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DOI
10.1016/j.cities.2023.104258

Publication date
2023

Document Version
Final published version

Published in
Cities

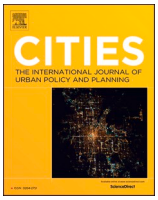
Citation (APA)
Nieuwenhuis, J., Best, M., Vogel, M., van Ham, M., Branje, S., & Meeus, W. (2023). Exposure to neighborhood violence and child-parent conflict among a longitudinal sample of Dutch adolescents. *Cities*, *136*, Article 104258. https://doi.org/10.1016/j.cities.2023.104258

Cities 136 (2023) 104258

Contents lists available at ScienceDirect

Cities

journal homepage: www.elsevier.com/locate/cities



Exposure to neighborhood violence and child-parent conflict among a longitudinal sample of Dutch adolescents

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ARTICLE INFO

Keywords:
Neighborhoods
Violence
Parent-child relationships

ABSTRACT

An extensive body of research has documented the deleterious effects of community violence on adolescent development and behavior. Much of this research focuses on how exposure to violence structures social interaction, and, ultimately, how it motivates youth to engage in troublesome behavior. This study builds upon this body of research to demonstrate how exposure to community violence strains relationships between adolescents and their caregivers, resulting in higher levels of interpersonal conflict. Drawing on five waves of longitudinal panel data (n = 778; observations = 3458; 55 % female), combined with police records of violent crime in Utrecht, the Netherlands, a hybrid tobit regression documents how exposure to local and nearby violence affects child-parent conflict. The results indicate that youth who experience high levels of neighborhood violence report higher levels of conflict with parents than youth with low exposure to neighborhood violence. These results are consistent across different levels of neighborhood aggregation.

1. Introduction

Of all age categories, youth in the Netherlands are most likely to be a victim of criminal violence (e.g., 3.5 % of youth were victims of violent crime in 2017, while this was 2.7 % for 25–44-year-olds and 1.9 % for those aged 45–64; SCP, 2019). When considering other mechanisms of exposure, such as witnessing violence first-hand or experiencing it vicariously through the victimization of close friends and family members, the prevalence of youth exposure to criminal violence is likely much higher. These experiences can strain interpersonal relationships and lead to maladaptive coping strategies. Perhaps not surprisingly, a large body of empirical literature has documented how contextual exposure to violence within the home, school, and the broader community are associated with higher individual levels of both internalizing and externalizing problems, including depression, substance abuse, delinquency, and conduct disorder (Kersten et al., 2017; Mrug et al., 2008; Vogel & Keith, 2015).

Despite this evidence, the literature on community violence remains incomplete in two key regards. First, most studies treat neighborhoods as islands, thereby ignoring the role of exposure to violence that occurs outside of, but geographically proximate to neighborhoods in which youths reside. Assuming that youth spend time away from their immediate neighborhoods, levels of violence in nearby places – those that adolescents presumably traverse and occasionally spend time – likely influence their development and well-being. Implicitly ignoring the influence of nearby communities downplays the significance of community violence more broadly on youth conduct. And second, much of the research on exposure to community violence focuses on generalized offending scores – capturing whether experiencing some discrete violent incident is associated with a marginal increase in a variety of self-

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https://doi.org/10.1016/j.cities.2023.104258
Received 16 October 2021; Received in revised form 8 January 2023; Accepted 19 February 2023
Available online 24 February 2023

reported criminal conduct in a given timeframe (e.g., Vogel & Keith, 2015). It stands to reason that direct and vicarious experiences with violence would operate on *specific* forms of criminal conduct; especially those directly related to maladaptive coping and strained interpersonal relationships.

The present study attends to these gaps in the empirical literature in several regards. First, detailed, longitudinal self-report data from a large sample of Dutch adolescents are combined with geographically referenced crime and census data. This allows for the examination of granulated spatial and temporal influences of community violence on adolescent behavior. Second, a modeling strategy that allows for the partitioning of the influence of exposure to violence in residential neighborhoods from nearby neighborhoods and holds constant time-stable endogenous confounders is employed. Finally, the scope of prior research is expanded by focusing on how exposure to violence influences child-parent conflict – an especially salient outcome of violence exposure.

2. Literature review

The neighborhoods in which children grow up are important for a wide variety of individual outcomes, ranging from educational and occupational outcomes to delinquent behavior and child maltreatment (Dietz, 2002; Nieuwenhuis & Hooimeijer, 2016). Exposure to neighborhood violence has a particularly strong influence on individual behavior (Rasmussen et al., 2004). Indeed, the link between exposure to neighborhood violence and youth's negative outcomes such as aggression, posttraumatic stress, and social cognition, has been well documented (Fowler et al., 2009; Guerra et al., 2003; Margolin & Gordis, 2000). Even when children are not directly victimized, such events can still indirectly influence their conduct by leading to changes in their parent's behavior, increased police presence in the neighborhood, or shifts in their peer networks (McCoy et al., 2015).

The elevated levels of stress associated with neighborhood violence can affect both children and parents. For children who reside in areas characterized by high levels of neighborhood disorder/disadvantage, stress increases aggression and conflict (Attar et al., 1994; Nieuwenhuis et al., 2017, 2021; Ross & Mirowsky, 2009). Further, children with increased stress levels may use conflict with their parents as means to mitigate their negative emotions (Agnew, 1992, 2001; Duncan et al., 2003).

Parents are also susceptible to neighborhood disorder, and when parental responses are poor, then parent-child relationships can suffer. Parents residing in high-crime areas often express feelings of helplessness and frustration in their inability to protect their children from violence (Ahlin & Antunes, 2017; Osofsky, 2003). Their ability to manage their own stress, trauma, and grief greatly affects outcomes of children who are exposed to violence (Kohen et al., 2008). High levels of life stress are associated with weakened child-parent attachment (Enlow et al., 2014) and parental distress (e.g., PTSD and depression) is a significant contributor to behavior problems and symptoms of distress in children (Aisenberg & Ell, 2005; Linares et al., 2001). For some families, chronic community violence diminishes the ability of mothers and children to form prosocial attachments (Osofsky & Fenichel, 1994). Consequently, in communities saturated with violence and economic disadvantage, not only are parents and their children exposed to higher levels of stress, but, as a result of their own stress, parents are less equipped to steer their children away from problematic behavior. In sum, when neighborhood disorder causes stress in both children and parents, the quality of the parent-child relationship suffers.

The negative influences of community violence can be mitigated through a variety of protective factors. One prominent source of protection is the family (Cuellar et al., 2015; Dearing, 2004; Gorman-Smith et al., 2004). Parents adjust their parenting strategies according to the neighborhoods they live in, often becoming more vigilant in monitoring their children's behavior when they perceive the surrounding community to be dangerous (Galster & Santiago, 2006; Nieuwenhuis et al., 2013; Vogel et al., 2021). Moreover, parents from different socioeconomic background respond markedly differently to the local environment (Lareau, 2003). When neighborhoods are particularly stressful for parents because of violence and poverty, levels of depression increase, parental warmth diminishes, and parents may become less supportive (Klebanov et al., 1994; Kohen et al., 2008; Tendulkar et al., 2010). The differential parental responses to neighborhood disorder affect how well adolescents cope with community violence.

2.1. Spatial effects of exposure to violence

Despite the wealth of scholarship documenting the deleterious consequences of exposure to community violence, there is surprisingly limited consensus on the appropriate operationalization and measurement of both 'community' and 'exposure'. For instance, there is considerable variation across studies in whether exposure is based on self-reports or official police data (see Eitle & Turner, 2002; Sharkey et al., 2012). There is also a good deal of variation in how narrowly or broadly communities are defined. For instance, Sharkey et al. (2012) focused on the influence of homicides that occurred between 1000 and 2500 ft of a child's home. Other studies use much broader aggregations, like census tracts or neighborhood clusters (Eitle & Turner, 2002; Gorman-Smith et al., 2004; Zimmerman & Messner, 2013). In regard to the former, it matters little whether studies rely on official data or parent and child-self report. While not a direct correspondence, both point to the same general conclusion – exposure to community violence, no matter how measured, is detrimental for youth. The issue of neighborhood aggregation is thornier. On the one hand, small areal units likely capture the most salient events for youth – those that occur near their homes (see Sharkey et al., 2012). Such an approach, however, necessarily misses violent events that occur outside of this relatively arbitrary sphere of influence. Larger areal units overcome this limitation. One drawback of relying on broader observation areas is that the likelihood of including non-relevant events increases. In other words, violent crimes occurring within a few feet of a youth's home are likely salient; violent crime three miles away, much less so. It stands to reason that youth will be most affected by the most residentially proximate violent events, and that this effect will display a decay function that diminishes the further away their residence.

The aggregation issue is further confounded by the spatial dynamics of urban crime more generally. Violence tends to cluster together in space and time and high-crime communities are often located nearby other high crime communities. Moreover, crime and other risky behaviors tend to 'spill-over' and influence levels of crime and violence in nearby places. Research suggests that the spatial distribution of such neighborhood features has important implications for youth offending (Graif, 2015; Vogel et al., 2021; Vogel & South, 2016). When violence near the home and violence in the surrounding neighborhoods is correlated, studying either one or the other would give an incomplete and potentially erroneous imagine of the situation children and parents face. For example, families can reside in relatively low crime neighborhoods surrounded by areas with proportionately higher levels of violence. Children and parents would need to traverse these areas regularly, for instance, as they commute to school, spend time with peers, or engage in recreational activities. Focusing on levels of violence in an unduly narrow area could misrepresent the true nature of criminal violence within a family's awareness space. Therefore, studying the dynamic interplay between differentially defined neighborhood delineations would more accurately describe how local violence impacts on families and, specifically, parents-child relationships.

3. Current study

The current study examines how exposure to violence in local and extralocal neighborhoods influences parent-child conflict. The term

"local" is used to refer to the immediate areas surrounding the respondents' homes (on average 17 households), and "extralocal" to refer to an area comprising a two-mile radius surrounding the local neighborhood. By combining five years of annual survey data and police reported data on violent crime from the Netherlands, this study is able to longitudinally examine how local and extralocal violence exposure are related to parent-child conflict. As described in greater detail below, the hybrid models capture both within-individual as between-individual responses to levels of violence in local and extralocal neighborhoods. Specifically, the hypotheses are.

(1) Exposure to both local violence and extralocal violence will increase parent-child conflict within families over time.
(2) Exposure to local violence has a greater impact on parent-child conflict than exposure to extralocal violence.
(3) Exposure to local and extralocal violence interact such that the effect of exposure to local violence is strongest when residential neighborhoods are surrounded by high levels of extralocal violence.

4. Methods

4.1. Data

Data for this study are drawn from two sources: the Conflict and Management of Relationships (Conamore) panel dataset and data from Statistics Netherlands. Conamore (n = 778) is a longitudinal study of Dutch adolescents which examines personality and identity, relationships with parents and peers, and emotional and behavioral states (Meeus et al., 2010). Specifically, the respondents came from the province of Utrecht and its capital city Utrecht. Utrecht is located centrally within the Netherlands, and is the fourth largest city of the country in terms of population. Most respondents came from areas that can be classified as very strongly urbanized (2500 or more addresses per km^2) or strongly urbanized (1500–2500 addresses per km^2). In terms of violent crime, Utrecht is somewhat below the national average, and compares favorably to the other big cities in the Netherlands (Statistics Netherlands, 2022). Schools (12) were randomly selected and parents and students both received a letter detailing the focus of the study and information in regard to voluntary participation. Fewer than 1 % of selected respondents chose not to participate (Delsing et al., 2008). Participants, aided by research assistants who provided verbal instruction, completed a series of questionnaires in their classrooms. Students absent on testing days were not assessed.

The original Conamore sample included 1313 respondents and involved two cohorts: 'early-to-middle' adolescents (n = 923; 70.3 % of total sample; mean age at wave 1 = 12.4) and 'middle-to-late' adolescents (n = 390; 29.7 % of total sample; mean age at wave 1 = 16.7). The first five annual waves of data were collected between the academic years of 2001–02 and 2005–06. The sixth wave was collected in 2009–10 and included an additional Life History Calendar (LHC) (Caspi et al., 1996) which captured retrospective questions. In the analyses data are used from the first five waves and only utilize the LHC (wave six) to trace adolescents' residential histories. The respective number of respondents for waves 1 through 6 were 1313, 1313, 1293, 1292, 1275, and 1026. Sample attrition in the first five waves was low (7 %), however, due to the four-year gap between waves five and six, attrition rates were higher for the LHC sample (20 %). Residential information from the LHC was used to link respondents to their respective postal codes, which were then combined with a second dataset from Statistics Netherlands. The Statistics Netherlands data consist of spatially detailed police records by post code. The mean number of households per post code in the Netherlands was 17. Only respondents who did not move during the observation period were selected, in order not to conflate the effect of violence exposure on parent-child conflict with the effect of residential mobility. The analytic sample after list-wise deletion was 778 adolescents, with an average of 4.4 observations per respondent, or 3458 person-wave observations. To examine whether attrition could affect the outcomes, a number of t-tests and chi^2-tests were performed to examine whether the probability of missingness on the dependent variables at wave 1 is associated with conflict with parents. Variables that were missing at random include: extralocal violence (t(847) = −0.08, p = .9357), not living with two parents (chi^2(1) = 3.63, p = .0570), and female (chi^2(1) = 0.82, p = .3665). Variables that were not missing at random and might affect the outcomes include: local violence (t(847) = −3.14, p. = 0017), neighborhood wealth (t(892) = 2.05, p = .0408), cohort (chi^2(1) = 50.84, df = 1, p < .0001), and foreign parents (chi^2(1) = 14.08, df = 1, p = .0002).

4.2. Measures

4.2.1. Conflict with parents

The dependent variable 'conflict with parents' was measured using a subset of the Network of Relationship Inventory (Furman & Buhrmester, 1985), and has reported adequate validity (Edens et al., 1999). Measured at the individual level as a time varying variable, it explicitly captures non-physical conflict intensity involving anger, tension, and arguments. Adolescents were asked separately about their father and mother. Conflict with parents was measured as a scale and used six items from the NRI about fathers and mothers: "How much do you and this person get upset with or mad at each other?", "How much do you and this person get on each other's nerves?", "How much do you and this person disagree and quarrel?", "How much do you and this person get annoyed with each other's behavior?", "How much do you and this person argue with each other?", and "How much do you and this person hassle or nag one another?" The five response categories range from "little or not at all" to "more is not possible". Across the five waves and separate scales for mother and father, the Cronbach's alphas range from 0.87 to 0.91, expressing strong internal consistency. Adolescent's responses for both father and mother were combined into a single scale to create an average measure for 'conflict with parents' ranging from 0 to 4. When an adolescent did not have two parents (6 respondents in the sample in wave 1 had no person they would call father), the value of one parent was used to describe 'conflict with parents'. When adolescents had no persons in their life they called father and mother (9 respondents in wave 1), they were omitted from the analyses. Descriptive statistics for this and other variables can be found in Table 1.

4.2.2. Control variables

Three individual-level time-invariant control variables were used: sex, cohort, and parents being of foreign origin. Sex, cohort, and parents' foreign origin were treated as dummy variables: male = 0, female = 1, early-to-middle adolescents = 0, middle-to-late adolescents = 1, and both parents born outside of the Netherlands = 0 and both parents being

Table 1
Descriptive statistics. Conamore, 2001–2010; Statistics Netherlands.

Variables	N	Mean	Standard Deviation	Minimum	Maximum
Time Varying					
Conflict with parents	3458	0.50	0.49	0	3.83
Local violence	3458	−0.02	0.92	−0.32	13.32
Extralocal violence	3458	−0.03	0.98	−1.57	5.77
Not living with both parents	3458	0.16	0.36	0	1
Time Invariant					
Neighborhood wealth	778	0.12	1.07	−1.25	6.63
Parents foreign	778	0.10	0.30	0	1
Female	778	0.55	0.50	0	1
Cohort	778	0.20	0.40	0	1

Dutch natives = 1 (one parent being foreign born = 0.5). One time-varying control variable was included: not living with both parents.

4.2.3. Local violent crime

The Life History Calendar (LHC) in Conamore includes six-digit postcodes where the adolescents lived from the age of twelve until the sixth wave of data collection. These postcodes enabled this study to link the survey data to register data available at the postcode level. Six-digit postcodes average 17 households per postcode, and capture mean socioeconomic measures (housing prices) and crime levels in the proximate surroundings of the adolescents' homes.

'Local violent crime' was based on data from the Dutch National Policy Services Agency and Statistics Netherlands. The variable represents the yearly number of registered violent crimes per 1000 persons within a six-digit postcode. The variable was available for all the five years of data collection and was standardized in the regression models.

4.2.4. Extralocal violent crime

'Extralocal violent crime' is constructed by applying a spatially lagged, distance-weighted measure of violent crime occurrences in "extralocal" (two-mile radius) neighborhoods. A two-mile radius was chosen, because for cities in the Netherlands, the importance of neighborhood effects seems to taper off around one-and-a-half to two miles (Petrovic et al., 2021). Because the dataset does not only include respondents in cities, the upper bound of two miles was chosen to capture respondents who live in smaller towns as well. First, the distance from the center of each focal postcode to the center of each nearby postcode within a two-mile radius was measured, then the level of crime was weighted by the inverse of the distance of the postcode from the focal postcode, thereby assigning more weight to violence that happens nearby and less to violence that happens further away.

4.2.5. Neighborhood wealth

'Neighborhood wealth' was measured via a scale of average property values within each respective six-digit postcode as captured by Statistics Netherlands in 2004 (2006). Because longitudinal data were not available, this information was imputed over all five waves, and the variable was standardized. This measure has been assessed to be a suitable proxy for neighborhood wealth (Visser et al., 2008).

4.3. Analytic strategy

To test the research questions, hybrid random-effects tobit models were employed. The model is referred to as hybrid because it includes estimators for both within-subject and between-subject effects, therefore all time-varying variables have two estimators (Allison, 2009). The model can be written as:

$$y_{ij} = \beta_0 + \beta_1\left(x_{ij} - \overline{x}_j\right) + \beta_2\overline{x}_j + \beta_3 z_j + \left(u_j + e_{ij}\right),$$

where β_1 is the within effect and β_2 is the between effect of a series of time-variant variables x_{ij} (Allison, 2009; Schunck, 2013). The first estimator is calculated as the deviation from person-specific means for each time-varying variable, which creates an estimator equal to those in fixed-effects models (within-individual effect). This model controls for observed and unobserved time-invariant characteristics, as the sum of their change is always zero. This removes any potential bias arising from omitted time-invariant characteristics. The second estimator is calculated as the person-specific mean for each time-varying variable (between-individual effect). The lower and upper limit for the tobit estimator were 0 and 4, respectively, which correspond to the potential extremes on the outcome variable. Additionally, the model includes time-invariant variables (β_3).

5. Results

Table 1 provides descriptive statistics for the variables included in the analysis. A larger proportion of Conamore survey respondents (at all five waves) were female (55 % female and 45 % male); and mean ages of respondents at wave 1 were 12.4 years (early-to-middle adolescents) and 16.7 (middle–to-late adolescents). Nine percent of the sample had two parents who were born outside of the Netherlands. The mean level of parental conflict is 0.49, suggesting that on average, respondents reported experiencing little to no conflict with either of their parents. No respondents in the sample reported the highest level of conflict for all six conflict indicators (max = 3.83). Instances of reported local violence occurred, on average, at a rate of 0.22 times per 1000 persons; and the maximum rate was 10.3 instances per 1000 persons. Extralocal violence occurred, on average, at a rate of 0.23 per 1000 persons, and the maximum amount of extralocal violence was 1.09 instances per 1000 persons. The higher the level of local violence in adolescents' neighborhood, the higher the average level of conflict intensity with parents: in neighborhoods with no local violence, adolescents report an average conflict intensity with parents of 0.49 on a scale from 0 to 4 ($N = 2954$); in neighborhoods with more than 0 and less than 0.85 instances of violence per 1000 persons, the level of conflict intensity was slightly lower at 0.44 ($N = 237$); this number went up to 0.54 when violence went up to higher than 0.85 and lower than 2 per 1000 persons ($N = 188$); and to 0.66 when violence went up to higher than 2 per 1000 persons ($N = 79$). The mean property value within the sample region is 211,381 euro (compared to 161,000 for the whole province of Utrecht; Statistics Netherlands, 2021), with the respective minimum and maximum being 55,000 and 952,000 euro.

5.1. Neighborhood violence and child-parent conflict

5.1.1. Within-individual

The within individual component of the analyses (Table 2) reveals that both local violence and extralocal violence are significantly and positively related to child-parent conflict. When the standardized violence variables are substituted with unstandardized mean-centered variables, the findings show that for every one standard deviation increase in local violence in a postcode there is an expected 0.03 increase in the level of conflict with parents experienced (e.g., scores of 0 become 0.3). The higher beta value observed for extralocal violence suggests that for each one standard deviation increase in violent crime (occurring

Table 2
Hybrid tobit regression predicting conflict with parents.

Variables	Beta (S.E.)
Within-Individual Estimators	
Local violence	0.03 (0.01)*
Extralocal violence	0.07 (0.02)**
Local extralocal interaction	−0.01 (0.01)
Not living with both parents	−0.07 (0.04)
Between-Individual Estimators	
Local violence	0.04 (0.03)
Extralocal violence	0.01 (0.02)
Local extralocal interaction	−0.11 (0.45)
Neighborhood wealth	−0.00 (0.01)
Not living with both parents	0.15 (0.05)**
Female	0.03 (0.03)
Cohort	0.07 (0.04)
Parents foreign	−0.15 (0.06)*
Intercept	0.40 (0.03)***
Wald chi^2	43.15 (12)***

$N = 3458$.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

within a 2-mile radius), respondents experience a 0.07 increase in conflict with their parents. A Wald test revealed that the coefficients for local and extralocal violence were not significantly different from each other ($chi^2(1) = 3.12$, $p = .0771$), suggesting that both forms of community violence have similar effects on parent-child conflict. The interaction between local and extralocal violence was not significant.

5.1.2. Between-individual

When considering variation between participants, local and extralocal violence are not significantly related to conflict with parents. Neighborhood wealth is not a significant predictor of conflict within the home. Although insignificant, the direction of this relationship is negative, and therefore consistent with most of the neighborhood literature maintaining that poverty/neighborhood disadvantage is positively associated with conflict within the home (Morrison-Gutman et al., 2005; Wadsworth & Compas, 2002).

Cohort is significantly positively related to conflict with parents. Consistent with other's findings, this illustrates that older youths are expected to experience higher levels of conflict with their parents than younger youths (Arnett, 1999; Montemayor, 1983). Parents being foreign born is significantly negatively related to conflict within the home, suggesting that youth with non-Dutch native parents experience less frequent and lower levels of conflict with their parents. Finally, adolescents who did not live with both parents had a higher likelihood to have conflict with their parent.

6. Discussion

This research began with the question of how levels of violence in local and extralocal neighborhoods affect child-parent conflict. Consistent with the first hypothesis, the results demonstrate that instances of violence within respondent's immediate proximity (local) and surrounding proximities (extralocal) significantly impact conflicts occurring within families for individuals over time. This is an important finding, as family relationship quality acts as a significant mediating factor for subsequent violence as well as an array of deleterious internalizing and externalizing behaviors for youth (Gorman-Smith et al., 2004). Although effects of local/extralocal violence were not observed between individuals, repeated measures models yield strong internal validity as data are prone to less noise, therefore, the observed effects are less likely a result of undetected differences (Charness et al., 2012). Besides, the fact that within-individual changes in neighborhood violence affect individuals but not between-individual neighborhood violence, suggests that it is not the absolute level of neighborhood violence that matters the most. Changes in violence influence child-parent conflict, but these changes seem to have this effect despite the baseline level of violence in a neighborhood.

While a greater magnitude in the coefficient for extralocal compared to local violence was observed, additional testing showed this difference was not significant. This fails to confirm the second hypothesis. One potential explanation for the potentially larger role of extralocal violence is that studies have found youth who experience chronic or high exposure to violence may become desensitized to acts of violence (Gaylord-Harden et al., 2016) and exhibit fewer externalizing behaviors which may lead to conflict. A second potential justification is spillover effects of violence between neighboring communities. For instance, Hipp (2013) found that actual crime is the strongest predictor of perceived crime. Being aware of violence in one's surrounding community can increase externalizing behaviors, regardless of whether a respondent is directly exposed to it (Youngstrom, Weist, & Albus, 2003), which may increase conflict within families. The third hypothesis predicted such an interaction between local and extralocal violence. This did not emerge in the empirical models. Given (1) the refinement of the spatial unit of analysis (M = 17 homes), and (2) the mean amount of violent crimes in the sample is 0.22 per 1000 persons, diffusion of the effects of neighborhood violence is a far more probable explanation than chronic exposure to violence and desensitization as a result. The important takeaway is that although violence in both immediate and surrounding areas contribute to conflict between youth and parents, contiguous neighborhoods must not be ignored.

The negative relationship between non-Dutch native parents and family conflict suggests youth with foreign born parents experience less conflict with their parents. A similar study examining child-parent relationships between caregivers and adolescents in the Netherlands found non-native Dutch parents to be unrelated to higher levels of child-parent conflict and antagonism (Eichelsheim et al., 2010). A potential explanation for the observed relationship is the notion of the embeddedness of alternative value structures within ethnic minority/immigrant families, specifically in the parent/parents' ability to promote positive socialization goals within their families which benefit family cohesiveness and lessen conflicts (Arends-Tóth & Van de Vijver, 2008). Immigrant families emphasizing family cohesion may be more adept at avoiding conflicts, and in comparison to non-immigrant families, may have higher motivation to set aside disagreements and acknowledge sacrifices parents have made and contributions adolescents make within the family (Kwak, 2003). The higher levels of conflict found in families without both parents present seem to support this notion that family cohesion is beneficial for parent-child relationships.

It is important to acknowledge several limitations of this study. This research faces the constraint of using criminal justice data, which is prone to undercounting the true volume of crime, as many crimes go unreported. Similarly, this study was unfortunately unable to identify a more appropriate proxy for poverty within these data. Neighborhood wealth and parents' foreign origin were used to control for differences in socioeconomic status within the sample; however, this methodological approach could have been more robust by having more comprehensive measures (such as parents' income or education level). Although the Conamore survey data does not include direct indicators of stress, the extant literature draws reasonable connections to suggest that stress acts as a mechanism between community violence and higher levels of criticism, disagreements, and arguments between adolescents and parents. Additionally, housing price data were not available during all five waves of youth survey data collection and values were thus imputed. Lastly, this study was unable to include measures for self-reported exposure to violence (e.g., various forms of victimization such as violence experienced outside of the home or at school), which might be confounded with the measures of neighborhood violence gleaned from the police reports.

Many scholars have called for interventions designed to provide counseling/treatment for adolescents directly exposed to violence (e.g., Bailey & Whittle, 2004). The findings, however, reveal that a broader recognition of the effects of community violence are necessary, and that efforts to curb effects of exposure to violence should be expanded to include children living close to areas with high saturations of violence. This research contributes to a growing literature on community violence and family conflict by drawing connections between spatial dynamics of violence and resulting implications for interpersonal family dynamics. To the authors' knowledge, no other studies address this relationship from a spatially refined perspective. The used approach demonstrates the benefits of examining spatial effects in a direct, substantive manner, and allows us to conclude that violence in one area is not only related to violence in neighboring areas, but that both influence conflicts experienced within families. The linkages uncovered here allow for a deeper understanding of relationships between community violence and adolescent-parent conflict and reinforce the observation that neighborhood effects research must consider spatial dynamics.

Funding

This research was specifically funded by the European Research Council under the European Union's Seventh Framework Programme (FP/2007-2013) / ERC Grant Agreement n. 615159 (ERC Consolidator

Grant DEPRIVEDHOODS, Socio-spatial inequality, deprived neighborhoods, and neighborhood effects).

Ethical approval

Treatment of participants was in accordance with the ethical standards of the APA and this study was reviewed and approved by the ethical-medical committee of University Medical Centre Utrecht, the Netherlands.

Informed consent

For participation in the present study, written informed consent was obtained from adolescents and their parents, and also from all the participating schools.

CRediT authorship contribution statement

Jaap Nieuwenhuis: Conceptualization, Formal analysis, Methodology, Writing – original draft, Writing – review & editing. **Matt Best:** Conceptualization, Writing – original draft, Writing – review & editing. **Matt Vogel:** Conceptualization, Formal analysis, Methodology, Writing – original draft, Writing – review & editing. **Maarten van Ham:** Funding acquisition, Writing – review & editing. **Susan Branje:** Data curation, Writing – review & editing. **Wim Meeus:** Data curation, Writing – review & editing.

Declaration of competing interest

The authors report no conflict of interests.

Data availability

The data that support the findings of this study are available from the Conamore team and Statistics Netherlands, but restrictions apply to the availability of these data.

Acknowledgements

We are grateful to Gerard Marlet for providing the data on crime.

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