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A Statewide Analysis of the Impact of Restitution and Fees on Juvenile Recidivism in Florida Across Race & Ethnicity

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ABSTRACT

Whether the imposition of monetary sanctions is related to juvenile recidivism is explored overall and across race and ethnicity. Leveraging a statewide sample, logistic regression was used to predict fees and restitution assignment based on youth/case characteristics, hierarchical linear and logistic random-effects regression examined the association between neighborhood characteristics with fees and restitution, and propensity score matching examined whether fees and/or restitution are related to reoffending. No race/ethnic differences were found in the proportion of youth receiving court fees, yet when fees were administered both black and Hispanic youth received higher fees. Neighborhood characteristics have minimal impact on whether (or the amounts) monetary sanctions were assigned. Post-matching, fees increased recidivism, as did being black or Hispanic. Interactions between race/ethnicity and both fees and restitution showed black youth with restitution had a higher recidivism likelihood. Monetary sanctions imposed on youth involved in the juvenile justice system has a potential deleterious impact on recidivism.

Keywords: Monetary sanctions, juvenile recidivism, race/ethnic disparities

Acknowledgements: We are grateful to Arnold Ventures for funding this project.

¹ Disclosure: The analyses and conclusions presented here are those of the authors and should not be attributed to the Bureau of Justice Statistics or the U.S. Department of Justice.

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INTRODUCTION

While social, racial, and ethnic injustice has always been an issue in the United States, the May 25, 2020 murder of George Floyd at the hands of a police officer in Minneapolis, Minnesota, set into motion numerous calls for policy change—not only within police departments, but also throughout the juvenile and criminal justice systems. Since then, there have been some successes in enacting system-wide change; however, much more action is needed, especially in relation to one of the oldest sanctions: fines (Ruback & Bergstrom, 2006).

Much of what is known about the adverse impact of fines and fees in the justice system has emerged from work addressing adults (Beckett & Harris, 2011; Harris, 2016). The overwhelming evidence shows that such monetary sanctions impose extensive costs on justice-involved persons, their families, and their communities—and have compounding effects, especially among minority communities (see *UCLA Criminal Justice Law Review*, Volume IV, 2020; Juvenile Law Center, 2016). Much less work has been undertaken to ascertain the impact of (adverse) fines/fees upon juveniles with justice system involvement, and in particular the impact of fines/fees on their subsequent involvement in delinquent behavior. The key exception is the 2017 study by Piquero and Jennings. Using data from Allegheny County, PA (the Pittsburgh area), the authors examined the relationship between the imposition of fines, fees, and/or restitution and recidivism in a sample of juveniles with justice involvement followed for two years. A number of key findings emerged from their effort.

First, youth with restitution imposed upon them had a higher likelihood of recidivism. Second, the amount of these costs was also positively correlated to the risk of recidivism. Third, youth who still owed fees when their cases were closed also exhibited a higher risk of recidivism. Finally, and most importantly, non-Whites (primarily African American youth) were more likely to still owe costs and restitution upon case closing. In short, non-White youth remained at higher risk

for continued involvement in the justice system, which, of course, creates additional burden for their families and communities.

The Fines and Fees Justice Center and the Juvenile Law Center have articulated the repercussions of imposed fees for juveniles in Florida, the context for the current study, their families, and their communities as increased poverty, increased recidivism, serve longer probation, and exacerbation of juvenile justice system racial disparities (Fines and Fees Justice Center and Juvenile Law Center, 2022) with the intention of moving towards debt-free justice for youth. In addition, their report indicates that youth with court debt in Florida are unable to expunge records, obtain driver's licenses, or participate in job corps programs, further diminishing their chances for success. Notably, in 2021 alone seven states have passed reforms to eliminate and/or reduce juvenile fees (California, Louisiana, New Jersey, New Mexico, Oregon, Texas, and Virginia; FFJC and JLC, 2022). Fees and restitution may be of particular concern for juveniles, especially younger youth, as they often have no employment or means to pay. Piquero and Jennings (2017) suggest this increases the likelihood of such youth to engage in criminal behavior in efforts to pay required costs. For youth without means to pay, the debt falls to their families in many cases, which can further exacerbate poverty and income inequality, not even to mention shattered parent-child supervision and relationships. Furthermore, youth involved in the child welfare system are disproportionately more likely to enter the juvenile justice system and to reoffend once system-involved (e.g., Baglivio, Wolff, Piquero, Bilchik, Jackowski, Greenwald, & Epps, 2016) and are disproportionately less likely to receive financial support from families.

Unfortunately, childhood maltreatment and adverse childhood experiences are disproportionately concentrated in disadvantaged neighborhoods (e.g., Baglivio, Wolff, Epps, & Nelson, 2017; Coulton, Crampton, Irwin, Spilsbury, & Korbin, 2007), and both situations exacerbate delinquency risk (e.g., Baglivio et al., 2017; Teague, Mazerolle, Legosz, & Sanderson, 2008; Wolff,

Baglivio, & Piquero, 2017). Furthermore, youth living in areas of concentrated disadvantage are exposed to fewer protective factors that are demonstrated to mitigate the impact of delinquency risk (Craig, Wolff, & Baglivio, 2021). The concentration of maltreatment, disadvantage, and diminished protective factors/experiences makes the need to assess the impact of juvenile fees or restitution on reoffending across race/ethnicity all the more paramount to improving the likelihood of youth success, increasing public safety, and to prevent against further exacerbating income inequality. The current study aims to explore these associations and provide a more comprehensive, statewide analysis to advance the limited understanding garnered from the single county Piquero and Jennings (2017) study.

Why might monetary sanctions affect juvenile reoffending?

While the focus of the current study is not to test hypotheses derived from any specific criminological theory, we do appeal to some theoretical frameworks that we believe may be relevant as they can help suggest reasons as to why we may expect that monetary sanctions would influence juvenile recidivism. Specifically, both General Strain Theory (GST; Agnew, 2006) and principles of procedural justice (e.g., Tyler, 1988) could lead those youth with assigned fees/restitution to evidence heightened reoffending than those without. GST posits simply that individuals who experience strains and stressors often become upset and then sometimes cope with those negative emotions (e.g., frustration, anger, fear) through offending to either end or escape from strains (Agnew & Brezina, 2019). Briefly, three categories of strains include removal of something of value, receiving something adverse, or failing to achieve positively valued goals (Agnew, 2006). Individuals experiencing heightened negative emotions are believed to be less likely to cope in a legal manner (such as an angry individual less likely to accurately assess the current situation and communicate/respond effectively) and such heightened emotions may reduce the perceived costs of crime (Agnew & Brezina, 2019). Importantly, (real/or perceived) strains involving unjust treatment

by others increase anger, strains a person feels powerlessness to change increase depression and/or fear, and these negative emotions in turn increase the likelihood of certain types of deviant and/or criminal behaviors (e.g., anger increases violence, depression drug use, and fear running away; Agnew, 2006; Capowich, Mazerolle, & Piquero, 2001; Piquero et al., 2004). Negative emotions stemming from unjust treatment from conventional others, such as parents, teachers, or, in the case of the current study the court, further may reduce the individual's stake in conformity (Agnew & Brezina, 2019). As such, strain may be heightened among youth assigned fees and/or restitution with little ability to legally pay those monetary sanctions (e.g., too young to work, living in poverty, etc.) and with increased likelihood to perceive the imposition of such sanctions as unjust. These negative emotions thereby increase the likelihood of deviant activity or pursuing illegitimate means to achieve the need to pay monetary sanctions. Indeed, prior qualitative work on the impact of monetary sanctions with adults posits they are a “punishment schema that puts undo pressure and strain on individuals who are too poor to pay and leads to feelings of perpetual stress and frustration” (Harris & Smith, 2022 p. 40; see also Pattillo & Kirk, 2020).

Relatedly, procedural justice holds that actions of legal authorities (such as conditions imposed by a juvenile court) are considered procedurally just when officials use their legal authority in a manner that is consistent, ethically appropriate, and unbiased (Tyler, 1988). Legitimacy, a central concept of procedural justice, is the “belief that authorities, institutions, and social arrangements are appropriate, proper, and just” (Tyler, 2006, pp. 376). Accordingly, perceptions of procedural justice affect whether an individual complies with directives (such as court sanctions), and rules and laws (Tyler, 2003). Prior qualitative work has described how affected adults receiving monetary sanctions perceive court-imposed debt as an injustice and a “double punishment” (Pattillo & Kirk, 2020). Potentially, youth who are too young for legitimate employment and/or who reside in areas of greater disadvantage, in which minority youth are disproportionately concentrated, would have more

deleterious perceptions of fairness related to monetary sanctions imposed than more affluently-situated youth. Differences in perceptions of procedural justice, therefore, may lead to higher recidivism among minority youth imposed monetary sanctions.

Current Study

Based on previous findings, we hypothesize that court/juvenile justice system-imposed fees, and/or restitution payment requirements will adversely impact the key outcome variable of re-offending, i.e., will increase the probability of a re-adjudication during the follow-up period. Also based on previous research, we anticipate that this effect will be exacerbated (i.e., stronger, larger) among Black youth (and likely Hispanic youth—though this has never been empirically examined in prior work among juvenile samples). The current study additionally explores whether neighborhood context is relevant for both the imposition of court fees and restitution. In efforts to advance from prior work, the current study provides 1) a statewide analysis of youth-, offense- and community-level factors associated with use of fees and restitution among juveniles disposed by the juvenile justice system, 2) the impact of fees and restitution on continued delinquency, 3) considers race/ethnic specific associations between monetary sanctions and juvenile outcomes (critically examining the effects of fees and restitution among Hispanic youth which is heretofore unexplored), and 3) employs methodologically stringent matching protocols to compare the effect of requiring fees or restitution between statistically equivalent youth.

Data and Methods

The current study leverages data from the Florida Department of Juvenile Justice (FDJJ), which maintains complete demographic, offense history, justice system placement, and risk assessment information on all youth arrested in Florida. Importantly, the FDJJ centralized database captures whether, and the amount, fees and restitution were required for each youth. This allows for assessing the impact of fees and restitution on reoffending separately. To examine the impacts of

required fees and restitution on recidivism, the current study employs a statewide sample of all youth who completed a community-based FDJJ placement during the 2018-19 fiscal year (July 1, 2018 through June 30, 2019). Community-based placements are inclusive of diversion, probation supervision, probation plus enhanced services (intensive probation), day treatment/reporting, intensive individual and/or family therapy as an overlay to probation supervision (e.g., Functional Family Therapy), as well as day treatment and the intensive therapy overlay for youth who exited a juvenile justice residential facility adjacent to beginning the focal community-based placement as court-ordered aftercare.

Youth who completed these community-based placements during the study timeframe, who were formally processed into the FDJJ system, were administered the Community-Positive Achievement Change Tool (C-PACT) risk/needs assessment.¹ The current study leverages the exit C-PACT (conducted just prior to the completion of that placement), used in the matching of youth with and without fees and/or restitution as the exit C-PACT captures the youth's risk/needs at the beginning of the recidivism follow-up. As race/ethnicity is central to the current study, only youth classified as Black, Hispanic, and White were retained (due to low sample sizes of other race/ethnicities), resulting in the exclusion of 94 youth. Additionally, youth referred to the FDJJ during the study timeframe, but who resided in states other than Florida were excluded (n = 476), as were any youth that were not assessed using the C-PACT within 180 days of referral. These exclusions resulted in a final sample of 12,693 youth completing a community-based FDJJ

¹ Including only those youth assessed (rather than the broader population of all juveniles stopped by police) does indeed capture the full population of youth that are referred (equivalent to an adult arrest) and formally processed into the Florida juvenile justice system. Importantly, youth who are not assessed using the C-PACT are those individuals who were simply given a notice to appear in juvenile court and the judge and/or prosecuting attorney decided against formal processing. As the current focus is the effects of monetary sanctions on recidivism of youth involved in the juvenile justice system, we believe that including these non-formally processed youth would have distorted the pattern of relationships we address. Notably, there are indeed youth across Florida that receive "civil citations" from law enforcement rather than official referrals, yet civil citations by definition are arrest avoidance/pre-arrest diversion, a group of juveniles not formally "arrested".

placement between July 1, 2018 and June 30, 2019. Importantly, the predictive validity (Baglivio, 2009; Baglivio & Jackowski, 2013; Baird et al., 2013; Winokur-Early, Hand, & Blankenship, 2012) and reliability (Baird et al., 2013) of the C-PACT among FDJJ youth has been established via multiple evaluations of different samples.²

Measures

All variables for the current study (described below) were all gleaned from the FDJJ's information system, including measures taken from the risk/need assessment (the C-PACT) administered to each youth just prior to the youth completing the focal community-based placement. The current study uses either the pre-screen or the full assessment, depending on which version was administered, to ensure examining the complete population of Black, Hispanic, and White youth completing community-based placements during the study timeframe. The C-PACT information is critical to the current study as it allows for ensuring adequate comparisons of those youth receiving and not receiving fees and/or restitution. Additionally, as each of Florida's twenty judicial circuits has unique processes and protocols for assigning fees and/or restitution, differences across presenting offense types and severity, as well as prior offending/risk to reoffend, the C-PACT allows for examining differences at the statewide level of the profiles of youth that are assigned fees and/or restitution. Essentially, the importance of the C-PACT to the study does not only lie in the potential of juvenile courts to assign fees/restitution based on a youth's risk assessment or risk to reoffend, but rather it is needed to control for factors related to reoffending as we assess the independent effects of fees and restitution on juvenile recidivism.

Dependent Variable- Recidivism

² Notably, the criminal history items of the C-PACT are automated from the FDJJ information system, eliminating the need for respondent recall or assessor ability to appropriately count and classify prior offending and justice system placements.

Recidivism was measured as a subsequent adjudication, adjudication withheld, or adult conviction for a new-law offense that occurred within 365 days of the youth completing their focal community-based placement. As all youth completed the placement, there are no “non-law”/violations of probation to consider. Importantly, both juvenile and adult official records/offending were included, as some youth were, or turned, eighteen years of age during the 365-day follow-up. To further clarify, the offense must have been committed within 365 days of the youth completing the community-based placement, but the date of the readjudication/reconviction could have been several months after that year was over (to allow for court processes to play out). The definition/measurement of recidivism employed herein is consistent with the official definition of recidivism of the FDJJ, and therefore the most policy-relevant outcome of interest. 14.6% of the study sample met criteria for recidivism (see Table 1).³

Independent Variables- Fees & Restitution

The central independent measures were court-required fees and required restitution for each youth. The FDJJ information system collects information on required fees and restitution for each youth and includes a classification of the requirement (e.g., fees or restitution), the total amount required (dollars and cents), and the date the requirement was imposed. A given youth can have a fee requirement, a restitution requirement, or both fees and restitution required (or neither fees nor restitution). This allows for examining fees and restitution separately, as each requirement is captured uniquely (whether fees/restitution and the amounts of each). Importantly, each of Florida’s twenty judicial circuits has autonomy in how it operates and imposes different fees and has their own unique policies on when and how much to impose, which, unfortunately, are not included in

³ We note caution in using readjudication/reconviction versus a measure of rearrest (see Caudill & Trulson, 2022), however, while court processes delay an indication of whether a youth has recidivated when using readjudication/reconviction, our construction of that measure allows for those delays and ensures the actual youth behavior leading up to the arrest did occur up to 365 days after completion of community-based placement.

the current study data.⁴ Similarly, restitution orders are likely related to the damage stemming from the youth's offense (such as crashing a stolen car), yet judicial circuits and individual judges do not operate under universal mandates related to restitution amounts. Additionally, each judicial circuit's fee/restitution structure likely differs with respect to the extent to which the intent of the sanctions are for punitive, rehabilitative, and/or practical reasons.

Control Variables

Demographics. Demographic measures included sex (73.2% male), race/ethnicity measured Black (44.0%), white (38.2%), and Hispanic (17.8%), and age at completion of the community-based placement, as this is the time at which the recidivism tracking period began (measured continuously, mean = 16.89, *sd* = 1.77). Of note, according to FDJJ protocol, ethnicity supersedes race such that Black and white youth were all non-Hispanic while Hispanic youth may be either Black or white.

Criminal History. Measures of the youth's presenting offense, focal community-based placement, and prior offending included presenting offense, severity of presenting offense, type of community-based placement, C-PACT overall risk to reoffend classification, age at first arrest, extent of prior misdemeanor arrests, extent of prior felony arrests, extent of prior violent felony arrests, extent of prior sexual felony arrests, prior secure detention placements, and long-term residential placement history. Importantly, all criminal history indicators are automated from the FDJJ information system and therefore do not depend on recall of the youth or ability of the C-PACT assessor to understand and aggregate prior charges.

Specifically, *presenting offense* classified the focal offense type as either violent, property, sexual, crimes against society (e.g., drug and alcohol offenses, disorderly conduct, violation of hunting, fishing or boating laws), or "other offenses". These measures were included as indicator (dummy)

⁴ As an example, one judicial circuit allows for the ordering of such fees as \$50 court costs, \$50 to a "crimes prevention trust fund", up to \$200 cost of prosecution fee, \$50 or \$100 cost of representation fee, \$50 fee for an application of financial indigence, a \$201 domestic violence surcharge, and others.

variables, with violent representing the reference category, in all analyses presented below.

Presenting *offense severity* classified the focal offense leading to the community-based placement as “other administrative”, misdemeanor, or felony offense (felony representing the reference category). *Placement type* distinguished the focal community-based placement as diversion, probation, probation plus overlay services, or post-commitment probation (diversion representing the reference category). Overall risk to reoffend (*risk level*) captured the C-PACT risk level at completion of the community-based placement (adjacent to the recidivism follow-up) as low, moderate, mod-high, or high risk (coded 1-4, with higher values indicating higher risk). *Age at first arrest* was captured according to the C-PACT protocol of under 12, 13 to 14, 15, 16, or over 16 years old at first arrest (coded 1-5, with higher values indicative of being older when first arrested). Prior *misdemeanor offending* distinguished those with none or 1, 2, 3-4, or 5+ prior adjudicated misdemeanor offenses (coded 1-4, higher values equate to more prior adjudicated misdemeanors). *Felony offending* classified youth as having none or one, two, three or four, or five or more prior felony adjudications (coded 1-4, with higher values indicating a greater number of felony adjudications). *Violent felony* history is a dichotomous indicator of whether the youth had at least one adjudicated violent against-person felony adjudication (1= violent felony). Similarly, *sexual felony* is a dichotomous indicator of whether the youth had at least one adjudicated sexual felony adjudication (1= sexual felony). History of *secure detention* placements where the youth spent at least 48 hours in secure detention distinguished youth with none, one, two, or three or more such placements (coded 1-4, with higher values indicating more prior detention stay). Finally, whether the youth had a history of a juvenile justice long-term *residential placement* history was included, classifying those with no, or one or more such placements (coded 1-2; of note, 11.3% of youth had at least one such prior placement).

Risk Factors. Measures of prominent risk factors of juvenile recidivism included school status, suspension/expulsion history, antisocial peer associations, child welfare placements, family member

incarceration history, substance use/abuse, domestic violence in the home, witnessing violence in the community, and mental health problems. Specifically, *school status* distinguished youth who had graduated/equivalent diploma, were currently enrolled in school, or who had dropped out/been expelled (coded 1-3, respectively). *Suspension/expulsion history* classified youth as having none, one, 2-3, or four or more suspensions/expulsions from school (coded 0-3, with higher values indicating a more extensive history). Peer associations was a dichotomous indicator of whether the youth regularly associated with some antisocial peers and/or gang members/associates (1= antisocial peers). The youth's history of *child welfare system out-of-home placements* distinguished youth with and without such placements, where a court-order or voluntary out-of-home and/or shelter care placement exceeded 30 days (1= child welfare placement history). *Family member incarceration* was a dichotomous indicator of whether household members had a history of jail/prison incarceration (1= incarceration history). The youth's substance use/abuse distinguished those not currently using drugs or alcohol (in the past 4 weeks), those using drugs/alcohol, and those for whom such use contributes to problems across life domains of school, family, health, peer associations, or contributed to criminal behavior (coded 0-2, respectively). *Household violence* was a dichotomous indicator of whether the youth has witnessed violence in the home (= 1). *Community violence* distinguished youth who had witnessed violence in their community from those who had not (1= community violence). *Mental health problems*. A dichotomous indicator for youth with no history of mental health problems (= 0) and those with mental health problems (= 1) was included. Mental health problems included schizophrenia, bipolar, mood, thought, personality, and adjustment disorders. Conduct disorder, oppositional defiant, ADD/ADHD, and substance abuse disorders were excluded. All mental health problems must have been confirmed by a professional qualified to do so (e.g., psychologist, licensed mental health counselor).

Community Characteristics

The current study examines the association between three contextual indicators (concentrated disadvantage, immigrant concentration, and residential instability) measured at the census tract level and the assessment of fees and restitution. These contextual measures have been used in prior work examining a number of criminological outcomes, including juvenile offending (e.g., Rodriguez 2013; Wolff, Baglivio, Piquero, et al. 2015).

Data used to construct the neighborhood-level measures were drawn from the 2013–2017 American Community Survey five-year estimates for census tracts in the current study state (U.S. Census Bureau 2014). The first contextual measure was the proportion of the neighborhood residents which identified as non-Latino, Black (*percent Black*). A *concentrated disadvantage index* was created from six census tract-level variables including the proportion of individuals living below the poverty line, median family income (logged and reverse coded), the proportion of female-headed households, the unemployment rate, the percentage of residents with a high school degree or equivalent, and the percentage of households receiving public assistance or food stamps. Consistent with previous research, these variables are strongly correlated to one another at the census tract level, and factor analyses indicated that these variables loaded on a single factor in our sample. The items were standardized and combined to form an additive index ($\alpha = .882$).

Immigrant concentration was measured as an index that included percentage foreign-born and percentage Latino/Latina. Both indicators were standardized and combined to create an immigrant concentration index ($\alpha = .903$) with higher values indicating more immigrant concentration).

Finally, an index of *residential instability* was created from an item of percent renters and percent in the same home from the year prior (reverse coded). Both indicators were standardized and combine to create the index of residential instability ($\alpha = .667$).

Analytic Strategy

In order to answer the key research questions addressed in the current study, we utilize a broad range of analytic methods. After describing the sample of youth under study, we use both univariate and bivariate statistics to provide a comprehensive description of the use of fees and restitution within the juvenile justice system in the state of Florida. Following this, we examine the key youth- and case-level factors associated with the assignment of fees and restitution in a multivariable context using logistic regression with robust standard errors in order to account for the clustering of youth within the 20 judicial circuits across the state.⁵

After establishing the youth- and case-level predictors associated with the use of fees and restitution we then explore the potential association between characteristics of the neighborhood in which the youth lives and both the probability of being assigned, as well as the total dollar amount of, fines and fees assessed at the youth level. To do this, we use both hierarchical logistic and hierarchical linear regression with random effects in order to account for the clustering of youth within neighborhoods (defined here as census tracts). These models also account for all youth- and case-level measures previously explored as well as judicial circuit-specific indicators. Results from this multilevel analysis build on our knowledge surrounding the association between community characteristics and the assignment of fees and restitution among juvenile cases from across the state.

We then switch aims in order to assess the potential for fees and restitution to have deleterious effects on youth whereby increasing the likelihood of recidivism. We employ propensity score matching (PSM) techniques in which we estimate “treatment” effect of dispositions which include monetary sanctions on continued delinquency among a large sample of justice-involved youth. PSM is useful for simulating independent assignment of a designated treatment and

⁵ Prior to conducting the multivariable analyses described, variance inflation factors were used to rule out issues of multicollinearity. This was especially important as a number of the risk/need factors modeled are also included in the calculation of the C-PACT overall risk score (the scoring is proprietary). In addition, the potential for multivariate outliers and the presence of heteroscedasticity was also assessed. These ancillary tests suggest the validity of the results presented here are not threatened by these common misspecifications.

estimating more directly an independent variable's effects than is typically accomplished with standard regression procedures (Apel & Sweeten, 2010; Rosenbaum & Rubin, 1983; 1985). For the purposes of our analyses, "treated" youth are those who received a disposition which included a monetary sanction (e.g., fees or restitution, coded 1 = yes). We utilize this analytic technique to match this group of youth to a group of controls who did not receive a monetary sanction yet were comparable in terms of all individual characteristics known to be associated with juvenile recidivism. In the analyses presented below, we ensure successful matching is achieved individually across each of the covariates in the full matching model. Several post-hoc diagnostic tests and statistics were estimated in order to (1) demonstrate the probability scores used to match the cases and controls were similar; (2) that the matching model matched cases at a high rate; and that (3) the individual covariates were appropriately balanced across the samples of both treated and untreated youth.

Last, but certainly not least we assess the possibility that the effect of fees and restitution on juvenile recidivism is greater among youth of certain racial/ethnic backgrounds. To do this, we estimated a pair of logistic regression models which included interaction terms in order to estimate the race-specific effects among White, Black, and Hispanic youth. Importantly, in the context of a nonlinear dependent variable, assessing the significance of interaction effects become more complicated and the product term in regression output does not represent a sufficient test (see Mustillo et al., 2018; for more details). Accordingly, following Mize (2019), we calculate predicted probabilities and marginal effects following the estimation of the full logistic models. To test interactions, we then estimated second differences in the marginal effects of fees and restitution among youth of each race (i.e., first differences) across each of the subgroups examined.

Table 1 about Here

Results

Table 1 provides a picture of the youth involved with the juvenile justice system in the state of Florida during the time period examined.⁶ Of the 12,693 youth included in the analyses presented herein, 73.3% were male, 38.4% were White, 43.8% were Black and 17.8% were Hispanic, with an average age of 16.7 years at the time they completed their placement. The majority (69.6%) of youth in this sample were classified as low risk using the validated PACT risk assessment, most received a disposition to diversion (40.8%) or probation (42.2%), and roughly 14.6% went on to recidivate within 365 days. In terms of the type of offenses included, cases were relatively equally split between violent (27.4%), property (27.7%) and other miscellaneous offenses (23.1%) with fewer entering the court facing charges for crimes against society (19%) or sexual offenses (2.8%). Finally, almost half of the cases involved were felonies (46.7%).

Table 2 about Here

Regarding the prevalence and amount of monetary sanctions among youth in the juvenile justice system in Florida, fees were imposed on 10.1% of the sample, while restitution was required of only 4.4% of the sample youth (see Table 2). With respect to the amount of fees and/or restitution required, the average fees for the entire analysis sample was \$59.34, and the average restitution \$81.39. Importantly, however, when only examining those youth for whom fees were required the average fees were \$587.57. Similarly, the average restitution among those for whom restitution was required was almost two thousand dollars (\$1,864.81).

Table 3 about Here

Table 3 examines the prevalence of monetary sanctions among various subgroups of youth. Simple bivariate comparisons revealed no significant differences in the imposition of fees across race/ethnic lines, however male youth were significantly more likely to be assigned fees and

⁶ Table 1 includes only select variables utilized in this analysis. For a full set of descriptive statistics for measures among relevant groups of youth, please see the appendices.

restitution than female youth. In terms of the risk to recidivate, youth classified as moderate-high risk were most likely to be assessed fees (17.4%) as well as restitution (9.3%). Significant differences in the prevalence of fees and restitution were also observed across youth with different presenting offense types. More specifically, youth whose most serious adjudicated charge was for sexual offenses were most likely to have fees assessed (15.8%) while youth adjudicated for property crimes were most likely to be required to pay restitution (6.46%).

Table 4 about Here

Table 4 examines the dollar amounts assessed in fees and restitution across the same youth- and case-characteristics examined in Table 3. Here, it was observed that Black (mean = \$709.50) and Hispanic youth (mean = \$633.33) were required to pay significantly more in fees than White youth (\$426.50 on average). There were no significant differences in restitution observed among these three groups. Males were also required to pay significantly more in fees than females (\$636.60 vs \$414.00 on average), however, there were no differences in the amount of restitution levied. Fees were also the greatest among youth whose most serious adjudicated charge was for property offenses (\$1,023.72 on average) while there were again no differences in restitution across offense types. Finally, youth with administrative and felony charges were required to pay more in fees than youth with misdemeanor charges. Importantly, these differences shown in Table 4 were explored in isolation (using bivariate statistics) and do not account for the multitude of factors which could confound these relationships. The multivariable effects of the youth- and case-level characteristics are explored next.

Table 5 about Here

Table 5 presents the results of our multilevel analysis designed to assess the association between both youth- and case-level characteristics, as well as the characteristics of the neighborhoods in which the youth resides and the assignment and value of fees and restitution. Two

models are presented for each outcome, for a total of 4 models. The first is a three-level hierarchical Logistic Regression model, capable of accounting for the nesting of the 12,649 youth in 3,199 neighborhoods (defined here as census tracts) within 20 judicial districts. The second is a hierarchical linear regression model in which the dollar amount assigned becomes the outcome of interest.

The models presented also account for potentially important jurisdictional differences as they include indicator variables for each judicial circuit in the state. The first model shown in Table 5 assesses the association between all relevant independent variables and the assignment of fees. Notably, after accounting for all other measures, no race/ethnic or gender differences are observed. Youth on probation, those receiving overlay services, and those on post-commitment probation were between 15-20 times more likely to be assessed fees than those on diversion. Youth who were older at the time of their first offense were less likely to have to pay restitution, while those who had been suspended or expelled from school 2-3 times were more likely than youth who had not been suspended/expelled to have fees due.

Compared to the results for fees, there were far more significant differences in restitution observed.⁷ Male youth were just over twice as likely to be required to pay restitution as compared to females (OR = 2.12). Older youth were also more likely to be required to pay restitution once all other factors were considered (OR = 1.15), while youth who were older at the time of their first offense were less likely. Youth whose most serious adjudicated charge was for property offenses were most likely to be forced to pay restitution (OR = 1.97). Similar to fees, youth on probation, those receiving overlay services, and those on post-commitment probation were more likely than those on diversion to have restitution payments. Interestingly, compared to youth classified as low risk, moderate- and high-risk youth were significantly less likely to have restitution required. Prior

⁷ Unfortunately, the three-level logistic regression model for the restitution outcome did not converge successfully. This is most likely due to the rarity of the event. For that reason, results present include a two-level model for the restitution outcome.

felony offending was also strongly and significantly related to the probability of restitution, while youth with prior violent or sexual felonies were less likely. Other youth characteristics were observed to be unrelated to assignment of fees and restitution among this sample of youth.

Turning to the association between neighborhood-level characteristics and the assignment of fees and restitution. The results presented in Table 5 suggest that only a few neighborhood characteristics are associated with the assignment of monetary sanctions. While none of the measures used were associated with the likelihood of being assigned court fees (after accounting for district-specific effects), youth who resided in neighborhoods with a greater proportion of Non-Hispanic Black residents were less likely to be assigned restitution. Similarly, youth who lived in neighborhoods characterized by higher levels of immigrant concentration were also less likely to be ordered to pay restitution. The only neighborhood-level measure associated with the amount of fees levied was residential instability, which had a small, negative association. In terms of restitution, the proportion of neighborhood residents who were non-Hispanic Black was negatively associated with the amount of restitution assessed, with an increase of 1% in the size of the Black population being associated with \$1.70 less in restitution due. Again, this effect, while statistically significant, is relatively small in nature when it comes to the scope of restitution payments due (which ranged up to \$70,000 for this sample). Similarly, a one-unit increase in the immigrant concentration index was associated with a reduction of \$36.40, which again represents a statistically significant, but a relatively modest decrease in restitution assigned.

Table 6 about Here

The next table presents the results of our propensity score matching analysis designed to isolate the effect of fees and restitution on juvenile recidivism. To do this, youth who were assessed fees by the court were matched to a sample of youth who were not assigned fees, but were comparable to their counterparts. Conditional probabilities of being assessed fees or recidivism were

used from the logit model to match youth who were assessed fees or restitution to youth who were not using a nearest-neighbor one-to-one with replacement algorithm (caliper = 2*SD of propensity score; Lunt, 2014) using the STATA program psmatch2 (Leuven & Sianesi, 2003).

For the analysis of fees, this process resulted in a final sample of 1,226 youth assessed fees matched to an equal number of youth who were on common support (a total of 56 youth (4.4%) assessed fees were lost “off support” as appropriate matches could not be found). Similarly, 10 youth fell off support in the analysis of restitution, resulting in a final sample of 544 youth who were assessed restitution. As evidence of successful matching, no significant differences, post matching, for any measure for fees or for restitution remained (results shown in Appendix A and Appendix B, respectively). Furthermore, to ensure that estimated differences between the matching variables were not dependent upon sample size, we utilized the standardized bias statistic (SBS) proposed by Rosenbaum and Rubin (1985). In the current analysis, none of the estimated standardized differences between the treatment and matched groups approached a value of 20, suggesting that the two groups are balanced in terms of the matching covariates considered.

Table 6 presents results following the successful matching procedure. Prior to matching, 19.6% of the youth who had fees assigned recidivated within 365 days as compared to 14.1% of youth who did not have fees assigned. This difference was statistically significant ($p < .001$). Following matching on a host of factors known to contribute to juvenile recidivism, the difference between the two groups was reduced (19.4% vs 15.7%) but remained statistically significant ($p < .05$). Like the unmatched comparison of youth with fees, there were significant differences among the group of youth who were required to pay restitution versus the full sample of youth who were not (21.7% vs 14.3%). However, once the matching processed was completed, there was only a small, non-significant difference between the two matched groups (21.9% vs 20.2%), suggesting that

restitution was unlikely to have an effect of continued juvenile delinquency once all other factors were accounted for.⁸

Table 7 about Here

Table 7 assesses the possibility that the effect of monetary sanctions on reoffending varies across race/ethnic groups. To examine this, recidivism became the outcome in a series of Logistic regression models which in addition to all relevant predictors included a product term between the imposition of fees or restitution and the youth's race/ethnicity. Although not shown in tabular form, these models include all prior youth- and case-level predictors discussed previously. The results shown in the first models suggest that fees have a significant effect on recidivism among White youth (the reference category) but that this effect is significantly reduced among Hispanic youth (as indicated by the "Fees X Hispanic" interaction term). This finding is confirmed using the calculation of marginal effects (second derivatives) as suggested by Mize, 2019 (results shown in Table 9 and presented graphically in Figure 1).

Table 8 about Here

Figure 1 about Here

A substantively different pattern was observed when examining the effect of restitution across race/ethnic groups. While restitution had a null effect among White youth, the effect was significant and positive among Black youth and the difference in these effects was also statistically significant. The calculation of second differences revealed that the effect of fees was significantly different between White and Hispanic and Hispanic and Black youth. Similarly, the significance of the second derivative terms suggests that the significant effect of restitution among Black youth, was

⁸ An anonymous reviewer suggested that these models be re-estimated to include the neighborhood-level measures discussed in prior analyses. Their inclusion did not impact the substantive findings results of this analysis (ancillary results available upon request).

significantly different from the effect on both White and Hispanic youth. These effects are presented graphically in Figure 2 and discussed in more detail below.

Figure 2 about Here

Discussion

The current study examined the effects of monetary sanctions (fees and restitution) on recidivism among a statewide sample of youth formally processed into the Florida juvenile justice system. Importantly, the current study sought to advance from the limited prior work on monetary sanctions and reoffending among youth involved in the juvenile justice system (Piquero & Jennings, 2017), by accounting for youth-, offense- and community-level factors associated with requirement of fees and restitution, considering both gender and race/ethnicity, and using propensity score matching to better compare the effect of requiring fees or restitution between statistically equivalent youth. Results demonstrated just over 10% of youth received a monetary sanction to pay fees, and 4.4% assigned to pay restitution, with males substantially more likely to be required to pay both, and low risk to reoffend youth (based on validated assessment) less likely to receive either fees or restitution.

Importantly, no significant differences were found across race/ethnicity in being assigned fees or restitution in bivariate models. However, while there were no significant racial/ethnic difference in the amount of restitution ordered, Black and Hispanic youth were assigned a higher amount of fees than White youth (\$709.50, \$633.30, and \$426.50 for Black, Hispanic, and White, respectively). Notably, once all other youth- and offense-related factors were considered, Black and Hispanic youth were less likely to be assigned restitution, while no significant differences were found across race/ethnicity in being assigned fees (again, once all other individual- and offense-related factors were controlled). Additionally, with all these factors considered, deeper end juvenile justice placements (probation, overlay services, post-commitment probation) were more likely to be

assigned fees and restitution compared to youth placed in diversion programs, and property crime as well as administrative offenses were more likely to be required to pay restitution. Regarding criminal history indicators, those who were younger at their age of first referral, as well as those with more prior misdemeanors, felonies, and violent felonies were more likely to be assigned restitution (with no differences for being assigned fees across extent of prior offending, though those who were older at their first arrest were less likely to be assigned fees).

One advancement of the current study from prior work was the inclusion of contextual measures of the neighborhood (census tract) in which the youth resided. Unfortunately, very few meaningful discoveries were related to the contextual measures explored (% non-Hispanic Black, concentrated disadvantage, immigrant concentration, and residential instability). However, a few notable findings are worth noting. Specifically, none of the measures were related to whether court fees were assigned, while those youth living in neighborhoods with a greater proportion of Black (non-Hispanic) residents and neighborhoods with higher levels of immigrant concentration were less likely to have court-ordered restitution. Additionally, residential instability had a small negative association with the amount of fees ordered. Importantly, the proportion of non-Hispanic Black residents in a neighborhood was associated with restitution amounts, where an increase of 1% in the size of the Black population was associated with a \$1.70 less of restitution ordered (statistically significant, but substantively irrelevant). Lastly, higher immigrant concentration was associated with a slight reduction in restitution amount (again, significant but not substantive). These findings only partially coincide with the reporting of the Fees Fines Justice Center and Juvenile Law Center (2022) where in 2019 only 11%, or \$547,973 of the \$5.1 million juvenile fees were actually collected. We do draw attention to the current study sample, however, in that only juveniles with arrest histories are represented, meaning the average neighborhood among this group is likely already at greater disadvantage than the average neighborhood in Florida. Levying greater amounts of fees on those in

the neighborhoods with the highest levels of concentrated disadvantage is likely not the most cost-effective use of court personnel, resources, and time based on the proportion of such monetary sanctions actually recouped. . Furthermore, if the intent of the juvenile justice system, separate from the criminal justice system, is indeed rehabilitative and focused on the best interests of the child (e.g., Feld, 1999), then any policy or sanction increasing likelihood of reoffending is arguably counter to that ideal, which appears to be the case for monetary sanctions for juveniles.

Critical to the issue of juvenile fees and restitution is whether the imposition of such monetary sanctions is related to whether the youth continue to offend in the future. Leveraging propensity score matching to better compare similarly situated youth who received each of those sanctions to youth who did not, findings revealed no significant differences in recidivism between youth who were assigned restitution compared to those who were not, among the full sample of youth. However, we do find higher recidivism among youth who were assigned fees (19.4%) compared to similarly situated youth who were not assigned fees (15.7%). This finding echoes prior work, while limited, showing juvenile fees increase reoffending (e.g., Piquero & Jennings, 2017). Interestingly, when examining racial/ethnic differences in whether fees or restitution impact recidivism, the effect of assigning fees was not as strong among Hispanic youth as compared to the positive and significant association found among White youth. Similarly, while Black youth that were assigned restitution were more likely to recidivate, the effect of restitution was null among White and Hispanic youth. These results point to important racial-specific effects in the imposition of monetary fines more generally. Critically, prior work had not yet examined the impacts of fees or restitution on reoffending among Hispanic juveniles.

Policy Implications

The current study findings lend well to several juvenile justice system reform initiative policy implications. As mentioned, in 2019 only 11%, or \$547,973 of the \$5.1 million juvenile fees assessed

throughout Florida were actually collected (FFJC and JLC, 2022), calling into question whether the “return on investment” regarding personnel costs of tracking of fees, efforts to collect fees, etc. are worth it at all. Additionally, in line with concerns raised by others (FFJC and JLC, 2022), the current study demonstrates youth assigned fees evidence significantly higher recidivism than similarly situated youth not assigned fees, as measured by an adjudication for a new criminal offense committed within 365 days. Notably, the effect of fees increasing recidivism likelihood were not as strong among Hispanic youth in comparison to White youth. Practically speaking however, among the full sample of current study youth assigned fees who were matched with those youth not assigned fees (n = 1,226 with fees, 1,226 without), the 19.4% recidivism (238 recidivists) for those with fees equated to an additional 46 youth compared to those without fees (15.7% of those without fees reoffended, or 192 youth). This means that whatever funds are collected from youth/families assigned fees must be “discounted” by the future law enforcement, court, and juvenile justice costs needed to address the additional offending from those 46 youth that is associated with fees being assigned (not to mention additional victim costs).

Furthermore, it is probable that the imposition of juvenile fees exacerbates racial/ethnic disparities in the juvenile justice system. To the extent that juvenile justice and court systems that assign juvenile fees maintain youth under court of probation supervision longer (in efforts to recoup more of the assigned fees) likely leads to additional disparity and violations of probation. Aside from class for the abolishment of juvenile fines more generally, it may be argued that for those states/jurisdictions still assigning juvenile fees should ensure justice system placement is not extended or youth that youth are not successfully completing diversion programs or community-based placements/violating probation simply because fees had not been paid.

The implications for juvenile restitution are not as clear, though it needs to be recalled that less than five percent of the sample were assessed restitution. There were no differences in

recidivism between those who were and were not assigned restitution sanctions among the full sample of youth. The exception for this was among Black youth specifically, where restitution did significantly, and substantively, increase reoffending. Restitution is a sanction with roots in restorative justice approaches where the intent is to repair the harm caused and make the victim (person/business/etc.) whole again (e.g., Bazemore & Umbreit, 1995). However, the notion of procedural justice (e.g., Thibaut & Walker, 1975) posits that individuals' perceptions that the conduct of authorities is fair (even when the results of system interactions do not favor them) matters in whether individuals comply with system actor directives, sanctions, and rules (e.g., Smith, 2007; Tyler, 2003). Presumably, most youth, and especially those under the legal age to obtain employment, have no means to pay monetary sanctions. The likelihood of youth and their families who view those monetary sanctions with a strong sense of fairness is questionable, and in need of further research. Notably, many judicial circuits in Florida will allow youth to perform community service activities to "pay off" their restitution. Again, however, this likely presents disparate burden on lower income and single parent-headed households as transportation, child care, and other factors likely play a role in completing such community service activities. Of note, recent work has articulated five reforms related to imposing restitution on juveniles including: 1) alternatives to restitution to limit justice system involvement, 2) not relying on financial sanctions as responses to youth, 3) expanding compensation funds for victims as little restitution is actually recovered, 4) alternative restorative interventions that more effectively address harm to victims and the community, and 5) time-limited, fair, developmentally appropriate, and culturally responsive alternative interventions (Smith et al., 2022).

It is critical to note that in Florida juvenile fines and fees are levied by the courts, and not the juvenile justice agency (FDJJ). Similarly, although FDJJ staff obtain victim impact statements that may inform restitution orders, only the courts levy restitution orders. Juvenile probation officers

(JPOs) work with youth to help and encourage the payment of fines, fees, and restitution (when applicable); however, JPOs do not routinely file technical violations based solely on non-payments of restitution unless specifically stated in the disposition order. Other juvenile justice systems operating across the country where monetary sanctions for juveniles still exist would be advised to ensure policies and practices similar to those in Florida (not violating youth solely for failure to pay, allowing community service hours to “pay off” restitution, etc.) are in place to help mitigate any negative implications of such sanctions.

Limitations

Despite the originality of our work focused on race/ethnic differences, we are mindful of some limitations that should be considered. First, while we had a very large sample of Florida youth, our main outcome variable was an official measure, thereby missing offending that did not get detected by the justice system. Second, while we had an extensive array of variables at the individual and community level, our data were static in nature, such that other variables and situational contexts that may have influenced the risk of re-offending were not considered. Additionally, while we were among the first of researchers to explore community contextual measures in tandem with individual-level predictors in examining whether fees or restitution impacts subsequent recidivism, the current study did not have access to the individual youth/family’s socioeconomic situations.

Additionally, as noted, the current study included only those youth formally processed into the FDJJ system, and therefore were assessed with the C-PACT risk/needs tool. However, the FDJJ has worked tirelessly with law enforcement, state attorneys, public defenders, and the legislature for nearly a decade to increase the use of civil citation/arrest avoidance by law enforcement for specific misdemeanor offenses (see Florida Statute section 985.12 Civil citation or similar prearrest diversion programs). Future work should examine the implications of program fees and assigned restitution on reoffending among civil citation youth. Furthermore, as noted above, each of Florida’s twenty

judicial circuits operates under their own unique fee and restitution structure, without any statewide mandates for when or how much to impose. They also likely differ across a continuum on the extent to which monetary sanctions are ordered for punitive, rehabilitative, and even practical reasons (such as a need for additional revenue for the court to operate). We do note, however, that fees/fines have always been one, among many, of the punishments within the criminal justice system (police tickets, etc.; Morris & Tonry, 1990). While we have attempted to appropriately control for circuit differences in the effect of monetary sanctions, we recognize the limitation of evaluating the impacts and collateral consequences of a policy (monetary sanctions ordered in juvenile court) without express knowledge of the goal of that policy (as that goal is not uniform across judicial circuits).

Lastly, the current study assessed the impact of monetary sanctions on recidivism of youth completing a community-based placement (e.g., probation supervision, diversion). While this is in keeping with the formal definition of recidivism and protocols of assessing recidivism used by the FDJJ, this methodological decision notably does not address whether monetary sanctions impact the whether a youth commits a new offense while under community supervision (e.g., a new offense during services). Therefore, the current study may demonstrate the effects of monetary sanctions on whether a juvenile *returns* to the justice system, it arguably does not assess whether such sanctions *keep* youth in the system longer. Relatedly, future work should examine the impact of monetary sanctions on violations of probation, time spent under supervision, additional offenses committed while under supervision, self-reported offending not officially captured, and racial/ethnic disparities across such outcomes.

Conclusion

The current study added to the limited prior work on the association of juvenile monetary sanctions on reoffending (Piquero & Jennings, 2017). In concert with that work, and the strong advocacy work within Florida (FFJC and JLC, 2022), the current study finds that fees and restitution

do not necessarily prevent recidivism and actually exacerbate the risk of recidivism. Race/ethnic and contextual (neighborhood concentrated disadvantage) differences were found not as much in whether monetary sanctions were imposed (once all youth- and offense-related factors were considered in tandem), but more so in the dollar amount of those sanctions. The imposition of fees exacerbated the reoffending of White and Black youth, while restitution requirements increase the odds of recidivism among Black youth particularly.

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Table 1: Descriptive Statistics for Juvenile Fees & Restitution Sample (n=12,693)

	n	%
Readjudicated w/in 365 Days		
No	10841	85.41
Yes	1852	14.59
Gender		
Female	3458	26.72%
Male	9482	73.28%
Race		
White	4974	38.44%
Black	5664	43.77%
Hispanic	2302	17.79%
Age at Completion	m=16.89	sd=8.16
PACT Risk Level		
Low	8829	69.56%
Moderate	1493	11.76%
Moderate-High	1526	12.02%
High	845	6.66%
Placement Type		
Diversion	5180	40.81%
Probation	5231	41.21%
Overlay Services	1612	12.70%
Post-Commitment Probation	670	5.28%
Presenting Offense Type		
Violent	3477	27.39%
Property	3512	27.67%
Sexual	361	2.84%
Society	2413	19.01%
Other	2930	23.08%
Presenting Offense Severity		
Other Administrative Offense	2788	21.96%
Misdemeanor	3979	31.35%
Felony	5926	46.69%

Table 2: Prevalence and Amount of Fees & Restitution (n=12,693)

Panel A: Prevalence		
	Freq.	Percent
Fees		
No	11411	89.90%
Yes	1282	10.10%
Restitution		
No	12139	95.64%
Yes	554	4.36%
Panel B: Amount		
	Mean	SD
Average Fees - Full Sample	59.34	339.57
Average Restitution - Full Sample	81.39	1043.19
Average Fees among those with fees	587.57	912.07
Average Restitution among those with restitution	1864.81	4652.41

Table 3: Fees and Restitution by Youth Characteristics (n=12,693)

	Fees		X ² (p-value)	Restitution		X ² (p-value)
	No (%)	Yes (%)		No (%)	Yes (%)	
Race/Ethnicity						
White	89.7	10.3		95.5	4.5	
Black	89.6	10.4	4.00 (.135)	95.5	4.5	2.69 (.261)
Hispanic	91.0	9.0		96.3	3.7	
Sex						
Female	91.5	8.5	13.79 (.000)	98.2	1.8	71.48 (.000)
Male	89.3	10.7		94.7	5.3	
Risk Level						
Low	91.8	8.2	138.42 (.000)	97.0	3.0	150.31 (.000)
Moderate	87.4	12.6		94.0	6.0	
Moderate-High	82.6	17.4		90.7	9.3	
High	87.9	12.1		93.1	6.9	
Offense Type						
Violent	90.48	9.52	124.92 (.000)	97.5	2.5	160.62 (.000)
Property	90.6	9.4		93.54	6.46	
Sex Offense	84.21	15.79		99.17	0.83	
Society	94.16	5.84		98.38	1.62	
Other	85.56	14.44		93.24	6.76	
Offense Severity						
Other Administrative	85.44	14.56	96.08 (.000)	92.9	7.1	105.36 (.000)
Misdemeanor	92.71	7.29		98.01	1.99	
Felony	90.11	9.89		95.33	4.67	

Table 4: Fees and Restitution by Youth Characteristics

	Fees (n=1,282)		ANOVA / Tukey's D	Restitution (n=554)		ANOVA / Tukey's D
	Mean	SD		Mean	SD	
Race/Ethnicity						
White	426.5	525.8		2546.1	6227.5	
Black	709.5	1088.3	Black & Hispanic > White	1369.8	3363.6	No Sig. Differences
Hispanic	633.3	1041.7		1581.9	2561.4	
Sex						
Female	414.0	560.2		1513.5	2086.2	
Male	637.6	985.2	Male > Female	1909.1	4880.6	No Sig. Differences
Risk Level						
Low	310.9	356.2		1954.8	5620.1	
Moderate	496.6	652.9		2085.9	3621.7	
Moderate-High	1173.8	1366.2	Mod-High & High > Low & Mod	1940.7	4058.4	No Sig. Differences
High	1195.6	1452.2		928.5	1299.1	
Offense Type						
Violent	517.024	796.386		1339.806	2278.488	
Property	659.5785	1023.721		1724.383	3172.335	
Sex Offense	335.8535	337.2361	Sex Offense < Property & Other	597.54	743.147	No Sig. Differences (n=3 for sex offenses)
Society	433.1135	637.7041		3219.28	11314.02	
Other	672.0092	1015.15		2008.892	4658.098	
Offense Severity						
Other Administrative	690.1263	1031.499		2008.892	4658.098	
Misdemeanor	380.4448	550.4278	Misdemeanor < Administrative & Felony	2425.022	8098.516	No Sig. Differences
Felony	619.0241	951.7046		1602.043	3028.512	

Table 5: Predicting Assignment of Fees and Restitution (12,649 youth nested within 3,199 census tracts, within 20 judicial districts).

	Has Fees (0/1)		Total Fees (in dollars)	
	OR	95% CI	b	95% CI
Male	1.1399	[.987,1.317]	7.4637	[-1.366,16.294]
Black	0.8135	[.649,1.019]	-7.3792	[-33.635,18.876]
Hispanic	1.1297	[.852,1.498]	5.3844	[-6.703,17.472]
Age Out	0.9552	[.883,1.034]	-10.7585*	[-20.942,-.575]
Offense Type (Ref=Violent)				
Property	0.8395	[.684,1.031]	-5.053	[-18.073,7.967]
Sex Offense	0.7038	[.379,1.308]	4.667	[-18.200,27.534]
Crimes Against Society	0.8805	[.599,1.295]	-0.1899	[-17.843,17.463]
Other Offenses	0.9485	[.401,2.246]	-24.4523	[-54.293,5.389]
Offense Severity (Ref=Felony)				
Other Admin Offense	0.7132	[.337,1.509]	32.6516*	[5.056,60.247]
Misdemeanor	0.8869	[.669,1.176]	4.4631	[-5.062,13.988]
Placement Type (Ref=Diversion)				
Probation	18.2203***	[13.931,23.831]	23.4853	[-13.734,60.704]
Overlay Services	18.3458***	[13.284,25.337]	73.6384	[-.262,147.539]
Post-Commitment Probation	25.0860***	[14.944,42.111]	91.9798*	[.972,182.987]
PACT Risk Level (Ref= Low Risk)				
Moderate Risk	0.8881	[.600,1.315]	-4.7874	[-50.027,40.452]
Moderate-High Risk	0.8548	[.466,1.567]	-2.659	[-104.606,99.288]
High Risk	.4995*	[.280,.890]	-72.8173	[-221.147,75.513]
Age at First Offense (Ref = 12 or younger)				
13-14	1.0575	[.895,1.250]	6.9581	[-4.560,18.477]
15	1.0776	[.808,1.438]	14.0052	[-4.185,32.195]
16	0.8327	[.611,1.135]	22.0946	[-5.810,49.999]
>16	0.6347	[.371,1.086]	19.1214	[-3.996,42.238]
Prior Misdemeanors (Ref= Zero or One)				
Two	0.9744	[.774,1.226]	5.3759	[-9.369,20.120]
Three or Four	1.0314	[.760,1.400]	42.1609	[-65.259,149.581]
Five or More	1.2602	[.879,1.806]	66.1715	[-55.707,188.050]
Prior Felonies (Ref= Zero or One)				
Two Prior Felonies	0.9799	[.767,1.252]	25.1333*	[4.156,46.111]
Three or Four Prior Felonies	0.863	[.629,1.184]	22.9071	[-12.419,58.234]
Five or More Prior Felonies	1.1831	[.823,1.700]	131.1642	[-35.878,298.206]
Prior Violent Felony	1.1059	[.908,1.346]	-12.3323	[-35.652,10.987]
Prior Sexual Felony	1.4981	[.873,2.570]	-4.8888	[-37.392,27.614]
Prior Secure Detention Placement	1.0299	[.857,1.238]	13.5508	[-12.538,39.640]
Prior Residential Commitment Placement	1.1004	[.600,2.017]	78.0649	[-71.197,227.327]
Current School Status (Ref=Graduated/GED)				
Currently Enrolled	.8460***	[.769,.931]	-3.0442	[-17.950,11.862]
Dropped Out/Expelled	.7177**	[.564,.913]	0.949	[-20.347,22.246]
School Expulsion History (Ref = Zero)				
One Expulsion	0.797	[.482,1.318]	15.9272	[-25.811,57.665]
2-3 Expulsions	1.3038*	[1.028,1.654]	21.4387	[-15.080,57.957]
4+ Expulsions	1.0848	[.846,1.390]	12.952	[-16.074,41.978]
Antisocial Friends	.8295*	[.711,.968]	-12.8523	[-26.165,.460]
One or More DCF Placements	0.8772	[.681,1.130]	-32.5181	[-71.068,6.032]
History of Family Incarceration=1	0.998	[.827,1.204]	-1.7665	[-12.034,8.501]
Substance Use (Ref = Does not use substances)				
Uses Substances	0.7729	[.596,1.003]	7.8329	[-15.175,30.840]
Substance Use Causes Problems	0.9001	[.682,1.188]	1.7274	[-16.776,20.231]
Witnessed Violence At Home	0.9826	[.794,1.216]	-9.4908	[-21.145,2.163]
Witnessed Violence in the Community	1.0484	[.835,1.316]	-1.4842	[-9.757,6.789]
Diagnosed with MHP	1.0507	[.807,1.368]	18.9003	[-6.941,44.741]
Neighborhood-Level Measures				
% Residential Population Non-Hispanic Black	0.9954	[.987,1.004]	0.087	[-.263,.437]
Concentrated Disadvantage Index	1.0934	[.895,1.336]	10.491	[-4.749,25.731]
Immigrant Concentration Index	0.8195	[.572,1.174]	-5.7223	[-13.448,2.004]
Residential Instability Index	0.9202	[.806,1.050]	-5.8306*	[-10.658,-1.003]
Constant			60.7491	[-66.409,187.907]

Note: Hierarchical Linear and Logistic Regression used to estimate the association between neighborhood conditions and fees and restitution wh (i.e., three-level models. For Logistic models odds-ratios and 95% confidence intervals shown. For these analyses, 44 youth were removed from the restitution logistic regression model (i.e. Yes/No) failed to converge when estimated as a three-level model and was reestimated using a simpler two Firth Logistic Regression due to the relatively rare incidence of restitution conditions. Results were substantively identical to those presented here.

Table 6: Effects of Fees and Restitution on Juvenile Recidivism

Readjudicated w/in 365 Days	Youth w/ Fees	Youth w/o Fees	Difference	S.E.	T-Statistic
Unmatched	0.196	0.141	0.055	0.010	5.30*
Matched	0.194	0.157	0.037	0.015	2.39*
Readjudicated w/in 365 Days	Youth w/ Restitution	Youth w/o Restitution	Difference	S.E.	T-Statistic
Unmatched	0.217	0.143	0.074	0.015	4.82*
Matched	0.219	0.202	0.017	0.025	0.67

Note: In analysis of fees, 56 youth were lost "off support" as no suitable matches could be identified. Similarly, 10 cases were lost off support in the analysis of restitution. * $p < .05$ - signifies a significant difference between two groups analyzed. The models shown were re-estimated to include the neighborhood-level characteristics presented in earlier models (on a slightly smaller sample due to missing location data). Ancillary results were substantively identical to those presented here.

Table 7: Association between Fees, Restitution and Juvenile Recidivism (n= 12,649)

	Fees and Recidivism			Restitution and Recidivism	
	OR	95% CI		OR	95% CI
Has Fees	1.663***	[1.266,2.183]	Has Restitution	0.798	[.535,1.189]
Black	1.645***	[1.420,1.904]	Black	1.518***	[1.317,1.751]
Hispanic	1.331**	[1.105,1.603]	Hispanic	1.256*	[1.050,1.503]
Race-Specific Effects of Fees			Race-Specific Effects of Restitution		
Fees X Black	0.756	[.536,1.069]	Restitution X Black	1.816*	[1.110,2.972]
Fees X Hispanic	.567*	[.342,.941]	Restitution X Hispanic	0.729	[.328,1.620]

Note: Odds-Ratios and 95% Confidence Intervals shown. Standard errors account for clustering of youth within 20 judicial circuits. Model contains all controls previously presented along with district-specific fixed effects to account for regional differences.

Appendix A: Matching Results for Analysis of Fees and Juvenile Recidivism

Matching Covariates	Panel A: Unmatched Samples				Panel B: Matched Samples			
	Fees (n = 1,282)	No Fees (n = 11,411)	% Bias	t	Fees (n = 1,226)	No Fees (n = 1,226)	% Bias	t
	M	M			M	M		
Male	0.776	0.728	11.2	3.72**	0.769	0.759	2.5	0.62
Black	0.454	0.439	3.1	1.04	0.457	0.449	1.5	0.36
Hispanic	0.158	0.180	-6	-1.99*	0.157	0.155	0.4	0.11
Age Out	17.302	16.847	27	8.72**	17.304	17.327	-1.4	-0.38
Property Offense	0.257	0.279	-4.8	-1.63	0.252	0.253	-0.2	-0.05
Sex Offense	0.044	0.027	9.6	3.64**	0.045	0.043	0.9	0.20
Crimes Against Society	0.110	0.199	-24.8	-7.73**	0.113	0.119	-1.6	-0.44
Other Offenses	0.330	0.220	24.9	8.91**	0.339	0.336	0.7	0.17
Other Admin Offense	0.317	0.209	24.7	8.88**	0.326	0.321	1.3	0.30
Misdemeanor Offense	0.226	0.323	-21.9	-7.12**	0.229	0.225	0.9	0.24
Probation	0.619	0.389	47.2	16.00**	0.634	0.629	1	0.25
Overlay Services	0.227	0.116	29.8	11.40**	0.223	0.224	-0.4	-0.10
Post-Commitment Probation	0.099	0.048	19.8	7.83**	0.086	0.091	-1.9	-0.43
Moderate Risk	0.147	0.114	9.6	3.40*	0.147	0.150	-1	-0.23
Moderate-High Risk	0.207	0.110	26.8	10.17**	0.193	0.209	-4.3	-0.96
High Risk	0.080	0.065	5.6	1.97*	0.081	0.075	2.2	0.53
Age at First 13-14	0.380	0.311	14.4	5.00**	0.378	0.372	1.2	0.29
Age at First 15	0.190	0.189	0.4	0.13	0.189	0.203	-3.5	-0.86
Age at First 16	0.144	0.180	-10	-3.28**	0.147	0.140	1.8	0.46
Age at First >16	0.081	0.156	-23.4	-7.18**	0.085	0.073	3.6	1.05
2 Prior Misd.	0.194	0.139	14.8	5.32**	0.195	0.196	-0.2	-0.05
3-4 Prior Misd.	0.137	0.090	14.9	5.49**	0.135	0.131	1.5	0.36
5+ Prior Misd.	0.051	0.032	9.6	3.57**	0.046	0.042	2	0.49
2 Prior Felonies	0.359	0.415	-11.5	-3.87**	0.365	0.363	0.5	0.13
3-4 Prior Felonies	0.143	0.104	11.8	4.25**	0.142	0.144	-0.7	-0.17
5+ Prior Felonies	0.165	0.099	19.4	7.23**	0.153	0.161	-2.2	-0.5
Prior Violent Felony	0.282	0.212	16.3	5.76**	0.274	0.281	-1.7	-0.41
Prior Sexual Felony	0.056	0.028	13.8	5.40**	0.055	0.050	2.8	0.63
Prior Secure Detention Placement	1.968	1.592	34.3	12.29**	1.945	1.966	-1.9	-0.45
Prior Residential Commitment Placement	1.204	1.102	28.6	11.00**	1.187	1.204	-4.8	-1.07
Currently Enrolled in School	0.133	0.085	15.4	5.67**	0.126	0.141	-4.7	-1.07
Dropped Out/Expelled	0.142	0.124	5.2	1.81	0.144	0.152	-2.4	-0.57
One Expulsion	0.062	0.089	-10.1	-3.23**	0.064	0.063	0.3	0.08
2-3 Expulsions	0.104	0.081	7.8	2.79**	0.098	0.113	-5.4	-1.25
4+ Expulsions	0.159	0.121	11.1	3.97**	0.153	0.170	-4.7	-1.1
Antisocial Friends	0.203	0.252	-11.6	-3.84**	0.209	0.193	3.9	1.01
1+ DCF Placements	0.114	0.115	-0.2	-0.07	0.117	0.124	-2.3	-0.56
History of Family Incarceration	0.367	0.360	1.3	0.44	0.370	0.365	1.2	0.29
Uses Substances	0.126	0.152	-7.7	-2.54*	0.131	0.123	2.4	0.61
Substance Use Causes Problems	0.054	0.092	-14.8	-4.59**	0.055	0.053	0.6	0.18
Witnessed Violence At Home	0.172	0.166	1.4	0.47	0.174	0.172	0.4	0.11
Witnessed Violence in the Community	0.395	0.376	3.9	1.34	0.391	0.417	-5.4	-1.32
Diagnosed with MHP	0.143	0.120	6.7	2.34	0.140	0.130	3.1	0.77

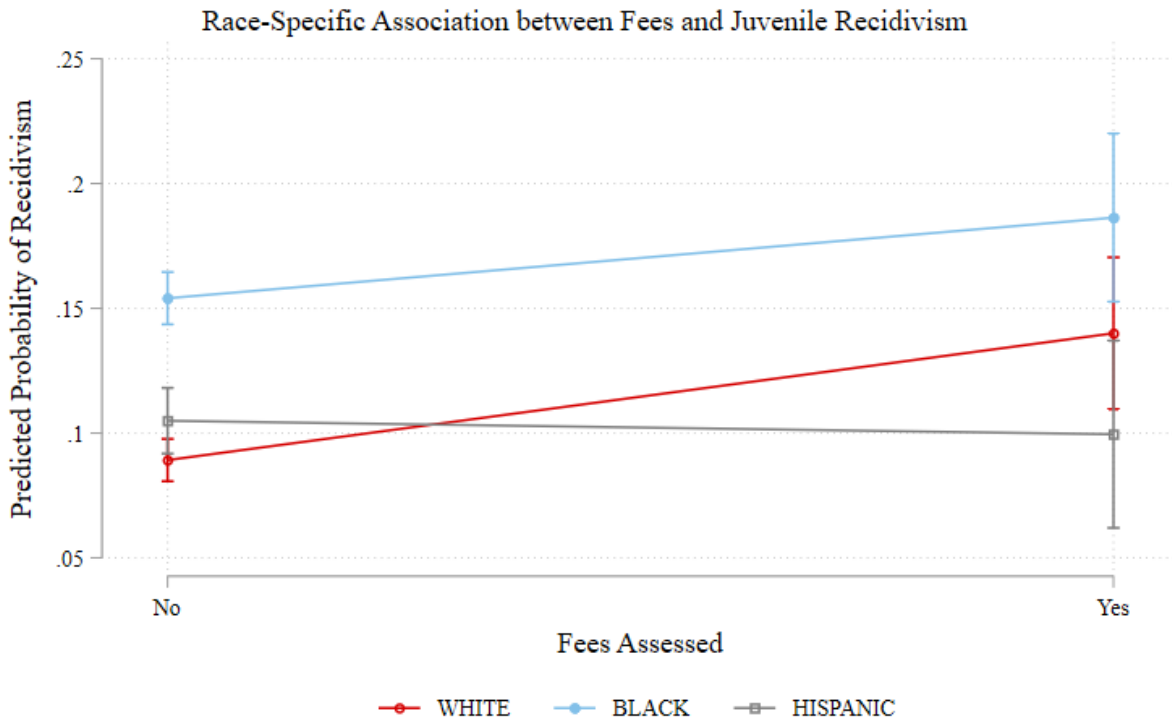
* p < .05, ** p < .01; Mean bias post-matching = 2.0; Median Bias post-matching = 1.7; Rubin's B = 17.8; Rubin's R = 0.84.

Appendix B: Matching Results for Analysis of Restitution and Juvenile Recidivism

Matching Covariates	Panel A: Unmatched Samples				Panel A: Matched Samples			
	Restitution (n = 554)	No Restitution (n = 12,139)	% Bias	t	Restitution (n = 544)	No Restitution (n = 544)	% Bias	t
	M	M			M	M		
Male	0.888	0.726	42.1	8.48**	0.88603	0.89522	-2.4	-0.49
Black	0.45487	0.43957	3.1	0.71	0.45588	0.42463	6.3	1.04
Hispanic	0.15162	0.17885	-7.3	-1.64	0.15257	0.15257	0	0.00
Age Out	17.391	16.87	31.7	6.76**	17.389	17.368	1.3	0.23
Property Offense	0.40975	0.27062	29.7	7.17**	0.40257	0.39338	2	0.31
Sex Offense	0.00542	0.02949	-18.5	-3.34**	0.00551	0.00551	0	0.00
Crimes Against Society	0.0704	0.19557	-37.5	-7.36**	0.07169	0.07721	-1.7	-0.35
Other Offenses	0.3574	0.22506	29.4	7.24**	0.36029	0.35478	1.2	0.19
Other Admin Offense	0.3574	0.21336	32.3	8.03**	0.36029	0.35478	1.2	0.19
Misdemeanor Offense	0.1426	0.32128	-43.3	-8.89**	0.14522	0.15257	-1.8	-0.34
Probation	0.54152	0.40621	27.3	6.34**	0.54044	0.58456	-8.9	-1.47
Overlay Services	0.28339	0.11986	41.6	11.36**	0.28125	0.23162	12.6	1.88
Post-Commitment Probation	0.09747	0.05075	17.9	4.81**	0.09926	0.09191	2.8	0.41
Moderate Risk	0.16065	0.11566	13.1	3.22*	0.16176	0.14522	4.8	0.76
Moderate-High Risk	0.25632	0.11401	37.2	10.11**	0.25368	0.26103	-1.9	-0.28
High Risk	0.10469	0.06483	14.3	3.68**	0.10662	0.09007	6	0.92
Age at First 13-14	0.37545	0.31568	12.6	2.95**	0.37868	0.34559	7	1.14
Age at First 15	0.19675	0.18865	2.1	0.48	0.19669	0.22794	-7.9	-1.26
Age at First 16	0.13899	0.17835	-10.8	-2.38*	0.13971	0.13235	2	0.35
Age at First >16	0.05054	0.15314	-34.4	-6.65**	0.05147	0.0625	-3.7	-0.78
2 Prior Misd.	0.1787	0.14317	9.7	2.32**	0.18015	0.18566	-1.5	-0.24
3-4 Prior Misd.	0.13357	0.09301	12.8	3.19**	0.13235	0.14522	-4.1	-0.61
5+ Prior Misd.	0.05596	0.03328	11	2.87**	0.05699	0.05331	1.8	0.27
2 Prior Felonies	0.34838	0.4119	-13.1	-2.97**	0.35294	0.34926	0.8	0.13
3-4 Prior Felonies	0.23646	0.10199	36.4	10.02**	0.22978	0.25368	-6.5	-0.92
5+ Prior Felonies	0.25271	0.0991	41.2	11.55**	0.25184	0.21507	9.9	1.43
Prior Violent Felony	0.2148	0.2188	-1	0.22	0.21875	0.20221	4	0.67
Prior Sexual Felony	0.00903	0.03229	-16.4	-3.08**	0.00919	0.00184	5.2	1.64
Prior Secure Detention Placement	2.1588	1.6062	49.1	12.26**	2.1563	2.057	8.8	1.36
Prior Residential Commitment Placement	1.2455	1.1066	37.1	10.15**	1.2426	1.2096	8.8	1.30
Currently Enrolled in School	0.73105	0.78664	-13	-3.11**	0.72794	0.76103	-7.7	-1.25
Dropped Out/Expelled	0.15162	0.12489	7.7	1.85	0.15441	0.14154	3.7	0.60
One Expulsion	0.06498	0.0874	-8.5	-1.84	0.06618	0.07904	-4.9	-0.82
2-3 Expulsions	0.1083	0.08221	8.9	2.17*	0.11029	0.1011	3.1	0.49
4+ Expulsions	0.19134	0.12143	19.3	4.88**	0.19301	0.1875	1.5	0.23
Antisocial Friends	0.14621	0.25117	-26.5	-5.61**	0.14706	0.14154	1.4	0.26
1+ DCF Placements	0.11733	0.11434	0.9	0.22	0.11765	0.15257	-10.9	-1.69
History of Family Incarceration	0.4296	0.35794	14.7	3.44**	0.43566	0.43199	0.8	0.12
Uses Substances	0.1426	0.14985	-2.1	-0.47	0.14338	0.14522	-0.5	-0.09
Substance Use Causes Problems	0.05596	0.08971	-13	-2.74**	0.05699	0.05331	1.4	0.27
Witnessed Violence At Home	0.1787	0.16641	3.3	0.76	0.18015	0.19669	-4.4	-0.70
Witnessed Violence in the Community	0.46029	0.3745	17.5	4.07**	0.46324	0.44485	3.7	0.61
Diagnosed with MHP	0.12635	0.12225	1.2	0.29	0.12868	0.12132	2.2	0.37

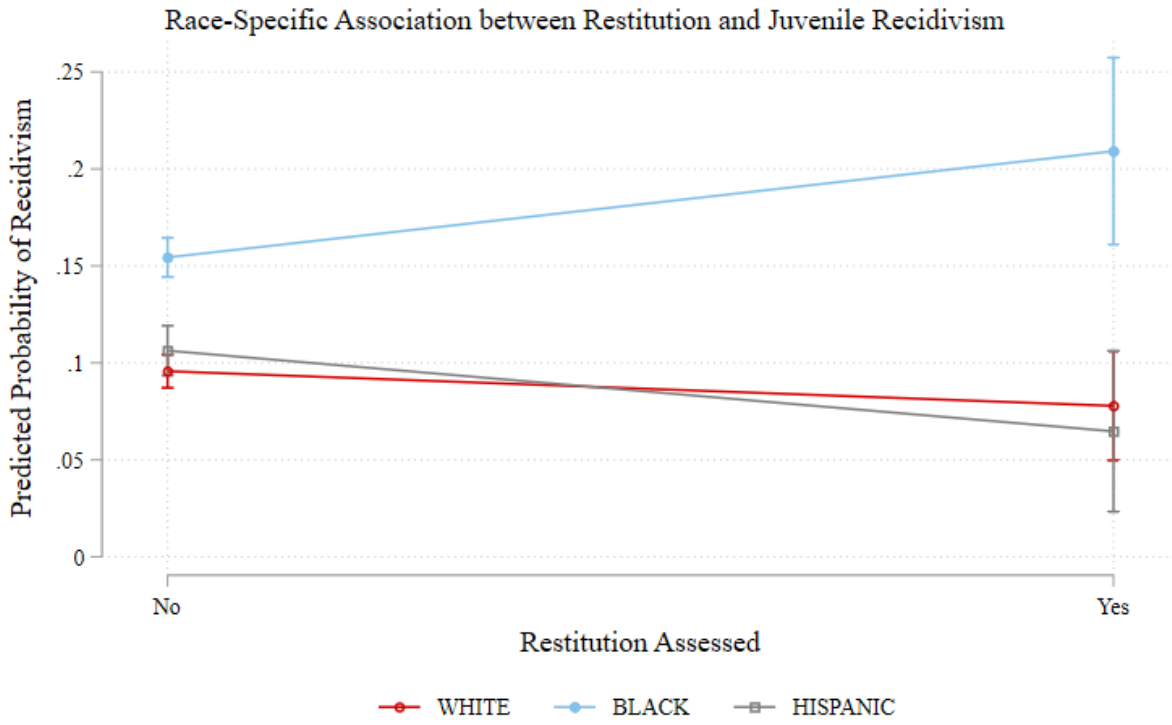
* p <.05, ** p <.01; Mean bias post-matching = 4.0; Median Bias post-matching = 3.0; Rubin's B =21.3; Rubin's R=1.14.

Figure 1: Race-Specific Association between Fees and Juvenile Recidivism



Note: Holding all youth and other youth & neighborhood characteristics constant.

Figure 2: Race-Specific Association between Restitution and Juvenile Recidivism



Note: Holding all youth and other youth & neighborhood characteristics constant.