Journal of Developmental and Life-Course Criminology (2019) 5:137–175
https://doi.org/10.1007/s40865-019-00118-3

ORIGINAL ARTICLE

# Criminal Justice Contact Across Generations: Assessing the Intergenerational Labeling Hypothesis

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Received: 31 December 2018 / Revised: 8 May 2019 / Accepted: 17 May 2019 /
Published online: 13 July 2019


## Abstract

**Purpose** The present study assesses the intergenerational labeling hypothesis and examines whether the relationship between a child's involuntary contact with the police and subsequent offending depends on parental arrest history (and its timing in the life course of the child) and parent sex.
**Methods** Using data from 312 parent–child dyads from the Rochester Youth Development Study and Rochester Intergenerational Study, generalized linear regression models estimate the main and interactive effects of a child's involuntary contact and parental arrest history on subsequent delinquency as well as potential mechanisms for deviance amplification.
**Results** Main effects are consistent with labeling theory and moderation analyses reveal that the impact of involuntary contact on subsequent delinquency depends on parental arrest history. More specifically, contact with the police on subsequent offending is greater when the focal parent has an arrest history, regardless of when the most recent arrest occurs in the life course of the child. However, some differences in the magnitude of the exacerbating effect of recent parental arrest emerged. Results also speak to potential mechanisms across mother–child and father–child dyads with respect to deviance amplification.
**Conclusions** This research supports the life-course principles of "linked lives" and "timing in lives" and their application to labeling theory in an intergenerational context. To reduce deviance amplification, special attention should be paid to youth who experience a police contact in the context of a parental arrest history.

**Keywords** Life course · Deviance amplification · Intergenerational arrest · Labeling theory

Arrest is an important indicator of status in American society. Traditionally, arrest experiences have been viewed negatively, invoking a diminished social status (e.g., it

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negatively affects one in the marriage market and in the employment sphere; see [26, 110]). Importantly, the USA witnessed salient changes in the discourse on the response to crime affecting arrest practices, shifting from the suggestion of "leave kids alone whenever possible" to stymie labeling processes (e.g., [91]) to a "get tough on crime" rhetoric in response to the "coming … super predators" (e.g., [34]). Moreover, zero-tolerance policies by police and schools (via the school to prison pipeline) have proliferated [48, 95, 96]. As such, involuntary contacts with the police, which include arrest, are more commonplace in American society.

Recent estimates using a nationally representative sample of American youth found that between 25 and 41% of individuals self-reported having been arrested by the age of 23 [24]. Furthermore, the risk of arrest is not evenly distributed across the population. Subsequent research indicates that approximately 49% of Blacks, 44% of Hispanics, and 38% of white males were arrested by the age of 23, and the cumulative prevalence of arrest by age 23 is significantly higher for Black males compared to white males [24]. Additionally, the cumulative prevalence of arrest is significantly higher for males than females, regardless of race/ethnicity, as approximately 12% of females are arrested by the age of 23. Other research similarly demonstrated that approximately 30% of adults (ages 24–34) had been arrested, with a significantly higher prevalence of arrest among Native Americans, Blacks, and Hispanics compared to Whites and Asian Americans [10]. A larger percentage of adult males also self-reported a history of arrest (41%) compared to adult females (17%; [10]). No known studies from nationally representative samples examine the cumulative prevalence of arrest later in the life course (through late 30s or 40s). Still, given the nontrivial cumulative prevalence rates of arrest through early adulthood, it is imperative to better understand the short- and long-term consequences of arrest.

Among the numerous investigations into the consequences of arrest, two avenues of research are worthy of note. Using either a deterrence perspective or the labeling theory as a guiding framework, a large body of literature examines the individual consequences of arrest in the form of reduced/inhibited future offending or deviance amplification, respectively (see [11]; see also [61]). A second body of literature draws upon the life-course framework, invoking the notion of "linked lives," and examines how parental experiences of arrest negatively affect offending and formal sanctions among the next generation (for a review, see [18]). The goal of the present research is to bring both bodies of research into focus in order to examine the behavioral effects of police contact (i.e., arrest) through the life-course lens of "linked lives" (see also [19]). After all, research suggests that coming into contact with the criminal justice system may take on a different meaning for individuals in different social contexts [56].

One context that is likely to be particularly relevant to the individual's behavioral response to an involuntary police contact is a parental arrest history. We build upon prior efforts to understand the intergenerational effects of arrest and examine whether or not parental arrest history moderates the effect of adolescent arrest experiences on subsequent criminal behavior (i.e., deviance amplification). To do so, we use prospective, longitudinal data from parent–child dyads who participated in the Rochester Youth Development Survey (RYDS) and the Rochester Intergenerational Study (RIGS). Notably, this sample of parent–child dyads is predominantly Black and Hispanic, originating from one urban jurisdiction in the USA. The study of this sample further allows us to examine the intergenerational effects of arrest among those

disproportionately affected by aggressive police tactics in the last quarter of the century in the USA (minorities in urban areas; [72]), which is relevant to the generalizeability (i.e., through replication) of the intergenerational labeling hypothesis across country and historical period (see [84]). Moreover, in the course of this research, we will extend prior research by examining whether the intergenerational effects on child behavior (i.e., deviance amplification) vary by parent gender and the timing of parental arrest in relation to the life course of the child. The results of this effort will speak not only to the intergenerational consequences of arrest but also inform theoretical and policy discussions on the consequences of criminal justice intervention and efforts to reduce recidivism among juvenile delinquents.

## Current State of Labeling Theory and Deviance Amplification

The deviance amplification thesis derived from the labeling perspective introduced the notion that social reactions, particularly those of the criminal justice system, could have the unintended effect of increasing subsequent criminal offending. Early work from the labeling perspective focused on explaining how being labeled deviant by the justice system (or mental health agencies) altered a person's self-image and led to a behavioral adaptation to the stigma of the label [12, 66, 67]. Drawing on seminal theoretical work that clarified fundamental mechanisms of the labeling process ([82]; see also [69]), both psychological (i.e., identity) and social forces operate to affect subsequent behavior in the form of secondary deviance (e.g., [15]; Johnson et al. 2004; [68, 71, 85, 117]). Sampson and Laub [88, 89] introduced the term "cumulative disadvantage" and suggested that official intervention can result in long-term criminal involvement by "knifing off" individuals from conventional others and opportunities (see also [74]). For instance, those labeled are more likely to associate with delinquent peers and become involved in deviant social networks and subcultures [15, 85], form low-quality romantic unions [90], and have low educational and subsequent economic achievement [14, 71].

While identifying the mediating pathways between official intervention and subsequent criminal acts helped establish the empirical validity of the labeling perspective [57, 82, 109] as well as the deleterious effects of criminal justice contacts on human and social capital, the strength of the relationship between an official contact with the justice system and subsequent offending is moderate at best. In fact, some studies report null or deterrent effects of official intervention, including police contact ([11]; see also [61]). These mixed empirical findings, in conjunction with several theoretical extensions of labeling [22, 53, 93],[1] resulted in

[1] Theoretically, the contingent effects of official intervention on subsequent crime have been discussed in at least two extensions or modifications of labeling theory. Braithwaite's [22] reintegrative shaming theory argues that disintegrative shaming that excludes the offender from the community is likely to result in more crime, while reintegrative shaming, where the community actively tries to forgive and accept the offender back in the community, is likely to reduce future offending. In addition, Sherman's [93] defiance theory argues that perceptions of unfairness in the sanctioning process generate defiance and increase the probability of more crime. We elaborate on Hagan and Palloni's [53] work in a later section.

surge of work focused on the identification of individual characteristics or factors that serve as contingencies for the labeling effect. Recent studies investigated how various factors including gender, race/ethnicity, age, offending history, gang status, and attitudes toward the justice system (to name a few) moderate (i.e., exacerbate or buffer against) the relationship between criminal justice contacts and subsequent offending ([6, 29, 75, 97, 113, 118, 119]).

Particularly relevant to this inquiry is evidence suggesting warm, harmonious, and supportive family environments buffered against the adverse impact of an involuntary police contact on subsequent offending [62]. Dong and Krohn [35] also showed that instrumental family support buffered against the negative impact of an involuntary police contact on subsequent offending among young adults. Similarly, Ciaravolo [30] reported that the impact of an involuntary police contact on subsequent offending was greater for youth who experienced more conflict in the family, as well as for youth who had less school commitment and more negative attitudes toward the police. However, less is known about the impact of the broader familial and historical context in which an offspring's police contact occurs. More specifically, an understudied issue is how parental contact with the criminal justice system, which may affect the susceptibility to internalizing a deviant label and/or negatively affect family functioning (e.g., [64, 83]), moderates the impact of adolescent arrest experiences on subsequent criminal behavior ([19]).

## Linked Lives: Intergenerational Consequences of Arrest

A major contribution of the life-course perspective to the study of criminal behavior is its focus on the trajectories, or patterns of behaviors, that people traverse through the different stages of their lives [37, 38]. Over the life course, different events and interactions affect attitudes and behaviors resulting in a continuance along trajectories or a transition to another trajectory [104]. Trajectories are linked in that what occurs in one area of life (e.g., education) impacts what occurs in another area of life (e.g., work or substance use).

The life-course perspective recognizes that an individual's trajectories may be interdependent or linked to another's trajectories [106]. This is particularly true for parents and their children. As Elder Jr. ([37], p. 40) eloquently states, "Each generation is bound to fateful decisions and events in the other's life course." The recognition of linked lives and how parental behaviors can differently affect a child by developmental stage form key conceptual rationales for examining the relationship between a parent's arrest history and the impact of the child's involuntary police contact on subsequent behavior in this study.

Over the past 30 years, both conceptual and empirical work on the importance of linked lives have accelerated with the collection of multiple data sets that include more than one generation of respondents (see [36]). In fact, many life-course theories of crime now incorporate an intergenerational component to account for the continuity (and discontinuity) of problem behavior between parents and their children. Although the specific components of these theories may vary, they all recognize the important role that parents' involvement in criminal behavior and the consequences thereof play in the lives of their

children. For example, the interactional theory [102, 104] emphasizes the mediating role that parenting plays in the intergenerational continuity of problematic behavior.[2]

Research largely supports the link between parental criminality and criminal behavior in children. Studies can be categorized into those that focus on intergenerational arrest or conviction (both generations are arrested or convicted) and those that examine intergenerational self-reported behavior. Early work by Farrington and colleagues [45, 87] using longitudinal data from boys from London born in the early 1950s and retrospective data from their parents (*Cambridge Study in Delinquent Development*, see [115]) found that children of convicted parents were more likely to get in trouble with the law than those who did not have convicted parents. This finding has been confirmed in a number of subsequent studies (e.g., [17, 20, 58, 77, 94, 111, 112]). Evidence from self-reported offending is also supportive of intergenerational continuity in behavior (e.g., [8, 9, 27, 41, 106, 107]). In sum, the evidence that parental criminal behavior and involuntary contact with legal authorities have a negative effect on child behavior and contact with the justice system is clear and consistent ([18, 103]).

## Labeling in an Intergenerational Context

The study of the contingencies to deviance amplification and intergenerational consequences of parental offending proliferated in recent years, but the two bodies of research by in large have unfolded independently. Hagan and Palloni's [53] assertion that "little attention has been given to the intergenerational reproduction of crime in labeling theory" still rings true today (see, [77, 19]). Interestingly, however, theorizing about the adverse consequences of labeling within an intergenerational context goes back at least a hundred years. Mead [73] expressed concerns that legal sanctioning "preserves a criminal class" because there are minimal opportunities for offenders and their children to remove social stigma. One key process is what Hagan and Palloni [53] refer to as "cultural or characterological processes" centered on family dynamics and child-raising practices that serve to create similar outcomes for children.[3] Recall, the consequences of justice system contact can include blocked access

[2] There are a number of other mechanisms that might explain the continuity of criminal behavior across generations. Farrington [43, 44] identifies six reasons for intergenerational continuity in offending. He suggests that both parent and child are exposed to the same risk factors; therefore, there is similarity in criminal behavior. On the other hand, those risk factors may actually mediate the relationship between parents' involvement in crime and increase the likelihood the child will engage in similar behaviors. Farrington also recognizes the possibility of assortative mating, suggesting that criminal mothers and fathers are likely to mate with another criminal, placing the child in a particularly precarious position. Social learning may play a role as well, whereby children learn or mimic the behavior of their parents. Finally, Farrington suggests that law enforcement agents may be particularly vigilant in surveilling children of convicted felons, thereby increasing the risk of arrest.

[3] The present study draws most heavily on this line of reasoning. However, another avenue that leads to similar predictions is what Hagan and Paolloni (1990) refer to as "structural or imputation processes", where criminal justice system actors reproduce problem outcomes through treatment of each generation (p. 266). Along these lines, Murray et al. [77] suggest examining whether youth of convicted parents are subject to procedurally unjust or predjudicial experiences as well as distributive injustice, each of which may promote greater negative consequences stemming from a contact with the criminal justice system. Unfortunately, we do not have any measures which speak to procedural or distributive injustice related to involuntary contacts with the police among the children in our sample. As a result, we suggest this is an important area for future research.

to conventional opportunities, alteration of self-identity, and acquisition of delinquent peer groups [82]. If these adverse consequences have unfolded for parents, they have chipped away at their human and social capital, which places them in situations where they may be less likely to prevent their child from experiencing police intervention and, importantly, less likely to buffer and protect their child against deviance amplification processes. That is, parents who have experienced a police contact may have difficulty creating warm, supportive family environments and may be generally ill-equipped to shield their child from identity and social network changes that are thought to be crucial for deviance amplification.[4] Conversely, on average, parents who have not experienced justice system contact themselves likely have better human and social capital to support their child through their justice system contact experience and prevent deleterious effects from ensuing; this opens up the possibility that deterrence processes might occur. Social support often is a precondition for effective social control ([32]).

Building on Mead's [73] concern about the reproduction of a criminal class, Hagan and Palloni [53] hypothesized that criminal labels are more likely to lead to deviance amplification when youth have parents who were themselves labeled. In line with this hypothesis, which we more generally refer to as the "intergenerational labeling hypothesis," Hagan and Palloni [53] used Cambridge data (see above) and found that the effect of a son's conviction on subsequent delinquency was stronger when the parent had also been convicted. This idea is consistent with the notion that adolescents who are labeled within a context of prior family labels "are unlikely to encounter or initiate many opportunities to change the trajectories of their lives" [51] (p. 293).

Noting limitations in the operationalization of the delinquency measures used in Hagan and Palloni's [53] study (i.e., prior and subsequent delinquency measures overlapped temporally), Besemer et al. ([19], see also [16]) reanalyzed the Cambridge data with clear, nonoverlapping demarcations between prior self-reported offending (ages 15 to 18), a labeling event that was measured by criminal conviction (ages 19 to 26), and subsequent self-reported offending (ages 27 to 32). Consistent with the intergenerational labeling hypothesis, those who were children of convicted parents and were convicted between the ages of 19 and 26 experienced significantly greater increases in their offending from preconviction status in adolescence (ages 15 to 18) to postconviction adulthood (ages 27 to 32). Conversely, self-reported offending for those who were convicted but whose parents were not convicted did not increase from late adolescence to adulthood. Hagan and McCarthy [52] also tested the intergenerational labeling hypothesis and found that, among males aged 16 to 24 living on the streets of Toronto and Vancouver, the effects of being charged with a crime of street delinquency were amplified when one's fathers had been previously arrested.

Together, the results of previous tests of the intergenerational labeling hypothesis suggest that the deleterious effects of an official criminal label may be confined to, or at least stronger in, instances of a broader context of family contact with the justice system.[5] Still, replication is needed using multigenerational longitudinal data assessing

[4] Hagan and McCarthy [52] found evidence supporting deleterious consequences of intergenerational labeling for males but not females. Females who lived on the street and had a father who was previously arrested did not experience a differential increase in street delinquency after being charged with a crime compared to females who lived on the street who were charged with a crime but did not have a father with an arrest history

[5] This gap is closing in recent decades due to the rise of dual-earner families, but mothers still spend more time parenting than fathers ([80]; [70, 4])

alternative time periods of criminal justice contact in the life course, alternative forms of involuntary contact with the justice system, and more diverse samples (including minorities and individuals within the USA) in order to speak to the generalizability of the adverse consequences of criminal justice contact within an intergenerational labeling context ([18], see also [77]). Beyond replication, there is also a critical need to extend this line of research theoretically and empirically.

## Current Study

We build upon the prior integration of the labeling perspective and the notion of linked lives in the context of intergenerational consequences of offending ([53, 19]) and focus on the behavioral effects of an involuntary contact with the criminal justice system (instead of being charged with a crime or a conviction). Moreover, we incorporate additional principles of the life-course perspective to further ascertain how parental arrest history may condition the effects of a formal labeling experience on subsequent offending among a recent generation of youth.

First, we draw on "cultural or characterological processes" (see [53]) to suggest that parental arrest experiences affect the individual, behavioral consequences of an involuntary police contact among their offspring. Thus, we propose the following intergenerational labeling hypothesis:

> H1: The effect of an involuntary contact with the police on subsequent offending behavior will vary across parental arrest history.

More specifically, through life-course dynamics and the consequences of their own justice system involvement, parents who have been arrested are unable to inhibit the negative consequences of involuntary contacts with police among their children. Conversely, youth with parents who have no experience with the justice system are better able to control these potentially adverse consequences and prevent deviance amplification.

We take this line of inquiry a step further and also account for the life-course principle which suggests that "timing in lives" matters. In all likelihood, the timing of a parent's arrest in relation to the child's life course is important to the understanding of the consequences of parental arrest history on the deviance amplification process among adolescents. For instance, parental arrest(s) occurring prior to a child's birth may be irrelevant to the deviance amplification process of a child given that a parental arrest is not a lived experience in this case. After all, research spanning the USA, Great Britain, and the Netherlands revealed that the intergenerational effects of arrest (i.e., the effect of parental arrest on the likelihood that a child will be arrested) are stronger if the parent was arrested after the child was born [114]. Additionally, a parent's lack of arrest after a child's birth may provide the child with a guide regarding how to resist a label—modeling a trajectory from offending to nonoffending behavior. On the other hand, youth who "experience" parental arrest may be more negatively affected by a parental arrest history because it is a lived experience, and thus affects family functioning. Moreover, youth who are arrested may bear the burden of dual stigmatization due to one's own involuntary contact with the police and recent parental arrest. In other words, intergenerational police contact that are proximal to one another may make a child more likely to internalize the individual *and* parental label of "offender," increasing the

likelihood of deviance amplification. At the same time, blocked prosocial opportunities and associations with delinquent peers may be augmented (either by shunning through others or self-choice) if a youth has an involuntary contact with police in addition to experiencing a recent parental arrest. Therefore, we propose a second hypothesis.

> H2: The effect a parent's arrest history on the deviance amplification process is stronger the more recently a parental arrest occurred in relation to the child's life course.

Complications with family dynamics and child-rearing practices are likely intertwined with parental arrest history. That is, parents who have been arrested—and thus who may have experienced their own adverse consequences of criminal justice contact for the life course—may lack the human and social capital necessary to support their child during and in the aftermath of a criminal justice contact. Therefore, we also examine two possible mechanisms that may account for the intergenerational labeling hypothesis.

> H3a: Youth who have a parent who has been arrested are more likely to experience lower parental warmth.
> H3b: Youth who have a parent with an arrest history are more likely to experience adverse changes in both their identity and social networks.

Finally, we would be remiss to examine intergenerational effects without acknowledging the fact that children are differentially influenced by fathers and mothers. Importantly, in Western societies, mothers tend to be the primary caregivers of children, while fathers tend to take on supportive roles [102].[6] As a result, youth may be differentially affected by the experiences and labels of fathers and mothers. After all, intergenerational transmission of offending varies across parent gender [18]. Thus, it may be that stigmatization related to one's mother is more influential than the stigma of one's father. For instance, the blockage of prosocial opportunities and peers may be intensified when both the mother and the child are labeled as an offender because children tend to be more closely associated in perception to one's mother. On the other hand, Hagan and McCarthy [52] found that the labeling effect was stronger among sons who experienced a paternal arrest in comparison to a maternal arrest. Thus, we examine the three previous hypotheses separately across parent gender (among father–child dyads and mother–child dyads) in order to ascertain if the intergenerational labeling effect varies across parent gender,[7] particularly among a predominantly minority sample in which

[6] Due to sample size limitations, we are unable to examine the intergenerational labeling hypotheses proposed for parent–child dyads across both parent and child gender.

[7] Of the 539 G2–G3 dyads, 122 G2–G3 dyads were not included in the final sample because the G3 was not age 17 by 2017. We lost 64 G2–G3 dyads because we did not have full arrest history information for the G2. Additionally, 22 G2–G3 dyads were removed from the sample because G3 participation in RIGS was intermittent during adolescence and we did not have full information about arrests from ages 14 to 16 and we excluded an additional 19 G2–G3 dyads because we had no information on baseline levels of offending. We re-estimated all models including those subjects for whom we did not have baseline levels of offending and the results were the same in direction and significance.

the generation of fathers has been disproportionately affected by aggressive arrest policies.

## Data and Methods

The data for this analysis come from two longitudinal, companion studies. The original study, the RYDS, which began in 1988, and its intergenerational extension, the RIGS, which began in 1999. Only a brief description of these two studies is provided, with a more detailed description available elsewhere [108].

RYDS is a multiwave panel study examining the development of antisocial behavior over time. The original RYDS sample consists of 1000 adolescents (referred to as G2s; their primary caregiver is referred to as G1), which is representative of the 7th and 8th grade public school population of Rochester, NY in 1988. In line with the goals of the study, youth who were at a high risk for antisocial behavior were overrepresented by oversampling males (3:1) and youth who lived in high-crime areas of the city (based on arrest rates for census tracts from the previous year). Each youth was interviewed every 6 months from 1988 to 1992 for a total of nine interviews in phase 1 (average age 14–18), annually from 1994 to 1996 for a total of three interviews in phase 2 (average age 21–23), and biannually from 2003 to 2006 for a total of two interviews in phase 3 (average age 29–31). Additional information was collected from various sources through 1997 (phase 2) to supplement RYDS data, including data on arrests from the Rochester Police Department (RPD), the New York State Division of Criminal Justice Services (DCJS), and the County Wide Registration (CWR) for Monroe County. In general, sample retention through phase III was good for a longitudinal study of this duration, and analyses presented elsewhere reveal that attrition did not bias the sample [105].

RIGS is the intergenerational component of RYDS and focuses on G2's oldest biological child (referred to as G3) and his/her caregivers. Beginning in 1999, the oldest biological child of G2s were selected and new firstborns of G3s were added to the sample in each following year when the G3 turned 2 years of age. Both G2 and the child's other primary caregiver, if G2 was a male, completed annual interviews since the inception of RIGS (continuing until G3 turns/turned 18). G3s completed annual interviews once they turn/turned eight. To date, there are prospective, longitudinal data on 539 parent–child dyads (G2–G3). The present analysis uses data from 312 parent–child dyads where we have full information on G2s arrest history through G3 age 17 and the child completed the age 13 (age at baseline) and age 17 interview (age at when our outcome is measured). This includes all parent–child dyads where the child was born by 2000 (allowing the child to be at least 17 years of age at the last available wave of data collection in 2017).[8] A little over half of G2s in our final sample are males (58% male and 42% female) and the children are approximately evenly distributed by sex.

[8] Frequently, variety scores are used in lieu of frequency measures given the respondents may not be able to accurately indicate the number of times that each individual act has been committed (e.g., [78, 81]), and a variety score is viewed an adequate proxy for the frequency of offending. However, for the purposes of this research, a frequency score is used given that it is a more sensitive measure of delinquent behavior among extreme groups of offenders [39] and it can more accurately capture change in rates of offending, which includes less serious offenses, over time [13, 101]

All data collection procedures were approved by the Institutional Review Board at the University at Albany.

## Measures

**Offending** In each yearly interview, G3s were asked about their delinquent behavior using a delinquency index containing 31 different behaviors ranging from minor offenses such as petty theft and carrying a hidden weapon, to more serious crimes like burglary, robbery, aggravated assault, and drug sales. If the individual reported involvement in the specific behavior, then he or she was queried as to how many times he or she engaged in the behavior since the date of the last interview. Our measure of offending is the frequency score or total number of all 31 different offenses self-reported by the youth in the age 17 interview, which is 1 year following our measurement of whether or not a child experienced an involuntary police contact.[9]

**Child Involuntary Police Contact** Our treatment or primary independent variable of interest is involuntary police contact. Beginning at the yearly interview at age 12, G3s were asked whether or not they had been arrested or picked up by the police since the date of the last interview. We combined data from the age 14, 15, and 16 interviews to create a binary indicator of the prevalence of arrest between ages 14 and 16.[10] An individual is coded as a 1 if he or she self-reported being arrested or picked up by the police between the ages of 14 and 16. An individual was coded as 0 if he or she did not self-report being arrested or picked up by the police between the ages of 14 and 16.

**Parental Arrest** Our measures of parental arrest are drawn from various sources in RYDS and RIGS. We utilize official arrest records to document the timing of each arrest experience in the life of G2 through phase 2 of RYDS.[11] Since official police record data was only collected through 1997, or the end of phase 2, we rely upon self-report data for arrest experiences in the remainder of RYDS and RIGS. In phase 3 of RYDS, life history calendars were used to document the number and timing of arrest experiences among G2s. Prior research indicates that data collected from life history calendars are reliable indicators of life events, including arrests [28, 76, 86]. At the inception of RIGS or as soon as G3 was 2 years old, G2s reported in each yearly interview of RIGS whether one had been arrested since the date of the last interview. It is important to note that the information ascertained in the life history calendars

[9] Given our interest in the change in offending rate as a result of an involuntary police contact, we examine the treatment of an involuntary police contact after we are able to create a measure of baseline offending at age 13. Notably, only a handful of G3s (< 5) self-reported arrest prior to the age of 14.

[10] Official records of arrest were compared with self-report records of arrest in waves 2–12. Due to question wording in waves 2–9 of RYDS, more subjects reported involuntary contact with the police than is indicated by official arrest records because subjects were asked whether or not they had been arrested or picked up by the police in a single question through wave 9. We chose to focus on official arrest experiences given that these formal experiences likely will carry the greatest stigma and negatively affect the next generation. Moreover, it also ensures consistency in measurement because G2s were only queried about arrest experiences in waves 10–14 of RYDS and in RIGS.

[11] We attempted to create separate late childhood (ages 6–10) and early adolescence (ages 11–13) categories, but too few G2s experienced their most recent arrest between child ages 6 to 10 (< 1%) to allow for these two unique categories of most recent arrest.

overlapped with the start of RIGS. As long as G2 was an active participant in RYDS and RIGS, it is possible to document the arrest history of G2 through G3 age 17 given that the youngest G3s in this study were born a minimum of 2 years prior to data collection in phase 3 of RYDS.

The sum of this information, which includes the month and year of each arrest experience in RYDS and the child age at each arrest age in RIGS, as well as the date of G3 birth allows for the creation of various arrest measures. Our first measure of parental arrest history is a binary indicator of whether G2 was *ever arrested* prior to G3 age 14. We also created a series of binary indicators representing the timing of the most recent arrest experience for G2 in relation to G3s birth—*G2 arrest prior to birth*, *G2 arrest in early childhood* (G2s most recent arrest occurred after G3 birth through the age of 5), or *G2 arrest in late childhood or early adolescence* (G2's most recent arrest occurred after G3 turned 6 and prior to G3 age 14).[12] Again, G2s without an arrest history serve as the reference group.

**Factors Related to Deviance Amplification** Family warmth is represented by the mean of 22 items, 11 items based on the primary caregiver's level of attachment to the child and 11 items assessing the child's attachment to his/her primary caregiver ([60]). Deviant values at age 17 is the mean of 9 items representing one's level of agreement with conventional values assessed at child age 17 (see conventional values in the Appendix). Each item was reverse-coded prior to creating the average score in order to create an indicator of deviant values. Delinquent peers at age 17 is the mean score of 9 items regarding the number of peers who engage in various offending behaviors assessed at the age 17 interview (see Appendix for individual items).

**Additional Covariates** In order to more accurately address selection bias and isolate the effect of an adolescent's involuntary police contact on subsequent criminal behavior, we include a lagged measure of our outcome offending, which was assessed at age 13 and includes the same 31 offenses included in the outcome measure of offending (see above; [55]),[13] and numerous other variables that span key domains of risk for adolescent offending and involuntary police contact (i.e., individual, family, peer, school, and community; [21, 113]). Importantly, each is measured temporally prior to our treatment (involuntary police contact). We account for individual-level factors taken from the age 13 interview, including conventional values and a history of gang membership (the latter taken from information at the age 12 interview when subjects were first asked about gang membership and the age 13 interview). To tap into the peer domain, we include measures of peer delinquency and unstructured socializing with peers. To address the school domain, we include a measure of commitment to school.

[12] Achen [1] and Haynie and Osgood [55] note that including a lagged dependent variable in some cases is too strong of a control for selection factors, resulting in type II errors for the covariates in the model. Therefore, all models were re-estimated without the lagged measure of offending. The results were the same in direction and significance.

[13] Through bivariate analyses, we explored whether parental deviance should be measured when G2 was an adolescent or whether more recent parental deviance was related to offspring behavior. Significant bivariate correlations (see Appendix) revealed that parental deviance in adolescence was related to child offending behavior and not recent parental deviance. Therefore, we only retained parental deviance during their own adolescence

To account for familial risk factors, we include a measure of parental supervision as reported by G3 and G3's attachment to his/her mother/primary caregiver (based on G3 reports of G2 if G2 was a female and G3 reports of OCG if G2 was male). We also account for the focal parent's (i.e., G2) level of contact with G3 using a binary measure indicating infrequent contact with G3 (1 = G2 either had no contact with G3, no supervisory contact with G3, or less than monthly supervisory contact with G3 and 0 = G2 had a least monthly supervisory contact of G3 or had custody of/lived with G3). Additionally, we account for whether G3 lived with both biological parents at the age of 13. Furthermore, to account for parental deviance, and not just arrest history, we include the average of G2's incidence of offending at the peak age of offending [42], spanning G2 ages 16 to 18 (RYDS waves 6–9).[14] This frequency is based on 32 items ([40]). To address community-level risk, we include the community arrest rate for G2 at the start of RYDS, which also serves as a stratification variable for sampling in RYDS. Our final set of control variables address G2 and G3 demographics, including G3's sex (male = 1 and female = 0), G3's race/ethnicity (we include dummy variables for Black and Hispanic; white/other serves as the reference group), whether or not G3's primary caregiver received some type of welfare or some other form of financial assistance, and G2's age at G3's birth. Detailed information, including the specific items included in all measures and scales as well as the psychometric properties, can be found in the Appendix.

## Analytic Plan

Our analytic strategy proceeds in stages. First, given the number of covariates to be included in our models, we confirmed multicollinearity was not an issue, as none of the variance inflation factors for any covariate were above 2.36 (Stine 1995; see the Appendix for the correlation matrix).[15,16] Next, we addressed the initial hypothesis of deviance amplification among G3s by examining whether an involuntary police contact between the ages of 14 and 16 affects the rate of self-reported offending at the age of 17, while accounting for one's prior level of offending, parental history of arrest, and our control variables. Recall, our measure of G3 self-reported offending is a count (incidence) of offending. Since a count outcome is ill-suited to least-squares analysis and there is evidence of overdispersion in our count outcome (the unconditional mean is smaller than the variance), we modeled our outcome

[14] For the G2 father–child dyad sample, the largest variance inflation factor among covariates was 2.21. For the G2 mother–child dyad sample, the largest variance inflation factor among covariates was 2.36

[15] Given concerns that the models presented may be oversaturated, we re-estimated all models and only included covariates in the model as controls if there was a significant bivariate correlation between the covariate, outcome, child involuntary contact with the police, and/or parent arrest history (child prior offending, child sex, financial assistance, conventional values, gang membership, peer delinquency, unstructured socializing with peers, school commitment, supervision, attachment to mother, community arrest rate, and infrequent contact G2). The results were the same in direction and significance and are available from the lead author upon request. Therefore, we opted to present the fully saturated models in order to preclude concerns regarding omitted variable bias

[16] Additional analyses were performed to determine the full extent of nesting in the RIGS data by age of parent at G3 birth or child year of birth. The intraclass correlation using either specification for the higher level of analysis was less than 0.05. Therefore, we opted to cluster the standard errors by the G2 age at birth. It should be noted that G2's age a birth is strongly correlated with G3 year at birth ($r = 0.95$).

using a negative binomial distribution and included a covariate that accounted for exposure time (number of days since the date of the last interview) by taking the natural log of the exposure time and holding this effect at one. We also accounted for the survey design of RIGS and clustered the standard errors by G2's age at birth.[17] As such, the interpretation of the outcome is the change in the rate of offending (given the inclusion of the individual's prior level of offending and the covariate that accounts for exposure time).

After first estimating the main effects of a child's involuntary contact with the police and parental arrest history on the rate of change in offending, the next step in our analysis addressed the first hypothesis and included an interaction term between G3's involuntary contact with police and G2's arrest history in order to assess whether or not a parental history of arrest moderated the effect of a child's involuntary police contact on subsequent offending. Given that conditional mean function of our regression models is nonlinear, the interaction term itself does not provide a consistent estimate for the interaction effect with regard to marginal effects ([2, 92]). As such, the interaction effect is actually the cross partial derivative ($E[y]$) with respect to $x_1$ and $x_2$, which is different from the first derivative of $E[y]$ with respect to the multiplicative term $x_1$ x $x_2$ coefficient that is commonly presented by researchers ([25]). Therefore, we followed the strategy of ([25]) and computed marginal effects based on the difference between the expected incidence of offending for a youth with and without a parent with an arrest history. These discrete differences can be translated as incidence rate ratios.

In order to test our second hypothesis, we decomposed parental arrest history by the timing of G2's most recent arrest relative to the life course of G3. We replaced the binary indicator of parental arrest history with the binary measures of G2's most recent arrest in relation to G3's life course (the reference is no arrest history). Again, we created interaction terms between G3 involuntary police contact and the three binary measures of G2's most recent arrest in order to assess if the timing of parental arrest is important to the deviance amplification process. Then, following the strategy of ([25]) we calculated the marginal effects transformed into incidence rate ratios to assess whether or not parental arrest history conditions the effect of a child's involuntary contact with police on subsequent offending.

The last step in our analytic strategy addressed potential factors which may account for how or why a parental arrest history may affect the deviance amplification process. Accordingly, two separate analyses were performed. First, we probed whether or not levels of familial warmth significantly varied across parent arrest history (using a difference in means $t$ test) as low levels of familial warmth may account for the intergenerational labeling processes (see [62]). Second, we re-estimated our focal models, including all control variables, with deviant values and delinquent peers (potential mechanisms that account for deviance amplification after a labeling experience) as outcomes, respectively, in order to determine if either deviant values and/or delinquent peers may serve as potential mechanisms for the intergenerational labeling processes. Notably, a full path analyses was not possible due to sample size limitations. Nonetheless, these models provided insight into whether key mechanisms [82] were relevant for intergenerational labeling processes.

[17] We used to following formula by Brame et al. [23] to test whether the coefficients were significantly different among G2 father–child dyads and G2 mother–child dyads: $z = \frac{b_1 - b_2}{\sqrt{\mathrm{SE}_{b_1}^2 + \mathrm{SE}_{b_2}^2}}$.

Each of the analytic steps described previously was estimated separately for father–child and mother–child dyads in order to assess whether parent gender further moderated the effect of parental arrest history on deviance amplification. All analyses were performed using Stata 15.1 ([99]).

## Results

Table 1 presents the descriptive statistics for all variables included in this research. Of particular interest are the arrest experiences of our sample of parents and their firstborn children (i.e., G2s and G3s, respectively). Among our sample of parent–child dyads, 65% of parents (G2s) were arrested prior to their child (G3) turning 14 years old. Moreover, when breaking down G2s arrest history by sex, 81% of G2 fathers were arrested prior to the time their firstborn child was 14 compared to 42% of mothers. This difference is statistically significant ($\chi^2 = 50.42$, $p < 0.001$).

When assessing the timing of the focal parent's most recent arrest in relation to the life course of G3, only 8% of parents' most recent arrest occurred prior to the birth of their firstborn child. Fifty-seven percent were arrested after G3's birth, and more specifically, 19% were arrested most recently between G3 ages 0 and 5 and 38% were arrested when G3 was between the ages 6 and 13. For G2 fathers, 9% were arrested prior to G3 birth, 22% were arrested most recently in G3's early childhood, and 50% were arrested most recently in G3's late childhood/early adolescence. For G2 mothers, 5% were arrested most recently prior to G3 birth, 15% of G2 females were arrested most recently in G3's early childhood, and 22% were arrested most recently in G3's late childhood/early adolescence.

Examining the prevalence of child arrest between the ages of 14 and 16, we find that approximately 14% of children had an involuntary contact with the police between the ages of 14 and 16. The difference in the prevalence of child arrest between ages 14 and 16 was not significantly different across father–child and mother–child dyads (16% for father–child and 12% for mother–child dyads).

### Deviance Amplification

Table 2 presents the abbreviated results examining our first hypothesis—parental arrest history increases the rate of offending among children who had an involuntary contact with police (the results for the full model can be found in the Appendix). Models 1 and 3 in Table 2 assess the baseline model regarding whether or not there is any evidence of deviance amplification for father-child and mother-child dyads, respectively. Results from models 1 and 3 indicate that an involuntary police contact between the ages of 14 and 16 increases the rate of offending at age 17 among adolescent children of G2 fathers ($b = 1.108$, $p < 0.05$, IRR = 3.03) and mothers ($b = 4.114$, $p < 0.05$, IRR = 61.19). Of note, the effect of an involuntary police contact on subsequent offending significantly varied between children of G2 fathers and children of G2 mothers ($z = 2.93$).[18]

[18] Given that the effects of all control variables in the analyses where parental arrest is divided by timing in the life course of the child were the same in direction and significance to the models presented in the Appendix where parental arrest history is represented with one binary measure, we opted not to display the results of the entire models in the Appendix in order to save space. However, the full set of results is available from the lead author upon request.

**Table 1** Descriptive statistics

| | Full sample ($N = 312$) | | | | Father–child dyads ($N = 180$) | | | Mother–child dyads ($N = 132$) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Range | $N$ | Mean/proportion | SD | $N$ | Mean/proportion | SD | $N$ | Mean/proportion | SD |
| Outcome | | | | | | | | | | |
| General offending | 0–1189 | 312 | 29.681 | 106.655 | 180 | 41.116 | 133.557 | 132 | 13.939 | 46.379 |
| Primary independent variable | | | | | | | | | | |
| Child (G3) involuntary contact | 0.1 | 312 | 0.144 | – | 180 | 0.160 | – | 132 | 0.121 | – |
| Moderators | | | | | | | | | | |
| Parent (G2) arrested | 0.1 | 312 | 0.645 | – | 180 | 0.807 | – | 132 | 0.424 | – |
| Parent (G2) not arrested (reference) | 0.1 | 312 | 0.355 | | 180 | 0.293 | | 132 | 0.576 | |
| Parent (G2) most recent arrest | | | | | | | | | | |
| Arrested before birth | 0.1 | 312 | 0.077 | – | 180 | 0.094 | – | 132 | 0.053 | – |
| Arrested early childhood (0 to 5) | 0.1 | 312 | 0.188 | – | 180 | 0.215 | – | 132 | 0.152 | – |
| Arrested late childhood (6–13) | 0.1 | 312 | 0.380 | – | 180 | 0.497 | – | 132 | 0.220 | – |
| Parent (G2) gender | | | | | | | | | | |
| Male | 0.1 | 312 | 0.578 | – | – | – | – | – | – | – |
| Female (reference) | 0.1 | 312 | 0.422 | – | – | – | – | – | – | – |
| Control variables | | | | | | | | | | |
| Prior offending[a] | 0–353 | 296 | 4.051 | 25.630 | 180 | 4.035 | 20.482 | 132 | 4.070 | 31.173 |
| Demographics | | | | | | | | | | |
| Child (G3) gender | | | | | | | | | | |
| Male | 0.1 | 312 | 0.505 | – | 180 | 0.497 | – | 132 | 0.515 | – |
| Female (reference) | 0.1 | 312 | 0.495 | – | 180 | 0.503 | – | 132 | 0.485 | – |
| Child race/ethnicity | | | | | | | | | | |
| Black | 0.1 | 312 | 0.671 | – | 180 | 0.591 | – | 132 | 0.780 | – |

**Table 1** (continued)

| | Full sample ($N = 312$) | | | | Father–child dyads ($N = 180$) | | | Mother–child dyads ($N = 132$) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Range | $N$ | Mean/proportion | SD | $N$ | Mean/proportion | SD | $N$ | Mean/proportion | SD |
| Hispanic | 0.1 | 312 | 0.166 | – | 180 | 0.215 | – | 132 | 0.098 | – |
| White/other (reference) | 0.1 | 312 | 0.163 | – | 180 | 0.194 | – | 132 | 0.122 | – |
| Both parents | 0.1 | 312 | 0.160 | – | 180 | 0.188 | – | 132 | 0.121 | – |
| Financial assistance | 0.1 | 305 | 0.634 | – | 175 | 0.631 | – | 130 | 0.638 | – |
| Individual factors | | | | | | | | | | |
| Conventional values | 0–3 | 296 | 2.817 | 0.379 | 167 | 2.798 | 0.363 | 129 | 2.843 | 0.400 |
| Gang member | 0.1 | 312 | 0.042 | – | 180 | 0.044 | – | 132 | 0.038 | – |
| Peer factors | | | | | | | | | | |
| Delinquent peers | 0–2.25 | 295 | 0.229 | 0.384 | 166 | 0.262 | 0.430 | 129 | 0.186 | 0.313 |
| Unstructured socializing | 0–2.67 | 296 | 0.356 | 0.493 | 167 | 0.385 | 0.494 | 129 | 0.318 | 0.491 |
| Family factors | | | | | | | | | | |
| Supervision | 0.25–2.5 | 293 | 2.211 | 0.441 | 165 | 2.151 | 0.496 | 128 | 2.291 | 0.343 |
| Attachment to mother | 0.364–3 | 293 | 2.434 | 0.423 | 165 | 2.411 | 0.387 | 128 | 2.465 | 0.464 |
| School commitment | 2.222–4 | 303 | 3.272 | 0.407 | 172 | 3.242 | 0.361 | 131 | 3.311 | 0.460 |
| G2 offending history[a] | 0–141.5 | 312 | 17.270 | 30.557 | 180 | 18.606 | 30.850 | 132 | 15.449 | 30.173 |
| G2 infrequent contact with G3 | 0.1 | 312 | 0.110 | – | 168 | 0.195 | – | 130 | 0.000 | – |
| Community arrest rate | 0.12–7.87 | 298 | 4.468 | 2.019 | 180 | 4.145 | 1.860 | 132 | 4.911 | 2.148 |
| Missing covariates | 0.1 | 312 | 0.112 | – | 180 | 0.167 | – | 132 | 0.038 | – |
| G2 age at birth | 13–26 | 312 | 19.885 | 2.687 | 180 | 20.569 | 2.423 | 132 | 18.947 | 2.755 |

[a] Variable was log transformed in all analyses

**Table 2** Negative binomial regression models examining if parental arrest moderates the effect child involuntary contact with police on change in rate of offending

| | Father–child dyads ($N = 180$) | | Mother–child dyads ($N = 132$) | |
|---|---|---|---|---|
| | Model 1 Coef. (SE) | Model 2 Coef. (SE) | Model 3 Coef. (SE) | Model 4 Coef. (SE) |
| Child involuntary contact | 1.108** (0.426) | − 1.894* (0.769) | 4.114*** (0.932) | 0.543 (0.507) |
| Parent arrest | 0.019 (0.554) | − 0.016 (0.549) | − 1.108*** (0.288) | − 1.470*** (0.289) |
| Child involuntary contact * parent arrest | – | 3.063** (1.032) | – | 4.465*** (0.659) |

*Notes*. Child refers to G3. Parent refers to G2. All models are estimated with the following covariates: G3 prior offending, child gender, child race/ethnicity, living with both biological parents, financial assistance, conventional values, gang membership, delinquent peers, unstructured socializing, commitment to school, supervision, attachment to mother, G2 infrequent contact with G3, G2 offending history, community arrest rate and a binary indicator of missing covariates. To account for the survey design, all standard errors are clustered by parent age at birth and robust standard errors are presented

*Coef*. = coefficient, *SE* = standard error

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$ (two-tailed test)

One additional finding from model 3 in Table 2 is worthy of note. The change in the rate of offending at the age of 17 is significantly smaller among children of G2 mothers who were arrested, net of controls, in comparison to children of G2 mothers who did not have an arrest history ($b = -1.108$, $p < 0.01$, IRR = 0.33).

## Deviance Amplification and Parental Arrest History

Models 2 and 4 in Table 2 include the results of the interaction effect between child involuntary contact and parent arrest for father-child and mother-child dyads, respectively. The results appear to confirm our first hypothesis, demonstrating that deviance amplification among adolescents is moderated by parental arrest history in the form of a positive, significant coefficient for the interaction term between a child's involuntary contact and parental arrest history. We rely on the marginal effects and predicted number of offenses across child and parent arrest status, when holding all control variables at their mean or modal category to interpret the moderating effect (see Fig. 1). Among children who did not have a parent with an arrest history, an involuntary contact with the police is associated with a 1.95 increase in the rate of offending (22/11.3). Among children who had a father with an arrest history, an involuntary contact with the police is associated with a 4.88 increase in the rate of offending (62.5/12.8). Overall, the change in the rate of offending resulting from an involuntary contact with the police is 2.5 times greater (4.88/1.95) among youth who had a father with an arrest history.

With respect to G2 mother–child dyads where the mother did not have an arrest history, an involuntary contact with the police is associated with a 3.82 increase in the rate of offending (13.29/3.48). However, among children whose mother had an arrest history, the rate of offending increased by a factor of 157.56 (81.93/.52). As such, the change in the rate of offending resulting from an involuntary contact with the police is over 40 times

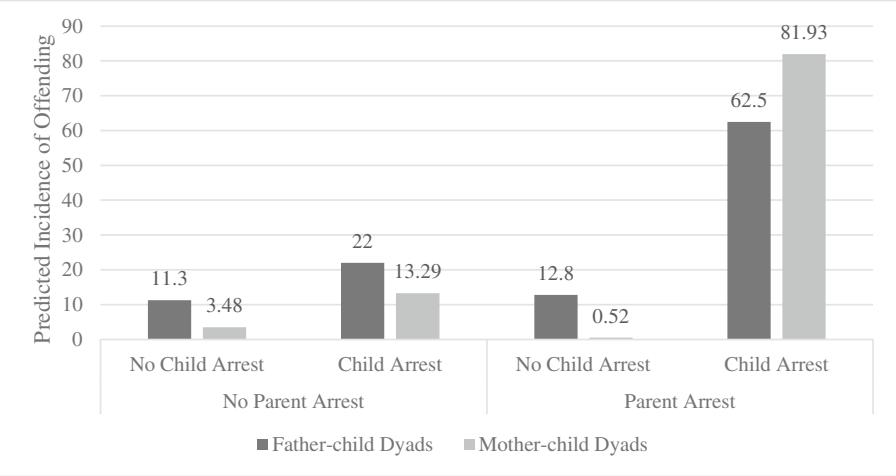



**Fig. 1** Predicted number of yearly offenses, by child involuntary contact with police and parent arrest. *Note*. All covariates are held at the mean/modal category

greater (157.56/3.82) among children who had a mother with an arrest history compared to those whose mother did not have an arrest history.

## Deviance Amplification and Parent Arrest History by Timing in the Life Course of a Child

Similar to previous results, model 1 in Table 3 demonstrates that there is evidence of deviance amplification among children of G2 fathers (i.e., the coefficient for the effect of a child's arrest on subsequent offending is positive and significant; $b = 1.480$, $p < 0.05$).[19] Moreover, the change in the rate of offending at age 17 is significantly smaller among adolescents whose father was arrested prior to their birth ($b = -1.988$, $p < 0.001$) compared to those whose father did not have a previous arrest. There is no significant change in the rate of offending between adolescents who had a father arrested after birth and those who did not have a parent with an arrest history.

Model 2 in Table 3 examines the intergenerational labeling hypothesis by timing of father arrest in relation to the life course of the child. We used the estimates from this model to calculate marginal effects (the predicted number of offenses) and rate change in the incidence of offending across child arrest and paternal arrest history, holding all covariates at their mean/modal category (see Fig. 2). Among children of fathers who did not have an arrest history, an involuntary contact with the police is associated with a 2.07 increase in the rate of offending (22/10.64). Among children whose fathers were arrested most recently before birth, an involuntary contact with the police increased the child's the rate of offending by a factor of 22.47 (16.18/0.72). Among children of G2 fathers who were arrested most recently during early childhood, an involuntary contact with the police increased the rate of offending by a factor of 2.03 (34.88/17.22). Finally,

[19] Due to the limited sample size and complexity of the path analysis that would be estimated, including interaction terms and clustering standard errors by G2's age at birth, we were unable to formally assess mediation

**Table 3** Negative binomial regression models examining how timing of parental arrest in G3's life course moderates the effect of a child involuntary contact with police on general offending

| | Father–child dyads ($N = 180$) | | Mother–child dyads ($N = 132$) | |
|---|---|---|---|---|
| | Model 1 Coef. (SE) | Model 2 Coef. (SE) | Model 3 Coef. (SE) | Model 4 Coef. (SE) |
| Child involuntary contact | 1.480* (0.582) | − 1.774 (0.937) | 4.003*** (1.045) | 0.478 (0.499) |
| Parent arrest before birth | − 1.988** (0.631) | − 2.231** (0.647) | − 1.656* (0.638) | − 1.855** (0.687) |
| Parent arrest early childhood | 0.433 (0.618) | 0.622 (0.656) | − 0.805 (0.551) | − 1.170* (0.494) |
| Parent arrest late childhood | − 0.146 (0.471) | − 0.341 (0.442) | − 1.252** (0.386) | − 1.672*** (0.450) |
| Child involuntary contact * parent arrest before birth | – | 3.889*** (0.965) | – | – |
| Child involuntary contact * parent arrest early childhood | – | 1.316 (1.045) | – | 4.602*** (0.688) |
| Child involuntary contact * parent arrest late childhood | – | 3.700* (1.443) | – | 4.339** (0.866) |

*Notes*. Child refers to G3. Parent refers to G2. All models are estimated with the following covariates: G3 prior offending, child gender, child race/ethnicity, living with both biological parents, financial assistance, conventional values, gang membership, delinquent peers, unstructured socializing, commitment to school, supervision, attachment to mother, G2 infrequent contact with G3, G2 offending history, community arrest rate, and a binary indicator of missing covariates. To account for the survey design, all standard errors are clustered by parent age at birth and robust standard errors are presented

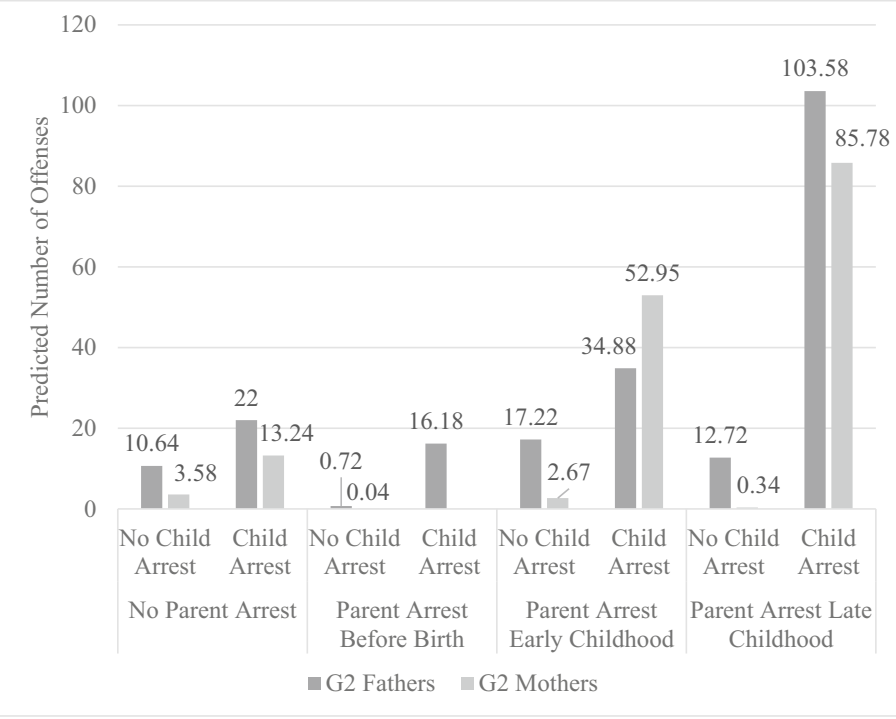
*Coef*. = coefficient, *SE* = standard error

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$ (two-tailed test)

among those children whose fathers were arrested during late childhood, an involuntary contact with the police increased the rate of offending by a factor of 8.14 (103.58/12.72). In sum, the effect of an involuntary contact with the police is over 10 times greater among children whose father was arrested prior to birth compared to children whose father had never been arrested (22.47 vs 2.07 respectively), and it is nearly 4 times larger among children whose father was arrested during late childhood compared to those children whose father had never been arrested (8.14 vs. 2.07, respectively). On the other hand, the increase in the rates of offending resulting from an involuntary contact with the police is comparable among youth whose father had never been arrested and youths whose father was arrested in early childhood (2.07 vs. 2.03, respectively).

Models 3 and 4 in Table 3 replicate the previous analyses among mother–child dyads. In the baseline model, a child's involuntary contact with the police between the ages of 14 and 16 is associated with an increase in offending at age 17. Moreover, the change in the rate of offending at the age of 17 is lower among adolescents whose mother was arrested prior to birth compared to those who did not have a mother with an arrest history ($b = -1.656$, $p < 0.05$). Furthermore, the change in the rate of offending at age 17 is also significantly smaller among adolescents whose mothers were arrested during late childhood or early adolescence compared to those whose mother was never previously arrested ($b = -1.252$, $p < 0.01$).

The results from model 4 in Table 3 were used to calculate marginal effects (the predicted number of offenses) and change in the incidence of offending across child arrest and maternal arrest history, holding all covariates at their mean/modal category (see Fig. 2). Based on the predicted number of offenses presented in Fig. 2, an involuntary contact with the police is associated with a change in the rate of offending that is 3.7 times higher (13.24/3.58) among children whose mother did not have an arrest history. Given that no children of mothers who were arrested for the last time prior to their child's birth also had an involuntary contact with the police, it is not possible to estimate the effect of a child's involuntary contact with the police in this case. However, among children whose mother was arrested in early childhood, the change in the rate of offending between the ages of 13 and 17 is over 19 times larger (52.95/2.67) if the child had an involuntary contact with the police. Additionally, the change in rate of offending between the ages of 13 and 17 among children whose mother was arrested in late childhood is over 250 times larger (85.78/.34) if the child had an involuntary contact with the police. As a result, the change in the rate of offending resulting from an involuntary contact with the police is 5.36 times greater among children whose mother was arrested in early childhood compared to children whose mothers did not have an arrest history (19.83 vs. 3.70, respectively), and the change in the rate of offending resulting from an involuntary contact with the police is nearly 68 times larger among children




*Note*. All covariates are held at the mean/modal category.

**Fig. 2** Predicted number of yearly offenses, by child involuntary contact with police and timing of parent arrest. *Note*. All covariates are held at the mean/modal category

whose mother was arrested in late childhood compared to children whose mother did not have an arrest history (252.29 vs. 3.70, respectively).

### Accounting for the Intergenerational Labeling Process

The results presented thus far demonstrate support for the intergenerational labeling hypothesis, but they do not consider what factors may account for *how* or *why* a parental arrest history exacerbates deviance amplification. Regarding our third hypothesis, the average level of familial warmth is significantly lower ($p < 0.05$) among father–child dyads where the father had an arrest history ($\overline{x} = 3.469, \mathrm{SD} = 0.421$) compared to fathers without an arrest history ($\overline{x} = 3.255, \mathrm{SD} = 0.528$). As such, it is possible that familial warmth may account for the intergenerational labeling hypothesis among fathers and their children. Regarding G2 mother–child dyads, familial warmth did not vary across maternal arrest history (mother arrested: $\overline{x} = 3.382, \mathrm{SD} = 0.397$; mother not arrested: $\overline{x} = 3.248, \mathrm{SD} = 0.626$).

Table 4 further presents the results regarding potential mechanisms that could account for intergenerational labeling effects and *why* deviance amplification occurs among those who have a parent with an arrest history. With respect to G2 father–child dyads, children of G2 fathers who experienced an involuntary contact with the police between the ages of 14 and 16 experienced an increase in deviant values relative to those who did not experience an involuntary police contact. Most importantly here, the increase in deviant values associated with a child's involuntary contact was significantlyamplified by having a father who was arrested. Given that deviant values at age 17 are significantly correlated with offending at age 17 among children of G2 fathers ($r = 0.298$, $p < 0.001$), it is possible that deviant values are a potential mechanism that accounts for the exacerbating effect of paternal arrest history on deviance amplification. As such, we subsequently estimated our focal negative binomial regression models for changes in rates of offending with the inclusion of deviant values assessed at age 17 as a covariate (see Appendix). As expected, the effect of deviant values at the age of 17 is positive and significantly related to the rate of offending at age 17. Additionally, the inclusion of deviant values at age 17 is associated with a reduction in the magnitude of the coefficient of the interaction term between a child's involuntary contact with the police and a father's arrest history by approximately 25% (2.28/3.06), which is suggestive of potential mediation.

Regarding the second potential mediating mechanism that may account for why a parental arrest history exacerbates deviance amplification among children, results from model 2 in Table 4 indicate that a paternal arrest history actually weakened the effect of a child's involuntary contact with the police on associations with delinquent peers. As such, there is no suggestive evidence that changes in delinquent peers account for the intergenerational labeling process among children of G2 fathers.

Finally, Table 4 demonstrates that a maternal arrest history does not moderate the effect of a child's involuntary contact with police on changes in deviant values or delinquent peers. As such, neither are potential mechanisms that can further explain the intergenerational labeling hypothesis among children of G2 mothers.

**Table 4** Multivariate regression models examining the effects of child and parental arrest history on mechanisms that promote deviance amplification

| | Father–child dyads ($N = 180$) | | | | Mother–child dyads ($N = 132$) | | | |
|---|---|---|---|---|---|---|---|---|
| | Deviant values | | Delinquent peers | | Deviant values | | Delinquent peers | |
| | Model 1 Coef. (SE) | Model 2 Coef. (SE) | Model 3 Coef. (SE) | Model 4 Coef. (SE) | Model 5 Coef. (SE) | Model 6 Coef. (SE) | Model 7 Coef. (SE) | Model 8 Coef. (SE) |
| Child involuntary contact | 0.224* (0.076) | −0.216 (0.114) | 0.209 (0.107) | 1.245*** (0.251) | 0.047 (0.181) | −0.201 (0.129) | 0.234 (0.156) | 0.180 (0.242) |
| Parent arrest | 0.084 (0.070) | 0.071 (0.063) | 0.091 (0.047) | 0.122 (0.205) | 0.067 (0.055) | 0.017 (0.065) | −0.074 (0.042) | −0.085 (0.042) |
| Child involuntary contact * parent arrest | – | 0.458** (0.148) | – | −1.077*** (0.206) | – | 0.411 (0.285) | – | 0.090 (0.249) |

*Notes*. Child refers to G3. Parent refers to G2. All models are estimated with the following covariates: G3 prior offending, child gender, child race/ethnicity, living with both biological parents, financial assistance, deviant values (age 13), gang membership, delinquent peers (age 13), unstructured socializing, commitment to school, supervision, attachment to mother, G2 infrequent contact with G3, G2 offending history, community arrest rate, and a binary indicator of missing covariates. To account for the survey design, all standard errors are clustered by parent age at birth and robust standard errors are presented

*Coef*. = coefficient, *SE* = standard error

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$ (two-tailed test)

## Discussion

The consequences of involuntary police contacts and criminal justice system processing of youth have received considerable empirical attention, particularly in recent years. Moreover, several studies point to the importance of the immediate family context for understanding the conditional impacts of official intervention (e.g., [30, 35, 54, 62]). With this research in mind, for both theoretical and policy reasons, there is a need to understand how deviance amplification processes unfold similarly or differently across families with and without criminal histories [77, 19]. The present study is in line with recent calls across the social sciences for increased efforts to replicate research and strengthen the evidence based for policy development (see [84]). For instance, prior work is scarce, with tests of the intergenerational labeling hypothesis only in mid-twentieth-century London, England [53, 19] and two cities in Canada [52]. Using data that were collected from Rochester, New York, this work confirms the intergenerational labeling hypothesis—parental criminal justice contact exacerbates the effect of a child's contact on subsequent offending. Given similarity in key findings across different historical time periods and cultural contexts, serious consideration should be given to implications of these findings for policy. Importantly, the present study also adds to and extends upon the limited prior research on deviance amplification in an intergenerational context by considering the roles of timing of parental arrest, parent gender, and factors that account for the intergenerational labeling process. Several findings warrant additional consideration.

The main effects of an adolescent's involuntary police contact are consistent with the deviance amplification process, as those who were picked up and accused of a crime or arrested experienced a significantly larger increase in their rate of offending compared to those who did not experience an involuntary police contact. Moreover, the deviance amplification process appears to be exacerbated by a parental arrest history, regardless of parent sex. Children are not immune to the criminal justice experiences of either parent. This notion aligns with prior research that suggests that both paternal and maternal arrest experiences have negative effects on child offending behavior (e.g., offending, Thornberry 2006; arrest, [18]).

Farrington [43, 44] notes that both fathers and mothers can pass along risk factors for offending to their children in his explanation of the intergenerational transmission of offending. These risk factors may be salient to the intergenerational labeling process as well. For instance, involuntary contacts with the criminal justice system, including arrest, conviction, and incarceration, negatively affect status attainment for both males and females (i.e., employment, occupational status, and income; [33, 71]). Moreover, the stigma of an arrest or conviction is inescapable for many in the age of criminal background checks [51, 59, 65, 116], particularly minority males [79] who have been disproportionately affected by aggressive arrest and incarceration practices of the 1980s and 1990s. As such, a youth with any parent with an arrest history is likely to be at an economic and social "disadvantage" and, thus, may be less able to resist the label of an offender. This may be particularly the case for fathers and their children in our sample of predominantly Black parent–child dyads. Moreover, the finding of a stronger effect of an involuntary contact with the police on the internalization of deviant

values when the youth's father had an arrest history is suggestive of the internalization of a deviant label by the child. It is certainly worthwhile for policy makers to consider more fully the ramifications of criminal background checks, particularly those that include arrest experiences, as economic attainment and social status may also contribute to the deviance amplification process as youth may have limited social and economic resources to draw upon in order to resist the "offender" label.

We also found that children of fathers who had an arrest history experienced lower levels of familial warmth in comparison to children whose fathers did not have an arrest history. Prior research suggests that warm and supportive family environments can stymie deviance amplification processes [30, 35, 54, 62]. As such, it may be that familial warmth explains the stronger effect of an involuntary contact with the police on subsequent offending (and deviant values) among children of fathers with an arrest history. Given that there were no significant differences in familial warmth for children of G2 mothers across maternal arrest history, one implication may be that family functioning is more negatively affected by a paternal history of arrest in contrast to a maternal history of arrest. Females may be better able to promote and encourage familial warmth regardless of arrest history as the social construction of the feminine identity is inextricably linked to the maternal role and women historically serve as central caregivers to children [49].

Remarkably, we did not find any suggestive evidence regarding why a maternal arrest history may exacerbate the deviance amplification effect among her child. One possible, and untested, explanation for the intergenerational labeling process among children who have a mother with an arrest history may be that the anger resulting from an involuntary contact is amplified if a child feels as though one's mother (or father) was also a victim or target of an unfair system, thus leading to increased offending as a form of defiance [93]. Youths may harbor resentment to criminal justice institutions and this could serve as a backdrop for one's future reactions to an involuntary police contact. If confirmed, this would have critical implications for policy. Given that procedurally just treatment has been found to attenuate labeling effects (see [6, 98]) and recent research supports the intergenerational transmission of legitimacy attitudes [120], improvements in how police and the courts treat those who come into contact with the justice system may not only attenuate an arrestee's (i.e., parent) deviance amplification but also the negative attitudinal and behavioral response to their child's involuntary contact with the police. This further elevates the importance of improving police–citizen interactions and the individual experiences of those being processed through the criminal justice system more generally, and more research on this topic is certainly needed.

It is also possible to account for the intergenerational labeling hypothesis among females and their children through assortative mating. Females with an arrest history are more likely to partner with males who have similar offending and arrest histories (see [43, 44]). As such, it may be that children of mothers with an arrest history also have a father with an arrest history as well. Therefore, there is the dual stigma for which the child must endure. Unfortunately, limitations in the data preclude our ability to assess whether the fathers of the children of G2 mothers also have an arrest history. However, future research should attempt to

determine if the exacerbating effect of a maternal arrest history on the deviance amplification process is due to the maternal arrest history itself or the potential combination of both a maternal and paternal arrest history.

Additional analyses explored whether the timing of a mother's or father's most recent arrest in relation to the life course of one's child potentially affected the deviance amplification process. Although a father's most recent arrest in early childhood did not significantly affect the deviance amplification process stemming from an involuntary contact with police, paternal arrest experiences before the child's birth or in late childhood or adolescence led to significantly greater increases in the child's offending after the involuntary contact. It is unclear why paternal arrest experience in early childhood did not significantly affect the deviance amplification process whereas paternal arrest experiences before birth and in late childhood or early adolescence did affect the deviance amplification process. It may be that the mechanisms underscoring intergenerational labeling vary by the timing of the labeling experience among parents. For instance, supplemental analyses demonstrated that there were significant differences in familial warmth between father–child dyads where the father was arrested in late childhood and early adolescence and father–child dyads where the father had no arrest history. There were not any significant differences in the levels of familial warmth among father–child dyads where fathers did not have an arrest history and father–child dyads where the father was arrested most recently in early childhood or between dyads where the father was arrested prior to birth and dyads where the father did not have an arrest history. As such, family functioning may assist in the explanation of intergenerational labeling processes among father–child dyads where the father was arrested more recently (late childhood/early adolescence). It is also possible that G2's own arrest experience and perceived treatment by criminal justice system actors may be qualitatively different for those with and without young children. Moreover, arrests earlier in the life course (i.e., before having a child) may have more damning consequences for life chances (e.g., educational attainment, [14]), and the resulting adverse effects might trickle down to offspring (i.e., such the inability to afford private counsel) affecting their involuntary contacts with the justice system. Additional research is needed to investigate these possibilities.

The results of this work demonstrated that maternal arrest experiences after a child's birth resulted in a greater increase in offending after an involuntary police contact. Recall, we were unable to ascertain whether maternal arrest experiences prior to birth operated in line with the intergenerational labeling hypothesis because no mothers who were arrested most recently prior to the birth of one's child also had a child who experienced an involuntary contact with police during adolescence. The lack of involuntary contacts with the police among children of mothers who were arrested most recently prior to her child's birth is noteworthy in its own right. It may be that the negative consequences stemming from a mother's arrest that did not occur within the child's lifetime are too far removed from a child's lived experience to adversely affect child behavior or warrant increased attention by the police (i.e., an involuntary police contact). It is also possible that a mother who has desisted from offending prior to having a child, at least with respect to their "official" criminal career, may

serve as a model for nonoffending behavior (or moderated offending). Having had no run-ins with the law during the child's lifetime, the parent is in a unique position to teach the child how to limit or reduce levels of offending at a time in the life course when offending is most likely and more frequent [46, 50, 74] as the parent is a living example of having done exactly that.

Relatedly, main effects revealed that a maternal arrest history prior to the birth of a child and in late childhood/early adolescence was associated with a significantly smaller change in the rate of offending between the ages of 13 and 17 in comparison to mother–child dyads where the mother did not have an arrest history. It may be that mothers regulate their child more strictly in order to prevent their child from similarly experiencing an involuntary contact with the justice system. Moreover, for mother–child dyads where the mother was arrested more recently in the life course of the child, it may be that the child moderates his or her own behavior because they have witnessed and experienced the consequences of criminal justice contact among their primary caregiver. Therefore, offending, which some consider to be "typical teenage behavior" [74], might be limited because of the knowledge of the consequences associated with criminal justice involvement.

From an intergenerational lens, these findings have policy implications for adolescent offending and deviance amplification. First, it is important to minimize the negative consequences of arrest for the parent so that the adverse consequences of a contact with the criminal justice system do not trickle down to impact the family. If parents experience employment difficulties or salient shifts in delinquent identity as a result of justice system involvement, there may be problematic implications for a family's ability to provide a climate that can stymie labeling processes for a youth. Indeed, supportive and warm family environments can attenuate labeling effects [30, 35, 54, 62]. As such, criminal justice programming should be attuned to and incorporate family components, such as prison/jail visits in a safe, accommodating setting, parenting classes that promote positive communication, and the promotion of parent involvement in child schooling into service provisions (if any; [47]). Moreover, to reduce deviance amplification among adolescents, specifically, our findings suggest justice system actors, including the police, should be especially attuned to the increased likelihood of deviance amplification for youth who experience a police contact and have a parent with an arrest history. Family offending history is considered to be one of the big eight risk factors for future recidivism [5], and this research further demonstrates that youth who grow up in a context of a parental arrest are at an elevated risk for future offending as a consequence of their justice system contact. The fact that parental arrest history acts a moderator is important because this information is accessible to various justice system actors. For instance, family arrest history could be used by district attorneys, judges, and probation officers to see whether a child is at an increased risk for deviance amplification and suggest diversionary programs. Critically, diversion can also occur very early in the process, prior to booking, and be handled by police (e.g., Law Enforcement Assisted Diversion program, [31]). For those processed through the system, treatment efforts in justice-based or community settings should attempt to reduce recidivism by strengthening the family (i.e., functional family therapy; [3]) and promoting a prosocial identity (via cognitive behavioral approaches; [5]) particularly among youth who have parents with an arrest history.

While the present study has added to the small body of empirical research examining the moderating role of parental arrest history for labeling processes of their adolescent children, there are limitations of this study that provide important avenues for future research. The results reflect findings regarding the effects of an involuntary police contact among predominantly minority adolescents from one urban jurisdiction in the USA, but importantly, they are consistent with the general findings from the UK examining convictions and adult offending behavior [19]. More so, this work demonstrates that the intergenerational labeling process holds across different historical periods. Still, future research should continue to explore whether deviance amplification effects are exacerbated when they occur in the context of a family history of police contact or conviction in other localities, both urban and rural, and among other samples with different racial/ethnic representations. Future research should also seek to examine whether there are racial/ethnic differences in the effects of parental arrest history on deviance amplification resulting from an involuntary contact with the justice system.

Additionally, the measure of parental arrest in this research is assembled from different data sources, including official records and self-reported arrests, as official arrest records are not available across the full study of RYDS and RIGS. Relatedly, data are unavailable for the arrest history of G3's other parent; specifically, data were not collected from the "other primary caregiver" if the RYDS participant was a female. Future research should consider the implications of the arrest history of both parents and, when possible, also use a consistent data source to measure arrest history. Finally, prior research on intergenerational transmission suggests the need to probe the gender of both parents and child in tandem (e.g., father–son dyads, mother–daughter dyads) and the degree of parent–child contact as additional sources of moderation (e.g., [7]). Unfortunately, the current sample size of the dyadic data available precluded investigation into these important nuances. Thus, as intergenerational, prospective data sources continue to proliferate (i.e., ongoing data collection efforts that will result in increased sample sizes or new data sources), these inquiries should follow as well.

Overall, this research supports the life-course principles of "linked lives" and "timing" as offending trajectories marked by arrest experiences of a parent do not escape the offending behaviors of the child (see Thornberry 2007). Parental arrest histories assist in the explanation for the degree of change in offending behavior after an involuntary contact with police during middle adolescence. While our attempt to elucidate the specific mechanisms which may account for this promotive process was far from conclusive, we followed the path of other scholars [53, 19] highlighting the importance of parental arrest experiences, family functioning, and deviant values on the trajectories of adolescent offending in an era of increased involuntary police contact in the lives of American adolescents.

**Acknowledgments** Support for the Rochester Youth Development Study has been provided by the Centers for Disease Control and Prevention (R01CE001572), the Office of Juvenile Justice and Delinquency Prevention (2006-JW-BX-0074, 86-JN-CX-0007, 96-MU-FX-0014, 2004-MU-FX-0062), the National Institute on Drug Abuse (R01DA020195, R01DA005512), the National Science Foundation (SBR-9123299), and the National Institute of Mental Health (R01MH56486, R01MH63386). Work on this project was also aided by grants to the Center for Social and Demographic Analysis at the University at Albany from NICHD (P30HD32041) and NSF (SBR-9512290).

## Compliance with Ethical Standards

**Conflict of Interest** The authors declare that they have no conflicts of interest.

## Appendix

**Table 5** Individual items in variables/scales

*Child offending*:
Since the date of the last interview, have you? No/Yes.
If yes, how many times?
1. Run away from home in the past year?
2. Skipped classes without an excuse in the past year?
3. Lied about your age to get into some place or to buy something?
4. Hitchhiked a ride with a stranger?
5. Carried a hidden weapon?
6. Been loud or rowdy in a public place where somebody complained and you got in trouble?
7. Begged for money or things from strangers?
8. Been drunk in a public place?
9. Damage, destroyed, or marked up somebody else's property on purpose?
10. Set fire on purpose or tried to set fire to a house, building or car?
11. Avoided paying for things, like a movie, taking bus rides, using a computer or anything else?
12. Gone into or tried to go into a building to steal or damage something?
13. Tried to steal or actually stolen money or things worth $5 or less?
14. Tried to steal or actually stolen money or things worth between $5 and $50?
15. Tried to steal or actually stolen money or things between $50 and $100?
16. Tried to steal or actually stolen money or things over $100?
17. Tried to buy or sell things that were stolen?
18. Take a car or motorcycle for a ride without the owner's permission?
19. Stolen or tried to steal a car or motor vehicle?
20. Forged a check or used fake money to pay for something?
21. Used or tried to use a credit card, bank card, or automatic teller card without permission?
22. Attacked someone with a weapon or with the idea of seriously hurting or killing them?
23. Hit someone with the idea of hurting them, other than what you already mentioned?
24. Been involved in a gang or posse fight?
25. Thrown objects such as rocks or bottles at people, other than what you already mentioned?
26. Used a weapon or force to make someone give you money?
27. Made obscene phone calls?
28. Been paid for having sexual relations with someone?
29. Physically hurt or threatened to hurt someone to get them to have sex with you?
30. Sold marijuana, weed, or reefer?
31. Sold hard drugs such as crack, heroin, cocaine, LSD or acid?

*Parental supervision* ($\alpha = 0.86$) How often does your mother know …
1. Where you are when you are not at home? (0) Never, (1) almost never, (2) sometimes, (3) often
2. Who you are with when you are not at home? (0) Never, (1) almost never, (2) sometimes, (3) often
3. How important is it to your mother to know who your friends are? (0) Not important at all, (1) not very important, (2) important, (3) very important
4. How important is it to your mother to know where you are? (0) Not important at all, (1) not very important, (2) important, (3) very important

*Attachment to mother/primary caregiver* ($\alpha = 0.86$)
How often would you say that you …
Responses: (0) Never, (1) almost never, (2) sometimes, (3) often
1. You get along well with your mother?
2. You feel that you can really trust your mother?
3. Your mother does not understand you? (reverse-coded)
4. Your mother is too demanding (reverse-coded)
5. You really enjoy your mother?
6. You have a lot of respect for your mother?
7. Your mother interferes with your activities? (reverse-coded)
8. Youth think your mother is terrific?
9. You feel very angry toward your mother? (reverse-coded)

**Table 5** (continued)

10. You feel violent toward your mother? (reverse-coded)
11. You feel proud of your mother?

*Delinquent peers* ($\alpha = 0.85$)
Since the date of the last interview, how many of your friends …
Responses: (1) None of them, (2) A few of them, (3) Some of them, (4) Most of them
1. Used a weapon or force to get money or things from people?
2. Attached someone with a weapon or with the idea of seriously hurting them?
3. Hit someone with the idea of hurting them?
4. Stole something worth more than $100?
5. Stole something worth more than $5 but less than $50?
6. Damaged or destroyed someone else's property on purpose?
7. Took a car or motorcycle for a ride or drive without the owner's permission?
8. Skipped classes without an excuse?

*Conventional values* ($\alpha = 0.91$)
How wrong do you think it is to …
Responses: (1) Not wrong at all, (2) A little bit wrong, (3) Wrong, (4) Very Wrong
1. Steal something worth $50?
2. Use hard drugs such as crack, heroin, cocaine, LSD or acid?
3. Use marijuana, weed, or reefer?
4. Drink beer, wine, liquor?
5. Use a weapon or force to get money or things from people?
6. Attach someone with a weapon or with the idea of seriously hurting them?
7. Hit someone with the idea of hurting them?
8. Take a car or motorcycle for a ride without the owner's permission?
9. Damage or destroy someone else's property on purpose?

*Unstructured socializing with peers*
1. How many times a week do you and your friends get together where no adults are present? (1) Never, (2) 1 time a week or less, (3) 2 times a week, (4) 3–6 times a week, (5) everyday

*Gang membership*
1. Have you ever been a member of a street gang or posse? No or Yes
2. Since the date of the last interview, were you a member of a street gang or posse? No or Yes

*Financial assistance (binary indicator of financial assistance)*
Since the date of the last interview, have you or any children under the age of 18 who live with you received …
1. Public assistance or welfare, such as Temporary Assistance for Needy Families (TANF), Home Relief, or Safety Net? Yes or No
2. SSI (Supplemental security income)? Yes or No
3. Food stamps? Yes or No
4. Medicaid? Yes or No
5. Housing assistance such as Section 8? Yes or No
6. A day care allowance or voucher? Yes or No

*Commitment to school* ($\alpha = 0.78$)
How much do you agree or disagree with the following statements?
Responses: (1) Strongly disagree, (2) Disagree, (3) Agree, (4) Strongly Agree
1. You like school a lot
2. School is boring to you (Reverse-coded)
3. You do poorly at school (Reverse-coded)
4. You do not really belong at school (Reverse-coded)
5. Homework is a waste of time (Reverse-coded)
6. You try hard at school
7. You usually finish your homework
8. Getting good grades is very important to you
9. Sometimes you do extra work to improve your grades

*Parent offending as teen*
Since the date of the last interview, have you? No/Yes.

**Table 5** (continued)

If yes, how many times?
1. Run away from home in the past year?
2. Skipped classes without an excuse in the past year?
3. Lied about your age to get into some place or to buy something?
4. Hitchhiked a ride with a stranger?
5. Carried a hidden weapon?
6. Been loud or rowdy in a public place where somebody complained and you got in trouble?
7. Begged for money or things from strangers?
8. Been drunk in a public place?
9. Damage, destroyed, or marked up somebody else's property on purpose?
10. Set fire on purpose or tried to set fire to a house, building, or car?
11. Avoided paying for things, like a movie, taking bus rides, using a computer or anything else?
12. Gone into or tried to go into a building to steal or damage something?
13. Tried to steal or actually stolen money or things worth $5 or less?
14. Tried to steal or actually stolen money or things worth between $5 and $50?
15. Tried to steal or actually stolen money or things between $50 and $100?
16. Tried to steal or actually stolen money or things over $100?
17. Tried to buy or sell things that were stolen?
18. Take a car or motorcycle for a ride without the owner's permission?
19. Stolen or tried to steal a car or motor vehicle?
20. Forged a check or used fake money to pay for something?
21. Used or tried to use a credit card, bank card, or automatic teller card without permission?
22. Tried to cheat someone by selling them something that was not what you said it was or that was worthless?
23. Attacked someone with a weapon or with the idea of seriously hurting or killing them?
24. Hit someone with the idea of hurting them, other than what you already mentioned?
25. Been involved in a gang or posse fight?
26. Thrown objects such as rocks or bottles at people, other than what you already mentioned?
27. Used a weapon or force to make someone give you money?
28. Made obscene phone calls?
29. Been paid for having sexual relations with someone?
30. Physically hurt or threatened to hurt someone to get them to have sex with you?
31. Sold marijuana, weed, or reefer?
32. Sold hard drugs such as crack, heroin, cocaine, LSD or acid?

**Table 6.** Correlation Matrix

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.000 | | | | | | | | | | | |
| 2 | 0.174** | 1.000 | | | | | | | | | | |
| 3 | 0.090 | 0.172* | 1.000 | | | | | | | | | |
| 4 | −0.071 | −0.016 | 0.215** | 1.000 | | | | | | | | |
| 5 | −0.007 | 0.035 | 0.359** | −0.139* | 1.000 | | | | | | | |
| 6 | 0.133* | 0.150** | 0.580** | −0.225* | −0.377** | 1.000 | | | | | | |
| 7 | 0.360** | 0.197** | −0.033 | −0.027 | −0.024 | 0.001 | 1.000 | | | | | |
| 8 | 0.127* | 0.056 | 0.394** | 0.077 | 0.082 | 0.280** | 0.000 | 1.000 | | | | |
| 9 | 0.062 | 0.132* | 0.043 | −0.028 | 0.035 | 0.030 | −0.070 | −0.015 | 1.000 | | | |
| 10 | −0.074 | 0.055 | −0.009 | −0.079 | −0.061 | 0.084 | 0.004 | −0.201** | −0.025 | 1.000 | | |
| 11 | −0.029 | −0.037 | −0.045 | 0.065 | −0.084 | −0.012 | −0.042 | 0.157** | 0.029 | −0.637** | 1.000 | |
| 12 | −0.032 | −0.080 | −0.040 | 0.038 | 0.168** | −0.197** | −0.035 | 0.091 | 0.029 | −0.176** | 0.039 | 1.000 |
| 13 | −0.014 | 0.115* | 0.161** | −0.112* | −0.052 | 0.262** | 0.005 | 0.001 | 0.030 | 0.062 | −0.009 | −0.205** |
| 14 | −0.148** | −0.147** | −0.166** | −0.015 | −0.056 | −0.110 | −0.290** | −0.154** | −0.129 | 0.002 | 0.021 | 0.028 |
| 15 | −0.059 | −0.086 | −0.117* | −0.044 | −0.011 | −0.082 | −0.228** | −0.059 | 0.008 | 0.029 | −0.053 | −0.003 |
| 16 | 0.134* | 0.149** | 0.053 | −0.032 | 0.113* | −0.022 | 0.497** | 0.090 | 0.000 | 0.116* | −0.042 | 0.004 |
| 17 | −0.269** | −0.101 | −0.024 | 0.025 | −0.080 | 0.027 | −0.488** | −0.060 | −0.079 | 0.012 | −0.028 | −0.028 |
| 18 | 0.149** | 0.176** | 0.117* | 0.058 | −0.012 | 0.094 | 0.365** | 0.061 | 0.029 | 0.064 | −0.095 | −0.039 |
| 19 | 0.187** | 0.097 | 0.054 | 0.000 | −0.019 | 0.069 | 0.458** | 0.016 | 0.045 | 0.010 | −0.007 | −0.047 |
| 20 | −0.056 | 0.078 | −0.115* | −0.038 | −0.015 | −0.081 | −0.122* | −0.083 | −0.151* | 0.107 | −0.032 | −0.015 |
| 21 | −0.121* | −0.101 | −0.079 | 0.055 | −0.105 | −0.024 | −0.089 | −0.188** | 0.035 | 0.121* | 0.049 | −0.012 |
| 22 | 0.224** | 0.126* | 0.147** | −0.060 | −0.033 | 0.205 | 0.067 | 0.295** | −0.057 | −0.069 | 0.070 | −0.150* |
| 23 | 0.067 | 0.067 | 0.221** | −0.082 | 0.024 | 0.244 | 0.003 | 0.130* | −0.087 | −0.072 | 0.128* | −0.022 |
| 24 | 0.000 | 0.056 | 0.137* | 0.088 | −0.016 | 0.100 | −0.006 | 0.202** | 0.026 | −0.074 | 0.059 | 0.066 |

**Table 6.** (continued)

| | | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | 1.000 | | | | | | | | | | | | |
| 14 | 0.033 | 1.000 | | | | | | | | | | | |
| 15 | −0.066 | 0.399** | 1.000 | | | | | | | | | | |
| 16 | −0.037 | −0.337** | −0.275** | 1.000 | | | | | | | | | |
| 17 | 0.049 | 0.363** | 0.425** | −0.578** | 1.000 | | | | | | | | |
| 18 | −0.029 | −0.291** | −0.171** | 0.391** | −0.262** | 1.000 | | | | | | | |
| 19 | 0.021 | −0.206** | −0.166** | 0.437** | −0.365** | 0.238** | 1.000 | | | | | | |
| 20 | −0.071 | 0.244** | 0.208** | −0.140* | 0.208** | −0.089 | −0.071 | 1.000 | | | | | |
| 21 | 0.023 | 0.028 | −0.004 | −0.005 | 0.076 | −0.034 | −0.012 | 0.049 | 1.000 | | | | |
| 22 | 0.060 | −0.048 | −0.022 | 0.097 | 0.008 | −0.018 | 0.033 | −0.057 | −0.092 | 1.000 | | | |
| 23 | 0.033 | −0.034 | −0.020 | −0.030 | −0.035 | 0.045 | 0.021 | 0.033 | 0.026 | 0.071 | 1.000 | | |
| 24 | 0.031 | −0.015 | −0.007 | 0.065 | −0.039 | 0.050 | 0.028 | −0.077 | 0.053 | 0.076 | 0.066 | 1.000 | |

1. General Offending
2. Child Arrest
3. Parent Arrest
4. Parent Arrest before Birth
5. Parent Arrest 0–5 Years
6. Parent Arrest 6–13 Years
7. Prior Offending
8. G2 Male
9. G3 Male
10. Black
11. Hispanic
12. Both Parents
13. Financial Assistance
14. Supervision
15. Attachment to Mother/Primary Caregiver
16. Delinquent Peers
17. Conventional Values
18. Unstructured Socializing with Peers
19. Gang
20. Commitment to School
21. Community Arrest Rate
22. Infrequent Contact with G2
23. G2 Offending History
24. Missing covariates

**Table 7** Full model results for negative binomial regression models predicting offending

| | Father–child dyads ($N = 180$) | | Mother–child dyads ($N = 132$) | |
|---|---|---|---|---|
| | Model 1 Coef. (SE) | Model 2 Coef. (SE) | Model 3 Coef. (SE) | Model 4 Coef. (SE) |
| Child arrest | 1.108** (0.425) | − 1.894* (0.769) | 4.114*** (0.932) | 0.544 (0.508) |
| Parent arrest | 0.019 (0.554) | − 0.016 (0.549) | − 1.108*** (0.288) | − 1.470*** (0.211) |
| Child arrest * parent arrest | – | 3.063** (1.032) | – | 4.465*** (0.659) |
| Prior offending | 0.001 (0.004) | 0.000 (0.004) | − 0.020* (0.009) | − 0.010 (0.007) |
| G3 male | 1.313** (0.846) | 1.308** (0.369) | 0.154 (0.364) | 0.172 (0.320) |
| Black | − 1.301 (0.846) | − 1.306 (0.853) | 1.578*** (0.432) | 1.677*** (0.339) |
| Hispanic | − 0.619 (0.896) | − 0.576 (0.893) | 0.257 (0.547) | 0.903* (0.401) |
| Both parents | − 0.346 (0.601) | − 0.354 (0.599) | − 0.233 (0.535) | − 0.130 (0.538) |
| Financial assistance | 0.709 (0.514) | 0.738 (0.514) | − 0.902* (0.243) | − 0.714 (0.405) |
| Conventional values | − 3.555*** (0.602) | − 3.622*** (0.649) | − 0.910*** (0.243) | − 0.725* (0.286) |
| Gang member | − 0.406 (0.466) | − 0.395 (0.476) | 2.328 (1.281) | 2.072 (1.205) |
| Delinquent peers | − 1.580*** (0.430) | − 1.529*** (0.428) | 1.098 (0.678) | 1.247 (0.695) |
| Unstructured socializing | − 0.303 (0.265) | − 0.312 (0.272) | 0.080 (0.367) | − 0.161 (0.316) |
| School commitment | 1.062* (0.528) | 1.064* (0.522) | − 2.403*** (0.651) | − 2.327*** (0.657) |
| Supervision | 0.091 (0.643) | 0.134 (0.662) | 1.464* (0.704) | 0.700 (0.641) |
| Attachment to mother | 0.907 (0.636) | 0.886 (0.634) | 0.343 (0.445) | 0.478 (0.463) |
| G2 infrequent with G3 | 1.591*** (0.406) | 1.645*** (0.394) | – | – |
| G2 offending history | 0.017 (0.099) | 0.018 (0.100) | 0.328* (0.130) | 0.378** (0.112) |
| Community arrest rate | − 0.248* (0.113) | − 0.257* (0.110) | − 0.065 (0.113) | − 0.080 (0.100) |
| Missing covariate | 0.541 (0.361) | 0.532 (0.358) | − 20.405*** (0.875) | − 21.940 (0.853) |

*Note*. To account for the survey design, all standard errors are clustered by parent age at birth and robust standard errors are presented

*Coef.* = coefficient, *SE* = standard error, *IRR* = incidence rate ratio

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$ (two-tailed test)

**Table 8** Negative binomial regression models examining if parental arrest conditions affect child arrest on change in rate of offending when accounting for child deviant values at age 17

| | Father–child dyads ($N = 180$) | |
|---|---|---|
| | Model 1<br>Coef. (SE) | Model 2<br>Coef. (SE) |
| Child arrest | − 1.894* (0.769) | − 1.527 (0.958) |
| Parent arrest | − 0.016 (0.549) | − 0.551 (0.687) |
| Child arrest * parent arrest | 3.063** (1.032) | 2.277* (1.159) |
| Deviant values age 17 | – | 1.501*** (0.429) |

*Notes.* Child refers to G3. Parent refers to G2. All models are estimated with the following covariates: G3 prior offending, child gender, child race/ethnicity, living with both biological parents, financial assistance, deviant values (age 13), gang membership, delinquent peers (age 13), unstructured socializing, supervision, attachment to mother, G2 infrequent contact with G3, community arrest rate, and a binary indicator of missing covariates. To account for the survey design, all standard errors are clustered by parent age at birth and robust standard errors are presented

*Coef.* = coefficient, *SE* = standard error

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$ (two-tailed test)

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