15)	1.15**	(.16)	1.12**	(.16)	1.15**	(.16)	1.18**	(.16)
Child Other Race <sup>b</sup>	.86**	(.22)	.84**	(.16)	.82**	(.22)	.84**	(.22)	.81**	(.22)
Salary	-.03*	(.01)	-.03	(.01)	-.03	(.01)	-.03	(.01)	-.03	(.01)
Child Externalizing Behavior	-	-	-	-	-	-	-	-	-	-
Parent-Child Warmth	-	-	-	-	-	-	-	-	-	-
Parental Conflict	-	-	-	-	-	-	-	-	-	-
Parental Drug Use	-	-	-	-	-	-	-	-	-	-
Parental Criminality	-	-	-	-	-	-	-	-	-	-
Parental Depression	-	-	-	-	-	-	-	-	-	-
Neighborhood direct effects										
Concentrated disadvantage	-	-	.06	(.04)	.01	(.05)	.07	(.05)	.02	(.06)
Perceived neighborhood dangerousness	-	-	-	-	.22	(.13)	-	-	.21	(.13)
Tolerance of deviance	-	-	-	-	-	-	-.57	(.44)	-.53	(.43)
Variance components										
Individual level intercept	.054		.056		.055		.057		.054	
Neighborhood intercept	2.36		2.37		2.36		2.36		2.36	

\*\* p ≤ .01 \* p ≤ .05 †p ≤ .10.

<sup>a</sup> Based on 2364 respondents within 79 neighborhood clusters.

<sup>b</sup> Caucasian is reference category.

**Table 3**

Direct effects of individual and neighborhood characteristics on severe physical child abuse (Full model).<sup>a</sup>

	Model 1		Model 2		Model 3		Model 4		Model 5	
	b	(SE)	b	(SE)	b	(SE)	b	(SE)	b	(SE)
Intercept	-.16**	(.04)	-.16**	(.04)	-.17**	(.05)	-.17**	(.04)	-.18**	(.05)
Individual-level effects										
Child Sex (Male)	.18**	(.06)	.18*	(.06)	.18*	(.06)	.19**	(.06)	.19**	(.04)
Child Age	-.01	(.01)	-.01	(.01)	-.01	(.00)	-.01	(.01)	-.01	(.01)
Child Hispanic <sup>b</sup>	.99**	(.14)	1.00**	(.14)	.93**	(.15)	.97**	(.15)	.91**	(.15)
Child African American <sup>b</sup>	1.19**	(.15)	1.19**	(.15)	1.15**	(.15)	1.18**	(.15)	1.15**	(.15)
Child Other Race <sup>b</sup>	.98**	(.21)	.98**	(.21)	.97**	(.21)	.98**	(.21)	.96**	(.21)
Household Salary	.01	(.02)	.01	(.01)	.02	(.01)	.01	(.01)	.02	(.01)
Child Externalizing Behavior	.36**	(.02)	.36**	(.02)	.36**	(.02)	.36**	(.03)	.36**	(.02)
Parent-Child Warmth	-.01	(.01)	-.01	(.01)	-.01	(.01)	-.00	(.00)	-.00	(.01)
Parental Conflict	.06**	(.01)	.06**	(.01)	.06**	(.01)	.06**	(.01)	.06**	(.01)
Parental Drug Use	-.07	(.09)	-.07	(.09)	-.07	(.09)	-.07	(.09)	-.07	(.09)
Parental Criminality	.05	(.08)	.05	(.06)	.05	(.08)	.05	(.08)	.05	(.08)
Parental Depression	.12	(.08)	.11	(.08)	.12	(.08)	.11	(.08)	.11	(.08)
Neighborhood direct effects										
Concentrated Disadvantage	-	-	-.01	(.04)	-.01	(.05)	.01	(.04)	-.04	(.05)
Perceived neighborhood dangerousness	-	-	-	-	.26*	(.13)	-	-	.25*	(.12)
Tolerance of deviance	-	-	-	-	-	-	-.73†	(.41)	-.69†	(.44)
Variance components										
Individual level intercept	.049		.050		.050		.050		.044	
Neighborhood intercept	2.12		2.12		2.12		2.12		2.13	

\*\* p ≤ .01 \* p ≤ .05 †p ≤ .10.

<sup>a</sup> Based on 2364 respondents within 79 neighborhood clusters.

<sup>b</sup> Caucasian is reference category.

## 6. Discussion

Child abuse is a significant public health problem that is likely impacted by a variety of factors (IOM (National Research Council and Institute of Medicine) and NRC (National Research Council and Institute of Medicine) (2014)). Unlike the majority of existing research, which has focused on the individual-level factors that affect child abuse, the current study focused on neighborhood influences, including two factors that have rarely been examined in the child abuse literature: perceptions of neighborhood dangerousness and tolerance of delinquent behavior. We examined the impact of these variables in models that included only child demographic characteristics, and in “full” models that included a variety of child and family covariates as well as neighborhood concentrated disadvantage, the aggregate-level characteristic most likely to be explored in conjunction with child abuse (Coulton et al., 2007; Freisthler & Maguire-Jack, 2015). The findings indicated that: 1) child demographic characteristics, particularly sex and race/ethnicity, were strongly related to child abuse. Yet, even with these predictors in the model, 2) greater levels of neighborhood concentrated disadvantage were not associated with the variety of abuse, and this effect was maintained when other neighborhood variables were included; 3) neighborhoods perceived as dangerous experienced *more* types of child abuse; and 4) neighborhoods more tolerant of deviance experienced somewhat *less* variety of abuse. These results are discussed in the following paragraphs.

The fact that males and youth from minority racial/ethnic backgrounds experienced a greater range of child abuse types compared to females and Caucasian youth is somewhat consistent with prior research. In a national study of victimization, boys were more likely than girls to report physical abuse (Finkelhor, Turner, Shattuck, & Hamby, 2013). However, other research has shown little evidence of sex differences in the prevalence of child physical abuse (Kristman-Valente & Wells, 2013). Racial/ethnic differences have been more apparent, with official data indicating higher rates of physical abuse among African American, Hispanic, and multiracial children compared to Caucasians (Dakil, Cox, Lin, & Flores, 2011). In addition, in some studies, African American caregivers have reported higher rates of physical abuse compared to Caucasian parents (Hunt, Slack, & Berger, 2017; Lansford et al., 2002).

The results pertaining to neighborhood concentrated disadvantage are inconsistent with social disorganization theory and some prior research. According to social disorganization theories, economic deprivation can impede the ability of residents to get to know, trust, and interact with each other, which can, in turn, reduce their ability to provide social support for one another and agree on norms to regulate behavior (Bursik & Grasmick, 1993; Sampson et al., 1997; Shaw & McKay, 1942). In addition, residents of poor communities are likely to experience more adversities (e.g., exposure to violence, chronic unemployment) and have access to fewer social services, which could increase the potential for caregivers to engage in child physical abuse as a reaction to chronic stress (Freisthler & Maguire-Jack, 2015; Kohen, Leventhal, Dahinten, & McIntosh, 2008; Maguire-Jack & Wang, 2016; Mistry, Vandewater, Huston, & McLoyd, 2002).

Most prior studies that have assessed community disadvantage have found it to be positively associated with abuse and/or neglect (Coulton et al., 2007; Freisthler et al., 2006; Maguire-Jack, 2014), contrary to the findings in the reduced and full models (Tables 2 and 3) presented in this study. However, few prior studies have relied on multi-level analyses to examine this relationship (Freisthler & Maguire-Jack, 2015; Maguire-Jack & Font, 2017; Molnar et al., 2016) and many have not included other individual- or community-level covariates that may also affect outcomes, which increases the potential for model mis-specification. Freisthler and Maguire-Jack (2015) found that disadvantage was related to child physical abuse in reduced models but become non-significant when controlling for additional variables. These findings and the current results are consistent with social disorganization theory’s hypothesis that the impact of community deprivation on behaviors may be indirect and operate via more proximal mechanisms (e.g., family processes; see Furstenberg et al., 1999; Maguire-Jack & Wang, 2016) and/or by affecting neighborhood social and cultural processes (Sampson et al., 1997; Shaw & McKay, 1942). The current study was not designed to identify indirect pathways, however, and additional research is needed to investigate the direct and indirect ways in which economic deprivation may affect child physical abuse. Similarly, neighborhood factors like economic disadvantage may moderate the impact of other, more proximal influences on abuse, and future research should investigate these types of relationships.

Our review of the literature did not reveal any prior studies that examined the relationship between perceived dangerousness of the neighborhood and child physical abuse, but we included it in the current study given social disorganization theory’s premise that neighborhood residents’ attitudes can affect residents’ involvement in crime. More specifically, such theories have suggested that residing in a disorganized, high crime area increases one’s fear of crime and perceptions of neighborhood dangerousness (Skogan, 1986; Wilson & Kelling, 1982). We hypothesized that the more prevalent these views, the more likely caregivers might be to use overly restrictive discipline strategies, such as limiting the time children can spend outside, as well as less nurturing and more punitive discipline strategies such as physical abuse (Anderson, 1999; Furstenberg et al., 1999; Jarrett, 1995; Ness, 2004). Caregivers may engage in such behaviors to keep children safe and help prepare them for the violence they may encounter in their neighborhoods.

The results of the current study are consistent with this premise, as higher levels of neighborhood perceived dangerousness were related to increased levels of child physical abuse. The study cannot pinpoint the specific mechanisms linking these variables, however, and additional research is needed to determine if, for example, parents use physical violence as a socialization strategy with the hopes that doing so will teach children how to protect themselves when outside the home. Alternatively, if parents residing in disorganized neighborhoods are more likely to perpetrate more forms of physical abuse, then children who spend more time inside the home would have a higher likelihood of experiencing abuse.

The third community-level variable assessed in this study, tolerance of deviance, was *negatively* related to physical child abuse in the full models, though the relationship was only marginally significant (see Table 3). This finding was unexpected and not consistent with social disorganization theory. Following social disorganization theory, we had posited that in neighborhoods where delinquency

was more tolerated, norms regarding the use of violence would be more lax and that the social controls that would otherwise prevent violence would be weakened, essentially “freeing” people—including caregivers—to behave more aggressively (Hirschi, 1969; Sykes & Matza, 1957). The fact that this hypothesis was not supported could be related to the fact that this measure primarily assesses residents’ views about adolescent substance use, not violence. Community norms about violence or child abuse in particular are not available in the PHDCN, however, and we were unable to identify any existing research that examines the impact of this neighborhood construct on child abuse, making this an important area for future research.

This study has some other limitations that could be addressed in future studies. First, child physical abuse was measured using self-report data from caregivers. Although the survey instrument used to assess physical abuse (the CTS-PC) has been shown to have acceptable reliability and validity as a measure of child abuse (Cotter et al., 2018; Straus et al., 1998), parents may have underreported physical abuse of children to avoid official intervention and/or due to the shame associated with such acts (Cotter et al., 2018). This limitation may have impeded the ability to identify neighborhood characteristics associated with abuse.

In addition, this study measured child physical abuse using a variety score reflecting the number of acts of severe abuse reported by caregivers, rather than a binary measure indicating the occurrence of any abuse or a measure capturing the frequency of abuse. We chose the variety score measure in part because in the broader field of criminology, variety scores are considered an optimal means of measuring offending since they capture the diversity of illegal behaviors and the degree to which a person is involved in crime without the limitations of frequency and binary measures (Sweeten, 2012). That is, frequency measures tend to be highly skewed with most respondents committing relatively few offenses and few respondents reporting very frequent offending, and binary measures cannot differentiate those who commit only one illegal activity one time from those who commit more acts. These limitations are also true in studies of child maltreatment and can impede the ability to identify significant relationships between independent and dependent variables.

We chose the variety score measure to avoid these methodological problems, and also because emerging research on polyvictimization suggests that experiencing multiple types of victimization (e.g., neglect and physical abuse, or victimization in the home and the community) is more harmful than experiencing fewer types. Following this logic, we expected that if neighborhood factors were associated with abuse, they would matter more for children experiencing multiple acts of physical abuse than those experiencing fewer acts. That is, we thought it possible that neighborhood factors might be especially sensitive to variation in the number of and/or severity of abuse experienced, with some neighborhoods being more accepting of a wider range of child maltreatment behaviors. For example, in higher-risk areas, more residents might find it acceptable to engage in multiple types of abuse, perhaps as a strategy to keep children safe, whereas residents in other neighborhoods might be intolerant of all forms of abuse.

Despite these hypotheses, we conducted supplemental analyses to investigate if neighborhood factors influenced severe physical abuse when the dependent variable was operationalized using binary and frequency measures. The results indicated non-significant variation in physical abuse across neighborhoods for both measures, whereas the variety score showed significant variation ( $p < .05$ ) across neighborhoods. The lack of variation could be related to the methodological limitations of the binary and frequency variables, or the findings could suggest that neighborhood factors do not have a direct influence on the prevalence or frequency of child physical abuse. Regardless, the results demonstrate the need for additional research to examine if neighborhood influences on child abuse vary according to how this outcome is measured.

Another limitation is that the sample was restricted to residents in Chicago and may not be generalizable to other states or to non-urban areas. Likewise, participants were primarily African American and Hispanic, and the results may not extend to Caucasian families. One advantage of this study is that it controlled for the temporal ordering, as neighborhood characteristics were measured at wave one of the PHDCN and child physical abuse about three years later, at wave two. However, some participants moved out of their original neighborhoods between these time points.

Another potential limitation of this study is that data were collected over 20 years ago and both the conceptualization and influence of a “community” may be different now than in the past, especially given increased social mobility, more opportunities to “virtually” connect with others via social media, and other such changes. However, studies relying on more recent data continue to find neighborhood influences on a variety of criminal behaviors outcomes, including child abuse (Kirk & Laub, 2010; Skogan, 2015; Kim & Maguire-Jack, 2015). Moreover, official records indicate little change in rates of child maltreatment in Cook County, IL (where Chicago resides) in the past decade (Walker, 2017), and Sampson’s (2012) analysis suggest that the neighborhood processes that were at play in Chicago at the time the PHDCN was conducted (in the late 1990s and early 2000s) have remained largely the same two decades later. Nonetheless, we recommend that researchers continue to examine the issues investigated in this study with more recently collected data.

Despite these limitations, this study had several strengths. First, it relied on objective measures of neighborhood conditions that were independent of the ratings of child physical abuse and thus not subject to the same-source reporting bias that would have occurred if caregivers reported on both neighborhood characteristics and child physical abuse. This methodology increases the level of confidence that can be placed in the findings. In addition, this study was novel in assessing the potential for perceptions of neighborhood dangerousness and tolerance of delinquency, as well as economic disadvantage, to affect child physical abuse. Two of the three variables were at least somewhat associated with abuse in some models, suggesting that neighborhood conditions may affect parents’ potential to perpetrate physical abuse. However, additional research is needed to investigate the specific mechanisms by which neighborhoods are associated with child abuse perpetration, especially to inform the development and testing of community-based interventions to reduce child maltreatment (Daro & Dodge, 2009).

## References

- Allison, P. D. (1999). *Multiple regression: A primer*. Thousand Oaks, CA: Sage Publications.
- Anderson, E. (1999). *Code of the street*. New York, NY: W.W. Norton.
- Berg, M. T., Stewart, E. A., Brunson, R. K., & Simons, R. L. (2012). Neighborhood cultural heterogeneity and adolescent violence. *Journal of Quantitative Criminology*, 28, 411–435. <https://doi.org/10.1007/s10940-011-9146-6>.
- Bursik, R. J., Jr. (1988). Social disorganization and theories of crime and delinquency: Problems and prospects. *Criminology*, 26, 519–551. <https://doi.org/10.1111/j.1745-9125.1988.tb00854.x>.
- Bursik, R. J., Jr., & Grasmick, H. G. (1993). *Neighborhoods and crime: The dimensions of effective community control*. New York: Lexington Books.
- Cerda, M., Sanchez, B. N., Galea, S., Tracy, M., & Buka, S. L. (2008). Estimating co-occurring behavioral trajectories within a neighborhood context: A case study of multivariate transition models for clustered data. *American Journal of Epidemiology*, 168, 1190–1203. <https://doi.org/10.1093/aje/kwn24>.
- Cicchetti, D., & Toth, S. L. (2005). Child maltreatment. *Annual Review of Clinical Psychology*, 1, 409–438. <https://doi.org/10.1146/annurev.clinpsy.1.102803.144029>.
- Cotter, A., Proctor, K. B., & Brestan-Knight, E. (2018). Assessing child physical abuse: An examination of the factor structure and validity of the Parent-Child Conflict Tactics Scale (CTSPC). *Children and Youth Services Review*, 88, 467–475. <https://doi.org/10.1016/j.childyouth.2018.03.044>.
- Coulton, C. J., Crampton, D. S., Irwin, M., Spilsbury, J. C., & Korbin, J. E. (2007). How neighborhoods influence child maltreatment: A review of the literature and alternative pathways. *Child Abuse and Neglect*, 31, 1117–1142. <https://doi.org/10.1016/j.chiabu.2007.03.023>.
- Coulton, C. J., Korbin, J. E., & Su, M. (1999). Neighborhoods and child maltreatment: A multi-level study. *Child Abuse and Neglect*, 23, 1019–1040. [https://doi.org/10.1016/S0145-2134\(99\)00076-9](https://doi.org/10.1016/S0145-2134(99)00076-9).
- Coulton, C. J., Korbin, J. E., Su, M., & Chow, J. (1995). Community level factors and child maltreatment rates. *Child Development*, 66, 1262–1276. <https://doi.org/10.1111/j.1467-8624.1995.tb00934.x>.
- Dakil, S. R., Cox, M., Lin, H., & Flores, G. (2011). Racial and ethnic disparities in physical abuse reporting and child protective services interventions in the U.S. *Journal of the National Medical Association*, 103, 926–931. [https://doi.org/10.1016/S0027-9684\(15\)30449-1](https://doi.org/10.1016/S0027-9684(15)30449-1).
- Daro, D., & Dodge, K. A. (2009). Creating community responsibility for child protection: Possibilities and challenges. *The Future of Children*, 19, 67–93. <https://doi.org/10.1353/foc.0.0030>.
- Earls, F. J., Brooks-Gunn, J., Raudenbush, S. W., & Sampson, R. J. (2002). *Project on Human Development in Chicago Neighborhoods (PHDCN)*. Ann Arbor, MI: Inter-university Consortium for Political and Social Research.
- Ernst, J. S. (2000). Mapping child maltreatment: Looking at neighborhoods in a suburban county. *Child Welfare*, LXXIX, 555–572.
- Finkelhor, D., Turner, H. A., Shattuck, A., & Hamby, S. L. (2013). Violence, crime, and abuse exposure in a national sample of children and youth: An update. *JAMA Pediatrics*, 167, 614–621. <https://doi.org/10.1001/jamapediatrics.2013.42>.
- Freisthler, B., & Maguire-Jack, K. (2015). Understanding the interplay between neighborhood structural factors, social processes, and alcohol outlets on child physical abuse. *Child Maltreatment*, 20, 268–277. <https://doi.org/10.1177/1077559515598000>.
- Freisthler, B., Merritt, D. H., & LaScala, E. A. (2006). Understanding the ecology of child maltreatment: A review of the literature and directions for future research. *Child Maltreatment*, 11, 263–280. <https://doi.org/10.1177/1077559506289524>.
- Furstenberg, F. F. J., Cook, T. D., Eccles, J., Elder, G. H., & Sameroff, A. (1999). *Managing to make it: Urban families and adolescent success*. Chicago, IL: University of Chicago Press.
- Geis, K. J., & Ross, C. E. (1998). A new look at urban alienation: The effect of neighborhood disorder on perceived powerlessness. *Social Psychology Quarterly*, 232–246. <https://www.jstor.org/stable/2787110>.
- Gelles, R. J. (1979). *Family violence*. Beverly Hills, CA: Sage Publications.
- Gilbert, R., Widom, C. S., Browne, K. D., Fergusson, D., Webb, E., & Janson, S. (2009). Burden and consequences of child maltreatment in high-income countries. *Lancet*, 373, 68–81. [https://doi.org/10.1016/S0140-6736\(08\)61706-7](https://doi.org/10.1016/S0140-6736(08)61706-7).
- Gracia, E., Lopez-Quirez, A., Marco, M., & Lila, M. (2017). Mapping child maltreatment risk: A 12-year spatio-temporal analysis of neighborhood influences. *International Journal of Health Geographics*, 16, 38. <https://doi.org/10.1186/s12942-017-0111-y>.
- Harding, D. J. (2007). Cultural context, sexual behavior, and romantic relationships in disadvantaged neighborhoods. *American Sociological Review*, 72, 341–364. <https://doi.org/10.1177/000312240707200302>.
- Hill, T. D., Ross, C. E., & Angel, R. J. (2005). Neighborhood disorder, psychophysiological distress, and health. *Journal of Health and Social Behavior*, 46, 170–186. <https://doi.org/10.1177/002214650504600204>.
- Hirschi, T. (1969). *Causes of delinquency*. Berkeley, CA: University of California Press.
- Hunt, T. K. A., Slack, K. S., & Berger, L. M. (2017). Adverse childhood experiences and behavioral problems in middle childhood. *Child Abuse and Neglect*, 67, 391–402. <https://doi.org/10.1016/j.chiabu.2016.11.005>.
- IOM (National Research Council and Institute of Medicine), & NRC (National Research Council and Institute of Medicine) (2014). *New directions in child abuse and neglect research*. Washington, D.C: The National Academies Press.
- Jarrett, R. L. (1995). Growing up poor: The family experiences of socially mobile youth in low-income African American neighborhoods. *Journal of Adolescent Research*, 10, 111–135. <https://doi.org/10.1177/0743554895101007>.
- Kim, B., & Maguire-Jack, K. (2015). Community interaction and child maltreatment. *Child Abuse and Neglect*, 41, 146–157. <https://doi.org/10.1016/j.chiabu.2013.07.020>.
- Kim, J., & Ross, C. E. (2009). Neighborhood-specific and general social support: Which buffers the effect of neighborhood disorder on depression? *Journal of Community Psychology*, 37, 725–736. <https://doi.org/10.1002/jcop.20327>.
- Kirk, D. S., & Laub, J. H. (2010). Neighborhood change and crime in the modern metropolis. *Crime and Justice*, 39, 441–502. <https://doi.org/10.1086/652788>.
- Kirk, D. S., & Papachristos, A. V. (2011). Cultural mechanisms and the persistence of neighborhood violence. *The American Journal of Sociology*, 116, 1190–1233. <https://doi.org/10.1086/655754>.
- Kohen, D. E., Leventhal, T., Dahinten, V. S., & McIntosh, C. N. (2008). Neighborhood disadvantage: Pathways of effects for young children. *Child Development*, 79, 156–169. <https://doi.org/10.1111/j.1467-8624.2007.01117.x>.
- Korbin, J. E., Coulton, C. J., Lindstrom-Ufuti, H., & Spilsbury, J. C. (2000). Neighborhood views on the definition and etiology of child maltreatment. *Child Abuse and Neglect*, 24, 1509–1527. [https://doi.org/10.1016/S0145-2134\(00\)00206-4](https://doi.org/10.1016/S0145-2134(00)00206-4).
- Kornhauser, R. R. (1978). *Social sources of delinquency: An appraisal of analytic models*. Chicago: University of Chicago Press.
- Kristman-Valente, A., & Wells, E. A. (2013). The role of gender in the association between child maltreatment and substance use behavior: A systematic review of longitudinal research from 1995 to 2011. *Substance Use and Misuse*, 48, 645–660. <https://doi.org/10.3109/10826084.2013.800115>.
- Lansford, J. E., Dodge, K. A., Pettit, G. S., Bates, J. E., Crozier, J., & Kaplow, J. (2002). A 12-year prospective study of the long-term effects of early child physical maltreatment on psychological, behavioral, and academic problems in adolescence. *Archives of Pediatric and Adolescent Medicine*, 156, 824–830.
- Maguire-Jack, K. (2014). Multilevel investigation into the community context of child maltreatment. *Journal of Aggression, Maltreatment & Trauma*, 23, 229–248. <https://doi.org/10.1080/10926771.2014.881950>.
- Maguire-Jack, K., & Font, S. A. (2017). Community and individual risk factors for physical child abuse and child neglect: Variations by poverty status. *Child Maltreatment*, 22, 215–226. <https://doi.org/10.1177/1077559517711806>.
- Maguire-Jack, K., & Wang, X. (2016). Pathways from neighborhood to neglect: The mediating effects of social support and parenting stress. *Children and Youth Services Review*, 66, 28–34. <https://doi.org/10.1016/j.childyouth.2016.04.017>.
- McLeigh, J. D., McDonnell, J. R., & Lavenda, O. (2018). Neighborhood poverty and child abuse and neglect: The mediating role of social cohesion. *Children and Youth Services Review*, 93, 154–160. <https://doi.org/10.1016/j.childyouth.2018.07.018>.
- Mistry, R. S., Vandewater, E. A., Huston, A. C., & McLoyd, V. C. (2002). Economic well-being and children's social adjustment: The role of family process in an ethnically diverse low-income sample. *Child Development*, 73, 935–951. <https://doi.org/10.1111/1467-8624.00448>.

- Molnar, B. E., Buka, S. L., Brennan, R. T., Holton, J. K., & Earls, F. (2003). A multilevel study of neighborhoods and parent-to-child physical aggression: Results from the Project on Human Development in Chicago Neighborhoods. *Child Maltreatment*, 8, 84–97. <https://doi.org/10.1177/1077559502250822>.
- Molnar, B. E., Cerda, M., Roberts, A. L., & Buka, S. L. (2008). Effects of neighborhood resources on aggressive and delinquent behaviors among urban youths. *American Journal of Public Health*, 98, 1086–1093. <https://doi.org/10.2105/AJPH.2006.098913>.
- Molnar, B. E., Goerge, R. M., Gilsanz, P., Hill, A., Subramanian, S. V., Holton, J. K., & Beardslee, W. R. (2016). Neighborhood-level social processes and substantiated cases of child maltreatment. *Child Abuse and Neglect*, 51, 41–53. <https://doi.org/10.1016/j.chiabu.2015.11.007>.
- Morris, M. C., Marco, M., Maguire-Jack, K., Kouros, C. D., Im, W., White, C., ... Garber, J. (2019). County-level socioeconomic and crime risk factors for substantiated child abuse and neglect. *Child Abuse and Neglect*, 90, 127–138. <https://doi.org/10.1016/j.chiabu.2019.02.004>.
- Ness, C. D. (2004). Why girls fight: Female youth violence in the inner city. *The Annals of the American Academy of Political and Social Sciences*, 595, 32–48. <https://doi.org/10.1177/0002716204267176>.
- Paulsen, D. J. (2003). No safe place: Assessing spatial patterns of child maltreatment victimization. *Journal of Aggression, Maltreatment & Trauma*, 8, 63–85. [https://doi.org/10.1300/J146v08n01\\_03](https://doi.org/10.1300/J146v08n01_03).
- Pinchevsky, G. M., & Wright, E. M. (2012). The impact of neighborhoods on intimate partner violence and victimization. *Trauma, Violence and Abuse*, 13, 112–132. <https://doi.org/10.1177/1524838012445641>.
- Raudenbush, S. W., Johnson, C., & Sampson, R. J. (2003). A multivariate, multilevel Rasch model with application to self-reported criminal behavior. *Sociological Methodology*, 33, 169–211. <https://doi.org/10.1111/j.0081-1750.2003.t01-1-00130.x>.
- Ross, C. E., & Mirowsky, J. (2009). Neighborhood disorder, subjective alienation, and distress. *Journal of Health and Social Behavior*, 50, 49–64. <https://doi.org/10.1177/002214650905000104>.
- Ross, C. E., Mirowsky, J., & Pribesh, S. (2001). Powerlessness and the amplification of threat: Neighborhood disadvantage, disorder, and mistrust. *American Sociological Review*, 66, 568–591. <https://www.jstor.org/stable/3088923>.
- Sampson, R. J. (2012). *Great American city: Chicago and the enduring neighborhood effect*. University of Chicago Press.
- Sampson, R. J., & Bartusch, D. J. (1998). Legal cynicism and (subcultural?) tolerance of deviance: The neighborhood context of racial differences. *Law & Society Review*, 32, 777–804. <https://doi.org/10.3886/ICPSR25762>.
- Sampson, R. J., & Bean, L. (2006). Cultural mechanisms and killing fields: A revised theory of community-level racial inequality. In R. D. Peterson, L. J. Krivo, & J. Hagan (Eds.), *The many colors of crime: Inequalities of race, ethnicity, and crime in America* (pp. 8–35). New York: New York University Press.
- Sampson, R. J., & Groves, W. B. (1989). Community structure and crime: Testing social-disorganization theory. *The American Journal of Sociology*, 94, 774–802. <https://www.jstor.org/stable/2780858>.
- Sampson, R. J., & Raudenbush, S. W. (1999). Systematic social observation of public spaces: A new look at disorder in urban neighborhoods. *American Journal of Sociology*, 105(3), 603–651.
- Sampson, R. J., & Wilson, W. J. (1995). Toward a theory of race, crime, and urban inequality. In J. Hagan, & R. D. Peterson (Eds.), *Crime and inequality* (pp. 37–54). Stanford, CA: Stanford University Press.
- Sampson, R. J., Raudenbush, S. W., & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science*, 277, 918–924. <https://doi.org/10.1126/science.277.5328.918>.
- Shaw, C. R., & McKay, H. D. (1942). *Juvenile delinquency and urban areas*. Chicago: University of Chicago Press.
- Skogan, W. G. (1986). Fear of crime and neighborhood change. In A. J. Reiss, & M. Tonry (Eds.), *Communities and crime* (pp. 203–229). Chicago, IL: University of Chicago Press.
- Skogan, W. G. (2015). Disorder and decline: The state of research. *The Journal of Research in Crime and Delinquency*, 52, 464–485.
- Stets, J. E. (1991). Cohabiting and marital aggression: The role of social isolation. *Journal of Marriage and the Family*, 53, 669–680. <https://doi.org/10.2307/352742>.
- Straus, M. A., Gelles, R. J., & Steinmetz, S. K. (2006). *Behind closed doors: Violence in the American family*. New Brunswick: Transaction Publishers.
- Straus, M. A., Hamby, S., Finkelhor, D., Moore, D. W., & Runyan, D. (1998). Identification of child maltreatment with the Parent-Child Conflict Tactics Scales: Development and psychometric data for a national sample of American parents. *Child Abuse and Neglect*, 22, 249–270.
- Sweeten, G. (2012). Scaling criminal offending. *Journal of Quantitative Criminology*, 28(3), 533–557.
- Sykes, G. M., & Matza, D. (1957). Techniques of neutralization: A theory of delinquency. *American Sociological Review*, 22, 664–670. <https://doi.org/10.2307/2089195>.
- Walker, J. (2017). *Social, ecological and environmental theories of crime*. London: Routledge.
- Warner, B. D. (2003). The role of attenuated culture in social disorganization theory. *Criminology*, 41, 73–97. <https://doi.org/10.1111/j.1745-9125.2003.tb00982.x>.
- Wilson, J. Q., & Kelling, G. L. (1982). Broken windows. *The Atlantic Monthly*, 249, 29–38.
- Wright, E. M., & Benson, M. L. (2011). Clarifying the effects of neighborhood context on violence “behind closed doors.” *Justice Quarterly*, 28, 775–798. <https://doi.org/10.1080/07418825.2010.533687>.
- Wright, E. M., & Fagan, A. A. (2013). The cycle of violence in context: Exploring the moderating roles of neighborhood disadvantage and cultural norms. *Criminology*, 51, 217–249. <https://doi.org/10.1111/1745-9125.12003>.
- Zielinski, D. S., & Bradshaw, C. P. (2006). Ecological influences on the sequelae of child maltreatment: A review of the literature. *Child Maltreatment*, 11, 49–62. <https://doi.org/10.1177/1077559505283591>.