

## ORIGINAL ARTICLE

# Labeling effects of initial juvenile justice system processing decision on youth interpersonal ties\*

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## Abstract

The juvenile justice system can process youth in myriad ways. Youth who are formally processed, relative to being informally processed, may experience more public and harsh sanctions that label youth more negatively as “deviant.” Drawing on labeling theory, the current study evaluates the relative effect of formal justice system processing on the interpersonal dynamics of youth peer networks. Using data from the Crossroads Study, a multisite longitudinal sample of first-time adolescent offenders, the current study applies augmented inverse probability weighting and generalized mixed-effects models to estimate the effects of formal processing on friendship selection processes of homophily and withdrawal and considers whether these effects vary by race and ethnicity. Consistent with expectations of homophily, formally processed youth acquire more new deviant peers and fewer nondeviant peers during the 3 years after their initial processing decision compared with informally processed youth. The findings suggest no differences exist across processing types in withdrawal from friends. These effects were consistent across racial and ethnic groups. Ultimately, this study explores the dynamic interpersonal mechanisms

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associated with labeling theory and offers additional insight into the negative effects of formal processing.

#### KEYWORDS

formal processing, juvenile justice system, labeling, peer dynamics

## 1 | INTRODUCTION

Societal reactions to crime and deviance are paramount to consider during adolescence. In the United States, nearly 750,000 juveniles are processed annually for delinquency cases, yet for low-to-moderate level offenses, the system is designed such that practitioners must decide whether to adjudicate youth formally (e.g., file a petition or process through the juvenile court system) or informally (e.g., diversion to community service or supervision) (Cauffman et al., 2021; OJJDP Statistical Briefing Book, 2021). Furthermore, this decision to formally process is not equally distributed across youth from different racial and ethnic backgrounds as minority youth are more likely to be formally processed (Hockenberry & Puzanchera, 2020). Evidence suggests that, at best, formal juvenile justice intervention produces no difference in recidivism outcomes (Petrosino et al., 2010) or, at worst, exacerbates offending (Bernburg et al., 2006; Cauffman et al., 2021; Gatti et al., 2009). Overall, formal intervention seems to have a host of negative consequences for youth outcomes (Cauffman et al., 2021) and may be specifically overexposing minority youth to the iatrogenic effects of system processing, yet limited evidence exists on understanding the mechanisms to explain such outcomes.

Labeling theory is particularly useful for understanding the negative impacts of deep-end juvenile justice system processing as it suggests that contact with the system stigmatizes adolescents and initiates a process that redefines one's self-concept, reduces prosocial opportunities, and leads to changes in interpersonal relationships conducive to criminal behavior (Lemert, 1951, 1967). Thus, the stigma attached to more serious forms of criminal justice contact can further contribute to institutional (e.g., employment, voting, and education) (Brayne, 2014; Burch, 2011; Pager, 2003) and interpersonal exclusion (Jacobsen, 2020; Jacobsen et al., 2022). The consequences of formal justice system contact on interpersonal relationships may be even more important during adolescence as peers serve as the principal source of social reaction to newly applied labels and constrain selection into conventional (and deviant) peer networks (Warr, 2002). Thus, the current study specifically considers how formal justice system processing impacts the experience of interpersonal exclusion during adolescence.

Once publicly identified as deviant, social exclusion may occur through either nondeviant youth *rejecting* labeled individuals to escape feelings of guilt by association or the labeled "deviant" *withdrawing* from these experiences out of concern of being rejected by nondeviant

peers (Goffman, 1963; Jacobsen et al., 2022; Lemert, 1967; Link et al., 1989). Given these constrained friendship choices, labeled individuals, therefore, also experience increased *homophily* toward deviant peer “audiences” that are supportive of the new identity (Bernburg et al., 2006; Jacobsen et al., 2022; Wiley et al., 2013). Prior work examining these mechanisms of interpersonal exclusion has been limited for a few reasons. First, longitudinal network-based data that include attribution of deviance to specific peers are required to offer evidence of these friendship selection mechanisms. For instance, to evaluate whether homophily on deviance occurs after a youth is labeled, it should be observed that these youth are also less likely to add new nondeviant friends. Labeled youths’ existing deviant peers should also more readily support such youth and therefore be less likely to be withdrawn from (i.e., maintain existing deviant ties). Using peer network data from the PROSPER study, Jacobsen (2020) and Jacobsen et al. (2022) recently offered empirical frameworks and evidence to support the impact of stigmatizing events (e.g., suspension and arrest) on social exclusion among youth in rural schools. Consistent with this recent work, the current study leverages longitudinal network-based information to assess withdrawal and homophily in friendship ties after being formally processed; however, the data collected capture ego-based friendship network information, which limits our ability to fully distinguish between each mechanism of interpersonal exclusion described in labeling theory.

Second, Paternoster and Iovanni (1989) argued that the effects of labeling may not be invariant across subgroups in the population. Specifically, structural location, defined by characteristics such as class and race, may contribute to differential susceptibility to labeling mechanisms (Age-ton & Elliott, 1974; Lofland, 1969; Schur, 1971). For instance, Hirschfield (2008) argued that because of disproportionate minority contact in the justice system and lower perceived legitimacy of sanctioning agents by minority communities, a dilution occurs of the stigmatizing effect of criminal labels applied to minority youth (see also Fagan & Meares, 2008; Nagin, 1998). In contrast, Sampson and Laub (1997) proposed that the disadvantaged position of minority youth exacerbates labeling processes because these youth have fewer resources (e.g., weaker bonds and limited opportunities) to resist the negative effects. Empirical evidence for these hypotheses is somewhat mixed (Bernburg & Krohn, 2003; Chiricos et al., 2007; Hirschfield, 2008; Ramey, 2016) and research examining mechanisms of interpersonal exclusion has relied on samples of youth from rural and homogenous schools.

Ultimately, processing decisions in the juvenile justice system are meant to support its capacity to identify individualized solutions aimed at supporting and holding youth accountable (Thomas & Fitch, 1981). Still, formal processing, as compared with diverting juveniles from formal contact with the system, has been linked to increased recidivism and harms to successful development in adolescence and young adulthood (Cauffman et al., 2021). The current study seeks to build on prior research evaluating the consequences of justice system contact on interpersonal exclusion (e.g., withdrawal, homophily) by 1) examining effects across types of legal system processing (formal or informal) and 2) considering whether these mechanisms vary by race and ethnicity in primarily urban contexts. For the current inquiry, formal processing occurs when a petition is filed and youth are processed through the juvenile court system and informal processing involves youth being diverted away from the juvenile court and required to complete specific conditions. Therefore, we use a diverse sample of adolescents who were processed by the justice system for the first time and provide unique self-reported data on peer dynamics and characteristics of peer deviance (e.g., arrested, jailed, in detention, or used drugs).

## 2 | LABELING THEORY BACKGROUND

A glance at juvenile justice systems' mission statements or guiding principles would indicate that one of their primary goals is, simply, to reduce juvenile delinquency. The system can inadvertently promote more delinquency, however, especially when youth are processed more harshly (Cauffman et al., 2021). Labeling theory offers a framework to explain these iatrogenic effects. Broadly, labeling theory suggests that juvenile justice system contact stigmatizes adolescents resulting in changes in their identity and likelihood of involvement in subsequent crime (Lemert, 1967; Tannenbaum, 1938). Lemert (1967) specified a distinction between primary and secondary deviance, arguing that in response to serious and harsh societal reactions or sanctioning of acts of deviance, individuals may engage in additional deviant acts as an adaptation to the challenges derived by being labeled a "deviant" (Lemert, 1967, p. 17). Thus, as Tannenbaum (1938, pp. 19–20) stated, through the act of "tagging, defining, identifying, segregating," individuals are subject to a range of consequences that include the development of a deviant self-concept, social exclusion from conventional opportunities and others, and involvement in deviant groups (Lemert, 1967; Link et al., 1989; Matsueda, 1992).

In response to early limited empirical support and conceptualization of labeling theory in the 1970s, Paternoster and Iovanni (1989) argued that research at the time failed to consider the intervening mechanisms through which labeling events contribute to offending behavior. Heeding this call, subsequent work affirmed the important role that labeling events have on impacting deviant identities or attitudes (Heimer & Matsueda, 1994; Wiley et al., 2013), institutional exclusion through denied access to conventional opportunities (De Li, 1999; Kirk & Sampson, 2013; Lopes et al., 2012), and exposing individuals to greater involvement with deviant peer groups (Bernburg et al., 2006; Johnson et al., 2004; Wiley et al., 2013). Although each of these intervening mechanisms is part of the complex process between the labeling event and subsequent offending, the role of social exclusion, including interpersonal exclusion, has been argued to be the primary pathway in this process (Sampson & Laub, 1997).

Interpersonal exclusion, as opposed to institutional exclusion, may be viewed as even more relevant when considering the effects of labeling during adolescence. Adolescence is a developmental period defined by rapid and important social change as youth spend more time with and are more influenced by their peers than at any other point in their lives (Brown, 2004; Warr, 2002). Peer groups play an essential role in identity development, moral engagement, and behavior (Monahan, Steinberg, & Cauffman, 2009). With respect to deviance, Pratt et al.'s (2010) meta-analysis concluded that deviant peers are one of the most robust predictors of criminal activity. Thus, unsurprisingly, juvenile justice systems across the United States pay particular attention to justice-involved youths' peer groups; therefore, we need to understand how a pivotal decision in processing impacts the interpersonal ties of youth (Barnes-Lee, 2020; Barnes-Lee & Campbell, 2020; Brank et al., 2008; Fine et al., 2017; Miller & Harding, 2021).

### 2.1 | Formal Processing as a Successful Degradation Ceremony

Although the purest test of labeling processes on peer relations may involve an assessment of justice contact on those labeled compared with those who are not (Paternoster & Iovanni, 1989), at each stage of the justice system, some decision points may result in *relative* impacts of labels. Here, we focus on formal versus informal processing (see Cauffman et al., 2021; Fine et al., 2020).

Within the juvenile justice system, officials are afforded the discretion to decide how youth should be processed, even for the same crime and even if their offending history is identical. Two overall processing paths are available—formal or informal—however, immense variability exists in how jurisdictions and researchers use the terms “formal” and “informal” processing. For example, Schlesinger (2018) defined formal as involving some justice system personnel imposing required conditions or sanctions on youth, whereas informal processing avoids any juvenile justice system involvement. Others, such as Cauffman et al. (2021), referred to formal processing as having a petition filed, appearing before a judge, and being processed through the juvenile court, whereas informal refers to diversion to something like community service or programming. Within the jurisdictions in this study, as is the case in many jurisdictions across the United States, informal processing refers to the juvenile justice system diverting the youth away from formal juvenile court involvement but requiring them to complete certain requirements (e.g., write an apology letter and complete community service) within the community and within a certain time period (e.g., 1–6 months). In contrast, youth who experienced formal processing received a petition, were processed through the formal juvenile court system (i.e., appeared before a judge for hearings), were adjudicated delinquent, and were typically supervised by both the juvenile court and the juvenile probation department for 6–12 months.

Because the formal processing experience is fundamentally different and more intensive than the informal experience, we might expect that formally processed youth would be more likely to experience the stigmatizing effects on interpersonal ties. Formal processing, as characterized by appearing in the formal juvenile court system—typically multiple times for multiple hearings—and receiving more severe supervision orders, arguably represents a more successful degradation ceremony (Garfinkel, 1956). Garfinkel (1956) characterized successful degradation ceremonies as those that 1) include the removal of the perpetrator (and crime) from everyday routines, 2) reduce any consideration that deviance be attributable to coincidence or accident, 3) involve the denouncer occupying a role that signifies their ability to communicate the degradation on behalf of others and distancing from the person being denounced, and 4) ritually separate the denounced from the legitimate order. The power vested to the juvenile court (e.g., judges and probation) and the structuring of actor hierarchy within it lends greater degrading authority and impact to formal processing. Furthermore, the visible demands of appearing in court and being subjected to supervision in the community exacerbate the broadcasting of a deviant label that is argued to set in motion the mediating mechanisms attached to labeling (Paternoster & Iovanni, 1989).

As such, formally processed youth may be more severely stigmatized and experience greater consequences on friendship selection than informally processed youth. Some prior work has examined the relative effects of labeling events, however, in the context of contact by police. Wiley et al. (2013) observed that youth who were arrested relative to being stopped by police experienced stronger increases in associations with delinquent peers. Although this relationship is associated with earlier criminal justice contact, within each stage of system processing, stronger effects of more serious or deeper criminal justice contact may not occur.

Still, informal processing does not necessarily escape all stigmatization. Fine et al. (2020) observed heterogeneity in sanctioning among informally processed youth and noted that although these youth avoid more formal courtroom processing, some youth report intensive (public) supervision and restrictive supervisory conditions by probation that may be similar to the experience of being formally processed. Therefore, informally processed youth also may experience some stigmatization that impacts peer relations. For instance, consistent with Warr's (1993) sticky-friends phenomenon, existing deviant peers may not reject youth processed in any capacity by the justice. In addition, even existing nondeviant peers may already be aware of a

youth's delinquent behavior, independent of being caught and processed by the juvenile justice system. As such, the nature of this existing relationship may not be fundamentally altered by a newly applied label in a manner consistent with labeling arguments. Alternatively, given that both types of processed youth have contact with the system, nondeviant peers may become more apt to distance themselves from *any* youth with contact with the system. Thus, because all youth at this stage are labeled in some capacity, whether the “tagging, defining, identifying, segregating” applies in parallel ways to both existing and future friendship ties remains an empirical question that can provide a nuanced view into how stigmatization operates within interpersonal networks (Tannenbaum, 1938, pp. 19–20).

### 3 | IMPACT OF LABELING ON PEER DYNAMICS

As a result of being formally labeled, youth are theorized to experience several stigma-related mechanisms that affect their interpersonal ties, including rejection, withdrawal, and homophily. (Lemert, 1951, 1967; Goffman, 1963; Jacobsen et al., 2022). Each mechanism reflects responses by either labeled youth or the conforming peers of labeled youth that disrupt and constrain peer relations after a stigmatizing event. Rejection involves the reactions made by conforming youth to avoid formally labeled peers. As Goffman (1963, p. 20) suggested, “[t]he very anticipation of such contacts can . . . lead normals and the stigmatized to arrange life to avoid them.” As a result of internalizing negative views of youth formally involved in the justice system, labeled youth may seek withdrawal from conforming others out of fear of potential rejection (Goffman, 1963; Jacobsen et al., 2022). Lastly, homophily refers to the tendency of formally labeled youth to seek out friendships with “sympathetic” others who are similarly involved in criminal behavior.

Notably, most existing research has assessed whether youth experience increases in exposure to deviant peers after justice system involvement (Bernberg et al., 2006; Johnson et al., 2004; Wiley et al., 2013; Wiley, 2015). For example, Bernberg et al. (2006) found support for homophily on deviant peer groups after youth were officially labeled and observed deviant networks mediated the relationship with subsequent offending. In perhaps the most exhaustive consideration of intermediary labeling processes, Wiley et al. (2013) also examined the relationship between police contact, deviant peers, and offending. Results similarly suggested that both being arrested and stopped by police led to greater exposure to deviant peers and that having deviant peers significantly mediated the relationship between contact with police and subsequent delinquency.

Surprisingly, limited empirical attention has explored potential variations in how labeled youth experience social exclusion by nondeviant others specifically. Zhang (1994) surveyed a sample of adolescents in correctional institutions in China and found that youth with more severe official punishment after their first offense were more likely to report estrangement from friends and neighbors. Most recently, Wiley et al. (2013) found that compared with having no police contact, youth who were stopped or arrested experienced greater exclusion from prosocial peers; however, social exclusion did not mediate the relationship between the type of police contact and subsequent offending (see also Kirk & Sampson, 2013). Note that the measure of exclusion from prosocial peers used by Wiley et al. (2013) included items evaluating the relative number of friends that were good students, obeyed school rules, and got along with teachers at school. Although the measure may be correlated, this index does not necessarily reflect whether these youth were critical of deviant behavior or engaged in deviance themselves and perhaps captures an appraisal of friends' school performance and commitment.

Thus, even though evidence provides support for the stigmatizing effects of justice system involvement on interpersonal networks, existing approaches do not fully distinguish the specific mechanisms of rejection, withdrawal, and homophily (for exceptions, see Jacobsen, 2020; Jacobsen et al., 2022). Most extant work has taken a static view of interpersonal networks that presents a snapshot of whether youth currently have a lower number of prosocial peers and more antisocial peers. For example, studies have commonly used measures of peer deviance exposure that rely on participants to assess approximately how many of their friends engage in deviant acts, with responses ranging from none to all of them (Wiley et al., 2013). Even when collected over time, these measures preclude the estimation of changes or maintenance in deviant peers. These measures also limit our ability to observe the bidirectional effects of interpersonal exclusion as labeled individuals simultaneously may choose to withdraw from encounters with nonlabeled individuals and to be rejected by other peers. For example, Link et al. (1989) found that individuals who receive mental health treatment withdraw from nonlabeled community members. Nondeviant “normals,” to borrow terminology from Goffman (1963, p. 20), may also perceive newly labeled peers to be threatening or to be avoided and lead the labeled youth to both discontinue nondeviant ties and be rejected by nondeviant peers (Goffman, 1963).

As an example, consider two youths, John and Martin, both formally processed by the juvenile justice system. Before this experience, John had four deviant friends and six nondeviant friends, whereas Martin had three deviant and seven nondeviant friends. After being processed formally, John reports that he has four deviant friends and zero nondeviant friends. Martin indicates he has six deviant friends and four nondeviant friends. Proportional measures would suggest that, after formal processing, both youths have high exposure to deviant peers, but these measures cannot tell us the degree of stability and change in all types of friends, leading to potentially different interpretations of how each youth responded to the labeling event.

Given the probabilistic nature of the labeling process emphasized by Paternoster and Iovanni (1989), such distinctions may be critical in assessing who is most negatively impacted. In both cases described in the previous paragraph, we have no assessment of the degree to which youths' deviant peers represent an *addition* of peers supportive of a deviant identity (i.e., homophily) or the *maintenance* of preexisting deviant ties. If all the deviant peers are new, then the question becomes whether labeling events simply lead to a reduction in all peers regardless of deviance classification. Youth in the example also experience shifts in their nondeviant ties that may reflect processes of withdrawal and rejection (Goffman, 1963). Although John now has zero nondeviant friends, whether Martin's reduction in nondeviant friends represents rejection/withdrawal from existing nondeviant ties or whether any of those nondeviant ties were gained after being labeled is unclear. If the latter occurred, this finding might contradict expectations related to withdrawal or rejection attributed to being labeled deviant.

To explore how youths' existing peers respond and how youth build interpersonal networks after their first juvenile justice system processing (that would assume the start of formal labeling), longitudinal data with sufficient detail on the ties held, gained, or discontinued are necessary. Two studies have adopted such a dynamic approach. Jacobsen (2020) used a micro-interpersonal lens to study the effects of suspension in school among rural youth and sought to estimate the effects of suspension on withdrawal and rejection. Jacobsen (2020) observed that a single suspension led youth to be nearly 20 percent more likely to discontinue a friendship (i.e., withdrawal), and multiple suspensions led to approximately 23 percent greater odds of discontinuity in receiving a friendship nomination (i.e., rejection). In line with the movement toward deviant peers, Jacobsen (2020) found that a suspension led to a nearly 33 percent standard deviation increase in the average substance use among friends.

More recently, Jacobsen et al. (2022) used the same sample of rural youth to consider the interpersonal exclusion experienced after arrest. Results suggest that arrested youth are significantly more likely to withdraw from friends (i.e., an extension of friendship ties) and be rejected by peers (i.e., receive friendship ties). Importantly, Jacobsen et al. (2022) observed that these effects were attenuated when peers were involved in substance use or delinquency. This finding supports the expectations from labeling theory that stigma influences withdrawal and rejection more from normative peers as opposed to from delinquent peers. Less support for homophily was observed as findings suggested a preference for nominating other arrested friends was driven by alternative friendship selection processes. Importantly, because of the availability of full network information on school-based networks in the PROSPER study, Jacobsen (2020) and Jacobsen et al. (2022) estimated both withdrawal and rejection. As such, ego-based network data, including that used by the current study, cannot discern the direction and composition of the type of exclusion experienced by labeled individuals. Therefore, without direct information on whether conforming youth reject labeled individuals, estimates of the effect of withdrawal may reflect some degree of rejection.

### 3.1 | Conditional Effects of Labeling

In addition to the distinct effects of labeling on friendship selection processes, scholars have also noted that the effects of labeling may vary by social context (Harris, 1976; Paternoster & Iovanni, 1989). Status characteristics that are socially and structurally reinforced, such as race, ethnicity, or class, may lead individuals to be more or less susceptible to the consequences of labeling as a result of the normalization of stigma within these communities (Hirschfield, 2008; Hirschfield & Piquero, 2010; Nagin, 1998). The contingent nature of the labeling process suggests for the stigmatizing effects to take hold, labeled individuals must afford legitimacy to sanctioning agents and recast themselves as “othered” by the nonlabeled community (Harris, 1976; Paternoster & Iovanni, 1989). Thus, the conditions necessary for successful degradation to take effect may be weakened for subgroups already cast as outsiders or view criminal justice officials as outsiders (Becker, 1963; Garfinkel, 1956).

For minority youth, who are significantly more likely than White youth to be arrested and experience subsequent deeper justice system contact, disproportionate application of official labeling may result in the dilution of any stigmatizing effect (Hirschfield, 2008; Puzanchera, 2021; Puzanchera & Hockenberry, 2013; Sickmund, Sladky, & Kang, 2021; Sickmund, Sladky, & Puzanchera, 2021). Considering the overcriminalization of minority communities, Hirschfield (2008) evaluated this possibility through semistructured interviews with 20 minority youth from high-poverty urban neighborhoods. In addition to finding that being arrested was a normative experience in these youths' communities, youth also reported limited social rejection and did not experience dramatic changes toward a deviant self-concept (Hirschfield, 2008). Pertinent to the effect of peer dynamics, Hirschfield (2008) noted youth often hid their arrest or had peers engage in more inclusive reactions. After being asked whether being arrested impacted engagement with prosocial peers, one respondent stated, “No, it didn't affect them at all because they looked at me like I can learn from his mistakes.” Collectively these findings support the normalization of stigma that may diminish the likelihood of interpersonal exclusion from labeling. Still, such findings are limited to a small sample of minority youth.

In contrast to this perspective, other scholars have argued that the social and structural conditions associated with race are associated with differential means to resist the deleterious effects of labeling and exacerbate trajectories of disadvantage (Bernburg & Krohn, 2003; Sampson & Laub,



1997). Thus, diminished resources to respond to involvement in the justice system and preexisting negative views of minority youths in broader society lead to an increase in the probability of experiencing the stigmatizing mechanisms of labeling (Sampson & Laub, 1997). Bernburg and Krohn (2003) assessed these propositions using the Rochester Youth Development Study, which oversampled youth at high risk for delinquency and drug use and found that the effect of criminal justice contact on adult crime was significantly stronger among African Americans. Still, the effects of labeling on educational attainment and employment instability were not contingent on race leaving open the possibility for other explanations (i.e., interpersonal exclusion). Taken as a whole, these competing hypotheses (i.e., diluted effect vs. cumulative disadvantage) suggest that differences may exist in how minority youth *experience* labeling processes; however, these remain underexplored.

## 4 | CURRENT STUDY

In summary, a primary concern of the juvenile justice system is to reduce youth delinquency. Given the potential iatrogenic effects of deeper justice system contact that labels a child as “deviant,” however, the effects of various types of justice contact on adolescents’ peer relationships are of great concern for policy and practice. The current study advances research on the longitudinal effects of a pivotal and serious point in justice system processing on the friendship selection processes of withdrawal and homophily on a unique sample of adolescent males who have experienced their first involvement with the justice system and have been followed for 3 years thereafter. In doing so, the study contributes to efforts to expand beyond a focus on the effects of labeling on institutional exclusion and movement toward evaluating micro-level processes of interpersonal exclusion (Jacobsen, 2020; Jacobsen et al., 2022). In addition, this study considers the differential susceptibility to labeling effects by exploring whether the effects of formal processing differ across White, Black, Hispanic, and Other minority youth. To account for the influence of preexisting differences and selection effects between youth who were formally and informally processed, we implemented augmented inverse probability weighting to estimate the effect of formal processing on interpersonal networks over time.

## 5 | DATA AND METHODOLOGY

### 5.1 | Data

The present sample includes 1,216 justice-involved male adolescents from the Crossroads Study (Cauffman et al., 2021). Participants were recruited from three sites: Orange County, California ( $N = 532$ ); Philadelphia, Pennsylvania ( $N = 533$ ); and Jefferson Parish, Louisiana ( $N = 151$ ). Participants were arrested for the first time for a range of low-level offenses such as vandalism (17.5 percent) and theft (16.7 percent). In addition to the statistical technique used to account for preexisting differences, youth were included in the study because they had no prior offenses and were charged with specific offenses that on average (based on 5 years of historical court record data) had a .35–.65 probability of being formally processed (see Cauffman et al., 2021, for details on sampling). Adolescents were between the ages of 13 and 17 years old (mean [ $M$ ] = 15.29, standard deviation [ $SD$ ] = 1.29) at their first interview and were representative of the disproportionate number of racial/ethnic minority adolescents who encounter the justice system.

The current sample was racially/ethnically diverse, with 47 percent identifying as Hispanic, 34 percent as Black, 16 percent as White, and 3 percent as a self-identified other race.

Youths were first interviewed within 6 weeks after receiving the case disposition for their first arrest and subsequently interviewed every 6 months for up to 3 years (i.e., six follow-up periods). Thus, the longitudinal nature of the data allows us to explore changes in interpersonal networks of youth from their networks just before they were first processed by the juvenile justice system up to 3 years afterward. In the current study, to be included in the final analytic sample, respondents had to have valid information on friendship nomination at two time points. Almost 2 percent ( $N = 26$ ) of the individuals in the sample only nominated friends in a single wave of data collection and therefore were excluded from analyses. No differences were found between the analytic sample on demographic and most baseline covariates of interest; however, the analytic sample nominated a higher average number of friends at baseline. An additional 3.3 percent ( $N = 41$ ) of individuals nominated friends but failed to report information on the deviant characteristics of their friends in at least one follow-up, resulting in 46 observations being excluded. Missing data on other covariates were handled through listwise deletion.<sup>1</sup> The remaining analytic sample contributed an average of five follow-up periods. Therefore, we resulted in a final analytic sample of 5,854 observations nested within 1,172 individuals.

## 5.2 | Procedure

Before interviews were conducted, signed parental consent and youth assent were obtained from all participants. Information about what the study would entail was provided to participants, and they were given a detailed overview of the Privacy Certificate from the Department of Justice. This Privacy Certificate states that participants' identities and responses are protected from subpoenas, court orders, or any other type of involuntary disclosure. Participants were also informed that participation in the study was completely voluntary. All study procedures were approved by the institutional review board at each of the three interview sites. Participants were recruited using information provided by the courts in Orange County, Philadelphia, and Jefferson Parish. Interviews were conducted face-to-face by trained research assistants using a secure, computer-administered program. Interviews lasted approximately 2–3 hours and took place in the youth's home, at a coffee shop in the participant's neighborhood, or in an institution if the youth was residing in a secure facility at the time of the interview. Participants received \$50 for completing their first baseline interview, which was increased by \$15 at each follow-up assessment point.

## 5.3 | Dependent Variables

### 5.3.1 | Changes in interpersonal networks: Friendship nominations and losses

To explore the development of youths' interpersonal networks, youth were asked to identify the names of their five closest friends and to provide information about these individuals at each

<sup>1</sup> Missing data were observed for self-reported offending, arrest, and time spent in facilities. Approximately 18 percent of the sample were missing at least one observation on arrest and self-reported offending and 10 percent were missing at least one observation on time in facility.

follow-up interview. During the 3 years, youth nominated an average of 2.58 friends at each follow-up. Youth were asked to indicate their age, gender, and frequency of contact. To classify each of these friends as either deviant or nondeviant, youth were also asked whether each listed friend had ever been arrested, jailed, in detention, or used drugs. If youth indicated that a friend experienced one of these things, they were classified as a deviant friend. This characterization of the deviant makeup of each interpersonal tie is certainly limited but relies on all available information on each peer to consider whether mechanisms of withdrawal and homophily operate in a manner consistent with labeling processes.

Because of the ego-based nature of friendship nomination data, these measures capture the perceptual classification of peer deviance. Although a full consideration of the validity of perceptual measures of peer deviance is beyond the scope of the current study (see review in McGloin & Thomas, 2019), this type of measure arguably represents a conceptualization of the normative influence of peer behavior that is essential for understanding interpersonal dynamics (McGloin & Thomas, 2016). The power of the consequences of labeling relies heavily on the subjective experience of being labeled, which involves a reflexive process of self that considers humans active actors in their own identity that is informed by their interpretation or *perception* of their environment (Blumer, 1969; Matza, 1969). As such, although objective peer reports of their own behavior may be important, youths' reflected appraisals of their friend's deviant makeup likely still serve as a salient consideration in their identity formation and navigation of their social world (Matsueda, 1992).

In all waves after the baseline interview, youth were also asked whether the nominated youth identified as a friend was a youth mentioned in the previous interview. This enabled consideration of the changes in youths' friendship networks and specifically to consider whether youth added or discontinued ties. Thus, our focus is on the consequences of formal processing on peer networks. Consistent with Jacobsen (2020), withdrawal is operationalized as the number of existing friendship nominations discontinued in the subsequent follow-up.<sup>2</sup> Failure to lose friendship ties would imply such a tie was maintained. As a result of the ego-based nature of the network data, the observed effects of withdrawal may be driven by rejection to an unknown degree. The operationalization of homophily departs from Jacobsen et al. (2022) as we consider the nomination of *new* friends to a peer network. If a participant listed a friend who was not previously mentioned, this would be considered an *added* friend. At each wave, the number of deviant and nondeviant friends added or discontinued were totaled into separate outcome variables. Table 1 provides a summary of descriptive statistics for all variables included in the analyses.

## 5.4 | Independent Variables

To evaluate the impact of juvenile justice system processing on interpersonal networks, the type of initial justice system processing (i.e., 1 = formal and 0 = informal) for each youth's index offense was obtained from the Department of Probation at each study site. In this sample, approximately 44.72 percent of youth were processed formally ( $N = 534$ ) and had their cases adjudicated and needed to appear in court, whereas nearly 55.28 percent of youth were informally processed ( $N = 660$ ) and were diverted from court and had their cases handled by probation.

<sup>2</sup>This operationalization of withdrawal (and rejection) contrasts with that of Jacobsen et al. (2022), which focused on the nomination of and discontinuation of ties in youth's larger network of peers.

TABLE 1 Descriptive Statistics of Study Variables ( $N = 1,172$ )

Variables	Mean/Proportion	Standard Deviation	
<b>Time-Stable Covariates</b>			
Formally processed	.45	.50	
Age at BL	15.29	1.29	
Impulse control	3.25	.86	
Violent index offense	.18	.39	
<b>Race</b>			
White	.16	.36	
Black	.34	.47	
Hispanic	.47	.50	
Other	.03	.16	
Total deviant friends at BL	1.61	1.57	
Total nondeviant friends at BL	1.90	1.62	
		Between Standard Deviation	Within Standard Deviation
<b>Time-Varying Covariates</b>			
New deviant friends	.65	.69	.76
New nondeviant friends	.94	.75	.86
Discontinued deviant friends	1.10	.73	.88
Discontinued nondeviant friends	1.34	.77	.92
Self-reported offending	1.05	1.71	1.27
Arrest	.14	.22	.28
Time in facility	.05	.15	.13
Total nominated friends	3.07	1.05	.96

## 5.5 | Control Variables

### 5.5.1 | Time-stable covariates

All time-stable control variables were measured at the baseline interview. To account for both developmental patterns in friendship dynamics and the relationship between age and crime, *age at baseline* was included as a control variable. Aggression and violence have been linked to the acquisition of status in certain school-based peer networks, which may explain why certain youth move toward (or away) from deviant peers (Kreager, 2007; Staff & Kreager, 2008). As such, the *index offense committed* by participants to be eligible for the Crossroads Study was included and categorized as either violent (18.09 percent,  $N = 216$ ) or nonviolent (81.91 percent,  $N = 978$ ) in nature.<sup>3</sup>

Impulse control was included as a covariate given both its relationship to offending generally (Gottfredson & Hirschi, 1990) and the degree to which highly impulsive individuals may have less stable friendship ties (Chapple, 2005; Snijders & Baerveldt, 2003; Warr, 1993). Impulsivity was examined using a subset of the Weinberger Adjustment Inventory (Weinberger & Schwartz, 1990).

<sup>3</sup> Violent offenses include assault, aggravated assault, assault and battery, battery, robbery, fighting in public, and a small number of other offenses.

Eight items assessed participants' impulsivity (e.g., "I stop and think things through before I act"). Youth were asked to self-report the degree to which each statement reflected their behavior, with responses ranging from 1 "False" to 5 "True." Some of the eight items were reverse coded and then averaged to create an overall indicator of impulsivity wherein higher scores indicate greater impulse control ( $M = 3.25$ ,  $SD = .86$ ).

Depending on the outcome of interest, we also included measures of the *total number of deviant or nondeviant peers at baseline* to account for initial differences in friendship network types. Initial levels of certain types of peers may be related to homophily or selection of similar peers or to the maintenance of peers related to deviant behavior (Boman & Mowen, 2018; Ragan, 2020). On average, youth reported 1.61 ( $SD = 1.57$ ) deviant friends at baseline and 1.90 ( $SD = 1.62$ ) nondeviant friends at baseline.

To account for the influence of race and ethnicity and to explore its moderating role, we include a categorical variable of race that identifies whether an individual is White, Black, Hispanic, or Other.

### 5.5.2 | Time-varying covariates

Consistent with the concept of "birds of a feather flock together," youth who engage in different levels of offending may simply be more likely to befriend youth with similar offending behaviors. As such, we accounted for participants' *self-reported offending* at each follow-up period in the study using the Self-Report of Offending scale (Huizinga et al., 1991). Participants reported their involvement in 24 different criminal activities ranging from theft to drug dealing to homicide, and a variety score was calculated to indicate the number of different types of crimes that youth had committed. Across follow-up periods, the average self-reported offending was 1.05. To account for the effects of subsequent criminal justice contact, youth arrests in each follow-up period are also accounted for with a dichotomous indicator (1 = arrested, 0 = not arrested). The average proportion of follow-up periods in which individuals were rearrested was .14.

As a result of justice system contact, some youth spent time in facilities that may impact both the type of peers one is exposed to and the opportunity for peer network changes. This type of separation from family and peers has been argued to contribute to weakened interpersonal attachments that independently contribute to changes in peer relationships (Jacobsen, 2020; Massoglia et al., 2011). As such, the proportion of time spent in a facility in the follow-up period was included as a covariate. On average, participants reported they spent 5 percent of their time during the follow-up periods in facilities. To account for developmental patterns in peer networks, the follow-up period was included as a covariate.

Lastly, to adjust for the fact that youth varied in the number of peers that can impact the probability of adding or discontinuing friendships, the number of nominated friends is also included as a covariate. Participants reported an average number of 3.06 friends across follow-up periods.

## 6 | ANALYTIC STRATEGY

The current study aims to evaluate whether formally processed youth experience changes in interpersonal networks using a labeling theory framework. To account for selection effects into treatment (i.e., formal processing), we created inverse probability weights with 33 variables measured at baseline (see appendix A in the online supporting information for a list of

covariates<sup>4</sup>). This approach is consistent with the modeling strategy used by Cauffman et al. (2021), who estimated the effect of processing on youth for a variety of developmental and behavioral outcomes using the Crossroads Study data. To ensure that all cases were included in the weight-generating analysis resulting from participants having missing data on certain variables, we estimated 50 imputed data sets to generate inverse probability weights for treatment. If significant differences persist after weighting, any observed effect of formal processing on outcomes may be biased as a result of these preexisting differences. Therefore, to assess whether the weighting strategy reduced imbalances or differences between formal and informally processed groups, we calculated the standardized bias statistic recommended by Rosenbaum and Rubin (1985). This statistic, reported as a percentage, is calculated with the following formula:

$$100 \left( \frac{\bar{X}_t - \bar{X}_c}{\sqrt{s_t^2 - s_c^2}} \right) / \sqrt{s_t^2 - s_c^2} / 2$$

where  $\bar{X}_t$  and  $\bar{X}_c$  are the means for treatment and control groups for each covariate and  $s_t^2$  and  $s_c^2$  are the corresponding sample variances. Rosenbaum and Rubin (1985) recommended that standardized difference percentage values greater than 20 indicate that the covariate is out of balance. As observed in appendix A in the online supporting information, before the weighting procedure, eight out of 33 covariates are out of balance, including participant site, commitment offense, psychosocial maturity, and suspensions from school. We reassessed covariate balance when inverse-probability weights are applied and noted that no covariates appear to be out of balance.

For all analyses, we estimated generalized mixed-effects models with formal processing (vs. informal processing) as the primary predictor variable using the *meglm* command in Stata 17. Given our use of longitudinal data, this method enables the nesting of time within individuals. A mixed-effects approach overcomes the violation of independence because of correlated error terms by including a random intercept to account for within-individual effects. Thus, the coefficients presented are weighted estimates of the between-individual and within-individual effects. The generalized mixed-effects modeling strategy allows us to adjust the family and link function to accommodate the count outcomes (i.e., Poisson). In addition to the primary predictor of formal processing, we included the corresponding baseline value of each outcome variable and time-variant and time-invariant measures to evaluate how these factors relate to interpersonal network changes. Across all models, we assessed whether the model fit improved with the inclusion of random slopes and interactions between formal processing and time. In nearly all cases, model fit either did not improve or the models did not converge. As such, all models exclude these parameters.

## 7 | RESULTS

### 7.1 | Descriptive Trends in Friendship Deviance by Processing Decision

Figure 1 illustrates the average number of nondeviant friendship nominations across youth who were formally and informally processed over the course of 3 years. All youth experience declines in

<sup>4</sup> Additional supporting information can be found in the full text tab for this article in the Wiley Online Library at <http://onlinelibrary.wiley.com/doi/10.1111/crim.2023.61.issue-4/issuetoc>.

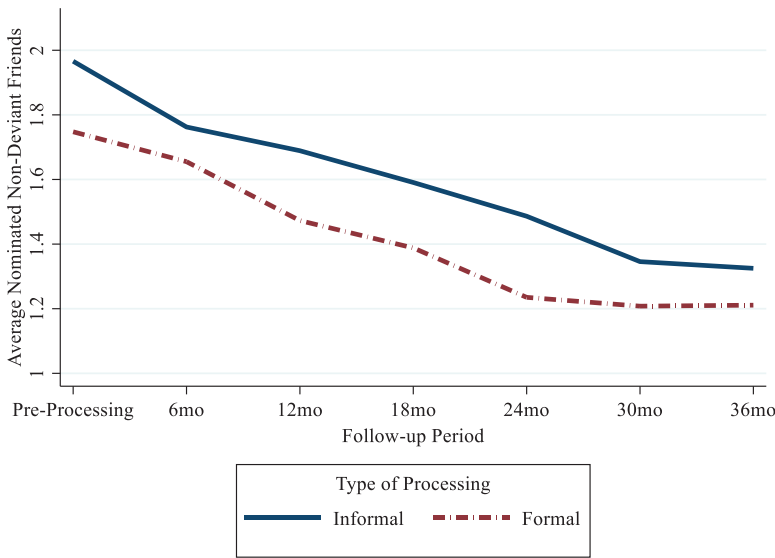


FIGURE 1 Average Nominated Nondeviant Friends Across Three Years [Color figure can be viewed at wileyonlinelibrary.com]

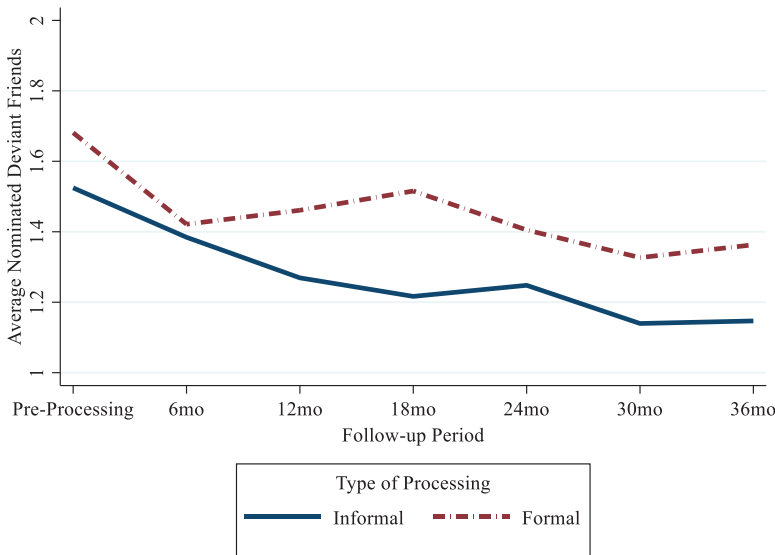
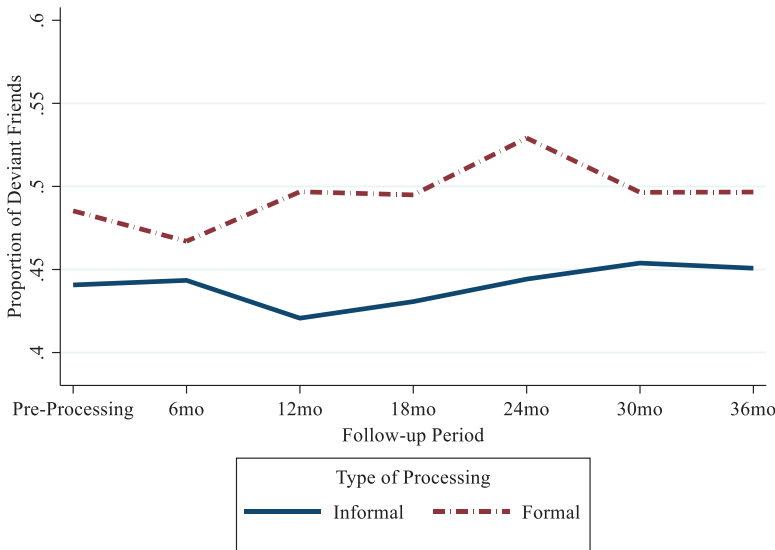


FIGURE 2 Average Nominated Deviant Friends Across Three Years [Color figure can be viewed at wileyonlinelibrary.com]

the average number of nominated nondeviant friends; however, informally processed youth have a marginally higher average number of nondeviant friends. In terms of deviant friends, figure 2 presents the average number of deviant friendship nominations and indicates similar declines in average nominations; however, formally processed youth seem to have a marginally higher average number of deviant friends. Across both figure 1 and figure 2, the deviant makeup of formally and informally processed youth before and after processing is certainly mixed. Thus, to evaluate



**FIGURE 3 Proportion of Deviant Friends Across Three Years** [Color figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]

how these youth navigate friendship networks in response to being differentially labeled, we need to consider the nature of new friendship nominations and the discontinuation of others to discern processes of homophily and withdrawal.

Beyond the average total of friendship nominations, figure 3 explores the average proportion of deviant peers to consider whether trends occur in how youth become embedded into deviant peer networks.

These results reflect stability in the average proportion of deviant ties postprocessing; however, formally processed youth exhibit slight increases in deviant network embeddedness. The limited number of potential friendship nominations at each wave minimizes the potential variability to display within these results; however, these unadjusted trends provide some qualified support for deviant and nondeviant peer nominations consistent with the consequences of labeling.

## 7.2 | Formal Processing and Nomination of new Deviant and Nondeviant Peers

Table 2 summarizes the results of the impact of formal processing relative to informal processing on changes in the interpersonal networks of adolescents in the sample. Incident rate ratios (IRRs) are presented in all tables. After accounting for critical covariates and for the number of deviant friends at baseline, results from model 1a indicate that youth who were formally processed experienced a 17 percent increase in the expected rate of new deviant peers across 3 years compared with informally processed youth. In addition, youth who engaged in a higher degree of self-reported offending (IRR = 1.10, standard error [SE] = .01,  $p < .001$ ), youth who were rearrested across follow-up periods (IRR = 1.21, SE = .03,  $p < .01$ ), and youth who spent more time in facilities (IRR = 1.40, SE = .13,  $p < .001$ ) experienced significant increases in the expected rate of adding new deviant peers. Black youth (IRR = .83, SE = .06,  $p < .01$ ) were significantly less likely to nominate new deviant peers relative to White youth. In addition, youth with higher levels of



TABLE 2 Multilevel Mixed-Effects Generalized Linear Models

Independent Variables	Add Deviant Friends Model 1a IRR (SE)	Add Nondeviant Friends Model 1b IRR (SE)	Discontinue Deviant Friends Model 1c IRR (SE)	Discontinue Nondeviant Friends Model 1d IRR (SE)
<b>Time-Stable Covariates</b>				
Formally processed	1.17 (.07)**	.90 (.04)*	1.07 (.05)	.98 (.03)
Age at BL	1.01 (.03)	.87 (.01)***	.98 (.02)	.94 (.01)***
Impulse control	.93 (.03)*	1.02 (.02)	1.01 (.03)	.98 (.02)
Violent index offense	.97 (.08)	1.14 (.06)*	1.07 (.07)	1.02 (.04)
<b>Race (Reference = White)</b>				
Black	.83 (.08)*	1.37 (.09)***	.73 (.05)***	.97 (.05)
Hispanic	.89 (.09)	1.38 (.09)***	.84 (.05)**	1.05 (.05)
Other	.99 (.13)	1.45 (.24)*	.97 (.10)	1.06 (.10)
Total deviant friends at BL	1.17 (.02)***		1.19 (.02)***	
Total nondeviant friends at BL		1.08 (.01)***		1.14 (.01)***
<b>Time-Varying Covariates</b>				
Self-reported offending	1.10 (.01)***	.85 (.01)***	1.03 (.02)***	.99 (.01)
Arrest	1.21 (.06)**	.99 (.05)	1.14 (.05)***	1.03 (.04)
Time in facility	1.40 (.13)***	.68 (.08)**	1.04 (.10)	.85 (.09)
Time (follow-up period)	.99 (.01)	.93 (.01)***	.92 (.01)***	.91 (.01)***
Total nominated friends	1.54 (.02)***	1.49 (.02)***	.91 (.01)***	.96 (.01)**
Random intercept	.30	.16	.02	.06
Variance (SE)	.03	.02	.01	.01
Number of observations	5,854	5,854	3,984	4,254
Number of participants	1,172	1,172	990	1,096

Note. SE = standard error.  
\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

impulse control (IRR = .93, SE = .03,  $p < .05$ ) had an expected lower rate of adding new deviant peers.

Model 1b presents the results for the effect of formal processing on the nomination of new nondeviant peers. Formally processed youth experienced a 10 percent reduction in the expected rate of new nondeviant peers across 3 years compared with informally processed youth. Youth who were older at baseline (IRR = .87, SE = .01,  $p < .001$ ) experienced a lower rate of adding nondeviant peers. Black (IRR = 1.37, SE = .09,  $p < .001$ ), Hispanic (IRR = 1.38, SE = .09,  $p < .001$ ), and Other minority youth (IRR = 1.45, SE = .24,  $p < .05$ ) had a significantly higher rate of adding nondeviant friends relative to White youth. In contrast to the direction of effects observed in model 1a, youth who engaged in high self-reported offending (IRR = .85, SE = .01,  $p < .001$ ) and spent more time in facilities (IRR = .68, SE = .08,  $p < .01$ ) experienced a significantly lower rate of adding nondeviant peers. Interestingly, youth charged with an initial violent index offense

(IRR = 1.14, SE = .06,  $p < .05$ ) were significantly more likely to experience a greater rate of adding nondeviant friends.

### 7.3 | Formal Processing and Discontinuity of Deviant and Nondeviant Peers

Model 1c presents the results for the effect of formal processing on the discontinuity of deviant friendship ties. Accounting for the baseline number of deviant friends, formal processing is not significantly related to the number of deviant friends discontinued (i.e., no longer nominated as friends). Interestingly, youth who engaged in a higher amount of self-reported offending (IRR = 1.03, SE = .02,  $p < .001$ ) and were subsequently arrested (IRR = 1.14, SE = .05,  $p < .001$ ) experienced a higher rate of discontinuing deviant friendships across 3 years. In addition, Black (IRR = .73, SE = .05,  $p < .001$ ) and Hispanic youth (IRR = .84, SE = .05,  $p < .01$ ) experienced a significantly lower rate of discontinuing deviant ties compared with White youth. Model 1d considers the effect of formal processing on the discontinuity of nondeviant friends. Results suggest that formal processing is not statistically related to the expected rate of discontinuing nondeviant friendships. Older youth (IRR = .94, SE = .01,  $p < .001$ ) discontinued nondeviant friendships at a lower expected rate compared with younger youth.

Table 3 summarizes the results of the moderating effect of race and ethnicity on formal processing. Across models 2a thru 2d, no statistically significant differences exist for Black, Hispanic, or Other youth (relative to White youth) in the effects of formal processing on friendship nomination processes. The relationships of all other covariates remain consistent with the effects observed in the main effect models.

## 8 | DISCUSSION

The juvenile justice system was created and continues to exist because of a belief that youth are fundamentally different from adults and require different treatment under the law. In line with its underlying philosophy, officials are typically afforded discretionary power to process youth in a variety of ways so that their experiences can be tailored to their unique needs (Cauffman et al., 2021; Fine et al., 2020; NeMoyer et al., 2020). Contact with the juvenile justice system, however, can trigger a host of unintended consequences for adolescents that serves to stratify youths' experiences within the justice system and, according to labeling theory, alter how youth navigate their social worlds. The current study reinforced prior work examining the negative consequences of formal processing (i.e., Cauffman et al., 2021, in the same Crossroads Study sample). More specifically, it applied labeling theory to consider the role formal processing may have on friendship selection processes and sought to identify any differential effects across race and ethnicity. Overall, findings indicate that formally processed youths' peer networks differ from informally processed youth in the type of *new* peer acquisition in a manner consistent with homophily on deviance; however, no statistical differences were found in withdrawal from existing peers. The study also considered whether these effects varied by race and ethnicity and found no substantive differences in the consequences of labeling.

Consistent with the findings from some prior research, after being formally processed, youth reported a significantly greater rate of new deviant peers added to their network than did informally processed youth (Bernburg et al., 2006; Wiley et al., 2013). To seek an audience of

TABLE 3 Multilevel Mixed-Effects Generalized Linear Models—Moderating Effect of Race/Ethnicity

Independent Variables	Add Deviant Friends Model 2a IRR (SE)	Add Nondeviant Friends Model 2b IRR (SE)	Discontinue Deviant Friends Model 2c IRR (SE)	Discontinue Nondeviant Friends Model 2d IRR (SE)
<b>Time-Stable Covariates</b>				
Formally processed	1.05 (.16)	.80 (.10)	1.10 (.10)	1.03 (.08)
Age at BL	1.01 (.03)	.88 (.01)***	.97 (.02)	.94 (.01)***
Impulse control	.93 (.03)*	1.02 (.02)	1.01 (.03)	.98 (.02)
Violent index offense	.98 (.09)	1.14 (.06)*	1.07 (.07)	1.02 (.04)
<b>Race (Reference = White)</b>				
Black	.78 (.09)*	1.25 (.17)**	.73 (.06)***	.99 (.07)
Hispanic	.82 (.08)	1.31 (.10)***	.86 (.06)*	1.06 (.07)
Other	1.07 (.15)	1.50 (.32)	1.04 (.11)	1.29 (.14)*
<b>Race × Formal Processing</b>				
Black × formal	1.13 (.21)	1.21 (.17)	.98 (.13)	.94 (.09)
Hispanic × formal	1.17 (.20)	1.12 (.15)	.96 (.11)	.98 (.09)
Other × formal	.77 (.22)	.89 (.25)	.84 (.19)	.63 (.11)
Total deviant friends at BL	1.17 (.02)***		1.19 (.02)***	
Total nondeviant friends at BL		1.08 (.01)***		1.14 (.01)***
<b>Time-Varying Covariates</b>				
Self-reported offending	1.10 (.01)***	.85 (.01)***	1.03 (.01)**	.99 (.01)
Arrest	1.20 (.06)**	.99 (.05)	1.14 (.05)**	1.04 (.04)
Time in facility	1.40 (.13)***	.67 (.08)***	1.04 (.10)	.85 (.09)
Time (follow-up period)	.99 (.01)	.93 (.01)***	.92 (.01)***	.91 (.01)***
Total nominated friends	1.56 (.02)***	1.49 (.02)***	.91 (.01)	.96 (.01)***
Random intercept	.44	.15	.11	.06
Variance (SE)	.05	.02	.02	.01
Number of observations	5,854	5,854	3,984	4,254
Number of participants	1,172	1,172	990	1,096

Note. SE = standard error.  
\*p < .05; \*\*p < .01; \*\*\*p < .001.

“sympathetic others” (Goffman, 1963), formally processed youth seem to be more inclined to add deviant peers as friends. This behavior speaks to the additional stigma that formal processing might have on youth; it may contribute to homophily, the addition of new “deviant” friendships that can support the labeled youth. To confirm that the acquisition of new deviant peers was not part of an average shift in adding all types of peers, the study also considered the impact of formal processing on the addition of nondeviant peers. The results suggest that formally processed youth are also significantly less likely to add nondeviant peers compared with informally processed youth. Thus, even though making new friends during adolescence is likely a normative

developmental feature, the criminogenic makeup of these new ties suggests that formally processed youth may be more likely to select new peers similarly involved in deviant behavior.

These results are consistent with prior evidence documenting how stigmatized youth experience barriers to incorporating nondeviant peers into their networks (Jacobsen et al., 2022); however, they contrast with Jacobsen et al.'s (2022) finding that the tendency of arrested youth to nominate other arrested youth was explained by other selection mechanisms rather than being driven by sharing arrest status. Although speculative, this contrast could result from differences in the operationalization of homophily. Whereas Jacobsen et al. (2022) considered homophily through the nomination of arrested peers, the current study viewed this process as the nomination of *new* deviant peers. These differences emphasize distinctions in dimensions of friendship selection and illustrate the multiple pathways through which homophily may emerge, including youth preference for (new) deviant peers and through constraints on friendship selection resulting from rejection and withdrawal processes associated with normative others (Schaefer et al., 2011).

The current study also considered the impact processing has on youth's withdrawal from peers. For both deviant and nondeviant peers, formally processed youth experienced no significant differences in the discontinuity of ties relative to informally processed youth. Collectively, this finding suggests that regardless of whether ties are deviant, both types of processed youth experience similar patterns of withdrawal. Therefore, to some degree, this finding contrasts with that from prior work (Jacobsen, 2020; Jacobsen et al., 2022); however, a few reasons may explain this finding. First, the ego-based nature of the network data used means that the effects of rejection may impact the withdrawal estimate to an unknown degree (i.e., prior rejections are observed as youth discontinuing friendships). In addition, recall that all youth in this study had been arrested. Although their offenses were of low-to-moderate severity, peers may be reacting to the fact that these youth had been arrested. That is, the peers' reactions could be a result of the actual arrest, not the way the youth was processed in juvenile court. Thus, even though we analyzed the effects of processing youth for the first time, it may be that the most impactful consequences of labeling are borne out earlier in justice system processing (e.g., arrest) as Paternoster and Iovanni (1989) suggested. Because this possibility is untestable with the current data, future studies should explore differences in the effects of being processed, arrested, or not detected by the system to consider the unique and cumulative effects of these experiences.

Furthermore, given that all youth were arrested, youths' existing peers with deviant tendencies may serve as sympathetic or supportive to this newly applied label. Thus, it may indicate that existing deviant ties are comparably "sticky" for both formal and informally processed youth (Warr, 1993). For instance, although Jacobsen et al. (2022) observed evidence consistent with their hypotheses for rejection and withdrawal by friends among arrested youth, this effect was weaker when their peers were more involved in certain substance use behaviors and delinquency. Also, nondeviant ties might engage in inclusive reactions to the newly labeled youth, which acknowledges harm done but does not exclude the individual from the group (Hirschfield, 2008; Orcutt, 1973). Collectively, this finding is consistent with Goffman's (1963, p. 59) observation that the consequences of stigma may be most salient in the presence of strangers (i.e., new ties), whereas among closer ties, it "recedes, and gradually sympathy, understanding, and a realistic assessment of personal qualities take its place." Future work may want to further explore how youth engage in stigma management among those with knowledge of deviant behavior and consider the degree to which peers engage in inclusive reactions (Winnick & Bedkin, 2008).

In combination with these findings, we also considered whether racial and ethnic minorities experience differential susceptibility to being formally processed. Competing hypotheses suggested that the stigma attached to formal labeling may be diluted because of the overall net

widening of formal justice contact within minority communities or that the effects of formal processing would exacerbate already disadvantaged individuals' social positions (Hirschfield, 2008; Nagin, 1998; Sampson & Laub, 1997). Findings indicate that participants' racial and ethnic identities did not moderate the effects of formal processing on friendship selection processes. This finding aligns with Cauffman et al.'s (2021) examination of the moderating effects of formal processing on other developmental outcomes using the same Crossroads Study. Note that the current study used the youth's racial and ethnic self-categorization and could not consider the degree to which these youth were embedded within similar racial and ethnic communities, their broader racial and social identity (see Bentley-Edwards & Stevenson, 2016; Lee et al., 2010; McLean, 2017), or the various types of disadvantages experienced by each youth. The potential for labeling effects to either dilute or exacerbate existing challenges amid limited resources may depend on the larger social context in which these youth reside (Anderson, 1999; Hirschfield, 2008). Also, note the main effects of race and ethnicity on the lower likelihood of nominating new friends and withdrawal from others. A unique friendship selection processes specific to these youth may exist that we could not fully account for that may be important in understanding developmental differences in acquiring social capital.

Friendship networks were also impacted by subsequent involvement in the justice system. Youth who were rearrested and spent a greater portion of time in facilities were significantly more likely to nominate new deviant peers. In addition, youth who spent time in facilities were less likely to nominate new nondeviant peers. Both arrest and time in custody may serve to independently harden the stigma attached to youth, solidify attitudes and beliefs associated with a delinquent identity, separate individuals from prosocial ties, and expose them to delinquent peers (Dishion et al., 1996; Jacobsen et al., 2022; Wiley et al., 2013). As others have attested, repeat involvement may constitute "status degradation ceremonies" that ultimately contribute to incremental shifts in deviant peer networks and the sustained emergence of a deviant career (Dishion et al., 1996; Garfinkel, 1956; Sampson & Laub, 1997). Still, the fact that rearrested youth were also more likely to discontinue deviant friendships complicates the depiction of deviant peers being entirely "sticky" after a labeling event (Warr, 1993). Under certain conditions, individuals may engage in "network avoidance" to reduce exposure to risky situations that draw attention from law enforcement (Fader, 2021). Subsequent arrests seem to be associated with a cycle of replacing existing deviant peers with new ones, which arguably continues to enmesh youth into criminogenic networks by exposing them to nonredundant criminal accomplices and opportunities. Ultimately, cumulative effects of formal processing on future criminal justice contacts likely exist that contribute to the development of deviant identities and social contacts (Cauffman et al., 2021).

The findings from the current study are strengthened by both the nature of the data and the analytic technique used to estimate the impact of formal processing. The current study included a racially and ethnically diverse sample of adolescents from multiple sites who were involved in the justice system for the first time, which provides an opportunity to explore the impact of this important labeling experience and evaluate whether this experience differs by race and ethnicity. The study considered a critical and often purposefully discretionary decision in the juvenile justice system (i.e., formal vs. informal processing), and youth were specifically recruited into the study based on having no arrest history and having charges that an a priori records review indicated had similar chances of being informally or formally processed. Thus, in the context of inevitable decisions made by juvenile justice system practitioners, the observed effects demonstrate the likely negative consequences among youth who arguably could have been processed through a less severe and stigmatizing pathway. In addition to the recruitment strategy, the utilization of inverse

probability of treatment weighting and a doubly robust estimation method enables us to estimate a treatment effect of formal processing by accounting for important factors associated with both the likelihood of being formally processed and changes in deviant and nondeviant friendship ties.

## 8.1 | Limitations and Future Directions

Despite the study's strengths, several limitations are worth mentioning. First, the use of self-report data to model friendship networks limits our ability to estimate whether the observed lower rate of adding nondeviant peers for formally processed youth is a result of the rejection by such peers or entirely because of the withdrawal of the labeled youth from these friendships. An additional limitation of friendship nomination data is that youth could only report up to five close friends, which may be an underestimate of the overall friendship network size (Haynie, 2002). Although other studies rely on similar framing to nominate close friends (Jacobsen, 2020), the cap on nominations may limit our ability to assess whether changes in friendship nominations represent the raising (or lowering) of friends' statuses within their existing network as compared with entirely adding or discontinuing friendships. Such changes may reflect changes in the intensity of friendship ties and more conditional versions of homophily and withdrawal. Nonetheless, these more subtle changes still reflect how youth designate their intimate peer groups that may align with the social consequences of being labeled by the justice system. Moreover, even though we collected longitudinal data from three geographically distinct regions of the country, the results may not be generalizable to all system-involved youth or all types of jurisdictions (e.g., small jurisdictions in the Midwest United States or jurisdictions outside the country).

An additional drawback of the friendship data is that these data did not fully capture the nature of criminal offending of peers, which may be important in understanding the specificity of homophily and potential interpersonal exclusion from peers (Jacobsen et al., 2022). Indeed, a "deviant" peer can be classified in myriad ways, such as engages in status offenses, engages in delinquency offenses, has been arrested, and has been or is system involved. Although we could not disaggregate various types of deviant peers, the current study examined homophily on deviance that was inclusive of peers who were also arrested and potentially jailed. This finding suggests these processes may contribute to seeking supportive others who are also formally entrenched in the justice system. Depending on the nature of offenses committed, youth likely received probation sanctions prohibiting them from spending time with certain justice-involved peers or co-offenders. Future work may want to explore whether this restriction contributes to shifts in friendship dynamics. Finally, we were limited to sampling only males and restricted the range of eligible offenses to examine those that had historically similar chances of being formally or informally processed. The findings may not generalize beyond youth who do not identify as male, and the severity of offenses may impact the cascading of labeling processes; thus, more research with more diverse samples of justice-involved youth is clearly necessary.

## 9 | CONCLUSION

For good reason, juvenile justice systems across the country are concerned with youths' association with delinquent peers (Barnes-Lee, 2020; Miller & Harding, 2021; Nelson & Vincent, 2018), yet little is known about the longitudinal effects of system processing on youths' peer groups. The current study applied a labeling framework to understand the longitudinal implications of

formally processing youth on the friendship selection processes of homophily and withdrawal. By examining this unique sample, we considered the interpersonal consequences of the two main paths most justice-involved youth experience and provided context to findings that document the limited success of formal processing on other important outcomes (Cauffman et al., 2021).

As others have attested, “Healthy maturation during adolescence hinges on reciprocal interactions with a social context that provides a caring, authoritative adult figure and a prosocial peer group” (Cavanagh, 2022, p. 143). Ultimately, although the system attempts to assess peer relations in risk and needs assessments to develop supervision plans (Barnes-Lee, 2020; Nelson & Vincent, 2018) and aims to reduce youths’ relationships with delinquent peers (Brank et al., 2008; Fine et al., 2020), these findings reinforce that formally processing, as opposed to informally processing, adolescent first-timers who committed low-level offenses, may be iatrogenic and counterproductive (Cauffman et al., 2021). That is, even though it may not influence the adolescent’s existing friendships, formally processing first-time offenders may decrease an adolescent’s likelihood to make friends with nondeviant peers and increase the adolescent’s chances of making deviant friends. Given the well-established link between deviant peers and future offending, such a change in an adolescent’s peer group should be of great concern for juvenile justice policy. When justice system supervision occurs within the community setting, the findings of this study suggest that the system should ensure that the youth has access to community-based interventions and programs that facilitate youth connections with prosocial peers, including through prosocial activities (e.g., sports, volunteering, and clubs) where they can forge new bonds with prosocial peers (Cavanagh, 2022; Farb & Matjasko, 2012; Leve & Chamberlain, 2005; Steinberg et al., 2004).

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## REFERENCES

- Ageton, S. S., & Elliott, D. S. (1974). The effects of legal processing on delinquent orientations. *Social Problems*, 22(1), 87–100.
- Anderson, E. (1999). *Code of the street: Decency, violence, and the moral life of the inner city*. W.W. Norton.
- Barnes-Lee, A. R. (2020). Development of protective factors for reducing juvenile reoffending: A strengths-based approach to risk assessment. *Criminal Justice and Behavior*, 47(11), 1371–1389.
- Barnes-Lee, A. R., & Campbell, C. A. (2020). Protective factors for reducing juvenile reoffending: An examination of incremental and differential predictive validity. *Criminal Justice and Behavior*, 47(11), 1390–1408.
- Becker, H. S. (1963). *Outsiders*. The Free Press of Glencoe.
- Bentley-Edwards, K. L., & Stevenson, H. C. (2016). The multidimensionality of racial/ethnic socialization: Scale construction for the cultural and racial experiences of socialization (CARES). *Journal of Child and Family Studies*, 25, 96–108.
- Bernburg, J. G., & Krohn, M. D. (2003). Labeling, life chances, and adult crime: The direct and indirect effects of official intervention in adolescence on crime in early adulthood. *Criminology*, 41(4), 1287–1318.
- Bernburg, J. G., Krohn, M. D., & Rivera, C. J. (2006). Official labeling, criminal embeddedness, and subsequent delinquency: A longitudinal test of labeling theory. *Journal of Research in Crime and Delinquency*, 43(1), 67–88.
- Blumer, H. (1969). *Symbolic interactionism: Perspective and method*. Prentice-Hall.
- Boman, J. H. IV, & Mowen, T. J. (2018). Same feathers, different flocks: Breaking down the meaning of “behavioral homophily” in the etiology of crime. *Journal of Criminal Justice*, 54, 30–40.
- Brank, E., Lane, J., Turner, S., Fain, T., & Sehgal, A. (2008). An experimental juvenile probation program: Effects on parent and peer relationships. *Crime & Delinquency*, 54(2), 193–224.
- Brayne, S. (2014). Surveillance and system avoidance: Criminal justice contact and institutional attachment. *American Sociological Review*, 79(3), 367–391.
- Brown, B. B. (2004). Adolescents’ relationships with peers. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (pp. 363–394). Wiley.

- Burch, T. (2011). Turnout and party registration among criminal offenders in the 2008 general election. *Law & Society Review, 45*(3), 699–730.
- Caffman, E., Beardslee, J., Fine, A., Frick, P. J., & Steinberg, L. (2021). Crossroads in juvenile justice: The impact of initial processing decision on youth 5 years after first arrest. *Development and Psychopathology, 33*(2), 700–713.
- Cavanagh, C. (2022). Healthy adolescent development and the juvenile justice system: Challenges and solutions. *Child Development Perspectives, 16*(3), 141–147.
- Chapple, C. L. (2005). Self-control, peer relations, and delinquency. *Justice Quarterly, 22*(1), 89–106.
- Chiricos, T., Barrick, K., Bales, W., & Bontrager, S. (2007). The labeling of convicted felons and its consequences for recidivism. *Criminology, 45*(3), 547–581.
- De Li, S. (1999). Legal sanctions and youths' status achievement: A longitudinal study. *Justice Quarterly, 16*(2), 377–401.
- Dishion, T. J., Spracklen, K. M., Andrews, D. W., & Patterson, G. R. (1996). Deviancy training in male adolescent friendships. *Behavior Therapy, 27*(3), 373–390.
- Fader, J. J. (2021). "I don't have time for drama": Managing risk and uncertainty through network avoidance. *Criminology, 59*(2), 291–317.
- Fagan, J., & Meares, T. L. (2008). Punishment, deterrence and social control: The paradox of punishment in minority communities. *Ohio St. J. Crim. L., 6*, 173–230.
- Farb, A. F., & Matjasko, J. L. (2012). Recent advances in research on school-based extracurricular activities and adolescent development. *Developmental Review, 32*(1), 1–48. <https://doi.org/10.1016/j.dr.2011.10.001>
- Fine, A., Donley, S., Cavanagh, C., Miltimore, S., Steinberg, L., Frick, P. J., & Cauffman, E. (2017). And justice for all: Determinants and effects of probation officers' processing decisions regarding first-time juvenile offenders. *Psychology, Public Policy, and Law, 23*(1), 105–117.
- Fine, A. D., Rowan, Z. R., & Cauffman, E. (2020). Partners or adversaries? The relation between juvenile diversion supervision and parenting practices. *Law and Human Behavior, 44*(6), 461–473.
- Garfinkel, H. (1956). Conditions of successful degradation ceremonies. *American Journal of Sociology, 61*(5), 420–424.
- Gatti, U., Tremblay, R. E., & Vitaro, F. (2009). Iatrogenic effect of juvenile justice. *Journal of Child Psychology and Psychiatry, 50*(8), 991–998.
- Goffman, E. (1963). *Stigma: Notes on the management of spoiled identity*. Prentice-Hall.
- Gottfredson, M. R., & Hirschi, T. (1990). *A general theory of crime*. Stanford University Press.
- Harris, A. R. (1976). Commitment to deviance and spoiled identity. *American Sociological Review, 41*, 432–442.
- Haynie, D. L. (2002). Friendship networks and delinquency: The relative nature of peer delinquency. *Journal of Quantitative Criminology, 18*(2), 99–134.
- Heimer, K., & Matsueda, R. L. (1994). Role-taking, role commitment, and delinquency: A theory of differential social control. *American Sociological Review, 36*5–390.
- Hirschi, P. J. (2008). The declining significance of delinquent labels in disadvantaged urban communities. *Sociological Forum, 23*(3), 575–601.
- Hirschi, P. J., & Piquero, A. R. (2010). Normalization and legitimation: Modeling stigmatizing attitudes toward ex-offenders. *Criminology, 48*(1), 27–55.
- Hockenberry, S., & Puzanchera, C. (2020). *Juvenile court statistics 2018*. National Center for Juvenile Justice.
- Huizinga, D., Esbensen, F.-A., & Weiher, A. W. (1991). Are there multiple paths to delinquency? *Journal of Criminal Law & Criminology, 82*, 83–118.
- Jacobsen, W. C. (2020). School punishment and interpersonal exclusion: Rejection, withdrawal, and separation from friends. *Criminology, 58*(1), 35–69.
- Jacobsen, W. C., Ragan, D. T., Yang, M., Nadel, E. L., & Feinberg, M. E. (2022). Arrested friendships? Justice involvement and interpersonal exclusion among rural youth. *Journal of Research in Crime and Delinquency, 59*(3), 365–409.
- Johnson, L. M., Simons, R. L., & Conger, R. D. (2004). Criminal justice system involvement and continuity of youth crime: A longitudinal analysis. *Youth & Society, 36*(1), 3–29.
- Kirk, D. S., & Sampson, R. J. (2013). Juvenile arrest and collateral educational damage in the transition to adulthood. *Sociology of Education, 86*(1), 36–62.
- Kreager, D. A. (2007). Unnecessary roughness? School sports, peer networks, and male adolescent violence. *American Sociological Review, 72*(5), 705–724.



- Lee, J. M., Steinberg, L., & Piquero, A. R. (2010). Ethnic identity and attitudes toward the police among African American juvenile offenders. *Journal of Criminal Justice, 38*(4), 781–789.
- Lemert, E. M. (1951). *Social pathology*. McGraw-Hill.
- Lemert, E. M. (1967). *Human deviance, social problems, and social control*. Prentice-Hall.
- Leve, L. D., & Chamberlain, P. (2005). Association with delinquent peers: Intervention effects for youth in the juvenile justice system. *Journal of Abnormal Child Psychology, 33*(3), 339–347.
- Link, B. G., Cullen, F. T., Struening, E., Shrout, P. E., & Dohrenwend, B. P. (1989). A modified labeling theory approach to mental disorders: An empirical assessment. *American Sociological Review, 54*(3), 400–423.
- Lofland, J. (1969). *Deviance and identity*. Prentice-Hall.
- Lopes, G., Krohn, M. D., Lizotte, A. J., Schmidt, N. M., Vásquez, B. E., & Bernburg, J. G. (2012). Labeling and cumulative disadvantage: The impact of formal police intervention on life chances and crime during emerging adulthood. *Crime & Delinquency, 58*(3), 456–488.
- Massoglia, M., Remster, B., & King, R. D. (2011). Stigma or separation? Understanding the incarceration-divorce relationship. *Social Forces, 90*(1), 133–155.
- Matsueda, R. L. (1992). Reflected appraisals, parental labeling, and delinquency: Specifying a symbolic interactionist theory. *American Journal of Sociology, 97*(6), 1577–1611.
- Matza, D. (1969). *Becoming deviant*. Prentice-Hall.
- McGloin, J. M., & Thomas, K. J. (2016). Considering the elements that inform perceived peer deviance. *Journal of Research in Crime and Delinquency, 53*(5), 597–627.
- McGloin, J. M., & Thomas, K. J. (2019). Peer influence and delinquency. *Annual Review of Criminology, 2*, 241–264.
- McLean, K. (2017). Ethnic identity, procedural justice, and offending: Does procedural justice work the same for everyone? *Crime & Delinquency, 63*(10), 1314–1336.
- Miller, J., & Harding, C. S. (2021). Juvenile probation supervision contacts in a reforming state: Rise of the street-level expert? *Criminal Justice and Behavior, 48*(3), 332–353.
- Monahan, K. C., Steinberg, L., & Cauffman, E. (2009). Affiliation with antisocial peers, susceptibility to peer influence, and antisocial behavior during the transition to adulthood. *Developmental Psychology, 45*(6), 1520–1530.
- Monahan, K. C., Steinberg, L., Cauffman, E., & Mulvey, E. P. (2009). Trajectories of antisocial behavior and psychosocial maturity from adolescence to young adulthood. *Developmental Psychology, 45*(6), 1654–1668.
- Nagin, D. S. (1998). Criminal deterrence research at the outset of the twenty-first century. *Crime and Justice, 23*, 1–42.
- Nelson, R. J., & Vincent, G. M. (2018). Matching services to criminogenic needs following comprehensive risk assessment implementation in juvenile probation. *Criminal Justice and Behavior, 45*(8), 1136–1153.
- NeMoyer, A., Gale-Bentz, E., Goldstein, N. E., & Pema Harvey, L. (2020). Factors associated with successful completion of a community-based, postarrest juvenile diversion program and subsequent rearrest. *Crime & Delinquency, 66*(5), 603–626.
- OJJDP Statistical Briefing Book. (2021). *Juvenile court case processing*. [http://www.ojjdp.gov/ojstatbb/court/JCSCF\\_Display.asp?ID=qa06601&year=2019&group=1&estimate=1](http://www.ojjdp.gov/ojstatbb/court/JCSCF_Display.asp?ID=qa06601&year=2019&group=1&estimate=1)
- Orcutt, J. D. (1973). Societal reaction and the response to deviation in small groups. *Social Forces, 52*(2), 259–267.
- Pager, D. (2003). The mark of a criminal record. *American Journal of Sociology, 108*(5), 937–975.
- Paternoster, R., & Iovanni, L. (1989). The labeling perspective and delinquency: An elaboration of the theory and an assessment of the evidence. *Justice Quarterly, 6*(3), 359–394.
- Petrosino, A., Turpin-Petrosino, C., & Guckenburg, S. (2010). Formal system processing of juveniles: Effects on delinquency. *Campbell Systematic Reviews, 6*(1), 1–88.
- Pratt, T. C., Cullen, F. T., Sellers, C. S., Thomas Winfree, L. Jr., Madensen, T. D., Daigle, L. E., Fearn, N. E., & Gau, J. M. (2010). The empirical status of social learning theory: A meta-analysis. *Justice Quarterly, 27*(6), 765–802.
- Puzzanchera, C. (2021). *Juvenile arrests, 2019. Juvenile Justice Statistics* Bulletin. U.S. Department of Justice, OJP, National Institute of Justice.
- Puzzanchera, C., & Hockenberry, S. (2013). *National disproportionate minority contact databook*. U.S. Department of Justice, OJP, OJJDP, and National Center for Juvenile Justice. <http://www.ojjdp.gov/ojstatbb/dmcsdb/>
- Ragan, D. T. (2020). Similarity between deviant peers: Developmental trends in influence and selection. *Criminology, 58*(2), 336–369.

- Ramey, D. M. (2016). The influence of early school punishment and therapy/medication on social control experiences during young adulthood. *Criminology*, 54(1), 113–141.
- Rosenbaum, P. R., & Rubin, D. B. (1985). Constructing a control group using multivariate matched sampling methods that incorporate the propensity score. *The American Statistician*, 39(1), 33–38.
- Sampson, R. J., & Laub, J. H. (1997). A life-course theory of cumulative disadvantage and the stability of delinquency. *Developmental Theories of Crime and Delinquency*, 7, 133–161.
- Schaefer, D. R., Kornienko, O., & Fox, A. M. (2011). Misery does not love company: Network selection mechanisms and depression homophily. *American Sociological Review*, 76(5), 764–785.
- Schlesinger, T. (2018). Decriminalizing racialized youth through juvenile diversion. *The Future of Children*, 28(1), 59–82.
- Schur, E. M. (1971). *Labeling deviant behavior: Its sociological implications*. Harper & Row.
- Sickmund, M., Sladky, A., & Kang, W. (2021). *Easy access to juvenile court statistics: 1985–2019*. National Center for Juvenile Justice. <https://www.ojjdp.gov/ojstatbb/ezajcs/>
- Sickmund, M., Sladky, T. J., Puzzanhera, C., & Kang, W. (2021). *Easy access to the census of juveniles in residential placement*. National Center for Juvenile Justice. <https://www.ojjdp.gov/ojstatbb/ezacjrp/>
- Snijders, T. A., & Baerveldt, C. (2003). A multilevel network study of the effects of delinquent behavior on friendship evolution. *Journal of Mathematical Sociology*, 27(2-3), 123–151.
- Staff, J., & Kreager, D. A. (2008). Too cool for school? Violence, peer status and high school dropout. *Social Forces*, 87(1), 445–471.
- Steinberg, L., Chung, H. L., & Little, M. (2004). Reentry of young offenders from the justice system: A developmental perspective. *Youth Violence and Juvenile Justice*, 2(1), 21–38.
- Tannenbaum, F. (1938). *Crime and the community*. Columbia University Press.
- Thomas, C. W., & Fitch, W. A. (1981). The exercise of discretion in the juvenile justice system. *Juvenile & Family Court Journal*, 32(1), 31–50.
- Warr, M. (1993). Age, peers, and delinquency. *Criminology*, 31(1), 17–40.
- Warr, M. (2002). *Companions in crime: The social aspects of criminal conduct*. Cambridge University Press.
- Weinberger, D. A., & Schwartz, G. E. (1990). Distress and restraint as superordinate dimensions of self-reported adjustment: A typological perspective. *Journal of Personality*, 58(2), 381–417.
- Wiley, S. A. (2015). Arrested development: does the grade level at which juveniles experience arrest matter? *Journal of Developmental and Life-Course Criminology*, 1, 411–433.
- Wiley, S. A., Slocum, L. A., & Esbensen, F. A. (2013). The unintended consequences of being stopped or arrested: An exploration of the labeling mechanisms through which police contact leads to subsequent delinquency. *Criminology*, 51(4), 927–966.
- Winnick, T. A., & Bodkin, M. (2008). Anticipated stigma and stigma management among those to be labeled “ex-con”. *Deviant Behavior*, 29(4), 295–333.
- Zhang, L. (1994). Peers’ rejection as a possible consequence of official reaction to delinquency in Chinese society. *Criminal Justice and Behavior*, 21(4), 387–402.

## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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