

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

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ABSTRACT

There has long been a concern about the imposition of monetary sanctions on the risk of recidivism, but much of this work has been conducted among adults, and very little among youth. Moreover, virtually no work has considered this issue across race and ethnicity. This study uses both quantitative and qualitative data to examine this issue. Several key findings emerged from our work. First, while there were no race/ethnic differences in the proportion of youth receiving fines, when fines were administered both black and Hispanic youth were administered significantly higher fees. Second, youth residing in areas with greater concentrated disadvantage had higher amounts of fees assigned (when assigned fees). Third, after youth were matched, analyses indicated fees increased the likelihood of recidivism, as did being black or Hispanic. Fourth, when we considered the interaction between race/ethnicity and both fees and restitution, results showed two race/ethnic differences: whereas Hispanic youth with fees were less likely to recidivate, black youth with restitution had a higher risk of recidivism. Finally, the qualitative data pointed to some startling findings, namely that youth did not understand the full impact of fines on both their families and themselves and a non-significant percentage reported that they would have to resort to criminal activity in order to pay fines.

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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 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 of restitution on reoffending across race/ethnicity all the more paramount to improving the likelihood of youth success, increasing public safety, and 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. The current study further surveys youth placed in juvenile justice residential facility regarding their understanding of fees, restitution, and the impact of such on themselves and their families.

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—but 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. Lastly, the current study leverages a sample of youth placed in a juvenile justice residential facility in Florida to explore, in a qualitative manner, self-reported perceptions of monetary sanctions and the impact of those sanctions on themselves and their families.

Sample

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. 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 placement between July 1, 2018 and June 30, 2019.

Importantly, the predictive validity of the C-PACT among FDJJ youth has been assessed via multiple evaluations of different samples collectively in excess of 130,000 youth, including across race/ethnicity and gender as well as disposition/placement type (Baglivio, 2009; Baglivio & Jackowski, 2013; Baird et al., 2013; Winokur-Early, Hand, & Blankenship, 2012). Additionally, the reliability of the PACT as administered in Florida, the National Council on Crime and Delinquency (NCCD) found an intra-class correlation coefficient (ICC) of .83 for the C-PACT overall risk level among over fifty FDJJ raters provided with the same case information (Baird et al., 2013). Furthermore, results demonstrated only 4% of items with less than 75% agreement among the raters (Baird et al., 2013). 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.

The survey portion of the current study leverages a sample of youth placed in a FDJJ residential facility. A single facility was selected and youth in placement were asked to volunteer to complete the brief survey. Of the 49 youth indicated to be in placement on the date the survey was administered, 45 surveys were completed (91.8% participation). Surveys were administered in a hardcopy/paper-and-pencil format. Surveys were anonymous, placed in a manila envelope and mailed to the research team. The residential program serves adjudicated male youth ages 12-19 for whom a juvenile judge deemed the youth in need for services beyond that which is available in the community.

To provide context, all FDJJ residential programs are privately operated, contracted by the FDJJ. FDJJ residential programs are “specialized”, wherein all youth placed in each facility have similar global treatment needs (i.e., substance abuse treatment, comprehensive mental health needs, treatment needs related to sexual offending), where services are individually tailored within the program. Only a judge can order placement to a FDJJ residential program. Length of placement is indeterminate, with release (which must be approved by the judge) based on completion of an individualized treatment plan.³ All youth receive individual counseling, family therapy, and group counseling provided by licensed (or supervised) mental health professionals, based on their individualized assessed needs (as per risk/need and clinical assessments). Group therapy includes primarily cognitive behavioral therapies, social skills training, substance abuse prevention or treatment (dependent on histories and clinical diagnoses),

³ This excludes “maximum risk” facilities, which have a minimum 18-month placement.

services related to sexual offending (if applicable), and anger management, healthy relationships, and trauma-specific treatment (as applicable). Contract dictates the specific services and dosages for each program (which services and how many days/hours per week of each). Mental health groups occur a minimum of five days per week for all programs across the state. Additionally, all youth who have not earned a high school diploma/equivalent, attend school year-round on site at the program, taught by qualified teachers at a minimum of 25 hours per week.

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 C-PACT assessment includes both a pre-screen and a full assessment, with both versions providing an overall risk-to-reoffend classification (low, moderate, mod-high, or high risk), while the full assessment additionally provides risk and protective scores for each domain. All of the items in the pre-screen are included identically in the full assessment. 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.

Dependent Variable- Recidivism

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. The definition/measurement of recidivism employed herein is consistent with the official definition of recidivism of the FDJJ. 14.6% of the study sample met criteria for recidivism (see Table 1).

Independent Variables- Fees & Restitution

The central independent measures were 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, 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 amount).

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” (coded 1-5, respectively). *Presenting offense severity* classified the focal offense leading to the community-based placement as “other administrative”, misdemeanor, or felony offense (coded 1-3, with higher values signifying a more serious offense). *Placement type* distinguished the focal community-based placement as diversion, probation, probation plus overlay services, or post-commitment probation (coded 1-4, respectively). 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).

Survey of Residential Youth

A survey was developed to examine the perceptions of youth placed in a juvenile justice residential facility regarding monetary sanctions and the impact of those sanctions on the youth and their families. The survey was designed with all questions formatted as multiple choice and/or “check all that apply” with response options provided (see Appendix A for the final survey).

Analytic Strategy/Methods

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 understudy, 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.

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 to 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 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). 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.

Regarding the youth surveys, the proportion of youth endorsing each response to each survey item was derived to provide an indication of the perceptions of youth placed in a FDJJ residential facility regarding monetary sanctions and their impact. Survey items included whether the youth or family received monetary sanctions, what those sanctions were if so, whether anyone inquired as to whether the youth/family would be able to pay such sanctions, the amount of those sanctions, what the youth understood could happen if the sanctions were not paid, and

the extent of the required monetary sanctions the youth/family actually had paid. Additionally, survey items examined whether youth believed they or their families should have to pay monetary sanctions when they broke the law, the hypothetical impact on their family if they had to pay \$100 or more, how the youth would personally pay \$100 or more, and how their family would be impacted in having to pay \$100 or more.⁴

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. Of the 12,693 youth included in the analyses presented below, 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%).

⁴ While the project team developed the survey of residential youth used herein, similar measures have been used by the Justice Law Center in past research devoted to the study of juvenile fines and fees in surveys of parents/guardians of youth involved in the juvenile justice system (see Smith et al., 2022 for implications of juvenile restitution and recommendations).

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

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

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 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 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 3: Fees and Restitution by Youth Characteristics

	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 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

Table 4: Fees and Restitution by Youth Characteristics

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

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 the results of a series of Logistic Regression models, designed to assess the association between selected youth- and case-level characteristics while controlling for all potential confounding variables. 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 fees, 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.

Table 5: Predicting Assignment of Fees and Restitution (n= 12,963)

	Fees		Restitution	
	OR	95% CI	OR	95% CI
Male	1.074	[.956,1.206]	2.0872***	[1.577,2.762]
Black	0.7806	[.501,1.216]	.6521***	[.533,.798]
Hispanic	0.7728	[.351,1.703]	.7150*	[.546,.935]
Age Out	0.9786	[.891,1.075]	1.1166**	[1.033,1.207]
Offense Type (Ref=Violent)				
Property	1.0324	[.852,1.251]	1.9520***	[1.476,2.582]
Sex Offense	0.9855	[.591,1.642]	0.3871	[.113,1.326]
Crimes Against Society	0.846	[.569,1.258]	0.7707	[.513,1.159]
Other Offenses	1.3313	[.543,3.262]	--	--
Offense Severity (Ref=Felony)				
Other Admin Offense	0.7445	[.324,1.710]	16.6111*	[1.023,269.618]
Misdemeanor	1.1877	[.837,1.685]	1.1606	[.859,1.569]
Placement Type (Ref=Diversion)				
Probation	15.0831***	[9.973,22.812]	4.9082***	[3.406,7.072]
Overlay Services	19.4207***	[13.147,28.689]	8.0613***	[5.330,12.192]
Post-Commitment Probation	20.4452***	[10.540,39.660]	5.1791***	[2.989,8.975]
PACT Risk Level (Ref= Low Risk)				
Moderate Risk	0.8443	[.580,1.230]	.7054*	[.516,.965]
Moderate-High Risk	0.8461	[.530,1.351]	0.7347	[.468,1.153]
High Risk	.5936*	[.379,.929]	.4987*	[.289,.860]
Age at First Offense (Ref = 12 or younger)				
13-14	0.8991	[.780,1.036]	.7202**	[.565,.919]
15	0.7922	[.622,1.009]	.5817***	[.429,.788]
16	.7172*	[.555,.926]	.5061***	[.354,.723]
>16	.5581*	[.321,.969]	.2615***	[.159,.429]
Prior Misdemeanors (Ref= Zero or One)				
Two	0.9699	[.754,1.248]	0.8498	[.658,1.098]
Three or Four	0.8832	[.606,1.287]	0.7624	[.564,1.031]
Five or More	0.8509	[.505,1.432]	0.707	[.457,1.095]
Prior Felonies (Ref= Zero or One)				
Two Prior Felonies	0.832	[.665,1.041]	1.8986***	[1.419,2.540]
Three or Four Prior Felonies	0.7489	[.548,1.023]	3.1627***	[2.205,4.537]
Five or More Prior Felonies	0.7635	[.480,1.215]	3.0573***	[1.998,4.677]
Prior Violent Felony	1.049	[.894,1.231]	.6678**	[.520,.858]
Prior Sexual Felony	1.4406	[.921,2.252]	.2895*	[.110,.758]
Prior Secure Detention Placement	1.0351	[.846,1.266]	1.0108	[.894,1.143]
Prior Residential Commitment Placement	1.1329	[.832,1.543]	1.0655	[.751,1.512]
Current School Status (Ref=Graduated/GED)				
Currently Enrolled	0.8527	[.723,1.006]	1.1297	[.837,1.524]
Dropped Out/Expelled	.7850*	[.621,.992]	0.9419	[.663,1.338]
School Expulsion History (Ref = Zero)				

One Expulsion	0.9099	[.612,1.352]	0.7605	[.520,1.113]
2-3 Expulsions	1.3195*	[1.029,1.692]	0.9689	[.699,1.342]
4+ Expulsions	1.1898	[.907,1.560]	0.9931	[.749,1.317]
Antisocial Friends	0.8954	[.789,1.016]	0.8117	[.630,1.046]
One or More DCF Placements	0.8243	[.649,1.047]	0.9387	[.700,1.259]
History of Family Incarceration=1	0.8652	[.666,1.124]	1.0468	[.865,1.267]
Substance Use (Ref = Does not use substances)				
Uses Substances	0.8481	[.667,1.078]	0.8525	[.658,1.105]
Substance Use Causes Problems	0.7382	[.519,1.049]	0.6927	[.468,1.026]
Witnessed Violence at Home	1.0081	[.778,1.307]	1.1034	[.859,1.417]
Witnessed Violence in the Community	0.8635	[.626,1.192]	1.0631	[.883,1.280]
Diagnosed with MHP	1.1066	[.900,1.360]	0.9549	[.725,1.257]
Constant	.0319***	[.006,.172]	.0009***	[.000,.004]

Note: Odds-Ratios and 95% Confidence Intervals shown. Standard errors account for clustering of youth within 20 judicial circuits. Restitution model was re-estimated using Rare-Events Logistic due to the relatively rate incidence of restitution conditions. Results were substantively identical to those presented here.

Compared to the results for fees, there were far more significant differences in restitution observed. Male youth were just over twice as likely to be required to pay restitution as compared to females (OR = 2.09), whereas Black (OR = .652) and Hispanic (OR = .715) youth were less likely to have restitution due than White youth. Older youth were also more likely to be required to pay restitution once all other factors were considered (OR = 1.17), while youth who were oldest 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 = 1.95) as well as those with administrative offenses. 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 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.

Table 6: Association between Neighborhood Characteristics and Fees & Restitution (12,649 youth nested within 3,199 census tracts).

	Has Fees (0/1)		Total Fees (in dollars)		Has Restitution (0/1)		Total Restitution (in dollars)	
	OR	95% CI	b	95% CI	OR	95% CI	b	95% CI
Neighborhood-Level Measures								
% Residential Population Non-Hispanic Black	0.9956	[.990,1.001]	0.0843	[-.313,.482]	0.9938	[.987,1.000]	-1.6082*	[-2.899,-.317]
Concentrated Disadvantage Index	1.0944	[.930,1.288]	11.3471*	[.301,22.394]	1.0384	[.867,1.243]	28.699	[-7.175,64.573]
Immigrant Concentration Index	0.8521	[.700,1.037]	-5.6801	[17.324,5.963]	0.9916	[.816,1.205]	-29.9316	[-67.744,7.880]
Residential Instability Index	0.9168	[.826,1.018]	-5.6941	[13.486,2.098]	0.8959	[.792,1.013]	-9.7536	[35.058,15.550]

Note: Hierarchical Linear and Logistic Random-Effects Regression used to estimate the association between neighborhood conditions and fees and restitution while accounting for clustering of youth within neighborhoods. Models contain all individual-level variables shown in previous tables. For Logistic models odds-ratios and 95% confidence intervals shown. For these analyses, 44 youth were removed from the sample because requisite address information was not available (n = 12,649).

Table 6 presents the results of our multilevel analysis designed to assess the association between 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. The first is a hierarchical Logistic Regression model with random effects, capable of accounting for the nesting of the 12,649 youth in 3,199 neighborhoods (defined here as census tracts). The second is a hierarchical linear regression model in which the dollar amount assigned becomes the outcome of interest. Importantly, each model also included all individual- and case-level controls shown previously, as well as intercepts for each judicial circuit in the state to account for potential confounding factors. The results presented in Table 6 suggest that neighborhood characteristics are unlikely to be associated with the assignment of monetary sanctions, as no significant associations are observed. However, the second model shown suggests that our index of concentrated disadvantage was positively and significantly associated with the amount of fees assessed, however, this effect is relatively small in nature as a one unit increase in the index (which has a range of -2.45 to 4.10) was only associated with \$11 increase in fees. In terms of restitution, the proportion of neighborhood residents who were non-Hispanic Black was negatively association with the amount of restitution assessed, with an increase of 1% in the size of the Black population being associated with \$1.60 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).

Table 7: Effects of Fees and Restitution on Juvenile Recidivism

Readjudicated w/in 365 Days	Youth w/ Fees	Matched 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	Matched 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 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 males or for females remained (results shown in Appendix B and Appendix C,

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 7 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 process 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.

Table 8: 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.

Table 8 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. 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 9: Race-Specific Association between Fees, Restitution and Juvenile Recidivism

	Predicted Probabilities (holding all other variables at their mean)			First Difference (effect of fees/restitution)			Second Difference (difference in the effect between races)					
	White	Black	Hispanic	White	Black	Hispanic	White vs Black		White vs Hispanic		Black vs Hispanic	
No Fees	0.089	0.154	0.105	0.051*	0.032	-0.005	-0.019	p > .05	0.056	p < .05	0.038	p > .05
Fees	0.140	0.186	0.100									
No Restitution	0.096	0.154	0.106	-0.018	0.055*	-0.042	-0.073	p < .05	0.024	p < .05	0.096	p < .05
Restitution	0.078	0.209	0.065									

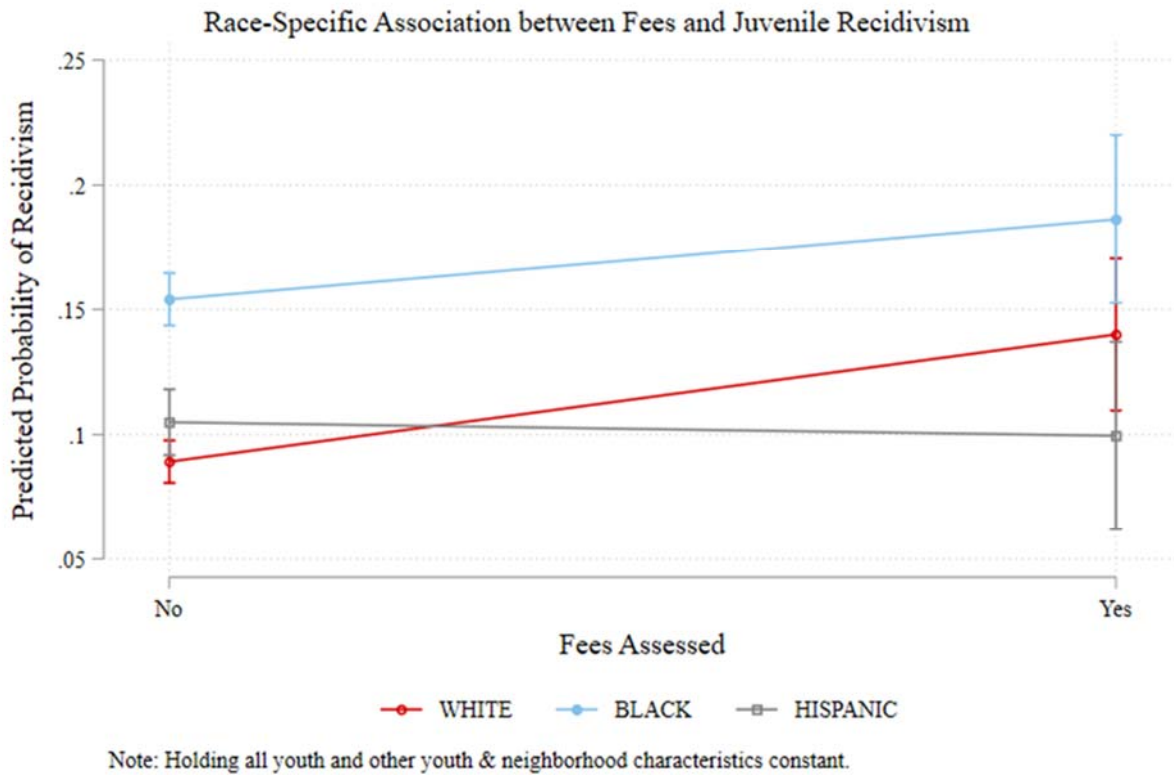


Figure 1: Race-Specific association between fees and juvenile recidivism.

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. These effects are presented graphically in Figure 2 and discussed in more detail below.

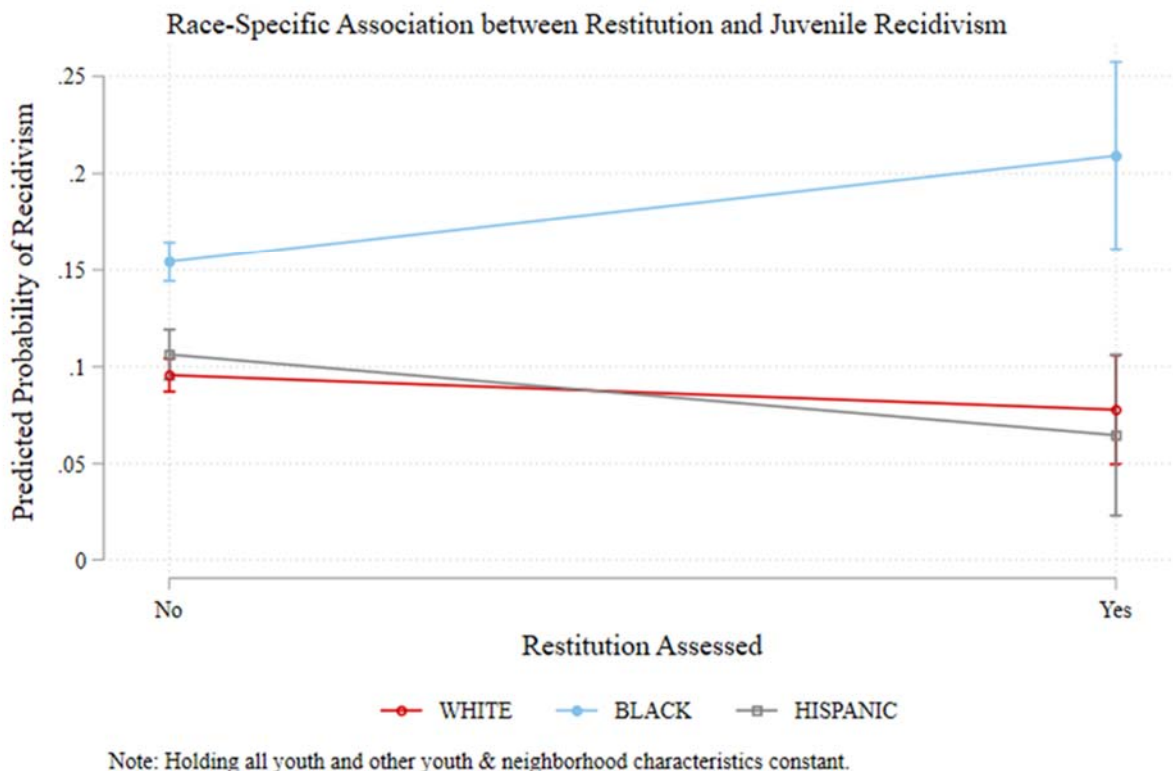


Figure 2: Race-Specific association between restitution and juvenile recidivism.

Survey of Youth in Residential Placement Results

As mentioned above, 45 youth in a single FDJJ residential program volunteered to complete a survey, developed by the project team, that was designed to assess whether they had justice system-related fees, fines, and/or restitution imposed (see Table 10). Regarding whether the youth understood that they/their family received monetary sanctions (item 1), 43.2% believed so, while one-third did not know. Court costs and restitution were endorsed as the most common type of monetary sanction (37.8% each, item 2), while only 15.6% believed they were required to pay fees for their residential placement. Only 22.2% of youth recalled anyone inquiring as to whether the youth/family had the money to pay (item 3), while over one-third did not know if they were asked and 37.8% stated they were never asked. 20% of youth indicated monetary

sanctions in excess of \$500 (item 4), while 37.8% believed monetary sanctions were required, but they did not know the amount(s). By far court costs were the most prevalent type of monetary sanction the youth believed he/his family were required to pay (40% of youth, item 5), though 40% of youth indicated they did not know what the money was paid for. Regarding the youth's perception of what could happen to them if they did not pay monetary sanctions (item 6), 11.1% believed they would not be able to seal or expunge records, 17.8% believed they would be under probation supervision longer, while 60.0% of youth believed nothing would happen if they did not pay. The majority of youth indicated they did not know if their family had actually paid any of the amount required by monetary sanctions (53.3%, item 7), 11.1% indicated they were still paying those sanctions, 13.3% had paid back the full amount, and 2.2% (1 youth) indicated less than half had been paid back.

Several items explored the youth's opinions regarding whether they should be required to pay monetary sanctions and the impact to them/their families if they would have to pay monetary sanctions. Regarding their attitude toward youth and/or families should have to pay court fees when charged with criminal offenses (item 8), 15.6% endorsed that they should because they broke the law, 33.3% that they should not if they do not have the money, 20% that they should not because they are under 18 years of age, and 31.1% believed they should have to pay but their families should not. Item 9 explored potential differences between people and places as victims of crime where 48.9% of youth believed they should have to pay back both places of business or people that they hurt, 8.9% people but not pay back places, 20% that they should not have to pay either, and 20% that they should not have to pay if they do not have the money. Regarding the impact to the youth and families of a hypothetical \$100 or more sanction (item 10), 31.1% believed it would not be hard to pay, 42.2% believed it would be manageable if allowed to pay

small amounts monthly, and 24.4% endorsed it being hard to pay for them/their families. As to whether the youth personally could pay \$100 or more of monetary sanctions (item 11), 13.3% endorsed that they would have to resort to criminal activity to get the money, 15.6% would have to put off paying other bills, 44.4% would simply pay it with little effect on them, and 37.8% would have to get the money from family or friends due to not having any way to earn income. Finally, the impact of same hypothetical \$100 or more sanction if the youth’s family would have to pay, 33.3% endorsed their families would not be able to pay other bills, 33.3% stated it would negatively impact their relationship with the youth, 24.4% believed it wouldn’t impact their families at all, and 28.9% endorsed their family having to borrow the money to pay.

Table 10: Monetary Sanction Survey of Youth in Residential Placement (n= 45)

	n	%
1. Were you or your family ever asked to pay money because you were in the juvenile justice system?	44	
Not asked to pay		22.70%
Yes asked to pay		43.20%
Do not know		33.30%
2. If asked to pay, what type of sanction?	44	
Court costs/Fees		37.80%
Restitution		37.80%
Fees for residential placement		15.60%
3. Asked if could pay?	44	
Yes		22.20%
No		37.80%
Do not know		37.80%
4. Amount asked to pay	44	
Not asked to pay		24.40%
Less than \$50		2.20%
\$50 to \$100		4.40%
\$100 to \$500		8.90%
More than \$500		20.00%
Asked to pay, do not know how much		37.80%
5. What was money paid for?	45	

Not asked to pay	22.40%
Court costs	40.00%
Probation (supervision, electronic monitoring, etc.)	20.00%
Testing (Substance abuse, DNA, STDs, etc.)	8.90%
Assessment or evaluation	4.40%
Treatment or counseling	13.30%
Cost of care or placement (juvenile facility, group home)	13.30%
Child support	0.00%
Diversion	0.00%
Expungement of records	2.20%
Fines or forfeitures	4.40%
Summary offenses	0.00%
Payments to municipal court (including traffic violations)	4.40%
Public defender/court-appointed attorney	6.70%
Other	0.00%
Do not know	40.00%
6. What happened if could not pay?	45
Not asked to pay	22.40%
Formally charged	4.40%
Sent to placement	4.40%
Stayed longer on probation	17.80%
Not allowed to expunge record	11.10%
Denied needed treatment	2.20%
Additional fines or fees	8.90%
Nothing	60.00%
7. Did you or your family ever pay any money?	45
Not asked to pay	20.00%
Less than half	2.20%
Paid back all	13.30%
Still paying	11.10%
Do not know	53.30%
8. Should have to pay when charged with crime?	45
Yes, we broke the law	15.60%
Not if do not have the money	33.30%
No because we were under 18 years old	20.00%
I should have to pay but family should not	31.10%
9. Restitution to people/places victimized?	45
Yes, pay back places of business or people hurt	48.90%
Pay people but not places of business	8.90%

No, should not have to pay victims		20.00%
Should not have to pay if do not have the money		20.00%
10. Impact of \$100 or more	44	
Not hard to pay		31.10%
Could pay small amount each month		42.20%
Hard to pay over \$100		24.40%
11. Personally had to pay \$100 or more	45	
Would engage in crime to pay		13.30%
Have to put off paying other bills		15.60%
Not affect me much		44.40%
Borrow since I have no way to make money		37.80%
12. Family had to pay \$100 or more	45	
Not be able to pay other bills on time		33.30%
Negative impact on relationship with family		33.30%
No real impact		24.40%
Borrow from someone else (other family/friends)		28.90%

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, 2016), 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 worthy of discussion. Specifically, those youth residing in areas with greater concentrated disadvantage, while not more likely to be assigned fees, had higher amounts of fees assigned. Additionally, those youth living in neighborhoods with a higher proportion of the

population being classified as non-Hispanic Black had a lower amount of restitution assigned (though were no more or less likely to be assigned restitution). Regarding the concentrated disadvantage finding, it appears that those youth/families potentially least likely to be able to pay assigned fees are more likely to be assigned a higher amount of fees. This coincides 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. Levying greater amounts of fees on those in the neighborhoods with the highest levels of concentrated disadvantage is surely a set-up for a low return on investment.

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, 2016). 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.

The survey results for forty-five youth placed in a FDJJ residential facility provided indication of several relevant findings. First, a rather large proportion of youth, roughly one-third, did not endorse knowing very much regarding whether they received monetary sanctions, the type of sanction, amount of sanction, or whether any of that money was actually paid. This calls into question the extent of a rehabilitative component to monetary sanctions, as such sanctions are less likely to affect future offending behavior if the youth has no/limited idea if they even received sanctions or if his family paid any of them. Secondly, over 43% of the youth surveyed indicated that they did indeed receive monetary sanctions, which is much higher than found in the quantitative portion of the analysis presented above. However, the youth surveyed in a residential facility are a unique subset of youth with either extensive and/or violent criminal histories (e.g., Baglivio, Wolff, Piquero et al., 2016), and are not representative of the average juvenile entering the juvenile justice system in Florida, which may explain this discrepancy. Third, while nearly 18% of surveyed youth believed they would be under probation supervision longer if they would/could not pay monetary sanctions, 60% of the youth endorsed that “nothing” would happen to them for failure to pay. This again supports the conclusion that monetary sanctions are unlikely to evidence positive/prosocial impact youths’ behavior.

Fourth, regarding the youth’s endorsed beliefs of who should be liable for paying monetary sanctions when a youth breaks the law, one-third believed he should have to pay but his family should not, while another one-third (nearly) endorsed that they should not have to pay if they did not have the money to do so. Over 15% believed they were responsible to pay because they “broke the law”. Furthermore, nearly 49% of the youth endorsed the need to pay back both business and people who they have harmed, whereas only 4 of the 45 youth (8.9%) believed people should be paid back but not businesses. Three survey items (items 10, 11, and 12)

assessed the youth's belief regarding the impact that having to pay at least \$100 would have on their families, themselves if they had to personally pay, and their relationship with their families. Importantly, 13.3% of the youth (6 of the 45) endorsed that they would have to engage in criminal activity if they personally had to pay the sanctions, nearly 38% would have to borrow the money, and just under 29% believed their family would also have to borrow the money to pay. One third of the youth endorsed that their relationship with their family would be negatively impacted (very upset, mad, or disappointed) if family had to pay \$100 or more in sanctions. As problems with family and family relationships are among the most important risk factors for juvenile offending (e.g., Bonta & Andrews, 2016), and, specifically, serious and violent juvenile delinquency in Florida (e.g., Baglivio et al., 2014), it seems counterproductive to put further strain on families by imposing unnecessary monetary sanctions.

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, as residing in neighborhoods characterized by a higher degree of concentrated disadvantage was found to be associated with being assigned higher amounts of fees. 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. 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. Lastly, while our study was aided by the rich information provided by the sample of youth who participated in the interviews, data limitations precluded female youth from being surveyed.

Conclusion

The current study added to the limited prior work on the association of juvenile monetary sanctions on reoffending (Piquero & Jennings, 2006). 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. Survey responses show confusion and concern regarding fines and youths (or parents’) ability to pay them.

References

- Apel, R. J., & Sweeten, G. (2010). Propensity score matching in criminology and criminal justice. In *Handbook of quantitative criminology* (pp. 543-562). Springer, New York, NY.
- Austin, P. C. (2009). Balance diagnostics for comparing the distribution of baseline covariates between treatment groups in propensity-score matched samples. *Statistics in medicine*, 28(25), 3083-3107.
- Austin, P. C. (2011). An introduction to propensity score methods for reducing the effects of confounding in observational studies. *Multivariate behavioral research*, 46(3), 399-424
- Baglivio, M. T. (2009). The assessment of risk to recidivate among a juvenile offending population. *Journal of Criminal Justice*, 37, 596–607.
- Baglivio, M. T., & Jackowski, K. (2013). Examining the validity of a juvenile offending risk assessment instrument across gender and race/ethnicity. *Youth Violence and Juvenile Justice*, 11(1), 26–43.
- Baglivio, M. T., Jackowski, K., Greenwald, M. A., & Howell, J. C. (2014). Serious, violent, and chronic juvenile offenders: A statewide prevalence and prediction of subsequent recidivism using risk and protective factors. *Criminology & Public Policy*, 13(1), 1- 34.
- Baglivio, M. T., Wolff, K. T., Epps, N., & Nelson, R. (2017). Predicting adverse childhood experiences: The importance of neighborhood context in youth trauma among delinquent youth. *Crime & Delinquency*, 63(2), 166-188.
- Baglivio, M. T., Wolff, K. T., Piquero, A. R., Bilchik, S., Jackowski, K., Greenwald, M. A., & Epps, N. (2016). Maltreatment, child welfare, and recidivism in a sample of deep-end crossover youth. *Journal of Youth and Adolescence*, 45, 625-654.

- Baird, C., Healy, T., Johnson, K., Bogie, A., Dankert, E. W., & Scharenbroch, C. (2013). *A comparison of risk assessment instruments in juvenile justice*. Madison, WI: National Council on Crime and Delinquency.
- Bazemore, G., & Umbreit, M. (1995). Rethinking the sanctioning function in juvenile court: Retributive and restorative responses to youth crime. *Crime & Delinquency*, *41*, 296-316.
- Beckett, K., & Harris, A. M. 2011. On cash and conviction: Monetary sanctions as misguided policy. *Criminology and Public Policy*, *10*, 505–537.
- Bonta, J., & Andrews, D. A. (2016). *The psychology of criminal conduct* (6th ed.). New York, NY: Routledge.
- Brookhart, M. A., Schneeweiss, S., Rothman, K. J., Glynn, R. J., Avorn, J., & Stürmer, T. (2006). Variable selection for propensity score models. *American journal of epidemiology*, *163*(12), 1149-1156.
- Cook, T. D., Steiner, P. M., & Pohl, S. (2009). How bias reduction is affected by covariate choice, unreliability, and mode of data analysis: Results from two types of within-study comparisons. *Multivariate Behavioral Research*, *44*(6), 828-847.
- Coulton, C. J., Crampton, D. S., Irwin, M., Spilsbury, J. C., & Korbin, J. E. (2007). How neighborhoods influence child maltreatment: A review of the literature and alternative pathways. *Child Abuse & Neglect*, *31*, 1117-1142.
- Craig, J. M., Wolff, K. T., & Baglivio, M. T. (2021). Resilience in context: The association between neighborhood disadvantage and cumulative positive childhood experiences among justice-involved youth. *Crime & Delinquency*, *67*(11), 1647-1675.
- Fines and Fees Justice Center and Juvenile Law Center. (2022). *Dreams deferred: The impact of juvenile fees on Florida's children, families, and future*. Available online from

https://jlc.org/sites/default/files/attachments/2022-01/Dreams%20Deferred%20Florida%20Juvenile%20Fees%20Report%202022_0.pdf.

- Harris, A. 2016. *A pound of flesh: Monetary sanctions as a punishment for the poor*. New York, NY: Russell Sage. (American Sociological Association's Rose Monograph Series).
- Ho, D. E., Imai, K., King, G., & Stuart, E. A. (2007). Matching as nonparametric preprocessing for reducing model dependence in parametric causal inference. *Political analysis*, 15(3), 199-236.
- Imbens, G. W. (2004). Nonparametric estimation of average treatment effects under exogeneity: A review. *Review of Economics and statistics*, 86(1), 4-29.
- Juvenile Law Center. 2016. *Debtor's prison for kids? The high cost of fines and fees in the juvenile justice system*. Juvenile Law Center. Philadelphia, PA.
- Lee, J., & Little, T. D. (2017). A practical guide to propensity score analysis for applied clinical research. *Behaviour Research and Therapy*, 98, 76-90.
- Lunt, M. (2014). Selecting an appropriate caliper can be essential for achieving good balance with propensity score matching. *American journal of epidemiology*, 179(2), 226-235.
- Piquero, A.R., & Jennings, W.G. 2016. Research note: Justice system-imposed financial penalties increase the likelihood of recidivism in a sample of adolescent offenders. *Youth Violence and Juvenile Justice*, 15, 325-340.
- Rosenbaum, P. R., & Rubin, D. B. (1983). The central role of the propensity score in observational studies for causal effects. *Biometrika*, 70(1), 41-55.
- 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.

- Ruback, B., & Bergstrom, M. 2006. Economic sanctions in criminal justice: Purposes, effects, and implications. *Criminal Justice and Behavior*, 33, 242–273.
- Sampson, R.J., & Wilson, W.J. 1995. Toward a theory of race, crime, and urban inequality. In J. Hagan & R.D. Peterson (Eds.), *Crime and Inequality*, pp. 37–56. Stanford, CA: Stanford University Press.
- Smith, D. J. (2007). The foundations of legitimacy. In T. R. Tyler (Ed.), *Legitimacy and criminal justice; An international perspective* (pp. 30-58). New York: Russell Sage Foundation.
- Smith, L. E., Mozaffar, N. S., Feierman, J., Parker, L., NeMoyer, A., Goldstein, N. E., Spence, J. M. H., Thompson, M. C., and Jenkins, V. L. (2022). Reimagining restitution: New approaches to support youth and communities. Available: <https://www.jlc.org/resources/reimagining-restitution-new-approaches-support-youth-and-communities>.
- Teague, R., Mazerolle, P., Legosz, M., & Sanderson, J. (2008). Linking childhood exposure to physical abuse and adult offending: Examining mediating factors and gendered relationships. *Justice Quarterly*, 25, 313-348.
- Thibaut, J., & Walker, L. (1975). *Procedural justice: A psychological analysis*. Hillsdale, NJ: John Wiley & Sons.
- Tyler, T. (2003). Procedural justice, legitimacy, and the effective rule of law. In M. Tonry (Ed.), *Crime and Justice* (pp. 283-357). Chicago, University of Chicago Press.
- UCLA Criminal Justice Law Review. 2020, Volume IV. Entire Special Issue.
- Winokur-Early, K., Hand, G. A., & Blankenship, J. (2012). *Validity and Reliability of the Florida Positive Achievement Change Tool (PACT) Risk and Needs Assessment*

Instrument: A Three-Phase Evaluation (Validation Study, Factor Analysis, Inter-Rater Reliability). Tallahassee, FL: Justice Research Center.

Wolff, K. T., Baglivio, M. T., & Piquero, A. R. (2017). The relationship between adverse childhood experiences and recidivism in a sample of juvenile offenders in community-based treatment. *International Journal of Offender Therapy and Comparative Criminology*, *61*(11), 1210-1242.

Zhang, Z., Kim, H. J., Lonjon, G., & Zhu, Y. (2019). Balance diagnostics after propensity score matching. *Annals of translational medicine*, *7*(1).

APPENDIX A

Costs and Fees in the Juvenile Justice System

Survey of Types of Costs and Fees Assessed

We are working to examine the system that requires young people or their families to pay costs and fees when youth are in the juvenile justice system. This brief survey will help us collect more information to help us in our work.

We will not share your name or any personal details about your situation.

Thank you for taking our survey!

Please answer the below questions by circling the best response that matches your situation or thoughts:

1. **Were you or your family ever asked to pay money because you were in the juvenile justice system?**
 - A. Me and my family were NOT asked to pay any fees, restitution, or monetary sanctions to the court or juvenile justice system
 - B. Me and my family WERE asked to pay either fees, restitution, or monetary sanctions to the court or juvenile justice system
 - C. I do not know

2. **If you or your family were asked to pay money, what type of monetary sanctions were you asked to pay (please check all that apply)?**
 - A. Court costs/court fees
 - B. Restitution
 - C. Fees to the juvenile justice system for residential placement
 - D. We did not have to pay anything

3. **Did a judge or anyone else ever talk with you about whether you or your family had enough money to pay?**
 - A. Yes
 - B. No
 - C. I do not know

4. **How much money were you or your family asked to pay?**
 - A. We were not asked to pay any money
 - B. Less than \$50
 - C. Between \$50 and \$100
 - D. Between \$100 and \$500
 - E. More than \$500
 - F. We were asked to pay, but I do not know how much

5. **If you know what the money paid for, please check all that apply here.**
- A. We were not asked to pay
 - B. Court Costs
 - C. Probation (Supervision, Electronic Monitoring, etc.)
 - D. Testing (Substance Abuse, DNA, STD, etc.)
 - E. Assessment or Evaluation
 - F. Treatment or Counseling
 - G. Cost of Care or Placement (Juvenile facility, group home, etc.)
 - H. Child Support
 - I. Diversion
 - J. Expungement of Records
 - K. Fines or Forfeitures
 - L. Summary Offenses
 - M. Payments to Municipal Court (Including Traffic Violations)
 - N. Public Defender/Court-Appointed Attorney
 - O. Other (please specify): _____
 - P. I do Not Know
6. **If you or your family could not pay this money, what happened to the you (please check all that apply)?**
- A. We were not asked to pay
 - B. Formally charged in the juvenile justice system
 - C. Sent to placement
 - D. Stayed longer in placement
 - E. Spent longer on probation
 - F. Not allowed to seal or expunge my juvenile record
 - G. Denied needed treatment
 - H. Got additional fines or fees
 - I. Nothing
7. **Did you or your family ever pay any of the money you were asked to pay?**
- J. We were not asked to pay anything
 - A. We paid back less than half of what we were asked to pay
 - B. We paid back all of what we were asked to pay
 - C. We are still paying for it
 - D. I do not know
8. **Do you think that youth or their families should have to pay court fees when charged with crimes?**
- A. Yes, we broke the law
 - B. Not if we do not have the money
 - C. No because we were under 18 years old
 - D. I should have to pay, but my family should not have to pay because it was my fault

- 9. Do you think that youth should have to pay restitution to the people/places we victimized (such as paying the store for something we stole, or paying a person for money we stole from them)?**
- A. Yes, should have to pay back places of business or people we hurt
 - B. We should have to pay back people we victimized but not places of business
 - C. No, we should not have to pay victims
 - D. We should not have to pay if we do not have the money
- 10. How would you describe the impact if you or your family had to pay \$100 or more of fees or restitution for your offenses?**
- A. It would not be hard to pay
 - B. We would be able to pay if we could pay a small amount each month
 - C. It would be hard for us to pay over \$100
- 11. If I had to personally pay \$100 or more of fees or restitution I would (check all that apply):**
- A. I would have to engage in some type of criminal activity to get the money
 - B. I would have to put off paying other bills that I have, such as bills related to my housing, food, or transportation needs
 - C. I would just pay it and it would not affect me that much
 - D. I would have to get the money from family or friends since I don't have any way to make money
- 12. If my family had to pay \$100 or more, they would be impacted by (check all that apply):**
- A. They would not be able to pay other bills on time
 - B. It would negatively affect my relationship with them (for example they would be very upset, mad, or disappointed in me)
 - C. It wouldn't really impact my family at all
 - D. They would have to borrow it from someone else (other family or friends)

Thank you for taking our survey!

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

Matching Covariates	Panel A: Unmatched Samples				Panel A: Matched Samples			
	Fees (n = 1,282)		No Fees (n = 11,411)		Fees (n = 1,226)		No Fees (n = 1,226)	
	M	M	% Bias	t	M	M	% Bias	t
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 C: 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)		Restitution(n =544)		No Restitution (n = 544)	
	M	M	% Bias	t	M	M	% Bias	t
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.