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DISORDER, DISORGANIZATION, AND DELINQUENCY: A MEDIATION ANALYSIS OF ENVIRONMENTAL DISORDER, EXTRA-CURRICULAR ACTIVITIES, AND DELINQUENCY FROM EARLY TO LATE ADOLESCENCE

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DEEON JOSEPH

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DISORDER, DISORGANIZATION, AND DELINQUENCY: A MEDIATION ANALYSIS OF ENVIRONMENTAL DISORDER, EXTRA-CURRICULAR ACTIVITIES, AND DELINQUENCY FROM EARLY TO LATE ADOLESCENCE

A THESIS APPROVED FOR THE

DEPARTMENT OF SOCIOLOGY

BY THE COMMITTEE CONSISTING OF

Julie Gerlinger, Ph.D, Chair

Trina Hope, Ph.D.

Mitchell Peck, Ph.D.

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ABSTRACT

According to the literature, youth violence, neighborhood crime rates, and early delinquency have been associated with vacant or abandoned housing, and adverse environmental and urban conditions (Jackson, Newsome, and Lynch 2017; Limbos and Casteel 2008; Yonas et al. 2007). Additionally, people of color are more likely to live in areas of inadequate housing and poor environmental conditions due to historical racism in housing policies, employment opportunities, and access to vital resources in a neighborhood context (de Leon and Schilling 2017; Sampson, Wilson, and Katz 2018). Literature surrounding Social Disorganization and Broken Windows theory note that physical and social disorder erode the community controls that bind social cohesion, ties, and control in communities creating a pretext for social disorganization. However, research is scant when examining the impact of objective physical disorder on late adolescent delinquency and how informal social control, such as extra-curricular activities, mediates this relationship.

I use data from the Fragile Families and Child Wellbeing Study (FFCWS), which is an active, panel survey that is administered to a nationally representative sample of 4898 families with interviews conducted between 1998 and 2017 comprised of six waves (Reichman et al. 2001). Objective measures of disorder are constructed from the variables available in this dataset to examine disorder's impact on delinquency in late adolescence. I find that objective sources of physical disorder did not significantly affect an adolescent's delinquency. However, participation in extra-curricular activities as a form of informal social control partially mediates this relationship. These findings illuminate several paths for policy implications and considerations going forward.

INTRODUCTION

Extensive research has demonstrated how specific neighborhood conditions can facilitate increased violence at the community level. Youth violence, neighborhood crime rates, and severe onset delinquency, for instance, have been associated with adverse environmental and urban conditions, such as vacant or abandoned housing (Jackson, Newsome, and Lynch 2017; Hiestand n.d.; Limbos and Casteel 2008; Yonas et al. 2007; Collins n.d.; Corey n.d.; Figueira-McDonough 1992; Gau, Corsaro, and Brunson 2014). The prevalence of youth violence had decreased from 1980 to 1986, reaching its peak in 1993 and then experiencing a sharp decline through 2018 (OJJDP Statistical Briefing Book 2022). Although these trends are much lower than previous decades, the problem of youth violence, delinquency, and their commission of other serious crimes by juveniles is still concerning. Additionally, because people of color are more likely to live in areas of inadequate housing and poor environmental conditions (de Leon and Schilling 2017), the connection between violence and non-white communities may be at least partially explained by environmental dilapidation in these residential communities.

Neighborhood disadvantage and disorder are strongly associated with crime and delinquency, particularly in non-white communities (Manduca and Sampson 2019; Porter, Rader, and Cossman 2012; Rodriguez 2013; Vogel, Link to external site, and Ham 2018; Warner 2014; Weisburd et al. 2016; Wolff et al. 2018; Zimmerman and Messner 2010). Because non-white communities are more likely to be plagued by neighborhood disadvantage and disorder than white communities, adolescents of color living in disadvantaged and disorderly communities are more likely to commit more delinquent acts than those living in different conditions. However, the literature has largely overlooked how the relationship between early exposure to community disorder. More research is needed on how community disorder might

influence structured socializing – a practice that has been associated with increased delinquency (McNeeley and Hoeben 2017) – and the effect this relationship has on adolescent delinquency.

This study proposes to address these limitations in the literature. Most research on neighborhoods and adolescent delinquency tends to overlook micro-environmental hazards – like abandoned vehicles on a street block, street conditions, or the number of buildings and other structures with graffiti on them – and other similar ecological factors in early adolescence and how this affects delinquency in late adolescence. As such, these patterns will be examined using data from the Fragile Families and Child Wellbeing Study which contains variables that measure several indicators of environmental disorder when children are aged three to 18. Additionally, the data contains demographic characteristics of both children and their primary caregivers that are relevant to the commission of delinquency. I control for these characteristics to isolate the effect of environmental disorder on late adolescent delinquency. Moreover, the number of extracurricular activities that adolescents participate in also holds theoretical interest in whether they mediate this proposed relationship.

Theoretical Influences

Social Disorganization Theory

Shaw and McKay (1942) first developed social disorganization theory. This theory suggests that traditional institutions such as schools, churches, or other organizations reinforce pro-social values that contribute to the social environment. However, when these communities lack adequate resources to maintain these institutions, community members are less likely to engage in prosocial activities fostered by these institutions; they may instead engage in deviant acts and antisocial activities (Bellair 2017; Hipp and Wo 2015; Markowitz et al. 2001; Sampson 2011). In turn, the reinforcing effects of strong social ties and prosocial activities provided by

these institutions weaken and allow the informal constraints on deviant behavior, crime, and delinquency to weaken, as well, leading to serious crime and delinquency. (Bellair 2017). The theory of social disorganization provided a strong foundation for the basic understanding of how communities become disorganized due to various community-level factors, and how disorganization fosters a breakdown of informal social control.

The reemergence of this theory in the 1980s was largely led by Robert Sampson's research in Chicago, Illinois. Sampson was the first to empirically test what he called the "enduring neighborhood effect" within cities through the Project on Human Development in Chicago Neighborhoods (PHDCN) study. In this study, Sampson and his colleagues tested their proposed theory that "social and organizational characteristics of neighborhoods explain variations in crime rates that are not solely attributable to the aggregated demographic characteristics of individuals" (Sampson, Raudenbush, and Earls 1997:918) In other words, variation in neighborhood crime rates is not due to characteristics of the individuals who live in these neighborhoods.

Neighborhood demographics included rates of poverty, racial/ethnic composition, homeownership, concentration of immigrants, among a few others. Furthermore, two additional concepts – social cohesion and social ties – were constructed by asking residents questions like how likely they were to intervene in conflicts that occurred in their neighborhoods, how well they got along with their neighbors, and whether the fire station closest to them was at risk of losing part or all of their budget These data were then aggregated to the neighborhood level to develop a neighborhood-level measures for these two concepts. Sampson also provided a new perspective for social disorganization theory by adding an additional element of "collective

efficacy", which brought together two mechanisms – social cohesion and shared expectations for social control (Sampson 2011).

More specifically, Sampson's major contribution to the theory of social disorganization was to test its effect on neighborhoods in Chicago and corresponding levels of violence. His proposed definition of collective efficacy involves the shared willingness of neighborhood residents to intervene in delinquent acts (informal social control), which is accomplished when there are high levels of solidarity among these residents (Hipp and Wo 2015; Sampson 2011). Through these concepts of collective efficacy and informal social control, such as a lack of supervising children's activities, willingness to intervene in children and adult's criminal behaviors, or the inability for residents to exercise control we can better understand variations in crime and delinquency, particularly at the community level.

A study conducted by Steenbeek and Hipp (2011) examined the relationships between social cohesion, social control, and disorder to test the tenets of social disorganization theory. They used longitudinal data on 74 neighborhoods in the city of Utrecht located in the Netherlands across a span of 10 years. Steenbeek and Hipp investigate the direct effects of neighborhood characteristics on disorder (residential instability, low socioeconomic status, etc.) and how social cohesion and control mediate this relationship, as well as the "feedback effects of disorder on residential instability, cohesion, and control" (Steenbeek and Hipp 2011). They find that although potential social control does not affect disorder in neighborhoods, disorder itself does appear to lead to the breakdown of social control and increases residential instability (Steenbeek and Hipp 2011).

To summarize, Steenbeek and Hipp's findings indicate that neighborhood disorder and the breakdown of social controls are cyclical in nature. Indeed, "Neighborhoods with high levels

of disorder cause more people to move out, and higher residential mobility leads to a lower percentage of people taking action to improve the livability and safety of the neighborhood" (Steenbeek and Hipp 2011:864). These indicators of social disorganization also facilitate the commission of delinquent activities and behavior from a Broken Windows perspective as well given that social disorganization theory "sets the stage" for the latter.

Broken Windows Theory

Broken Windows Theory was developed later to address how the breakdown of these community controls discussed in social disorganization theory leads to vandalism and other serious crimes (Gau, Corsaro, and Brunson 2014; Gau and Pratt 2010; Maskaly and Boggess 2014; Wilson and Kelling 1982). Wilson and Kelling (1982) suggest that communal barriers are broken (obligations of civility and mutual regard) when members in communities exhibit "untended" behavior which signals that "no one cares" and breaks down community controls. Indeed, community decline that begins with a failure to prevent or correct social and physical incivilities, or disorder, leads to several different delinquent behaviors and criminal activities, such as panhandling, loitering, vandalism, litter, and graffiti (Skogan 1990). In short, local disorder signals that deviant behaviors are permitted in these communities, and more serious crimes may take place there as a result (Gau and Pratt 2010). As such, greater displays of physical disorder in a community relate to higher community crime rates.

Ren, Zhao, and He (2019) conducted a study that examined the relationship between disorder and citizen engagement in crime prevention. Using data from 1,100 residents in Houston, Texas via telephone survey, the researchers used GIS data to document social disorder/crime incidents that were reported by residents of these neighborhoods. They found that more incidents of "social disorder" significantly impacted the perception of disorder among

residents of neighborhoods, which in turn lead to decreases in personal safety that reduced the sense of collective efficacy (Ren, Zhao, and He 2019). The authors of this study concluded that disorder could be considered a key cause of instability in neighborhoods that ignites a chain reaction of perceptions and behaviors, and a heightened fear of crime that leads to reduced collective efficacy among residents (Ren, Zhao, and He 2019).

Unstructured Socializing

The concepts described above relate to the concept of "unstructured socializing", which was originally coined by Osgood et al (1996) and was adapted from both routine activity and life-style theory to focus in on individual pathways into deviant behavior. They found that three conditions are responsible for inviting the risk of deviance in certain situations: the presence of peers, the absence of authority figures, and a lack of structured activity (Osgood et al 1996; Hoeben et al. 2021; Hoeben and Weerman 2016; Hollis, Felson, and Welsh 2013; McNeeley and Hoeben 2017; Turanovic, Pratt, and Piquero 2018). To elaborate, the presence of one's peers facilitates the commission of deviant acts because peers serve as an appreciative audience, the absence of an authority figure makes the risk of getting caught low, and a lack of structured activities encourages engaging in other, more deviant activities (Osgood et al 1996; Hoeben et al. 2021). In neighborhoods with higher levels of disorder, community controls have been broken down which provides adolescents with opportunities to participate in activities without the supervision of adult authority figures who might otherwise intervene (Sampson 2011; Wilson and Kelling 1982).

When participating in unstructured activities, youths are far more likely to participate in illegal behaviors, such as underage drinking or drug use. Even those who are considered "average" teenagers are at a higher risk of participating in these delinquent acts in the absence

structured supervision by an adult authority figure since most adolescents are generally open to deviant behaviors (Briar and Piliavin 1965; Felson and Eckert 2018; Matza and Sykes 1961). On top of this, variation in unstructured activities leads to variation in the types of deviance in which youths engage. For instance, youths are more likely to continue engaging in delinquent activities that they have experience with, and thus, may encourage their peers to commit similar acts (McGloin and Nguyen 2012). In another vein, adult authority figures are more likely to deter certain deviant acts (e.g., throwing rocks at vehicles or spraying graffiti on public surfaces) as opposed to others (Felson 1995; Hillis-Peel et al 2011).

In contrast to unstructured activities that lead to unstructured socializing, extra-curricular activities–such as sports, church and music programs, or even tutoring–often have adult authority figures who preside over them, thereby decreasing the opportunities youths have to participate in deviant or delinquent acts (Felson and Eckert 2018). However, living in or near physical disorder can discourage adolescents from participating in structured activities. Conversely, communities with high levels of environmental disorder, where community controls may be limited due to neighborhood disorder, could serve to motivate parents and guardians to enroll their children into extra-curricular activities as an attempt to prevent anticipated deviant behavior. However, this is unlikely given that several empirical studies seem to suggest the former (Hoeben et al. 2021; Hoeben and Weerman 2016; Keijsers et al. 2012; McNeeley and Hoeben 2017; Ryan, Williams, and Courtney 2013).

Current Study

Building on this literature, I ask two related research questions. First, how does living in a disorderly environment during early adolescence affect late adolescent delinquency? I hypothesize that juveniles living in a disorderly environment during early adolescence will

commit a higher expected number of delinquent acts in late adolescence compared to those not living in a disorderly environment. O'Brien et al. (2019) conducted a meta-analysis of 96 studies that empirically tested the relationships between disorder, general proclivities for aggressive behavior, and attitudes toward the neighborhood. They found no consistent evidence that physical disorder led to an increase in aggressive behavior or criminal activity, however, many of the sources of physical disorder in the studies analyzed were not objective measures of disorder (O'Brien, Farrell, and Welsh 2019). Additionally, the authors found that social disorder and private disorder (domestic disputes, interpersonal conflicts, etc.) significantly impacted aggressive behavior. Research on objective sources of disorder and its impact on delinquency are scant and I hypothesize that an objective measure of disorder at Year 9 significantly impacts delinquency at Year 15,

Second, does participation in extra-curricular activities mediate the relationship between early exposure to disorderly environments and adolescent delinquency? I predict that the effect of environmental disorder in early adolescence will be completely or partially mediated by participating in extra-curricular activities in late adolescence. A few studies concerning neighborhood disorder, social cohesion and control, unstructured socializing, and delinquency have been conducted and have come to similar conclusions that each of these concepts are tightly interwoven in their connection to the commission of delinquency (Janssen, Weerman, and Eichelsheim 2017; Steenbeek and Hipp 2011; Turanovic, Pratt, and Piquero 2018). Disorder weakens social cohesion and control, such as shared expectations for permissible behavior in the community and willingness to intervene in non-permissible behaviors (allowing more unstructured socializing). Increased unstructured socializing then places adolescents in criminogenic settings for longer periods of time, and adolescents may begin to engage in

activities that contribute to the level of disorder in the neighborhood. Indeed, I hypothesize that the number of extra-curricular activities a juvenile participates in will mediate the relationship between disorder and delinquency.

To reiterate, social disorganization theory, broken windows theory, unstructured socializing, disorder, and delinquency are all interrelated concepts that, must be considered simultaneously when examining environmental disorder in communities and the overall impact this has on adolescent delinquency.

METHODS

Data

I use data from the Fragile Families and Child Wellbeing Study (FFCWS), which is an active, panel survey that is administered to a nationally representative sample of 4,898 families from 20 large cities in the United States. Interviews were conducted between 1998 and 2017, comprising six waves of data to date (Reichman et al. 2001). The FFCWS uses a multistage, stratified sample that oversampled unmarried mothers and Black, Hispanic, and low-income families (Reichman et al. 2001) and provides valuable insight into the outcomes of children in families that are heavily disadvantaged in a plethora of ways. It contains data on labor market and demographic characteristics on primary caregivers and their families, investigator observations on indicators of physical disorder on blocks, as well as information about delinquent and extra-curricular activities in which juveniles participate. I use years 9 and 15 – when children are between the ages of 9 and 11 (Year 9) and 14 and 18 (Year 15) – to answer my research questions. As such, "year" and "age" are synonymous in this analysis. All data used in this study come from questions given to primary caregivers (either biological mothers or fathers), children, and interviewer observations.

Dependent Variable

Self-reported *delinquency* is the dependent variable in this study. In Year 15, children are asked 13 questions pertaining to delinquent behaviors, such as: (1) “Have you painted graffiti or signs on someone else’s property or in a public place?” (2) “Have you deliberately damaged property that wasn’t yours?”, (3) “Have you ever gotten into a serious physical fight?” (See Appendix A). Additionally, the respondents are asked how frequently they have committed these acts: “never” (“1”), “1 or 2 times” (“2”), “3 or 4 times” (“3”), or “5 or more times” (“4”). To capture the total number of delinquent acts, I recoded each variable into dummy variables with those who have committed a delinquent act at least 1 or 2 times coded as “yes” (“1”). Then, I summed the 13 questions in Appendix A into an additive index ranging from 0 to 13, with higher values indicating a greater number of delinquent acts.

Independent Variables

The primary independent variable is *environmental disorder*. In Year 9, interviewers made observations of the environment around the respondent’s home. For instance, observations include whether there was “Garbage, litter, or broken glass in the street or road” or “Vacant, abandoned, or boarded-up buildings on the block” (see Appendix B for a complete list of these items). Interviewers provided the following responses relating to their observations: “no”/”none instance of these indicators on a block” (1), “one”/“not a lot” (“2”), “two to three”/”quite a bit” (“3”), or “four or more”/“Yes, almost everywhere” (“4”). I recode each of these values from 0 to 3 while still retaining the categories to indicate that a value of “0” means there is no environmental disorder present. I use these observations as proxies for environmental disorder by constructing a general measure that combines the six items into an additive scale that ranges from 0 to 18, with higher scores indicating higher levels of environmental disorder.

Mediator

The mediator variable is the *number of extracurricular activities* a child participates in, which also comes from Year 15. For example, children are asked whether they "spend time on religious services" or "spend time on scouts or hobby clubs". They are asked how often they participated in these activities since the beginning of the school year, or during the previous school year, and provide the following answers: "never" (0), "less than once a month" (1) , "at least once a month" (2), "once a week" (3) , and "several times a week" (4). I construct an index (0-24) of the frequency and number of extra-curricular activities in which the children participated (see Appendix C for full list).

Control Variables

All control variables derive from the primary caregiver's interview, including the following demographic characteristics: relationship to child, marital status, poverty category, and educational attainment. I also control for demographic characteristics of the child, including age, sex, perceived collective efficacy, peer delinquency, impulsivity, and the number of delinquent acts committed in Year 9. *Primary caregiver's marital status* (0-1) is self-reported by parents in Year 15. *Poverty ratio* includes three categories: "below poverty level" (the reference category), "at or moderately above poverty level", and "greatly above poverty level". *Primary caregiver's education* is also categorical: less than high school, high school or equivalent, some college, tech, and college or grad. *Neighborhood gang problems* is dichotomous (yes = 1) and is reported by primary caregivers in Year 15. *Primary caregiver's perceived collective efficacy* is self-reported in Year 15 via questions asking about the "level of trust that neighbors have for one another" and "how likely they would be to intervene if there were conflicts in the street" (see Appendix D for full list) and ranges from 0 to 24 with higher scores indicating higher perceived

collective efficacy (see Appendix D for full list). *Primary caregiver's household size* ranges from 2 to 15 people living in their household in Year 15. *Children's' perceived collective efficacy* ranges from 2 to 26 and is constructed in the same manner as primary caregiver's collective efficacy by summing the items in Appendix E (see Appendix E for full list). *Child's impulsivity* is measured by asking children how likely they are to act impulsively in different scenarios and is constructed by summing the items in Appendix F and ranges from 0 to 18 (see Appendix F for full list). The number of delinquent acts committed by children in Year 9 is measured via questions asking children if they have ever "injured someone badly enough to send them to the hospital" and other related questions pertaining to delinquency by summing the items in Appendix G and ranges from 0 to 17 (see Appendix G for full list). Lastly, the number of peer delinquent acts in Year 15 and is measured through questions asking children about their peers' delinquent activities and is constructed by summing the items in Appendix H and ranges from 0 to 11 (see Appendix H for full list).

Analytical Strategy

Delinquency is an over-dispersed count variable. Therefore, I used the *countfit* command in STATA, which compares the results of various count models (i.e., Poisson, zero-inflated Poisson, negative binomial, and zero-inflated negative binomial) to determine which modeling strategy is most appropriate for these data. The countfit results indicated that negative binomial and zero-inflated negative binomial regression produced nearly identical fit statistics – a comparison of the residuals of each model. The residuals for negative binomial and zero-inflated negative binomial were identical. As such, I use negative binomial regression models to answer all three research questions. I also conduct a mediation analysis using the Baron and Kenny

(1986) method to examine whether participation in extra-curricular activities mediates the relationship between environmental disorder and delinquency.

Model 1 assesses whether environmental disorder in Year 9 (X) significantly predicts delinquency in Year 15 (Y). Models 2-6 present the mediation analysis: A simple mediation pathway analysis is performed using extra-curricular activities (M) to explain the relationship between environmental disorder in Year 9 (X) and delinquent acts in Year 15 (Y). The mediation pathway analysis in Figure 1 represents the paths between independent, mediator, and dependent variables (Baron and Kenny 1986; Bolin 2014; Fairchild and MacKinnon 2009; James and Brett 1984). Model 7 assesses whether a binary indicator of environmental disorder significantly predicts delinquency in Year 15 and whether this effect is greater compared to the continuous measure of environmental disorder in Model 1.

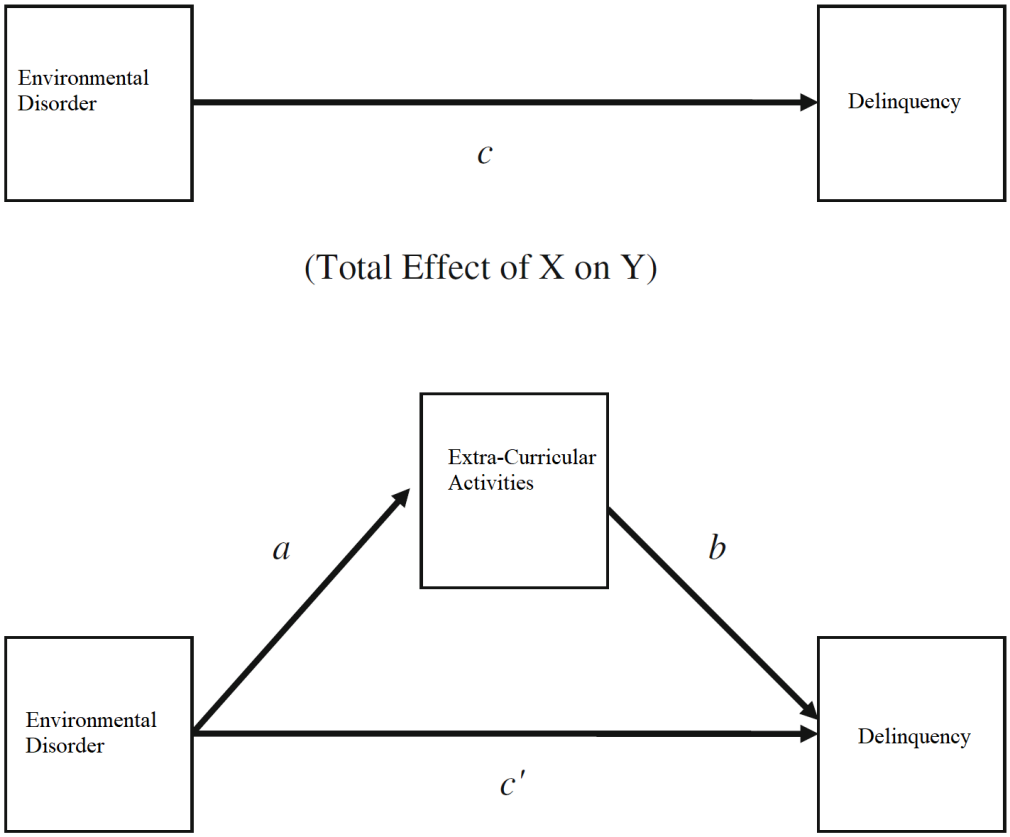

Figure 1. Mediation Pathway

RESULTS

Table 1 presents the descriptive statistics and sources of the measures used in my analyses. The dependent variable measuring delinquent acts in Year 15 ranges from 0 to 12 acts. The mean number of delinquent acts that juveniles commit in Year 15 is 1.07, suggesting that juveniles on average, committed 1 delinquent act by Year 15. The environmental disorder measure ranges from 0 to 18 with a mean value of 2.19. Given the low mean value of environmental disorder, most children are not living in elevated levels of environmental disorder in Year 9. Primary caregiver's perceived collective efficacy has a mean value of 19.77. About 7% of primary caregivers are the biological father of their children while 93 % are the biological

mother. Primary caregiver's household size ranges from 2 to 15 and includes both adults and children. Household size also has a mean of 4.77; therefore, primary caregivers have about 5 people living in their households when youth are age 15. About 72 % of primary caregivers are not married while 28 % are married. Among poverty category levels, 29% are below poverty level, 29% are at poverty level, 14% are moderately above poverty level and 42 % are greatly above poverty level. About 16% of primary caregivers have less than a high school diploma, 18 % have a high school diploma or equivalent, 46 % have some college or technical education, and 20 % have a college or graduate degree. 85 % of caregivers disagree that there are gang problems in their neighborhoods. Among children's demographic characteristics, the average age is about 15.5 years, and half the sample is male. Child's race is comprised of five categories: White (19%), Black/African American (48%), Hispanic/Latino (26%), Other race (3%), and Multi-racial (5%). Those identifying as Black/African American and Hispanic/Latino are overrepresented in this sample due to the oversampling of these families (Reichman et al. 2001). Youth's extra-curricular activities ranges between 0 and 24 with a mean value of 7.67, which is the frequency youth participate across 6 extra-curricular activities in Year 15. The number of delinquent acts that youths committed in Year 9 ranges from 0 to 17 with a corresponding mean of 1.14. This is indicative that youths, on average, were not committing many delinquent acts at Year 9. However, the standard deviation is 1.70 indicating that children engage in a decent array of delinquent acts. Children's perceived collective efficacy ranges from 2 to 26 with a mean of 15.85, while. Impulsivity and peer delinquency have means of 8.67 and 1.64, respectively. As expected, youths commit more delinquent acts during adolescence compared to childhood.

Table 1. Descriptive Statistics

	Range	Mean	Standard Deviation	Source	Survey Year
Dependent Variable					
Delinquent Acts	0-12	1.07	1.69	Child	15
Primary Independent Variable					
Environmental Disorder	0-18	2.19	2.42	Interviewer	9
Primary caregiver characteristics					
Perceived collective efficacy	0-27	19.78	6.06	Primary caregiver	15
Relationship to child					
Biological Father	0-1	0.07	.25	Primary caregiver	15
Biological Mother	0-1	0.93	.25	Primary caregiver	15
Household size	2-15	4.77	1.88	Primary caregiver	15
Marital status					
Not married	0-1	0.72	.45	Primary caregiver	15
Married	0-1	0.28	.45	Primary caregiver	15
Poverty level					
Below poverty level	0-1	0.29	.46	Primary caregiver	15
At poverty level	0-1	0.29	.45	Primary caregiver	15
Moderately above poverty level	0-1	0.14	.35	Primary caregiver	15
Greatly above poverty level	0-1	0.42	.49	Primary caregiver	15
Education level					
Less than high school	0-1	0.16	.37	Primary caregiver	15
High school or equivalent	0-1	0.18	.39	Primary caregiver	15
Some college or tech	0-1	0.46	.50	Primary caregiver	15
College or Grad	0-1	0.20	.40	Primary caregiver	15
Neighborhood gang problems					
Disagree	0-1	0.85	.36	Primary caregiver	15
Agree	0-1	0.15	.36	Primary caregiver	15
Child characteristics					
Sex					
Male	0-1	0.50	.50	Child	Baseline
Female	0-1	0.50	.50	Child	Baseline
Age	14-18	15.48	.69	Child	15
Race/ethnicity					
White	0-1	0.19	.39	Child	15
Black/African American	0-1	0.48	.50	Child	15
Hispanic/Latino	0-1	0.26	.44	Child	15
Other race	0-1	0.03	.16	Child	15
Multi-racial	0-1	0.05	.21	Child	15
Extra-Curricular Activities	0-24	7.67	5.05	Child	15
Delinquent Acts	0-17	1.14	1.70	Child	9
Perceived Collective Efficacy	2-26	15.85	4.18	Child	15
Impulsivity	0-18	8.67	4.19	Child	15
Peer Delinquency	0-11	1.64	2.36	Child	15
Total N			1889		

Source: Fragile Families Dataset
N=1,889
Note: Children are between the ages of 9 and 11 in Year 9 and 14 and 18 in Year 15

Table 2 shows the regression analysis of the number of delinquent acts on environmental disorder. Model 1 includes both primary caregiver and children's demographic characteristics as control variables. As a result, living in environmental disorder at Year 9 is not a significant predictor of delinquent acts and instead predicts fewer delinquent acts. However, other measures associated with delinquency, such as gang problems in a neighborhood, delinquent acts committed at Year 9, child's impulsivity, and delinquent peers are all significant predictors of the number of delinquent acts committed around Year 15. Other control variables such as primary caregivers being married, being greatly above the poverty level, and those who were assigned female at birth show significant negative associations with delinquency and behave as expected per the literature. Juvenile's perceived collective efficacy also predicts fewer delinquent acts in late adolescence, whereas primary caregiver's perceived collective efficacy is not a significant predictor.

Table 2. Negative Binomial Regression of Environmental Disorder on Delinquency

	Model 1	
	β	(SE)
Main Effect		
Environmental disorder	-0.00	(0.01)
Primary caregiver characteristics		
Relationship to child (ref = Biological father)		
Biological mother	-0.10	(0.12)
Household size	-0.00	(0.02)
Marital status (ref = Not married)		
Married	-0.19*	(0.08)
Poverty level (ref = Below poverty level)		
At poverty level	-0.02	(0.08)
Moderately above poverty level	-0.16	(0.09)
Greatly above poverty level	-0.22*	(0.09)
Education status (ref = Less than high school)		
High school or equivalent	0.14	(0.11)
Some college or tech	0.03	(0.09)
College or Grad	-0.04	(0.12)
Neighborhood gang problems		
Agree	0.16*	(0.08)
Primary Caregiver's perceived collective efficacy	0.01	(0.01)
Child characteristics		
Race/ethnicity (ref = White)		
Black/African American	0.14	(0.10)
Hispanic/Latino	0.06	(0.11)
Other Race	0.09	(0.18)
Multi-Racial	-0.03	(0.16)
Delinquent acts from previous year	0.12***	(0.02)
Sex (ref = Male)		
Female	-0.41***	(0.06)
Age	-0.01	(0.05)
Extra-curricular activities	-0.00	(0.02)
Perceived Collective Efficacy	-0.02*	(0.01)
Impulsivity	0.08***	(0.01)
Peer Delinquency	0.21***	(0.01)
Observations	1889	
AIC	4682.7925	
BIC	4815.8438	

Standard errors in parentheses
Source: Fragile Families Dataset
N=1,889
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3 shows the simple mediation analysis of environmental disorder, extra-curricular activities, and delinquent acts. Model 2 establishes that children living near environmental disorder at Year 9 significantly predicts more delinquent acts (b =.074, p<.001). Model 3 shows that environmental disorder significantly predicts less extra-curricular activities (b =-.035, p<.001). In Model 4, youth's extra-curricular activities significantly predict fewer delinquent acts (b =-.080, p<.001). In Model 5, environmental disorder significantly predicts more delinquent acts (b =.070, p<.001) while controlling for youth's extra-curricular activities. After controlling for youth's extra-curricular activities, the magnitude of environmental disorder decreases from .074 to .070 (about a 5 % difference). This indicates that the number of extra-curricular activities that youths participate in partially mediates the effect of environmental disorder on the number of delinquent acts that children engage in. Model 6 includes the full model with both primary caregiver's and children's demographic characteristics. Environmental disorder and extra-curricular activities no longer remain as significant predictors of delinquent acts after doing so.

Table 3. Meditation Analysis

	Disorder → Delinquency		Disorder → Extra-Curricular Activities		Extra-Curricular Activities → Delinquency		Disorder & Extra-Curricular Activities → Delinquency		Full Model	
	Model 2		Model 3		Model 4		Model 5		Model 6	
	β	(SE)	β	(SE)	β	(SE)	β	(SE)	β	(SE)
Primary Independent Variable										
Environmental Disorder	.074***	(0.01)	-.035***	(0.01)			.070***	(0.01)	.005	(0.01)
Mediator Variable										
Extra-curricular activities					-.080***	(0.020)	-.073***	(0.02)	-.003	(0.02)
Primary caregiver characteristics										
Perceived collective efficacy									.009	(0.01)
Relationship to child (ref = Biological father)										
Biological mother									-.088	(0.12)
Household size									-.007	(0.02)
Marital status (ref = Not married)										
Married									-.198*	(0.08)
Poverty level (ref = Below poverty level)										
At poverty level									-.058	(0.08)
Moderately above poverty level									-.185	(0.09)
Greatly above poverty level									-.246*	(0.09)
Education level (ref = Less than high school)										
High school or equivalent									.133	(0.11)
Some college or tech									.021	(0.09)
College or Grad									-.064	(0.12)
Neighborhood gang problems (ref = Disagree)										
Agree									.184*	(0.08)
Child characteristics										
Race/ethnicity (ref = White)										
Black/African American									.145	(0.10)
Hispanic/Latino									.041	(0.11)
Other race									.003	(0.18)
Multi-racial									.018	(0.16)
Sex (ref = Male)										
Female									-.411***	(0.06)
Child's age									-.009	(0.05)
Delinquent Acts									.093***	(0.02)
Perceived collective efficacy									-.021*	(0.01)
Impulsivity									.075***	(0.01)
Peer Delinquency									.212***	(0.01)
Observations					1889					
AIC	5331.2199		7371.2083		5341.8127		5321.2079		4682.7925	
BIC	5347.8513		7387.8397		5358.4441		5343.3832		4815.8438	

Standard errors in parentheses
Source: Fragile Families Dataset
N=1,889
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4 presents environmental disorder around Year 9 as a binary indicator on the number of delinquent acts committed by children around Year 15. Environmental disorder is not a significant predictor of the number of delinquent acts that children commit around Year 15, however, environmental disorder is not a more descriptive, continuous variable in this analysis. Simply indicating that a child lived in environmental disorder around Year 9 does not appear to be a sufficiently descriptive measure for disorder. Additionally, Model 7 includes the full set of demographic characteristics for both primary caregivers and children. Simply indicating whether a child lived in environmental disorder at Year 9 is not a significant predictor of the number of delinquent acts that children will commit around Year 15. These models strongly suggest that a binary indicator, like the models with the continuous measures of environmental disorder in Table 2 does not significantly predict more delinquent acts in Year 15.

Table 4. Analysis of Environmental Disorder (Binary) on Delinquency

	Model 7	
	β	(SE)
Main effect		
Environmental disorder present (ref = No)		
Yes	.094	(0.08)
Primary caregiver characteristics		
Relationship to child (ref = Biological father)		
Biological mother	-.079	(0.12)
Household size	-.007	(0.02)
Marital status (ref = Not married)		
Married	-.190*	(0.08)
Poverty level (ref = Below poverty level)		
At poverty level	-.058	(0.08)
Moderately above poverty level	-.184	(0.10)
Greatly above poverty level	-.237*	(0.11)
Education status (ref = Less than high school)		
High school or equivalent	.131	(0.10)
Some college or tech	.024	(0.09)
College or Grad	-.058	(0.12)
Neighborhood gang problems (ref = Disagree)		
Agree	.184*	(0.08)
Perceived collective efficacy	.010	(0.01)
Child characteristics		
Race/Ethnicity (ref = White)		
Black/African American	.136	(0.10)
Hispanic/Latino	.033	(0.11)
Other Race	.002	(0.18)
Multi-Racial	.015	(0.16)
Delinquent Acts	.094***	(0.02)
Sex (ref = Male)		
Female	-.410***	(0.06)
Extra-curricular activities	-.003	(0.01)
Perceived Collective Efficacy	-.021*	(0.01)
Impulsivity	.075***	(0.01)
Peer Delinquency	.212***	(0.01)
Observations	1889	
AIC	4681.3982	
BIC	4814.4495	

Standard errors in parentheses
Source: Fragile Families Dataset
N=1,889
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

DISCUSSION

Prior research has found that environmental disorder is associated with an increase in deviant or delinquent behavior, as well as violence, drug use, and residential instability (Bashir 2002; Burdette, Hill, and Hale 2011; Branas, Rubin, and Guo 2012; Garvin, Cannuscio, and Branas 2013; Morrissey 2016; Cohen et al. 2003). In this study, I added to the existing literature by investigating (a) how exposure to environmental disorder in early adolescence influences delinquency in late adolescence, and (b) how extra-curricular activities might serve as a mechanism of social control that mediates the relationship between environmental disorder and delinquency. I found that living in environmental disorder at Year 9 does not significantly predict the number of delinquent acts that juveniles commit at Year 15. Although this relationship was not significant, there were several other significant predictors of delinquency in late adolescence. Namely, the number of delinquent acts committed in Year 9, impulsivity, primary caregiver's belief that there are gang problems in the neighborhood, and peer delinquency have a stronger effect on the number of delinquent acts in Year 15 than environmental disorder. Furthermore, when parental and child characteristics were included in the simple regression model presented in Table 2, environmental disorder became insignificant while delinquents acts in Year 9, impulsivity, and gang problems became significant predictors. In this case, individual-level characteristics had a stronger impact on delinquency than community-level factors, however, typical measures of social disorganization are omitted from this analysis and cannot be entirely rejected as a major influence on these findings. This is contrary to the theoretical premise of Broken Windows theory that posits that physical incivilities and disorder in the environment should lead to increased criminal behavior, and in this study, delinquency (Wilson and Kelling 1982). Based on this finding, I must reject my

hypothesis that living in higher levels of disorder at Year 9 significantly predicts delinquency in Year 15.

Environmental disorder may not directly increase the number of delinquent acts that juveniles commit in Year 15, however, it may instead operate through the aforementioned predictors of delinquency in Year 15. Gangs may form in areas of with high levels of disorder and the members of these gangs may be comprised of those who have a history of engaging in delinquent activities. Disorderly environments also facilitate activities that those who have more impulsive dispositions are susceptible to and these environments are ideal places for children and their peers to engage in behaviors that are deemed unacceptable in more orderly environments. For instance, neighborhoods with higher levels of physical disorder may foster a child's impulsivity and proclivity to engage in deviant and delinquent behavior. A unique culture may form in neighborhoods with higher levels of disorder where impulsive behavior is permitted because it has become indistinguishable from the other deviant behaviors that members of those communities engage in, and therefore, impulsive activities are implicitly encouraged because they are not being discouraged (Turanovic, Pratt, and Piquero 2018; Vogel and Ham 2018). In addition to this, environmental disorder may serve to set the stage for other facets of delinquency and deviance in communities plagued by disorder. Unstructured socializing may run rampant enough that eventually they begin to form gangs or perhaps children have been living in environmental disorder for quite some time and only increases their propensity to commit more deviant acts. Furthermore, environmental disorder may inspire the fear of crime in members of these communities. The social cues that physical disorder conveys to those susceptible to opportunities for crime, like those who have a proclivity for impulsivity, that disorderly environments are safe places to commit crime. Moreover, physical disorder may also work in

both directions where this social cue also conveys that disorderly environments are unsafe for those who do not engage in deviant activities thereby increasing the community's fear of crime (Gearhart et al. 2019).

From a broken windows perspective, physical disorder within neighborhoods deters cities and other entities from investing in these communities, and as a result, a cycle of disadvantage and disorder. For instance, dilapidated buildings, or brownfields in an urban context, could potentially harbor contaminants, pollutants, or other hazardous chemicals that are harmful not only to the environment but also to the people living near them (Anon n.d., Anon n.d.; Collins n.d.; Corey n.d.; Greenberg and Lewis 2000; Hiestand n.d.; Jackson, Newsome, and Lynch 2017; Yount 2003). The negative effects of living near these contaminated brownfield sites could manifest as misbehavior in children, engaging in more deviant activities, and problems with impulsivity, as mentioned earlier. My findings suggest that living in disorder in early adolescence does not directly motivate delinquency in late adolescence. Living in environmental disorder at Year 9 may have a direct effect on delinquency in Year 9, which then contributes to delinquency in Year 15. Furthermore, disorder likely operates indirectly through the weakened social controls of a community like a lack of supervision. On top of this, disorder, weakened social controls, and delinquency appear to be components of a cyclical feedback loop of disorder encouraging social disorganization in communities (residential instability, low socioeconomic status, ethnic heterogeneity), which leads to increased unstructured socializing for juveniles to participate in who ultimately contribute to disorder via their deviant behavior (Steenbeek and Hipp 2011).

My findings show support for my second hypothesis, as the number that of extra-curricular activities a child participates in mediates the relationship between environmental

disorder in early adolescence and delinquency in late adolescence. In my mediation analysis, I found that the the number of extra-curricular activities that juveniles participate in during late adolescence partially mediates the effect of environmental disorder in early adolescence on delinquency in late adolescence. Higher levels of environmental disorder predicted more delinquency and less extra-curricular activities, whereas participating in more extra-curricular activities predicted fewer delinquent acts. Disorder has been purported to weaken social controls, and extra-curricular activities predicting fewer delinquent acts is supported in this analysis. Extra-curricular activities can function as a source of informal social control that allows juveniles to have autonomy but with due to parental supervision or an equivalent guardian. Neighborhoods plagued by disorder are overlooked for investment opportunities and as such may have little to no resources for extra-curricular engagements for juveniles. Extra-curricular activities provides youth with structured socializing and supervision making it more difficult to engage in delinquent behavior in criminogenic settings. Minimizing the amount of time that juveniles spend unstructured socializing is a pivotal component in diverting youth from engaging in criminal activities or delinquency.

Policy Implications

Even though environmental disorder did not have a direct relationship with delinquency in late adolescence, once other pertinent factors were controlled for in models, environmental disorder likely has an indirect effect that operates through other criminogenic factors. Therefore, reducing environmental disorder in communities in an effort to curb high rates of delinquency should be thoroughly considered. There are a few policy implications based on the results of this study that may help curb negative outcomes associated with living in disorderly environments. The Environmental Protection Agency (EPA), for instance, provides a plethora of grants for the

assessment, cleanup, and redevelopment of brownfield sites that may or may not be contaminated (US EPA 2020). This is a pivotal step in the redevelopment of several dilapidated buildings in a neighborhood and transforming them into more attractive buildings that could also be used as much-needed community resource centers such as venues for community activities, clinics, or entertainment centers (Anon n.d.; Greenberg and Lewis 2000). Cleaning up areas with waste and litter may discourage and demotivate deviant activities within these neighborhoods with high levels of environmental disorder. Local stakeholders, community members, or organizations can also organize cleanups without going through the process of applying for funds or grants that are only given to a few communities.

In addition to these programs, the EPA has information on many the redevelopment of these dilapidated buildings and other structures would also promote more prosocial activities that adolescents could participate in. My study found that adolescents who participate in more extra-curricular activities partially mediates the effect of environmental disorder on delinquency in late adolescence. Disorder predicted less participation in extra-curricular activities, and extra-curricular activities predicted less delinquency. Therefore, redeveloping and cleaning up buildings and areas of disorder could effectively be a "two-for-one" in addressing these interrelated issues. Parents could also participate in these community activities with their children to provide structured activities in which adolescents can participate. In a similar vein, improving the physical spaces in disadvantaged communities is another potential solution to addressing subsequent juvenile delinquency in adolescence. Superfund site cleanups have been found to be positively associated with an increase in neighborhood investments, property values, and decreases in stigma (Maxwell et al. 2018).

Funding opportunities that are more localized and not centralized like the grants provided by the EPA may be, more accessible to communities that do not have the resources to apply for them. Keep America Beautiful, for instance, has an array of community grants that allow communities to "leverage local resources and encourage volunteers to sign up and take action in their community" (Anon 2022). Additionally, city-sponsored investments could also prove to make an impactful difference on neighborhoods suffering from environmental disorder (Velez and Lyons 2014). Community members can draw petitions to make their voices and concerns about the environment heard. Pressuring the representatives of these districts that are plagued by disorder. Members can also reach out to local institutions such as fire departments, environmental, and educational organizations that would be willing to collaborate on environmental issues and provide outreach materials.

Limitations

There are several limitations to be considered in light of this study's findings. First, higher aggregates of data, such as census-tract or city-level data, may contribute to this study because there may be important demographic characteristics at these levels that are driving the patterns examined in my analysis. The crime rates for these neighborhoods may affect the amount of delinquency and criminal activity that were observed in this individual-level analysis. In this case, these communities may be over-policed as a policing strategy to address areas with higher crime rates and in turn would increase delinquent activities. Unfortunately, these measures were not available in the utilized dataset.

Second, although all relevant (and available) control variables were included in the analytical models, the relationships investigated in this study may be influenced by factors that are not available in the individual-level data used for this study. For example, the percentage of

immigrants could change the results given that immigrants could change the results given that immigration is a protective factor against crime (Sampson 2011). Third, this study examined how several indicators of disorder influences children's delinquent behavior during adolescence. As such, I was not able to fully test the theories I outlined. The data used does not provided sufficient data on social institutions such as schools, fire stations, and churches might influence the findings of this study. Broken Windows theory was only partially tested in this study, especially given that juveniles are the focal people whose delinquent behaviors are not usually considered serious crimes. Lastly, one study strongly suggested that social disorganization, disorder, social control, and unstructured socializing are cyclical in nature (Steenbeek and Hipp 2011). With the data provided I was not able to thoroughly test this theory due to the lack of typical community indicators of social disorganization and limited measures of disorder and mechanisms of social control.

Fourth, data on the number of arrests in these neighborhoods and this relates to disorder and delinquency was unavailable and therefore remain unexplored. Factors such as living near landfills, contaminated water, buildings with asbestos, etc. could harbor consequences that are not being fully explored and may be harmful to both the environment and the residents living in that environment. Finally, another limitation is that the FFCWS oversampled low-income families, and as such, these patterns are likely to reflect in these sampling decisions, as families in higher income brackets are not equally represented. The Fragile Families data set only contains cross sectional weights for these unequal proportions. Given that my analysis is a longitudinal one that uses cases from multiple waves and the data set lacks longitudinal sampling weights, these results may be biased. As such, the patterns uncovered in this analysis and conclusions drawn from them may not be generalizable to middle- or upper-class families.

CONCLUSION

Environmental disorder likely has some effect on the commission of delinquent activities. Although this relationship may not be direct one, it operates through different components of the community, such as informal social control, and other characteristics that are predictive of delinquency are correlated with environmental disorder. Extra-curricular activities serve as an important proxy for potential informal social control in this analysis, especially since the collective efficacy of these neighborhoods is included in the models. Future research could disentangle other factors that might moderate this relationship, such as the racial composition of neighborhoods. A multi-level analysis would be beneficial to further investigate the findings of my study. Using GIS data could designate which areas have a more objective signs of disorder that are defined by governmental agencies such as the Environmental Protection Agency. Other factors that were not included were political contexts as some city-wide policies may worsen pre-existing environmental degradation and disorder.

The Federal Urban Renewal Program was enacted between 1949 and 1974 to demolish dilapidated buildings and other structures to improve aging infrastructure and modernize neighborhoods; however, this program displaced many families in the process and had racist undertones due to the prevalence of structural disadvantage in communities of color (Fairbanks 2020). I propose a revamping of this program with updated guidelines that account for communities of color and those living in blighted communities. The program should facilitate the securing of loans for people of color and should not displace people who live in disorderly communities. Instead, transitional housing should be accessible for those in these communities and residents should be given the option to return to these new and improved communities after renewal. Implemented this way, I suspect the problem of urban blight and disorder can be

addressed for the first time in decades. To summarize, environmental disorder can be approached from multiple disciplines and with a myriad of solutions. Environmental disorder is a multidisciplinary public health issue, and funding should be allocated towards alleviating this issue for the betterment of neighborhood conditions to discourage delinquency and more serious crimes in young adulthood, as well as for the betterment of physical and mental health, socioeconomic status, and livelihoods of those living in environmental disorder.

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Appendix

Appendix A: Child Self-Reported Delinquency Questions (Year 15)

Things You Have Done Scale	
Variable Name	Survey Question
Delinqbeh1	Paint graffiti or signs on private property/public spaces
Delinqbeh2	Deliberately damaged property that didn't belong to you
Delinqbeh3	Taken something from a store without paying for it
Delinqbeh4	Gotten into a serious physical fight
Delinqbeh5	Hurt someone badly enough to need bandages or care from a doctor or nurse
Delinqbeh6	Driven a car without its owner's permission
Delinqbeh7	Stolen something worth more than $50
Delinqbeh8	Went into a house or building to steal something
Delinqbeh9	Used or threatened to use a weapon to get something from someone
Delinqbeh10	Sold marijuana or other drugs
Delinqbeh11	Stolen something worth less than $50
Delinqbeh12	Taken part in a group fight
Delinqbeh13	Were you loud, rowdy, or unruly in a public place

Appendix B: Environmental Disorder Index (Year 9)

Neighborhood Conditions	
Variable Name	Survey Question
litter	Garbage, litter, or broken glass in the street or road
bldgcond	General condition of most of the buildings on the block
graffiti	Graffiti on the buildings or walls of buildings on the block
vacant	Vacant, abandoned, or boarded-up buildings on the block
vehicles	Abandoned vehicles on the block
streetcond	Condition of the street in front of the respondent's home

Appendix C: Child's Extra-Curricular Activities (Year 15)

Extra-Curricular Activities	
Variable Name	Survey Question
extra1	Athletic or sports teams?
extra2	Group performance activities such as orchestra, band, choir, dance, or theater?
extra3	Scouts or hobby clubs?
extra4	School activities such as clubs or student government?

extra5	Religious services?
extra6	Volunteer service activities?

Appendix D: Primary Caregiver Efficacy Questions (Year 16)

Primary Caregiver's Perceived Collective Efficacy	
Variable Name	Survey Question
P6i2	Neighbors would get involved if children skip school and hang out on street
P6i3	Neighbors would get involved if children spray paint buildings with graffiti
P6i4	Neighbors would get involved if children show disrespect to an adult
P6i5	Neighbors would get involved if fight broke out in front of house/building
P6i6	Neighbors would get involved if fire station was threatened and budget cut
P6i7	People around here are willing to help their neighbors
P6i8	This is a close-knit neighborhood
P6i9	People in this neighborhood generally don't get along with each other
P6i10	People in this neighborhood do not share the same values

Appendix E: Child Self-Reported Efficacy Questions (Year 15)

Child's Perceived Collective Efficacy	
Variable Name	Survey Question
k6e2a	People around here are willing to help their neighbors
k6e2b	This is a close-knit neighborhood
k6e2c	People in this neighborhood generally don't get along with each other
k6e2d	People in this neighborhood do not share the same values
k6e3a	Neighbors would get involved if children skipped school
k6e3b	Neighbors would get involved if children spray paint buildings
k6e3c	Neighbors would get involved if children show disrespect to adults
k6e3d	Neighbors would get involved if fight broke out in front of the house

Appendix F: Child Self-Reported Impulsivity Questions (Year 15)

Child's Impulsivity	
Variable Name	Survey Question
k6d2a	I don't spend enough time thinking over a situation before I act

k6d2p	I often say and do things without considering the consequences
k6d2r	The plans I make don't work out because I haven't gone over them
k6d2z	I often make up my mind without taking the time to consider
k6d2ab	I often say whatever comes into my head without thinking first
k6d2aj	I often get into trouble because I don't think before I act

Appendix G: Child Self-Reported Delinquency Questions (Year 9)

Things You Have Done Scale	
Variable Name	Survey Question
k5f1a	Purposely damaged or destroyed property that wasn't yours
k5f1b	Taken or stolen something from another person or from a store
k5f1c	Taken money at home, like from your mother's purse/ dresser
k5f1d	Cheated on a school test
k5f1e	Had a fist fight with another person
k5f1f	Hurt an animal on purpose
k5f1g	Trespassed into somebody's garden, backyard, house, or garage
k5f1h	Ran away from home
k5f1i	Skipped school without an excuse
k5f1j	Secretly taken a sip of wine, beer, or liquor
k5f1k	Smoked marijuana, grass, pot, weed
k5f1l	Smoked a cigarette or used tobacco
k5f1m	Been suspended or expelled from school
k5f1n	Written things or spray painted on walls or sidewalks or cars
k5f1o	Purposely set fire to a building, a car, or other property or tried to do so
k5f1p	Avoided paying for movies, bus or subway rides or food
k5f1q	Thrown rocks or bottles at people or cars

Appendix H: Child Self-Reported Peer Delinquency Questions (Year 15)

Child's Peer Delinquency	
Variable Name	Survey Question
k6d62a	Friends smoked an entire cigarette
k6d62b	Friends drank alcohol more than two times without their parents

k6e2c	Friends tried marijuana
k6d62d	Friends tried other drugs to get high
k6d62e	Friends asked to go drinking with them
k6d62f	Friends given or sold marijuana to you
k6d62g	Friends deliberately damaged property that did not belong to them
k6d62h	Friends stole something worth more than $50
k6d62i	Friends used or threatened to use a weapon to get something
k6d62j	Friends sold marijuana or other drugs
k6d62k	Friends stole something worth less than $50