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ABSTRACT

Parents, Neighbors and Youth Crime*

We study the interplay between parental and peer socialization in shaping criminal behavior among adolescents. We develop a simple cultural transmission model where parents affect how society influences their children's decisions. The model predicts that parental and peer socialization are substitutes in the development of juvenile crime. We then take the model to the data using information on a representative sample of adolescents in the United States. Using the geographical distances be- tween residential addresses of individuals in the same grade and school to measure peer influences, we find that negative peer effects on juvenile crime are significantly lower for teenagers with engaged mothers. Consistently with the prediction of our model, this evidence reveals an important role of parents in mediating the impact of neighborhoods on youth crime. The influence of parents is especially important for drug trafficking, assault and battery.

JEL Classification: J13, K42, R11, R23, Z13

Keywords: neighborhood peer effects, juvenile delinquency, parental involvement

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I Introduction

While urban youth crime is a common topic in the present policy debate, there is scarce causal evidence about the magnitude and mechanisms of neighborhood effects on adolescents' criminal behavior (Glaeser and Sacerdote, 1999; Sanbonmatsu et al., 2011). In particular, little is known on how parents can help offspring in dealing with negative peer pressure. In this paper, we explore whether parental involvement in their children's life affects adolescents' willingness to conform to peer pressure to engage in criminal acts (Balester et al., 2010; Bayer et al., 2009; Calvó-Armengol and Zenou, 2004; Lee et al., 2020).

Inspired by the literature on cultural transmission initiated by Bisin and Verdier (2000, 2001), we model juvenile criminal behavior as the outcome of a socialization process inside the family (*vertical* socialization) with socialization outside the family (*oblique* or *horizontal* socialization) via imitation and learning from peers and role models. We present a model of cultural transmission of moral values where parents are altruistic agents that decide how much effort to exert in order to minimize offspring's criminal activity. The main innovation of our model is that parents are able to affect their children's taste for conformity: the more a parent is involved in the offspring's life, the lower is the disutility experienced by the young agent when her crime behavior deviates from that of the peer group. We solve the model and highlight the interplay between the vertical and horizontal channels, finding that the optimal parental involvement in transmitting moral values operates as a substitute to the level of honesty of peers (i.e., the marginal cost of socializing one's child increases with the level of delinquency of peers).

There are three main differences with the standard approach of cultural transmission à la Bisin and Verdier (2000, 2001) and Bisin et al. (2004). In this traditional approach, children are either directly socialized by their parents with a probability of success equal to the parent's effort put into transmitting their own given trait or if this direct socialization fails the child will be socialized by the society with the probability of success corresponding to the share of agents with their own given trait in the population. Differently from this framework, our model allows parents to affect how the society influences their children's decisions. A second difference is that our model allows for peer effects through friends (as opposed as through population averages). Finally, we model here the transmission of traits (moral values) that are vertically differentiated (so that everybody agrees that more is better than less).[1] While in the traditional framework each parent spends effort in

[1]Traits like religion or ethnicity are instead horizontally differentiated: it is just a matter of taste which religion or ethnicity is considered better.

transmitting her/his own trait, here only non-criminal parents conform to this behavior since criminal parents spend time with their children trying to help them become different. As a result, in our model there is no heterogeneity in preferences in the parental decision problem.

We bring our theoretical setup to data and test its predictions by using the National Longitudinal Survey of Adolescent to Adult Health (Add Health). Three features of the Add Health survey are unique and central to our analysis: (i) the geo-coded information on the respondents' residential location, (ii) the detailed information on parental behavior, including incarceration, (iii) the detailed information on criminal behavior of each individual and peers. We use the geographical distance between residential homes of students attending the same school to generate an exogenous variation in the composition of peer groups. Specifically, for each adolescent we measure the social norm using the weighted average of criminal activity of other students in the same school and grade, where the weights are the inverse of distances between the students' residential homes. The idea is that while choices regarding in which specific home to reside within a neighborhood is made by parents, those choices affect the strength of social interactions between kids (e.g., kids who live close-by spend time on the bus to school of a similar length or are more likely to spend time together outside the classroom).[2]

Our analysis reveals strong evidence of neighborhood spillovers on youth criminal activity and of negative cross effects with parental involvement.

Understanding how socio-economic and cultural values are transmitted from one generation to another is a question of great policy interest. The basic cultural transmission model of Bisin and Verdier has been applied to several environments, with different variations (see Bisin and Verdier, 2011, for an overview). The papers closer to ours are Patacchini and Zenou (2011) and Patacchini and Zenou (2016). Patacchini and Zenou (2011) studies the intergenerational transmission of education. Similarly to our context, education is a trait that is vertically differentiated. Differently to our approach, peer influences are captured using residential neighborhood education levels. Patacchini and Zenou (2016) studies the intergenerational transmission of religion. It is similar to our model because peer influences are modeled using a social network approach. It is also

[2]Horrace et al. (2019) provide empirical evidence on the relevance of peer effects in academic performance for primary school children in New York City, finding that bus-route and bus-stop peers are as important as gender, country-of-birth and ethnicity peers. Using data from Facebook to explore the spatial structure of social networks in the New York metro area, Bailey et al. (2020) show that a substantial share of urban residents' connections are to individuals who are located nearby. The fact that people geographically close are more likely to be friends and develop close ties between them is a finding also common to in a large sociological literature (see, e.g., Coombs, 1973; Feld and Carter, 1998; Festinger et al., 1950; Hare, 1973; Mouw and Entwisle, 2006).

quite different since we focus on how parents are able to offset negative oblique or horizontal socialization forces, rather than on the consequences of direct vertical socialization efforts exerted by parents. In both papers the successful socialization of children in the second stage is exogenously determined by the norm in the reference group (neighborhood or friends, respectively). The innovation in our model is that parents can affect the offspring's taste for conformity to this norm.

This paper also lies at the intersection of two different literatures that, to the best of our knowledge, have remained separated up until now. On one hand, there is the large literature on peers effects in crime pioneered by Glaeser et al. (1996). Recent studies have shown the presence of agglomeration externalities for youth crime (Billings et al., 2019; Damm and Dustmann, 2014; Rotger and Galster, 2019). Our paper enriches this literature on neighborhood effects in youth crime and suggests a potentially important mediation effect of parents. The presence of this effect may help understanding the findings of experimental studies that show that moving from public housing in deprived neighborhoods to private housing in better neighborhoods does not have a consistent impact on youth crime (Kling et al., 2005; Ludwig et al., 2001; and Sanbonmatsu et al., 2011 for a review).

The second strand of literature comprises studies looking at the effects of parental involvement on crime and other risk taking behaviors (Aizer, 2004; Averett et al., 2009; Cobb-Clark and Tekin, 2014).[3] Using a survey of youths living in low-income Boston neighborhoods, Case and Katz (1991) find that neighbors and family adult behaviors are strongly related to analogous youth behavior, highlighting the importance of role model effects. Our study proposes a different mechanism of parental influence: parents may also affect how the society influences their children's decisions. Our novel micro-foundation of the interplay between peers and parents is not rejected by the data.

II Theoretical Model

Consider a two-period model with two generations: old (parents) and young (offspring) agents, such that each old agent is matched with one young agent. First, old agent i selects the optimal level of parental involvement or parental effort, σ_i^*. Then, young agent i decides how much effort to exert in criminal activities, e_i. Following the logic of backward induction, we are going to start with the optimization problem of the offspring,

[3]Although the literature in economics is thin, there is a large sociological literature documenting the relation between parental involvement and children's troubling behavior (e.g., Amato and Rivera, 1999; Bronte-Tinkew et al., 2006; Hamza and Willoughby, 2011; Harris et al., 1998; Harris and Marmer, 1996).

and then use that result to solve the parent's problem.

II.i Offspring's Optimization Problem

We focus on a finite set of young agents, $N = \{1, \ldots, n\}$, and denote by $e_i(\mathbf{g})$ the level of effort exerted into criminal activities by agent i (in network $\mathbf{g}$). The corresponding adjacency matrix, denoted by $\mathbf{G} = [g_{ij}]$, keeps track of the connections in the undirected graph $\mathbf{g}$ (i.e., $\mathbf{G}$ is symmetric: $g_{ij} = g_{ji}$). We also denote by $\overline{e}_i(\mathbf{g})$ the average crime effort exerted by the peers of i, which is given by:

$$\overline{e}_i(\mathbf{g}) = \frac{1}{g_i} \sum_{j \neq i}^{n} g_{ij} e_j \tag{1}$$

where $g_i = \sum_{j \neq i}^{n} g_{ij}$. From now on, when there is no risk of confusion, we drop the argument $\mathbf{g}$. Each criminal selects an effort $e_i \geq 0$ and obtains a payoff $U_{y,i}(e_i, \overline{e}_i)$, given by the following utility function:[4]

$$U_{y,i}(e_i, \bar{e}_i) = a + b_i\, e_i - p\, e_i\, f - \frac{1}{2}\, e_i^2 + d_i \left[b_i\, e_i - p\, e_i\, f - \frac{1}{2}\, (e_i - \overline{e}_i)^2 \right] \tag{2}$$

with $a, b_i > 0$ for all i, and where b_i is a function of the perfectly observable characteristics, $\mathbf{x}$, of young agent i and her friends:

$$b_i(\mathbf{x}) = \sum_m \beta_m x_i^m + \frac{1}{g_i} \sum_m \sum_{j \neq i}^{n} \theta_m g_{ij}\, x_j^m \tag{3}$$

Following Becker's (1968) seminal paper, young agents will decide the amount of criminal effort, e_i, that maximizes the net benefit of being a criminal, given by (2). As expected, the criminal benefit, $a + b_i e_i$, is increasing in the level of effort, where b_i represents young agent i's criminal productivity. On the other hand, the cost of committing crime is the result of three factors: (i) the probability of being caught, pe_i, times the monetary equivalent of the punishment, f; (ii) young agent's cost of exerting effort into criminal activities, e_i^2; and (iii) the social cost of deviating from the reference group, $(e_i - \bar{e}_i)^2$.

Assume $b_i > p\, f$ for all i, and $d_i \equiv d(\sigma_i)$, with $d'(\sigma_i) < 0$ and where σ_i represents the level of parental effort. According to (2), the more the parent is involved with the kid and disapproves crime (i.e., higher σ_i): (i) the lower is the idiosyncratic criminal benefit,

[4] Equation (2) is a modified version of the utility function in Patacchini and Zenou (2012). While in Patacchini and Zenou (2012) parental effort is exogenous, equation (2) lets parents affect the payoff kids obtain from crime by adjusting their parental effort, σ.

net of the expected monetary cost of being caught and punished, and (ii) the lower is the disutility when young agent i's crime effort deviates from that of the peer group (i.e., a decrease in i's taste for conformity). In other words, parental involvement affects parental socialization and, as a result, the payoff obtained from crime by young agents.

The first-order condition is given by:

$$e_i^* = b_i - p\ f + \frac{d_i}{1+d_i}\overline{e}_i^* \tag{4}$$

where $*$ denotes an equilibrium variable. According to (2), old agents are able to affect how conformism influence the payoff young agents get from criminal activities. However, (4) tells us that, at equilibrium, parental involvement can reduce the level of crime effort exerted by young agents through decreasing the influence of the peer group, only.

In matrix form, (4) can be written as follows:

$$\mathbf{e}^* = \beta + \mathbf{D}\,\widetilde{\mathbf{G}}\,\mathbf{e}^* \tag{5}$$

where

$$\mathbf{e} = \begin{pmatrix} e_1 \\ ... \\ e_n \end{pmatrix}, \qquad \beta = \begin{pmatrix} b_1 - p\ f \\ ... \\ b_n - p\ f \end{pmatrix}, \qquad \mathbf{D} = \begin{pmatrix} \frac{d_1}{1+d_1} & 0 & \dots & 0 \\ 0 & \frac{d_2}{1+d_2} & \dots & 0 \\ \vdots & \vdots & \ddots & \vdots \\ 0 & 0 & \dots & \frac{d_n}{1+d_n} \end{pmatrix},$$

and $\widetilde{\mathbf{G}} = (g_{ij}/g_i)$ is the row-normalized matrix of $\mathbf{G}$. Solving (5) leads to:

$$\mathbf{e}^* = \left(\mathbf{I} - \mathbf{D}\,\widetilde{\mathbf{G}}\right)^{-1}\beta \tag{6}$$

It can be shown that, under reasonable assumptions, there exists a unique Nash equilibrium where the amount of crime committed by each agent is given by the solution described by (4) and (6).

Proposition. *Consider the model above where all individuals have ex-ante idiosyncratic and peer heterogeneities, and different tastes for conformity. Assume that $b_i > p\,f$ for all i. Then, there exists a unique Nash equilibrium where each individual i provides the crime effort given by* (4) *or* (6).

Proof. We need to show that $\mathbf{I}-\mathbf{B}$ is non-singular (i.e. invertible), where $\mathbf{B} \equiv \mathbf{D}\,\widetilde{\mathbf{G}}$. We know that $\mathbf{I}-\mathbf{B}$ is non-singular if $\rho(\mathbf{B}) < 1$, where $\rho(\mathbf{B})$ is the spectral radius of $\mathbf{B}$ (see, e.g., Meyer, 2000, page 618). This means that, in our case, the condition for invertibility is given by:

$$\rho\left(\mathbf{D}\,\widetilde{\mathbf{G}}\right) < 1$$

First, observing that since $\widetilde{\mathbf{G}}$ is a row-normalized matrix, then $\rho(\mathbf{G}^*) = \mathbf{1}$. Second, observe that, since $\mathbf{D}$ is a diagonal matrix, then $\rho(\mathbf{D}) = \max\left\{\frac{d_1}{1+d_1}, ..., \frac{d_n}{1+d_n}\right\} < 1$. This is because the diagonal entries of $\mathbf{D}$ are the eigenvalues of $\mathbf{D}$. Furthermore, we have:

$$\rho\left(\mathbf{D}\,\widetilde{\mathbf{G}}\right) \leq \left\|\mathbf{D}\widetilde{\mathbf{G}}\right\| \leq \|\mathbf{D}\| \left\|\widetilde{\mathbf{G}}\right\| = \rho(\mathbf{D})\rho(\widetilde{\mathbf{G}}) = \rho(\mathbf{D}) < \mathbf{1}$$

Therefore, $\rho\left(\mathbf{D}\,\widetilde{\mathbf{G}}\right) < 1$ is always true and the result is proved. ■

Observe that $\overline{e}_i$ does not depend on σ_i since the effort of i is not included in $\overline{e}_i$. Thus, differentiating (4), we obtain (remember that $d_i \equiv d(\sigma_i)$ and $d'(\sigma_i) < 0$):

$$\frac{\partial e_i^*}{\partial \sigma_i} = \frac{d'(\sigma_i)}{(1+d_i)^2}\overline{e}_i < 0 \tag{7}$$

Then, when the parent increases σ_i, the offspring has, for example, less taste for conformity and thus the impact of $\overline{e}_i$ on e_i, the crime effort of the young agent, is reduced. Furthermore,

$$\frac{\partial e_i^*}{\partial \overline{e}_i \partial \sigma_i} = \frac{d'(\sigma_i)}{(1+d_i)^2} < 0$$

The higher is σ_i, the lower is d_i and, as a result, the lower is the impact of $\overline{e}_i$ (social norm) on the criminal's effort e_i.

II.ii Parent's Optimization Problem

The parent of young agent i maximizes the following altruistic utility function:

$$U_{o,i}(\sigma_i) = -e_i^*(\sigma_i) - C(\sigma_i) \qquad \text{for } i = 1, \ldots, n,$$

where $e_i^*(\sigma_i)$ is the criminal's equilibrium effort given by (4) or (6) and $C(\sigma_i)$ is the cost of providing parental effort σ_i, with $C'(\sigma_i) > 0$ and $C''(\sigma_i) > 0$ (i.e., C is strictly convex).[5]

[5]It is worth to notice that children's wellbeing is evaluated by parents from their own point of view. This form of paternalistic altruism is referred to as "imperfect empathy" (Bisin and Verdier, 2000, 2001).

This is equivalent to the following problem:

$$\min_{\sigma_i} \left[e_i^* \left(\sigma_i \right) + C(\sigma_i) \right]$$

The first-order condition gives:

$$\frac{\partial e_i^*}{\partial \sigma_i} + C'(\sigma_i) = 0$$

Using (7), we obtain:

$$- \frac{d'(\sigma_i)}{\left[1 + d\left(\sigma_i \right) \right]^2} \bar{e}_i = C'(\sigma_i) \tag{8}$$

It can be easily verified that the solution to the following first-order nonlinear ordinary differential equation

$$d'(\sigma_i) = -[1 + d(\sigma_i)]^2$$

is given by

$$d\left(\sigma_i \right) = \frac{c - \sigma_i + 1}{\sigma_i - c} \tag{9}$$

where $d'(\sigma_i) = -\left(\sigma_i - c \right)^{-2} < 0$. If (9) represents the functional form of $d(\sigma_i)$, the level of effort σ_i^* that solves the parent's optimization problem satisfies the new version of condition (8):

$$C'\left(\sigma_i^* \right) = \bar{e}_i \tag{10}$$

Since $C''(\sigma_i) > 0$, (10) implies that old agent i's preference for parental involvement is increasing in the average crime effort by young agent i's peers: when $\bar{e}_i$ increases, the offspring increases her crime effort, e_i^*, and thus the parent will select a higher level of σ_i^*, her optimal level of involvement in her offspring's optimization problem. In other words, *vertical* socialization operates as a substitute to *horizontal* socialization.

For simplicity, let us assume $c = 0$. Then, if we plug (9) into (4), young agent i's first-order condition can be rewritten as follows:

$$e_i^* = b_i - p\ f + \left(1 - \sigma_i^* \right) \bar{e}_i^* \tag{11}$$

This equation will be tested in the empirical analysis of this study.

III Empirical Model, Data and Identification Strategy

III.i Empirical Model

According to (1), the average level of crime effort of i's peers is given by

$$\bar{e}_i(\mathbf{g}) = \frac{1}{g_i}\sum_{j\neq i}^{n} g_{ij}e_j$$

where $g_i = \sum_{j\neq i} g_{ij}$ is the number of peers of offspring i. Young agent i's ex-ante *idiosyncratic heterogeneity*, denoted by b_i, is deterministic, perfectly observable and corresponds to the characteristics of i (e.g., sex, age, race, parental education) and the average characteristics of the peers of i (i.e., *contextual effects*). According to (3), the idiosyncratic heterogeneity is given by

$$b_i(\mathbf{x}) = \sum_m \beta_m x_i^m + \frac{1}{g_i}\sum_m\sum_{j\neq i}^{n} \theta_m g_{ij} x_j^m$$

where x_i^m is one of the M variables that accounts for the observable differences in individual characteristics of young agent i, whereas β_m and θ_m are parameters. In particular, θ_m captures the *exogenous or contextual effects* (i.e., how young agent i's crime effort depends on exogenous characteristics of i's peers).

Combining (1) and (3) according to the first-order condition given by (4), for individuals $i = 1, \ldots, n_r$ and networks $r = 1, \ldots, R$, we get the following empirical equation:

$$e_{i,r} = \rho\frac{1}{g_{i,r}}\sum_{j\neq i}^{n_{i,r}} g_{ij,r}e_{i,r} + \delta\left(\sum_m \beta_m x_{i,r}^m + \frac{1}{g_{i,r}}\sum_m\sum_{j\neq i}^{n_r}\theta_m g_{ij,r}x_{j,r}^m\right) + \psi p_{i,r} + \epsilon_{i,r} \qquad (12)$$

where $e_{i,r}$ is the crime effort by young agent i in network r, ρ represents the *endogenous effect* (i.e., the relation between young agent i's crime effort and the average crime effort of young agent i's reference group), $p_{i,r}$ represent deterrence, and $\epsilon_{i,r}$ is a white noise error. According to the theoretical model, the endogenous effect in (12) is a function of parental involvement, σ_i.

The first-order conditions represented by equation (11) capture the effect of parental involvement on the strength of peer effects as an interaction term:

$$e_{i,r} = \rho\bar{e}_{i,r} + \gamma\bar{e}_{i,r} * \sigma_{i,r} + \delta b_{i,r} + \psi p_{i,r} + \epsilon_{i,r} \qquad (13)$$

If our theory on parental involvement and crime-related peer effects is true, it must be the case that $\rho > 0$ and $\gamma < 0$: the more involved are parents with their offspring, the lower the offspring's willingness to emulate the crime behavior of peers.

The empirical model represented by (13) is a *spatial autoregressive model* (Anselin, 1988). A maximum likelihood approach is used to jointly estimate $\hat{\rho}$, $\hat{\gamma}$, $\hat{\delta}$, $\hat{\beta}$ and $\hat{\theta}$ (see, e.g. Lee, 2007).

III.ii Data and Estimation Strategy

Add Health, the largest and most comprehensive longitudinal survey of adolescents ever undertaken, was originally developed to study how social environments and behaviors during adolescent years are related to health and achievement outcomes in young adulthood. The survey initially collects information from a sample of about 90,000 students in (7th grade through 12th grade, at 130 private and public institutions, during the 1994-95 school year (Wave I). A subset of about 20,000 students (roughly 17 randomly selected boys and 17 randomly selected girls in each grade in each school) are also asked to compile a longer questionnaire containing more sensitive individual and household information ("in-home interview"). They were interviewed again in 1995-96 (Wave II).[6] Several features of this data are important for this study: (*i*) it provides information regarding all students in a school and grade, allowing us to identify each individual's social contacts and their characteristics, (*ii*) it has a longitudinal dimension, which provides respondents' information over time, (*iii*) it features a rich set of variables on characteristics, attitudes and preferences, including delinquency and parental involvement, (*iv*) it provides the spatial location of the individuals' homes, and (*v*) it has a large sample size that allows us to find a subsample of students that conforms to the requirements of this analysis.

Juvenile delinquency. The in-home questionnaire contains several questions on juvenile delinquency that can be used to construct an index of delinquency. These questions ask about recent participation in criminal activities that can be grouped in four categories: thefts, vandalism, drug dealing and violent crime (i.e., crime against the person). More specifically, the survey asks students how often they participated in each activity during the past year and each response is originally coded by using an ordinal scale from 0 (i.e., "never participated") to 1 (i.e., "participated one or two times"), 2 ("participated three or four times") up to 3 (i.e., "participated five or more times"). We construct an index of delinquency by first normalizing the responses to each question (0, for "never partic-

[6]For a more detailed description of the survey, please visit `http://www.cpc.unc.edu/projects/addhealth`.

ipated", to 1, for "participated five of more times") and then taking the average of the responses to the corresponding questions in each crime category.[7]

Network definition. One of the key challenges in the social networks literature is related to the endogeneity of the network formation: since friends are selected, it is hard to actually identify peer effects. In our analysis, instead of using self-nominated friends to map social interactions, we use unique information provided by the Add Health data on the spatial distance between residential homes of students in the same grade and school to generate an exogenous variation in the average criminal activity of peer groups. The key premise is that while children can certainly choose friends, they take the location of their residential home as given. This location however shapes the strengths of social interactions with their peers. Channels include (but are not limited through) shared activities within the neighborhood (church, sport facilities, camps within communities) and bus routes to school. This is particularly so for kids of similar age. Specifically, for each student i we calculate the inverse of the Euclidean distance between the home of a selected student i, and that of each student in her school and grade, $j \neq i$,

$$g_{ij}^{d} = \left[\left(X_i^{home} - X_j^{home} \right)^2 + \left(Y_i^{home} - Y_j^{home} \right)^2 \right]^{-\frac{1}{2}},$$

where X and Y denotes the geographical coordinates for each individual's home. The negative power function represents diminishing spatial effects in the distance between homes, due to less opportunities of peer interaction. Those spatial weights are then used to compute the weighted average of her peers' criminal activity,

$$\overline{e}_i(\mathbf{g}) = \frac{1}{g_i^d} \sum_{j \neq i}^{n} g_{ij}^d e_j,$$

where $g_i^d = \sum_{j \neq i} g_{ij}^d$. We exclude students with weights below the 5th percentile of the empirical distribution of distances (i.e., those who live too far away from their peers).[8]

Parental involvement. We measure parental involvement using the Add Health's question that asks if the respondent agrees or disagrees with the following statement:

[7] See Appendix Tables A.1 and A.2 for details.

[8] The fact that residential locations are made by parents rather than children is also exploited by Hill (2015) for a different empirical strategy. In that paper, the weighted average of the gender composition of someone's nearest same-school neighbors is used as an instrument for the gender composition of her self-reported friendship network. Kim et al. (2020) use the same idea to test their theory on how the formation of social ties are affected by the geographical location of other individuals and their social capital. According to their theoretical model, the level of social interactions is indeed inversely related to the geographical distance.

"When you do something wrong that is important, your mother talks about it with you and helps you understand why it is wrong".[9] The possible answers are "strongly disagree", "disagree", "neither agree nor disagree", "agree", and "strongly agree". Despite the fact that finding a good measure of parental involvement is always challenging, this question exhibits an interesting advantage when we try to identify parents with a preference for low parental engagement. In contrast to other measures (e.g., having family meals, practicing sports together, monitoring academic activities, etc.), even busy parents and busy adolescents should have time to talk, especially when children did "something wrong that is important." In other words, mothers whose kids answer "strongly disagree", "disagree" or even "neither agree nor disagree", could be identified as parents with a preference for low or no involvement in their offspring's decisions. If we have that $\sigma_i \in [\underline{\sigma}, \overline{\sigma}]$, for $i = 1, \ldots, n$, then $\underline{\sigma}$ and $\overline{\sigma}$ are equivalent to "strongly disagree" and "strongly agree", respectively.

Table A.3 in Appendix shows the distribution of the answers for the original sample: almost 1 out of 5 students in the sample reports to have a mother with low or no parental involvement. Last column of Table 1 reports the values for the parental involvement/effort variable, σ. Contrary to the cultural transmission literature where each parent wants his/her children to be like him/her, the value of σ is not expected to change with parent's criminal record. In fact, it appears that the value of our parental involvement variable remains practically unchanged when we compare students with mothers that has spent time in jail (4.11) and students with mothers who have never been in prison (4.12). The difference in parental effort between these two groups is not statistically significant.[10]

To mitigate a possible reverse causality issue due to the fact that parental involvement can be the consequence of their children's criminal activity (Becker and Tomes, 1976), we use information on parental involvement lagged in time. Specifically, we estimate the empirical model (13) by using crime data from Wave II ($e_{i,r,t}$), but parental involvement ($\sigma_{i,r,t-1}$) and the rest of the controls from Wave I:

$$e_{i,r,t} = \rho \bar{e}_{i,r,t} + \gamma \bar{e}_{i,r,t} * \sigma_{i,r,t-1} + \delta b_{i,r,t-1} + \psi p_{i,r} + \epsilon_{i,r} \tag{14}$$

The identification assumption is that there are no unobserved factors correlated with parental involvement that are common at time t and at time t-1. We will use a different

[9] This question refers to the woman who functions as a mother in the respondent's household (also known as "resident mother") and could be the biological mother, step mother, foster mother, adoptive mother, grandmother or aunt. Unfortunately, Add Health does not provide a similar question refering to "resident fathers". Students with no resident mothers are less than 6% of the sample and we exclude them from our final sample.

[10] The Add Health Wave IV contains the question: "(Has/did) your biological mother ever (spent/spend) time in jail or prison?".

approach to test our theory in Section V.

In Figure A.1.a in Appendix, we show the relationship between parental involvement and total crime in the raw data, whereas in Figure A.1.b we use the raw data to show the relationship between parental involvement and peers' total crime. A visual inspection of these figures reveals that, in spite of the fact that students with different levels of parental engagement are exposed to almost identical levels of peers' crime (Figure A.1.b), their own criminal effort is decreasing in the level of mother's parental involvement (Figure A.1.a). Figures A.2 to A.5 contains the same graphs for the different crime activities separately. The pattern is the same for all of them.[11]

Deterrence. We take advantage of the Add Health's supplemental contextual data and measure deterrence using the per-capita expenditure in police by the county where the school is located. Endogeneity due to simultaneity and reverse causality is not a problem here since we are looking at a very small portion of the total population of each county.

Correlated effects. A further challenge in the analysis of social interaction effects is that individuals in the same reference group tend to behave similarly since they share a common environment. In our case, students in the same grade and school may be exposed, for example, to the same anti-crime campaign. Because different geographical distances between residential homes provide variation in the strength of social interactions within grade, we can include network fixed effects (i.e., school-by-grade fixed effects) in our analysis. The empirical model that we bring to the data is

$$e_{i,r,t} = \rho \bar{e}_{i,r,t} + \gamma \bar{e}_{i,r,t} * \sigma_{i,r,t-1} + \delta b_{i,r,t-1} + \psi p_{i,r} + \eta_r + \epsilon_{i,r} \tag{15}$$

where η_r captures the *correlated effects*.

Final sample. We will estimate model (15) with a final sample of 10,039 panel observations from the in-home surveys conducted in Add Health's first two waves. The decrease in sample size with respect to the original longitudinal sample of students interviewed at home in both Wave I and Wave II is due to three reasons: first, we eliminate those individual with missing values in variables (2,509 students), school grades with less than 10 students (627 students) and finally, we do not consider those students that live very far

[11] To further investigate the validity of our proxy of parental involvement, we look at whether it captures other dimensions of the socialization process. In the Appendix Table A.3 we show the relationship between our indicator and several questions (answered by the "resident mothers") about sex education. The results show that mothers who are expected to follow a disengaged parenting style according to our proxy also exhibit low confidence levels in their ability to effective communicate with her offspring about sex and birth control.

away from the rest of the grade mates (1,563 students). Appendix Table A.1 describes the data, including variable definitions and summary statistics. Female students make up to 52% of our sample, whereas 62% of the students are white and 33% live in urban areas. More than 70% of students in our sample come from a two-parent household, with an average household size of around 3.64. Parents have on average 15 years of formal education.[12]

IV Empirical Results

We begin our empirical investigation by estimating equation (12) by OLS for subsamples with different values of σ. We report the results in Table A.4 in Appendix. It appears that the estimated coefficient of ρ is positive and statistically significant. We should interpret $\hat{\rho}$ as a measure of correlation between the average criminal activity of individual i's reference group and individual i's level of total crime. As it can be noticed, $\hat{\rho}$ is higher for those kids whose mother exhibits a preference for low or no parental involvement (i.e., "strongly disagree", "disagree" or "neither agree nor disagree"). In fact, the correlation for this group of adolescents is about 20% higher than for the sons and daughters of fairly engaged mothers. Except for crime against the person, we get similar results when we analyze different types of offenses.

Table 1 presents the maximum likelihood estimation of model (15) with an increasing set of controls.[13]

[Insert Table 1 Here]

Peer effects are positive and statistically significant, but decreasing with parental involvement (i.e., $\hat{\rho} > 0$ and $\hat{\gamma} < 0$). This evidence suggests that the resistance to a negative peer influence is higher the higher is parental involvement.

Table 1 also reports the peer effects for different values of parental involvement σ (i.e., $\hat{\rho}+\hat{\gamma}*\sigma$) . It appears that the mediating effects through parental engagement are relevant in magnitude: the peer influence for adolescents with highly engaged mothers is about 20% of the peer influence that is observed for adolescents with mothers with the lowest level of parental involvement. In terms of the children's criminal activity, a one standard

[12]When comparing our summary statistics with the ones that are obtained using the American Community Survey 2008 (weighted to reflect the age distribution in Add Health sample), it appears that the composition of our sample is broadly similar to the U.S. population as calculated from the ACS survey. Results available upon request.

[13]We present the results when using GPA among the controls as a different specification since GPA may be an endogenous variable.

deviation increase in the criminal activity of young agent i's reference group translates roughly into a 10% increase in SDs of young agent i's own criminal activity for adolescents whose mothers have low or no involvement (σ=1), whereas this increase drops to 2% for adolescents with highly engaged mothers (σ=5). These results are in line with those of Patacchini and Zenou (2012), who find that a one SD increase in the average criminal activity of the peers translates roughly into a 9% increase in SDs of the adolescent's own criminal effort.

In Table 2, we replicate the estimation with the most extensive set of controls as in the last column of Table 1, but for each type of crime separately: vandalism (i.e., graffiti and property damage), thefts (i.e., larceny and burglary), drug trafficking, and violent crimes (i.e., fights, bodily harm, use of weapons and the threat of use of weapon). According to these results, the estimates of the parameters of model (15) are statistically significant and their signs consistent with those in column (4) of Table 1 (i.e., $\hat{\rho} > 0$ and $\hat{\gamma} < 0$).

[Insert Table 2 Here]

Interestingly, although the values of $\hat{\rho}$ are similar in magnitude across the different specifications of model (15), the drops in the peer effects ($\hat{\rho}+\hat{\gamma}*\sigma$) when increasing parental involvement (σ) are higher for drug dealing and violent crime compared to vandalism and thefts. This evidence suggests that drug trafficking, assault and battery are the types of juvenile crimes more susceptible to changes in parental engagement.

IV.i Structural Approach

An alternative strategy to bring the model to the data is to add more structure to our theoretical model. Let us assume the cost of providing parental effort, σ_i, is given by the convex function $C(\sigma_i) = \frac{1}{2}\sigma_i^2$. Then, the parent of young agent i will solve the following problem:

$$\min_{\sigma_i} \left[e_i^* (\sigma_i) + \frac{1}{2}\sigma_i^2 \right]$$

By plugging $C'(\sigma_i^*) = \sigma_i^*$ into (10), we get the new version of old agent i's first-order condition:

$$\sigma_i^* = \bar{e}_i \tag{16}$$

Therefore, old agent i's preference for parental involvement is directly proportional to the average crime effort by young agent i's peers: an increase in the average level of crime committed by young agent i's peers results in a one-to-one increase in the effort old agent i exerts to socialize his/her offspring.

If we plug (16) into (11), young agent i's first-order condition can be rewritten as follows:

$$e_i^* = b_i - p\ f + (1 - \overline{e}_i^*)\,\overline{e}_i^* \tag{17}$$

As a result, the new version of our baseline empirical model,

$$e_{i,r,t} = \rho \bar{e}_{i,r,t} + \gamma \bar{e}_{i,r,t}^2 + \delta b_{i,r,t-1} + \psi p_{i,r} + \eta_r + \epsilon_{i,r}, \tag{18}$$

is a quadratic spatial autoregressive model that excludes σ from the interaction term. Given the identification strategy described in Section III, $\hat{\rho}$ and $\hat{\gamma}$ should be unbiased.

Table 3 presents the maximum likelihood estimates for model (18). The results strongly resemble those in Table 1: the coefficient estimates $\hat{\rho}$ and $\hat{\gamma}$ are statistically significant and their signs are consistent with the predictions of our theoretical model (i.e., $\hat{\rho} > 0$ and $\hat{\gamma} < 0$).

[Insert Table 3 Here]

V Conclusions

The interplay between parents and peer socialization is crucial to understand the evolution of cultural and economic traits. Scarce is the evidence on the relative importance of these two forces in shaping moral values and, in particular, criminal behavior among adolescents. Our analysis presents a first step into understanding this complicated question. We develop a simple theory where parents affect how the society influences their children's decisions that is based on a novel mechanisms: the more involved are parents with their offspring, the lower the willingness to emulate crime behavior among teenagers. Using detailed data on criminal activity and residential location of adolescents and their peers, we estimate the model and reveals strong evidence of neighborhood spillovers on youth crime and of negative cross effects with parental engagement. The evidence is in line with the idea that parents and peers are "cultural substitutes".

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Table 1: Conformism, Parental Involvement and Crime

Maximum Likelihood Estimation of Equation (15)

Peer Effects ($\hat{\rho}$, $\hat{\gamma}$)	(1) *crime*	(2) *crime*	(3) *crime*	(4) *crime*
Peers' Crime: $\bar{e}_{i,r} = \frac{1}{g^d_{i,r}} \sum_{j \neq i}^{n_{i,r}} g^d_{ij,r} e_{i,r}$	0.364^{***}	0.360^{***}	0.356^{***}	0.353^{***}
	(0.023)	(0.023)	(0.023)	(0.023)
Peers' Crime*Parental Involvement: $\bar{e}_{i,r} * \sigma_{i,r}$	-0.058^{***}	-0.058^{***}	-0.059^{***}	-0.058^{***}
	(0.004)	(0.004)	(0.004)	(0.004)
Marginal Effect: $\hat{\rho} + \hat{\gamma} * \sigma$				
(a) Very Low Parental Involvement: $\sigma = 1$	0.306	0.302	0.297	0.295
(b) Very High Parental Involvement: $\sigma = 5$	0.074	0.070	0.061	0.063
(c) Ratio: (c) = (b)/(a)	0.242	0.230	0.205	0.214
Individual Characteristics : $\sum_{m=1}^{M} \beta_m x^m_{i,r}$				
Parental Involvement	-0.006^{***}	-0.006^{***}	-0.005^{***}	-0.005^{***}
	(0.001)	(0.001)	(0.001)	(0.001)
Other Personal Characteristics	No	Yes	Yes	Yes
Family Characteristics	No	No	Yes	Yes
GPA	No	No	No	Yes
Contextual Effects: $\frac{1}{g^d_{i,r}} \sum_{m=1}^{M} \sum_{j \neq i}^{n_r} \theta_m g^d_{ij,r} x^m_{j,r}$	Yes	Yes	Yes	Yes
Network Fixed Effects: η_r	Yes	Yes	Yes	Yes
Observations	10,039	10,039	10,039	10,039
Networks	376	376	376	376

Robust standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Other Personal Characteristics include age, sex and race. *Family Characteristics* include number of family members, presence of both parents at the household, parental education, house and neighborhood characteristics, and religiosity. Precise definitions of variables can be found in Appendix Table A.1.

Table 2: Conformism, Parental Involvement and Type of Crime

Maximum Likelihood Estimation of Equation (15)

Peer Effects ($\hat{\rho}$, $\hat{\gamma}$)	(1) *total*	(2) *vandalism*	(3) *theft*	(4) *trafficking*	(5) *violent*
Peers' Crime: $\bar{e}_{i,r} = \frac{1}{g^d_{i,r}} \sum_{j \neq i}^{n_{i,r}} g^d_{ij,r} e_{i,r}$	0.353^{***}	0.363^{***}	0.357^{***}	0.367^{***}	0.366^{***}
	(0.023)	(0.024)	(0.025)	(0.023)	(0.022)
Peers' Crime*Parental Involvement: $\bar{e}_{i,r} * \sigma_{i,r}$	-0.058^{***}	-0.051^{***}	-0.050^{***}	-0.067^{***}	-0.057^{***}
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Marginal Effect: $\hat{\rho} + \hat{\gamma} * \sigma$					
(a) Very Low Parental Involvement: $\sigma = 1$	0.295	0.312	0.307	0.300	0.309
(b) Very High Parental Involvement: $\sigma = 5$	0.063	0.108	0.107	0.032	0.081
(c) Ratio: (c) = (b)/(a)	0.214	0.346	0.349	0.107	0.262
Individual Characteristics : $\sum_{m=1}^{M} \beta_m x^m_{i,r}$					
Parental Involvement	-0.005^{***}	-0.007^{***}	-0.004^{***}	-0.005^{***}	-0.003^{***}
	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)
Other Personal Characteristics	Yes	Yes	Yes	Yes	Yes
Family Characteristics	Yes	Yes	Yes	Yes	Yes
GPA	Yes	Yes	Yes	Yes	Yes
Contextual Effects: $\frac{1}{g^d_{i,r}} \sum_{m=1}^{M} \sum_{j \neq i}^{n_r} \theta_m g^d_{ij,r} x^m_{j,r}$	Yes	Yes	Yes	Yes	Yes
Network Fixed Effects: η_r	Yes	Yes	Yes	Yes	Yes
Observations	10,039	10,039	10,039	10,039	10,039
Networks	376	376	376	376	376

Robust standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Other Personal Characteristics include age, sex and race. *Family Characteristics* include number of family members, presence of both parents at the household, parental education, house and neighborhood characteristics, and religiosity.

Precise definitions of variables can be found in Appendix Table A.1.

Table 3: Structural Approach

Maximum Likelihood Estimation of Equation (18)

Peer Effects ($\hat{\rho}$, $\hat{\gamma}$)	(1) *crime*	(2) *crime*	(3) *crime*	(4) *crime*
Peers' Crime: $\bar{e}_{i,r} = \frac{1}{g^d_{i,r}} \sum_{j \neq i}^{n_{i,r}} g^d_{ij,r} e_{i,r}$	0.357^{***}	0.349^{***}	0.340^{***}	0.338^{***}
	(0.022)	(0.023)	(0.023)	(0.023)
Peers' Crime*Peers' Crime: $\bar{e}_{i,r} * \bar{e}_{i,r}$	-0.580^{***}	-0.573^{***}	-0.566^{***}	-0.552^{***}
	(0.041)	(0.041)	(0.041)	(0.041)
Marginal Effect: $\hat{\rho} + 2\hat{\gamma} * \bar{e}_{i,r}$				
(a) Very Low Peers' Crime: $\bar{e}_{min} = 0.0$	0.357	0.349	0.340	0.338
(b) Very High Peers' Crime: $\bar{e}_{max} = 0.2$	0.125	0.120	0.114	0.117
(c) Ratio: (c) = (b)/(a)	0.350	0.343	0.334	0.347
Individual Characteristics : $\sum_{m=1}^{M} \beta_m x^m_{i,r}$				
Personal Characteristics	No	Yes	Yes	Yes
Family Characteristics	No	No	Yes	Yes
GPA	No	No	No	Yes
Contextual Effects: $\frac{1}{g^d_{i,r}} \sum_{m=1}^{M} \sum_{j \neq i}^{n_r} \theta_m g^d_{ij,r} x^m_{j,r}$	Yes	Yes	Yes	Yes
Network Fixed Effects: η_r	Yes	Yes	Yes	Yes
Observations	10,039	10,039	10,039	10,039
Networks	376	376	376	376

Robust standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
Other Personal Characteristics include age, sex and race. *Family Characteristics* include number of family members, presence of both parents at the household, parental education, house and neighborhood characteristics, and religiosity. Precise definitions of variables can be found in Appendix Table A.1.

Appendix

Table A.1: Data Description

		Mean	SD	Min	Max
crime	Indicates how often the student participated in criminal activities during the last 12 months, ranging from 0 (i.e., "never participated") to 1 (i.e., "participated five or more times"). See Table A.2 for the questions included in this variable.	0.04	0.1	0	1
vandalism	Indicates how often the student participated in vandalism activities during the last 12 months, ranging from 0 (i.e., "never participated") to 1 (i.e., "participated five or more times"). See Table A.2 for the questions included in this variable.	0.05	0.1	0	1
theft	Indicates how often the student participated in theft activities during the last 12 months, ranging from 0 (i.e., "never participated") to 1 (i.e., "participated five or more times"). See Table A.2 for the questions included in this variable.	0.04	0.1	0	1
trafficking	Indicates how often the student participated in drug related crimes during the last 12 months, ranging from 0 (i.e., "never participated") to 1 (i.e., "participated five or more times"). See Table A.2 for the questions included in this variable.	0.04	0.2	0	1
violent	Indicates how often the student participated in crimes against the person during the last 12 months, ranging from 0 (i.e., "never participated") to 1 (i.e., "participated five or more times"). See Table A.2 for the questions included in this variable.	0.05	0.1	0	1
involvement	Indicates how much the student agrees with the statement: "when you do something wrong that is important, your mother talks about it with you and helps you understand why it is wrong", ranging from 1 (i.e., "strongly disagrees") to 5 (i.e., "strongly agrees").	4.14	0.9	1	5
sex_ education	Indicates how much the resident mother, on average, agrees with statements related to her active role in the student's sex education and brith control: (i) "You really don't know enough about sex and birth control to talk about them with (him/her);" (ii) "It would embarrass (him/her) to talk to you about sex and birth control;" (iii) "It would be difficult for you to explain things if you talked with (him/her) about sex and birth control;" (iv) "(He/She) will get the information somewhere else, so you don't really need to talk to (him/her) about sex and birth control;" (v) "Talking about birth control with (him/her) would only encourage (him/her) to have sex." Answers range from 1 (i.e., "strongly agrees", lowest degree of involvement) to 5 (i.e., "strongly disagrees", highest degree of involvement).	4.20	0.7	1	5
Control Variables		Mean	SD	Min	Max
age	Student's age in years.	15.12	1.6	11	20
female	Dummy equal to 1 if the respondent is a female.	0.52	0.5	0	1
black	Dummy equal to 1 if the respondent is African American.	0.21	0.4	0	1
native	Dummy equal to 1 if the respondent is Native American.	0.03	0.2	0	1
asian	Dummy equal to 1 if the respondent is Asian.	0.06	0.3	0	1
other_ races	Dummy equal to 1 if the individual is from a different race/ethnic group (white is the reference group).	0.08	0.3	0	1
gpa	Simple average of grades in English, mathematics, history and science; where 1=A, 2=B, 3=C and 4=D (or lower).	2.20	0.8	1	4
household_ size	Number of people living in the same household as the student.	3.64	1.5	0	15
both_ parents	Dummy equal to 1 if the respondent resides with both parents.	0.72	0.4	0	1
building_ quality	Indicates how well kept is the building where the respondent lives, ranging from 1 (i.e., "very poorly kept, needs major repairs") to 4 (i.e., "very well kept").	1.61	0.8	1	4
urban	Dummy equal to 1 if the respondent lives in an urban area.	0.33	0.5	0	1
religion_ importance	Dummy equal to 1 if the individual considers religion very important to her.	0.43	0.5	0	1
parent_ education	Maximum of the numbers of years of education received by each of the parents, where 9 indicates "Grade 8 or less" and 19 indicates "professional training beyond a four-year college or university".	14.94	2.6	9	19
police_ expenditure	Per capita local government direct general expenditures on police protection by respondent's county of residence (in USD).	83.71	43.2	8	194

Source: Add Health, Waves I and II.

Table A.2: Delinquency-Related Questions and Crime Variables

In the past 12 months...	
... how often did you deliberately damage property that didn't belong to you?	*vandalism*
... how often did you paint graffiti or signs on someone else's property or in a public place?	*vandalism*
... how often did you steal something worth less than $50?	*thefts*
... how often did you steal something worth more than $50?	*theft*
... how often did you go into a house or building to steal something?	*theft*
... how often did you sell marijuana or other drugs?	*trafficking*
... how often did you get into a serious physical fight?	*violent*
... how often did you use or threaten to use a weapon to get something from someone?	*violent*
... how often did you take part in a physical fight where a group of your friends was against another group?	*violent*
... how often did you hurt someone badly enough in a physical fight that he or she needed care from a doctor or nurse?	*violent*

Answers: 0 (i.e., "never"), 1 (i.e., "one or two times"), 2 (i.e., "three or four times"), or 3 (i.e., "five or more times").

Each crime variable is the normalized (i.e., 0 to 1) simple average of the responses to the corresponding questions.
Source: Add Health, Wave II.

Table A.3: Parental Involvement

"When you do something wrong that is important, your mother talks about it with you..."				
	N	%	Cum. %	σ
Strongly Disagree	283	1.46	1.46	1
Disagree	1,156	5.94	7.40	2
Neither Agree nor Disagree	2,107	10.83	18.23	3
Agree	8,756	45.02	63.26	4
Strongly Agree	7,145	36.74	100.00	5
Total	19,447	100.00		

Source: Add Health, Wave I

Table A.4: Individual and Peers' Crime Correlation

	$\hat{\rho}$		
	$\sigma \leq 3$	$\sigma = 4$	$\sigma = 5$
Total Crime	0.329***	0.281***	0.260***
	(0.122)	(0.062)	(0.062)
Vandalism	0.343***	0.292***	0.211***
	(0.131)	(0.062)	(0.067)
Theft	0.449***	0.227***	0.352***
	(0.115)	(0.072)	(0.057)
Trafficking	0.301*	0.248***	0.127*
	(0.160)	(0.077)	(0.065)
Violent	0.187*	0.289***	0.230***
	(0.123)	(0.068)	(0.071)
Observations	3,098	7,730	6,351

Robust standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
Precise definitions of variables in Appendix Tables A.1 and A.2.

Table A.5: Sex Education and Parental Involvement
- Ordered Probit -

	(1) *involvement*	(2) *involvement*
sex_education	0.168***	0.170***
	(0.016)	(0.017)
Cut Point 1 (μ_1)	−1.541	−2.600
	(0.110)	(0.328)
Cut Point 2 (μ_2)	−0.823	−1.870
	(0.099)	(0.321)
Cut Point 3 (μ_3)	−0.264	−1.230
	(0.099)	(0.321)
Cut Point 4 (μ_4)	1.009	0.014
	(0.099)	(0.321)
Individual Characteristics	No	Yes
Observations	10,039	10,039
Networks	376	376

Robust standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
Individual characteristics include age, sex, race, number of family members, presence of both parents at the household, parental education, house and neighborhood characteristics, and religiosity.
Precise definitions of variables in Appendix Table A.1.

Figures A.1 to A.5: Individual Crime (a) and Peers' Crime (b) by Parental Involvement.