San Francisco Department of Children, Youth and Their Families
Justice Services Youth Impact Report

A Preliminary Investigation of Changes in Justice Outcomes

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Executive Summary

In 1991, San Francisco made a groundbreaking commitment to its community by amending the city charter to establish a dedicated Children's Fund. This commitment ensured that vital services for the city's children, youth, and families would have guaranteed funding through property tax revenues, making San Francisco the first city and county in the United States to do so. The Children's Fund was overwhelmingly renewed by voters in 2000 and again in November 2014, this time for 25 years and renamed the Children and Youth Fund. The Department of Children, Youth and Their Families (DCYF) administers this powerful investment for the city.

The San Francisco Charter outlines the goals for expenditures from the Children and Youth Fund and the planning process for the DCYF. One goal of the Charter is for DCYF to ensure that children and youth with the highest needs receive the maximum benefit from the Fund, with equity as a guiding principle of the funding process. Also, to the fullest extent possible, the Charter requires that funds be distributed equitably among services for all age groups, from infancy to transition aged youth. In 2016, DCYF released a community needs assessment that identified several overlapping priority populations, with justice system-involved youth and young adults being among the principal groups.

The AIR mission is to generate and use rigorous evidence that contributes to a better, more equitable world.

AIR's work in justice systems is committed to transformative change that dismantles structural disparities.

In 2018, DCYF began contracting with the American Institutes for Research® (AIR®) to provide evaluation services for youth and young adults served through its Justice Services Service Area and Strategies. With this report, AIR presents initial impact findings focused on youth and justice outcomes. To estimate impacts, AIR used a quasi-experimental, matched comparison design in which each youth who entered DCYF-funded programs within the Justice Services Service Area and Strategies was matched to a similar youth who did not participate in any DCYF programming. We leveraged data on youth characteristics and prior justice system involvement to perform the match. The validity of this approach assumes that the data used for matching capture all relevant and systematic differences between youth who enter services and youth who do not, including possible selection biases governing program participation. Once matched, our analyses aim to reveal differences in justice outcomes related to the overall impact of the DCYF Justice Services portfolio. We also estimated the effects for key subgroups, including by strategy area, severity of the triggering arrest, racial/ethnic background, gender, and age.

When examining outcomes across the entire study population, the results demonstrated a slight increase (7%) in the likelihood of program participants to experience rearrest compared with youth who did not receive any DCYF services, although there were no differences between the groups in the likelihood of receiving a petition and the number of petitions received or in the number of rearrests. Our population-specific analyses revealed that some subgroups of youth demonstrated reduced system contact, whereas others experienced greater system contact following participation in DCYF Justice Services. Specifically,

- youth with 707(b) felony-level triggering arrests, Black youth, female youth, and relatively younger youth (ages 16 or younger) tended to experience greater future juvenile or criminal justice system contact than their matched comparison groups, and
- Latinx youth and relatively older youth (ages 17 or older) tended to experience less future juvenile or criminal justice system contact than their matched comparison groups.

Quasi-experimental, matched comparison designs are valid for estimating differences in program impacts when two related key criteria are met: (a) the matching covariates effectively control for systematic differences between the treatment and comparison groups, and (b) selection bias is appropriately accounted for as either the matching covariates account for selection into groups or there is no selection bias (Smith & Todd, 2005). In this study, we caution that our findings do not represent causal effects given the lack of data necessary to ensure the inclusion of all key covariates driving selection into the treatment group (Loughran et al., 2015). Our results more likely highlight that the disparities driven by structural inequities experienced by subgroups of young people (e.g., young Black youth) persist despite best efforts from programs to ameliorate these challenges. To better equate treatment and comparison groups, future work would need to include a thorough evaluation of how young people enter Justice Services programming. For an even more robust impact study that removes selection bias, we suggest working with program providers to exploit any plausible random variation in the referral process to ensure accounting for all covariates related to program participation. Furthermore, additional study into the perspective of participants and caregivers could help identify additional strategies to measure and control for the influence of unobserved factors.

Introduction

In 1991, San Francisco made a groundbreaking commitment to its community by amending the city charter to establish a dedicated Children's Fund. This commitment ensured that vital services for the city's children, youth, and families would have guaranteed funding through property tax revenues, making San Francisco the first city and county in the United States to do so. The Children's Fund was overwhelmingly renewed by voters in 2000 and again in November 2014, this time for 25 years and renamed the Children and Youth Fund. The Department of Children, Youth and Their Families (DCYF) administers this powerful investment for the city.

The San Francisco Charter outlines the goals for expenditures from the Children and Youth Fund and the planning process for the DCYF. One goal of the Charter is for DCYF to ensure that children and youth with the highest needs receive the maximum benefit from the Fund, with equity as a guiding principle of the funding process. Also, to the fullest extent possible, the Charter requires equitable distribution of funds among services for all age groups, from infancy to transition aged youth. In 2016, DCYF released a community needs assessment that identified several overlapping priority populations, with justice system-involved youth and young adults being among the principal groups.

The American Institutes for Research (AIR) is conducting a mixed-methods evaluation of the DCYF Justice Services Service Area and Strategies portfolio to examine program participation, implementation, service coordination, outcomes, and impact. A focus of the evaluation activities is on DCYF's capacity to enhance equity of access to supports that enable thriving.

To date, AIR has provided DCYF with two participation reports (the first in December 2019 and the second in December 2020) and one implementation report (in December 2022). In spring 2021, AIR also supported the Close Juvenile Hall Working Group with a review of case files for youth in custody and an analysis of quantitative trends for youth in detention. Finally, each year since 2019, AIR has supported DCYF and the San Francisco Juvenile Probation Department (JPD) with a trend analysis required for their state Juvenile Justice Crime Prevention Act reporting.

In this report, we share findings from our first evaluation of DCYF Justice Services Service Area and Strategies portfolio impacts. For this report, we focus on youth—defined as young people who were 18 years old or younger when they first entered the juvenile justice system—and justice outcomes. In future reports, we will examine DCYF program impacts on young adult participants and expand to a broader array of outcomes.

For the impact analysis, we employed a matched comparison design using propensity score matching. A matched comparison design enables us to compare differences in outcomes between groups that are statistically similar to each other with respect to important characteristics, such as prior justice system involvement and demographics. AIR used this approach to equate treatment and comparison youth to

the extent possible with the available covariates and limited data regarding selection into programming. To create the matched groups, AIR used propensity score matching. Propensity score matching assigns a probability, or a propensity, for a given person to be in the treatment group based on their observable characteristics, with the goal of efficiently controlling for confounds between groups. AIR matched justice-involved youth who entered DCYF-funded programs within the Justice Services Service Area and Strategies within 6 months of an arrest with statistically similar youth who did not enter DCYF-funded programming of any kind during the evaluation period (July 2018 to June 2022). The estimation strategy leveraged data from the DCYF Contract Management System, JPD, and the San Francisco District Attorney's (DA's) Office on youth background and justice participation continuing through adulthood (defined as 24 years old or younger at the start of the evaluation period).

When examining outcomes across the entire study population, the results demonstrated a slight increase (7%) in the likelihood of program participants to experience rearrest compared with youth who did not receive any DCYF services, although there were no differences between the groups in the likelihood of receiving a petition and the number of petitions received or in the number of rearrests. Our population-specific analyses revealed that some subgroups of youth demonstrated reduced system contact, whereas others experienced greater system contact following participation in DCYF Justice Services Service Area and Strategies. Specifically,

- youth with felony-level triggering arrests, Black youth, female youth, and relatively younger youth (ages 16 or younger) tended to experience greater future juvenile or criminal justice system contact than their matched comparison groups, and
- Latinx youth and relatively older youth (ages 17 or older) tended to experience less future juvenile or criminal justice system contact than their matched comparison groups.

Our quasi-experimental, matched comparison design is a valid tool for estimating differences in program impacts in lieu of randomization and when available data can adequately equate groups on key factors, including accounting for possible selection biases. However, the capacity of any estimation strategy to accurately identify causal findings depends on the ability of the variables in the matching estimator and regression controls to absorb baseline differences between groups. It is unclear from available data how justice-involved young people in San Francisco receive referrals to the various Justice Services programs, and why some youth do or do not decide to participate in programming. Differences in how and why youth participate in programming may reflect baseline differences between our groups that are not observable in the administrative data we analyze. To address this uncertainty, we recommend a careful study of the referral process. At the same time, we recommend that—when possible—future impact analyses leverage randomized assignment between youth who are offered the ability to receive DCYF Justice Services programming and youth who are not, such as through the administration of a lottery for any oversubscribed programs. Such a design will remove the influence of unobserved factors and provide the county with the unbiased treatment effect of DCYF Justice Services Service Area and Strategies program participation.

The organization of the remainder of this report is as follows: The background section summarizes the relevant literature on youth thriving, particularly among those with prior justice system contact as well as the theoretical underpinning for DCYF Justice Services Service Area and Strategies programming. Next, we describe the Justice Services Service Area and Strategies programming that DCYF funds. In the methodology section, we provide the rationale and details on the analytical strategy. In the findings section, we present the results of the analysis in detail. We conclude with an interpretation of the findings and a discussion of the limitations of the analysis. In the final section, we also discuss our suggestions for next steps that could facilitate a more thorough understanding of the unbiased impacts of programs.

Background Context for Youth Development and Justice Programming

The science of adolescence indicates that roughly between ages 13 and 25, young people develop critical skills, attitudes, and behaviors necessary to support their ability to become independent and successful adults. As a part of this transitional period, adolescents' brains are rapidly changing and are especially sensitive to risk and reward (National Academies of Sciences, Engineering, and Medicine, 2019). For this reason, research indicates that providing young people with developmentally appropriate and affirming experiences and relationships can be necessary to ensure each young person's ability to thrive. (For more information, see the Center for the Developing Adolescent.) Culturally relevant and responsive opportunities for development also mitigate the impacts of stress and trauma that some young people may experience (Howell, 2003; Osher et al., 2020).

Unfortunately, young people do not experience equitable access to meaningful development opportunities (National Academies of Sciences, Engineering, and Medicine, 2019). Inequitable and inadequate access to rich, consistent, and supportive opportunities and relationships may explain why more than five million youth and young adults in the United States are not in school or working or are disconnected (Measure of America, n.d.). Disconnected youth and young adults often are referred to as opportunity youth in recognition of their strengths, assets, and potential to thrive when provided with the right supports (Allen et al., 2014). Of the more than five million opportunity youth and young adults, approximately 700,000 were arrested in the United States in 2019 (Measure of America, n.d.).

Opportunity youth and young adults as well as young people who are justice involved are a diverse group, but several **structural factors** contribute to their disconnection. For instance, opportunity youth and young adults are more likely to come from low-income families; have a disability; or identify as Black, Indigenous, and Latinx (Mendelson et al., 2018; Offiong et al., 2020). Limited data collection tools may inhibit accurate identification of LGBTQ+ young people who are not in school or working and impacted by the justice system, yet many researchers expect them to be disproportionately affected by disconnection as well because LGBTQ+ people are more likely to experience discrimination, harassment, and prejudice (Almeida et al., 2009; Kosciw et al., 2016; Measure of America, 2018; Mendelson et al., 2018; Sears & Mallory, 2011; Snapp et al., 2015). Moreover, the COVID-19 pandemic

further exacerbated inequities among disconnected young people because the need for resources (technology, mental health support services, and childcare) grew alongside shrinking resource availability (Equitable Futures, 2020; Margolius et al., 2020; National 4-H Council, 2020).

This backdrop highlights DCYF's imperative to create and expand **equitable pathways for engagement** to promote well-being, learning, development, and overall community vitality. The literature shows that effective engagement and reengagement must recognize youth and young adult strengths and prioritize opportunities, resources, and relationships that promote leadership, belonging, and agency in a developmentally appropriate manner while attending to cultural relevance and responsiveness (Berk et al., 2018).

Unfortunately, when young people garner the attention of the system vis-à-vis law enforcement, service delivery administered through the justice system can compound rather than alleviate harm (Aizer & Doyle, 2013; Stemen, 2017). Detention episodes often disrupt school, work, and prosocial interactions (Harding & Harris, 2020). And the negative consequences of system contact interact with structural inequity in ways that magnify harm for marginalized populations (Glaser, 2015; Hockenberry & Puzzanchera, 2019; Kochel et al., 2011; Petersilia, 1985; Raphael & Stoll, 2013; Western & Sirois, 2019). On the other hand, community-based service delivery, including diversion or minimal supervision for low- to mid-level offenses, often provides the best context for optimal outcomes (Bhatt et al., 2023; Heinze et al., 2016; Lipsey, 2009; Triplett & Upton, 2015).

Whatever the service delivery style, the evidence base on approaches to enhancing well-being for youth and young adults who have had contact with the justice system emphasizes a therapeutic approach that integrates at least four types of programming (Elliott et al., 2020; Lipsey, 2009; Lipsey et al., 2010):

- **Cognitive behavioral treatment programs** is a form of psychological treatment that focuses on changing thinking patterns to change behavior (APA). A recent study using a randomized controlled trial design in Chicago showed that cognitive behavioral therapy, combined with steady employment, reduced arrests for shooting and homicides among participants referred to treatment by outreach workers (Bhatt et al., 2023).
- **Mentorship, coaching, and family-based counseling** use a social ecological framework to build promotive relationships (Dahlberg & Krug, 2006). For instance, credible messenger mentoring pairs youth with people who have backgrounds and characteristics similar to the youth they serve (e.g., similar justice involvement) to provide support via relationships grounded in authentic shared experiences and understanding to elevate the cultural responsiveness of the programming (Lopez-Humphreys & Teater, 2020; Lynch et al., 2018).
- **Skill development** includes academic training, internships, and job placement programming. Programs that connect education to training and the job market, as well as job search and placement supports, can result in greater employment rates and higher earnings (Kluve et al., 2016).
- **Restorative justice** emphasizes repair and rehabilitation over deterrence-based punishment by engaging community stakeholders into the policing process to holistically address responsibility,

harm, and misbehavior (Wilson et al., 2017). Restorative approaches can support young people in their transition to adulthood by encouraging accountability and growth and fostering promotive relationships and inclusion rather than exclusion (Scott & Steinberg, 2010; Zimring & Tanenhaus, 2014).

The Department of Children, Youth and Their Families

Originally established in 1991 as the Children's Amendment to the City Charter under the stewardship of the DCYF, voters overwhelmingly renewed the Children's Fund in 2000. Renewal occurred again in November 2014 for 25 years with renaming as the Children and Youth Fund. The fund increased from a 3% to a 4% property tax funding stream, incorporated a broadened set of services that includes disconnected young adults ages 18–24, and established a 5-year planning cycle for spending from the fund. The most recent funding cycle covers fiscal years 2018–2023.

With equity as a guiding principle in their funding process, DCYF commits to ensuring that San Francisco's most vulnerable children, youth, and families receive maximum access to and benefit from services. In 2016, DCYF performed a community needs assessment that included an equity analysis for which low-income individuals, disadvantaged minority groups, and young adults were the defined priority populations. Justice-involved youth were identified as a priority. Other priorities identified included English learners; foster youth; LGBTQ+ youth; youth with special needs; teen parents; youth experiencing homelessness; undocumented youth; children of incarcerated parents; academically underperforming youth and youth disconnected from school; and youth with high exposure to violence, abuse, or trauma.

In response to the needs assessment, DCYF devised a portfolio consisting of nine service areas. Although the Justice Services service area has an explicit focus on justice-involved youth, additional programs in the portfolio may serve this population, and youth may be involved in multiple programs within and across the portfolios.

- **Justice Services** programming supports a continuum of services for justice-involved youth and disconnected young adults. The aim of the service area is to prevent further youth engagement in the justice system and reduce rates of youth recidivism through connection to adult allies, culturally relevant programming, ongoing case management, access to positive skill-building activities, and whole family engagement. Services are provided in partnership with the juvenile and adult justice systems and take place in system facilities as well as community-based settings.
- **Education Supports** focus on providing educational opportunities to help students who are struggling academically by supporting academic achievement in core subjects, postsecondary enrollment and success, and academic and life skills assistance through educational transition periods.
- **Emotional Well-Being** addresses the impact of adverse childhood experiences on the emotional and mental well-being of children, youth, and their families. Programs are coordinated with the Department of Public Health's Child, Youth, and Family System of Care and young adult Behavioral

Health System of Care to identify strategies to connect more children, youth, and families to appropriate services to support their emotional well-being.

- **Enrichment, Leadership, and Skill Building** focuses on providing opportunities for children, youth, and disconnected young adults to learn specialized skills, build positive personal identities, and improve their leadership abilities through project- and curriculum-based programming. Specifically, funding for these programs comes from a provision in the City Charter for sponsoring youth-initiated projects.
- **Family Empowerment** includes a range of programming intended to create multiple pathways for families and caregivers to access support services. Programs support parents and caregivers in their efforts to advocate on behalf of their families, learn about their children's social-emotional development, access supports to meet basic needs, and build community with other parents and caregivers.
- **Mentorship** funds programs that provide opportunities for middle school girls, children of incarcerated parents, and disconnected young adults to connect with caring adult mentors. The programs connect youth with caring adults who work with them during an extended period of time to provide motivation, guidance, and support, with the ultimate aim of achieving positive goals, exploring new possibilities, and increasing youth self-esteem and confidence.[1]
- **Out of School Time** supports year-round comprehensive afterschool programming in school- and community-based settings, providing opportunities for children and youth from low-income and/or working families to engage in meaningful and relevant learning that fosters their curiosity, builds their social-emotional skills, and creatively reinforces and expands on what they learn during the school day. These programs also provide opportunities for youth to be physically active, enjoy healthy foods, explore the world around them, and develop relationships with caring adults and peers.
- **Youth Workforce Development** supports a continuum of tiered career exposure and work-based learning opportunities that are developmentally appropriate and meet the needs of youth. This continuum encompasses a range of services, including opportunities for early career introductions, job skills training, exposure to the private sector and career-oriented employment, and targeted programming for youth with high needs all delivered with cultural competence using a youth development approach.

Exhibit 1 presents program enrollment and the percentage of justice-involved youth participants in each program during the evaluation period. Thirty percent of justice-involved youth during the evaluation period received services from DCYF-funded Justice Services programming. Approximately 44% of justice-involved youth received services from any DCYF-funded programming. As described earlier, DCYF may benefit from future research describing the program referral process to better

[1] Connective Services within the Mentorship portfolio also supports youth who may have had contact with the justice system or who program staff believe are "at-risk" for justice system involvement. For example, youth may have been in contact with probation and despite having no recent contact, are still in need of services and support. Because of this looser referral mechanism between Connective Services and justice contact, we do not include young people who have had contact with Connective Services alone (and not also Justice Services) in our treatment sample. When examining outcomes for young people in Connective Services alone, results are essentially equivalent to what we find for young people in Justice Services.

understand why the majority of justice-involved youth do not participate in Justice Services programming. Understanding who is and is not served, and why, can help broaden DCYF's reach, as well as help explain differences in program impacts.

Exhibit 1. DCYF Service Area Enrollment Statistics for Justice-Involved Youth in San Francisco, July 2018 to June 2022

DCYF service areas	Number of justice-involved youth participants, July 2018 to June 2022	Percentage of justice-involved youth who receive any services out of all justice-involved youth, July 2018 to June 2022
Justice Services	1,121	29.8%
Education Supports	430	11.4%
Emotional Well-Being	603	16.0%
Enrichment, Leadership, and Skill Building	549	14.6%
Family Empowerment	119	3.2%
Mentorship	252	6.7%
Out of School Time	184	4.9%
Youth Workforce Development	544	14.5%
Any DCYF services	1,670	44.4%

Note. DCYF = Department of Children, Youth and Their Families. The number of justice-involved youth from July 2018 to June 2022 is 3,763. The counts of participants may include the same youth across multiple service areas; therefore, the categories are not mutually exclusive.

Justice Services Programs

DCYF developed its Justice Services programming to support youth (ages 10–17) and young adults (ages 18–24) who are justice involved or at risk for justice involvement by providing participants with a continuum of care through voluntary programming offered upon their initial contact with the juvenile or criminal legal system or through other referral means. DCYF collaborates with five main justice partners to inform their strategy for meeting the needs of youth and the city:

- San Francisco Juvenile Probation Department (JPD)
- San Francisco Adult Probation Department
- San Francisco District Attorney's Office (DA)
- San Francisco Sheriff's Office
- San Francisco Superior Court

In 2020–21, DCYF distributed approximately $12 million in annual funding to support its programs together with its partners. The funding is intended to impact justice-involved youth and young adults to

- bring an end to their involvement with the justice system,
- develop their life skills,
- help them engage positively with the community, and
- help them develop positive relationships with government officials and systems.

The Justice Services that DCYF funds include 33 programs funded across seven strategy areas. The aims of each strategy are as follows (the names of the programs under each strategy area are in Appendix A):

- The **Community Assessment and Resource Center (CARC)** serves as an alternative to juvenile hall and is an intake center for youth based on a number of criteria, such as a young person's risk assessment score and prior history of justice system contact; whether the referring incident resulted in injuries to the victim; if the young person brandished a weapon during the referring incident and/or made threats to the victim or witnesses; and whether the young person was assessed as combative, emotionally unstable, or under the influence. Youth do not engage in CARC if they reside outside San Francisco or attend school outside San Francisco, are referred for a 707(b) offense, have an active warrant(s) or are otherwise currently engaged with JPD (i.e., have an active citation, petition, are on formal or informal probation, or have petitions for violent or 707(b) offenses), or if they are considered inappropriate for CARC because of inebriation, prostitution, trafficking, or other causes[2]. After arrival, youth meet with an on-site probation officer (until August 2021 when the probation officer program ended), a psychologist, and a case manager. Youth who choose to work with their case manager receive support and services that continue beyond their involvement with the justice system. Youth can be directed to CARC at various stages along the justice continuum, including starting from an arresting officer, JPD, the DA, or defense attorneys.
- **Cultural Programming** provides culturally relevant and responsive opportunities for the development of youth of color, in particular, Black and Latinx youth who account for a disproportionate share of those justice involved in and beyond San Francisco (Office of Juvenile Justice and Delinquency Prevention, 2019). This strategy seeks to leverage culturally based approaches to help reduce the chance of further engagement with the juvenile or adult criminal justice systems. Services include case management, mentorship, skill-building opportunities, educational reengagement, access to resources, and life skills workshops. Cultural Programming is provided for young people through community-based organizations. Young people may be referred to cultural programming if they are justice involved or engaged in offending behaviors but not justice involved by probation, the DA, the courts, local schools, child welfare system centers, defense attorneys, or other community-based organizations. Young people also may request direct referrals to Cultural Programming.
- **Detention-Based Services** provide optional programming to youth and young adults in detention at San Francisco Juvenile Hall. These programs engage participants in positive activities that aim to help them see beyond their current circumstances. Detention-Based Services must be flexible and offer services to participants regardless of their lengths of stay in detention. Although these programs operate only in detention settings, they may seek to connect young people to services upon exit. Services include enrichment programming, skill- and knowledge-building activities, and building resiliency. Example activities are the Art of Yoga, Beat Within (focused on writing and visual art), and various peer-support groups, each designed to build self-awareness and self-

[2] JPD and CARC are collaborating to create more expansive criteria such that all youth who are cited can be referred to CARC.

regulation. All youth in juvenile hall had the option to participate in Detention-Based Services, and between 2018 and 2022, roughly 60% of detained youth participated in services.[3]

- **Girls' and Young Women's Programming** provides focused development and programming for girls and young women, including case management, mentorship, skill-building opportunities, educational reengagement, access to resources, and life skills workshops. Similar to Cultural Programming, Girls' and Young Women's Programming is provided for young people through community-based organizations. Young people may be referred to Girls' and Young Women's Programming by probation, the DA, the courts, local schools, child welfare system centers, defense attorneys, or other community-based organizations. Young people also may request direct referrals to Girls' and Young Women's Programming.
- **Multi-Service** uses a wraparound approach to integrate an array of services that may otherwise be outstanding in a youth's continuum of services, including case management, supportive services, mentorship, skill-building opportunities, educational reengagement, access to resources, and life skills workshops. Similar to Cultural Programming and Girls' and Young Women's Programming, the Multi-Service strategy supports young people through community-based organizations. Young people may be referred to Multi-Service by probation, the DA, the courts, local schools, child welfare system centers, defense attorneys, or other community-based organizations. Young people also may request direct referrals to the Multi-Service strategy.
- **Miscellaneous** is a catchall category for a variety of services for many of the most vulnerable youth in San Francisco, including through the Center on Juvenile and Criminal Justice (CJCJ), Catholic Charities Boys and Girls Homes, and Alternative Family Services. CJCJ oversees referrals to the Detention Diversion Advocacy Program (DDAP), which come from defense attorneys, courts, parents, or community-based service providers. DDAP provides intensive case management to repeat offenders who are at high risk to reoffend and have highly specialized needs, such as substance abuse, educational difficulties, or gang involvement. Catholic Charities Boys and Girls Homes (which closed in late spring 2021) served adjudicated youth between 13 and 17 years old. Alternative Family Services provides Intensive Services Foster Care homes specifically to juvenile justice-involved youth ordered to out-of-home placement by the San Francisco Juvenile Court.
- **Young Adult Court** uses a problem-solving model to serve young adults involved with the system by developing an individualized Wellness Care Plan that may address such factors as mental health treatment, education, employment, parenting skills, substance use treatment, and housing support. The target age ranges of young people receiving Young Adult Court services is 18–25. Because this report focuses primarily on the experiences of people below age 18, young people receiving Youth Adult Court services are not in our sample.

[3] Since the onset of COVID-19 in spring 2020, youth admitted to juvenile hall must remain on the Quarantine Unit for 10 days, pursuant to guidance from the Department of Public Health. During that time, they cannot have in-person contact with anyone outside the facility, and they do not receive services.

The largest of DCYF's strategies are CARC and Detention-Based Services. Exhibit 2 shows the enrollment of justice-involved youth across each strategy.

Exhibit 2. Justice Services Strategy Area Program Count and Enrollment Statistics of All Justice-Involved Youth in San Francisco by Strategy, July 2018 to June 2022

Strategy	Program count	Number of justice-involved youth participants, July 2018 to June 2022	Percentage of justice-involved youth who receive any services out of all justice-involved youth, July 2018 to June 2022
Community Assessment & Resource Center	1	427	11.3%
Cultural Programming	9	245	6.5%
Detention-Based Services	6	406	10.8%
Girls' and Young Women's Programming	7	195	5.2%
Miscellaneous	3	87	2.3%
Multi-Service	6	246	6.5%
Young Adult Court	1	50	1.3%
Any justice services	33	1,121	29.8%

Note. The unduplicated number of youth who were justice involved from July 2018 to June 2022 was 3,763. Youth may participate in multiple programs and multiple strategies. For this exhibit, the counts within strategies are unduplicated but are duplicated across strategies (i.e., youth are counted only once within each strategy but may be counted multiple times if they participate in multiple strategies).

Justice Services Program Provision

Since early in the 2018–2023 funding cycle, programs reported challenges reaching the number of youth that they anticipated serving during the first fiscal year of the funding cycle, perhaps because of declines in youth involvement with the San Francisco criminal legal system during the same period[4] as well as other reasons reported by community-based organizations, as reported in prior AIR reporting (Conway-Turner et al., 2022). As a result, in November 2018, DCYF leadership lifted restrictions for grantees and allowed them to support any justice-involved youth or youth displaying similarly risky behaviors until June 30, 2019, using their existing grants. DCYF also broadened the set of allowable referral sources to include the courts, the Public Defender, and high school wellness centers.

By February 2019, DCYF leadership further indicated that the Multi-Service, Girls' and Young Women's Programming, and Cultural Programming strategies could reallocate up to 75% of their grant funds projected to serve justice-involved youth to instead support Youth Workforce Development or Enrichment, Leadership, and Skill Building and the then-newly created Connective Services (a Mentorship Service Area strategy). With this reallocation, programs were encouraged to provide programming aligned with the prior Justice Services commitments to a broader pool of youth who may not have a formal justice referral but who display behaviors that suggest they require similar support (e.g., challenges with school suspension or a history of offenses).

Many service providers reported an appreciation for this expanded opportunity to support youth in need in AIR's report of Justice Services and Mentorship Services implementation (Conway-Turner et al.,

[4] Per JPD, juvenile arrests in San Francisco declined 63% from 2018 to 2021.

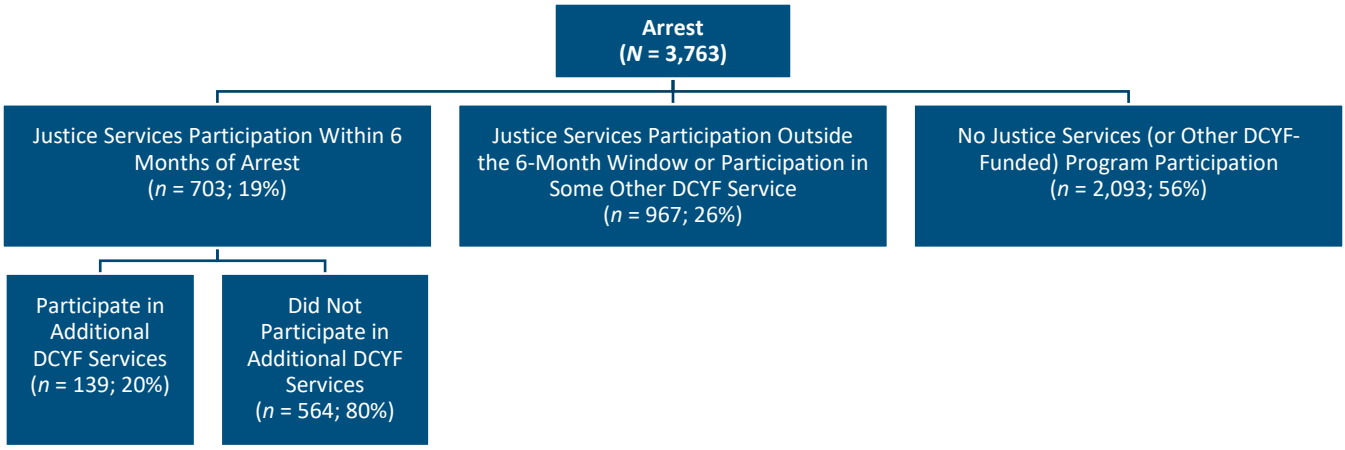
2022), although some also noted continued challenges navigating policy, particularly among limited coordination across providers.

Although programs funded within the DCYF Justice Services program area serve youth who are not justice involved, the focus of the analysis in this report is on youth who were justice involved.

Participation of Justice-Involved Youth in DCYF Justice Services

All justice-involved youth are eligible to participate in DCYF-funded Justice Services, but some youth participated in other DCYF program areas (in conjunction or not with Justice Services), and some did not participate in DCYF services at all. Exhibit 3 illustrates the flow of justice-involved youth through programming following their arrest. More than half of justice-involved youth (56%) did not participate in any DCYF services, Justice Services or otherwise. Because these youth did not receive any DCYF services, they were not included in our treatment sample and were instead included in our comparison sample. Participation in Justice Services programming follows from referrals, as described earlier. Prior AIR reporting (Conway-Turner et al., 2022) showed that there is no central referral source or process to Justice Services programming. DCYF-funded programs may reach more justice-involved youth through a centralized referral process.

Exhibit 3. The Percentage of Justice-Involved Youth Who Participate in Justice Services Following Arrest, July 2018 to June 2022



Note. n is the number of individuals. For individuals who participate outside the 6-month window or in some other DCYF service, 43% (418) participated in Justice Services but not within 6 months of arrest, and 57% (549) participated in some other DCYF services but not in Justice Services. Also, for the 6-month observation window, some participated in services prior to arrest.

Our final treatment sample consisted of youth who received Justice Services, either with or without additional DCYF-funded services, within 6 months of their arrest (703 youth constituting 19% of all youth arrests). Youth who participated in Justice Services programming outside the 6-month window (418) or who participated in only other DCYF-funded programs excluding Justice Services (549) were not included in our sample as either treatment or comparison. We restricted the treatment sample using a 6-month time frame because participation in Justice Services outside this window was unlikely to have been triggered by that arrest. For the final treatment sample (703), the median length

between the triggering arrest date and the first participation in Justice Services following the triggering arrest was 13 days. Our final comparison sample consisted of youth who looked statistically similar to our treatment sample with respect to observable variables except one difference: youth in the comparison sample did not participate in any DCYF-funded programs.[5]

Methodology

The gold standard for estimating program impacts is a randomized controlled trial (Imbens & Rubin, 2010), which is common in medical research, for example, but challenging to implement in the study of social issues. When executed successfully, randomization of assignment to either treatment or control groups ensures that any differences measured between the outcomes of the two groups result solely from the treatment. Randomized controlled trials are known as experimental designs.

In this study, we sought to evaluate the impact of participation in DCYF-funded Justice Services as the treatment condition. However, as is the case for many social programs of interest, services were not allocated to young people randomly. In the absence of randomization, researchers can choose from a host of quasi-experimental designs that aim to approximate an experimental design. In a quasi-experimental design, researchers estimate treatment effects (i.e., the effect of a program) by first accounting for and then removing the influence of any underlying differences between individuals in the treatment and comparison groups. To account for underlying differences, quasi-experimental designs depend on a series of assumptions about the source of any baseline systematic differences.

In the present study, the quasi-experimental approach that we used is a propensity score matched design. In this design, justice-involved youth who participate in DCYF Justice Services are matched to similar comparison youth who did not participate in services, using a statistical model that weighs many factors (such as the severity of offense and past justice involvement) that are observed and thought to be relevant to the outcomes. The underlying differences also are known as baseline differences because they are measured before the treatment is administered (i.e., the baseline). With propensity score matching, AIR aimed to mitigate the influence of baseline differences on the relative outcomes of the treatment and comparison groups. For observed baseline differences, propensity score matching presents the added benefit that we can assess the degree to which these differences have been removed. For youth with similar propensity scores, baseline covariates should be similarly distributed across the treatment and comparison groups. We can compare the standardized mean difference (SMD) of a covariate (the difference in means across groups divided by the standard deviation in the treatment group) to examine whether the groups are balanced. An SMD of 0.1 or less suggests adequate covariate balance between groups (Austin, 2011). If matches surpass an SMD of 0.1 across covariates, these

[5] The team also ran analyses by restricting the treatment sample using a 3-month time frame. The results were mostly unchanged, with some small adjustments in the subgroups.

covariates need to be controlled for in subsequent analyses. See Appendix B for more details about the rationale for propensity score matching the diagnostics used in the present study.

Propensity score matching cannot tell us about the unobservable differences between the treatment and comparison groups. To the extent that large systematic differences result from the differential selection of individuals into treatment and comparison groups (e.g., noncentralized referrals to programming), propensity score matching is not well suited to address this concern because of a lack of available data for the matching estimator. This means it is difficult to fully address selection biases in our sample (Loughran et al., 2015) and understand any underlying differences between justice-involved youth who participate in DCYF services and those who do not. Consequently, baseline differences likely exist between the groups that we could not account for in our analysis.

In 12 of the 50 programs represented in our interview sample for the implementation report, a wide variety of sources of referrals existed. Young people receive referrals to DCYF-funded programs from the child welfare system, health care or public health agencies, judges and Young Adult Court, adult or juvenile probation, the Sheriff's Department, the DA, San Francisco Unified School District (SFUSD) or other local schools, and other community-based organizations.[6] All staff interviewed indicated that they obtained referrals from multiple sources. The two most mentioned referral sources were the JPD and local schools. In some cases, youth can request services directly.

Because many of the strategy areas had similar referral strategies, we also examined differences in outcomes within strategy areas or groups of strategy areas. This allowed us to narrow analysis to groups with similar referral processes (i.e., group together Cultural Programming, Girls' and Young Women's Programming, and Multi-Service, which are all programs with solely community-based rather than facility-based service structures). Therefore, in some ways, the capacity of the matching to remove systematic differences between the treatment and comparison groups may differ by strategy area. Further, although programming is voluntary for young people, the environments in which programming is offered (e.g., within a confined setting such as Detention-Based Services) may affect the extent to which young people perceive programming to be voluntary and may contribute to concerns about selection bias into programs.

Data and Measures

To examine the effect of DCYF-funded Justice Services, AIR compiled data from three major sources in San Francisco:

- DCYF Contract Management System (CMS)
- JPD AutoMon Case Management System
- DA DAMION Case Management System

[6] The interviews as a part of the implementation report spanned youth and young adult ages. As a result, the adult-serving systems were relevant to that report but not the present reporting.

The sample included in our analysis was justice-involved youth identified using San Francisco JPD data. All youth younger than 25 years old as of July 1, 2018, and with a juvenile arrest between August 2004 and June 2022 were defined as justice-involved youth. We then merged on the DCYF CMS data to identify justice-involved youth who participated in DCYF Justice Services programming, justice-involved youth who participated in DCYF-funded programs other than DCYF Justice Services, and justice-involved youth who did not participate in any DCYF-funded programs between July 1, 2018, and June 30, 2022. Next, we merged on the San Francisco DA data to monitor youth who were arrested as juveniles into adulthood or up to age 24. (See Appendix C for more details on data processing.)

Because arrest and participation dates vary across youth, the follow-up period available for each young person also varied. For instance, a young person who was arrested and began participating in services in 2018 had a longer follow-up period than a person who was arrested and began participating in services in 2021, which will impact the extent to which we can capture recidivism across all young people. As described in the Analysis Methods section, we accounted for this variability in our matching and regression models.

Using these data sources, AIR constructed measures of (a) youth participation in DCYF-funded programming in the Justice Services portfolio as well as the other portfolios, (b) youth contact with the juvenile justice system that preceded DCYF Justice Services participation (referred to as the triggering arrest[7]), and (c) youth subsequent engagement with either the juvenile or criminal justice system in San Francisco after the triggering arrest.

Analysis Methods

To estimate the impacts of the suite of DCYF-funded Justice Services programs on participant justice outcomes, we use a two-stage procedure to (a) construct a comparison group using a propensity score matching model and (b) estimate the relative outcomes between DCYF participants and the comparison group using a regression model that accounted for any remaining differences in observed characteristics.

Propensity Score Matching

With propensity score matching, a researcher aims to identify a statistically similar comparison group instead of using a more rigorous assignment mechanism, such as randomization. The goal of propensity score matching is to create balance across the treatment and comparison group covariates. Because the goal is to create balance across groups rather than provide model parameter estimates, collinearity of covariates is not of concern in these models (Stuart, 2010). Accordingly, propensity score models should include any and all covariates based on the research team's knowledge of variables that will influence the outcome of interest (Bergstra et al., 2019). Thus, we worked with DCYF and JPD to identify variables that relate to our outcome of interest: recidivism.

[7] A triggering arrest is the arrest immediately preceding the first DCYF Justice Services participation (i.e., if there were multiple arrests in the 6 months preceding first DCYF Justice Services participation, the arrest closest in time was the triggering arrest).

We created a profile for each DCYF Justice Services participant based on the first offense just prior to service participation (the triggering arrest) and matched them to the profile of a nonparticipant offense that occurred within 6 months of (before or after) the participant's triggering arrest. The time frame was set large enough to have an adequate pool of potential matches but limited to ensure that arrests occurred during similar time frames to account for changes in sociopolitical factors across the evaluation period (e.g., practices and priorities for law enforcement, calls for police reform). We matched without replacement, meaning that once a nonparticipant and their offense was matched to a DCYF participant's triggering arrest, that offense would not be used a second time. However, because matching occurred at the offense level, any other nonparticipant's offense records could be matched to remaining participants' triggering arrest records. We created separate matched samples for Justice Services participants overall and for each strategy area.

The logistic model used to estimate propensity is in Equation 1:

$$\log\left(\frac{\hat{p}_i}{1-\hat{p}_i}\right) = \beta_0 + \beta_1 \boldsymbol{x_i} \quad (1)$$

In this model, $\log\left(\frac{\hat{p}_i}{1-\hat{p}_i}\right)$ represents the propensity score for each individual *i* as predicted by a vector of individual characteristics, $\boldsymbol{x_i}$, including information on the triggering/matched offense and prior justice involvement as well as demographics. Justice-involvement variables include the following:

- The severity of the triggering/matched offense measured with four categories:
  - A felony categorized under Welfare and Institutions Code 707(b) (Such offenses are "strike offenses" and carry special weight in terms of detention and disposition.)
  - A non-707(b) felony
  - A misdemeanor[8]
  - "Other," including infractions, warrants, court orders, holds, placement return/failure, home detention or probation violations, and status offenses or a missing classification on the offense severity
- The severity of the most severe prior arrest (using the same four categories)
- The number of prior arrests
- The number of prior petitions
- Risk assessment scores (including an indicator variable to denote missing risk assessment score)
- The time frame of the offense (e.g., triggering arrests for DCYF participants were matched to similar offense records for nonparticipants that occurred within 6 months of the triggering arrest) to help equate the environment in which youth were arrested
- Demographic characteristics:
  - Age (at the time of triggering/matched arrest)

[8] Misdemeanors included those classified as 707(b) and non-707(b).

- Race/ethnicity
- Gender
- Youth county of residence (in San Francisco county, outside San Francisco county, or missing residence information)

Program Preliminary Impact Model

Our main outcome of interest was recidivism.[9] We defined recidivism as youth who were rearrested or received a petition,[10] as well as the number of rearrests or petitions, across the evaluation period (July 2018–June 2022) within San Francisco County. We included any arrests or petitions that occurred any time within the time span of the evaluation after the triggering arrest as outcomes in our analyses.

Our analyses examined program impacts on recidivism within the sample of participants and nonparticipants identified via the matching procedure described previously. We used linear regression analyses to examine how participating in Justice Services programming related to recidivism outcomes, controlling for justice-related and demographic characteristics. We also included a fixed effect of time in our impact analyses to account for differences in the timing of when youth were arrested (e.g., youth arrested in 2018 had a longer follow-up period compared with youth arrested in 2021). We used the model specified in Equation 2:

$$y_i = \beta_1 + \beta_2 JS_i + \beta_3 \boldsymbol{x_i} + \boldsymbol{\sigma_q} + \varepsilon_{iq} \quad (2)$$

In this model,

- y_i represents each recidivism outcome for individual *i* following the first arrest in the analysis period (beginning July 2018).
- JS_i represents participation in Justice Services programming and equals 1 for participants.
- We controlled for $\boldsymbol{x_i}$, representing the same vector of justice-involvement and demographic characteristics used to create the matched sample (severity of offending, prior history of offenses and petitions, risk assessment scores, timing of arrest, race/ethnicity, gender, age, county of residence).
- $\boldsymbol{\sigma_q}$ represents a vector of quarter indicator variables for the quarter of the triggering arrest. These indicators account for quarter-to-quarter differences in outcomes that impact both participants and nonparticipants.
- The error term, ε_{iq}, captures any variation that remains unexplained by the parameters in the model. We used cluster-robust standard errors clustered on the matched pair to reflect dependence between the matches.

[9] DCYF is committed to understanding the impact of justice involvement on multiple aspects of the lives of young people. AIR acquired student-level data from SFUSD on annual and cumulative grade point average, attendance, and suspensions to examine the relationship between DCYF Justice Services participation and education-related outcomes. However, given the limited number of young people who were both justice involved and enrolled in SFUSD during our evaluation period, we could not generate matched groups with sufficient covariate balance or with sufficient sample sizes for regression analyses ($n \leq 30$). As such, we did not conduct analyses on student-level education outcomes.

[10] A petition is a charging document that details what the young person is accused of and asks for the court to become involved in the case.

In this model, a statistically significant estimate for β_2 would indicate that participation is associated with a significant change in participants' outcomes for the indicator examined.

Analysis of Impact for Strategy Areas and Populations of Interest

We examined differences across strategy areas and five key criteria: severity of the triggering arrest, racial/ethnic background, gender, age, and county of residence.

Strategy Area Analyses. To examine differences in program effects by strategy area, we present effects for youth in Detention-Based Services, CARC, or three combined program areas offering a similar community-based support mechanism for youth diverted or returning from detention—the Cultural Programming, Girls' and Young Women's Programming, and Multi-Service Programming strategy areas. We refer to these programs as community-based support programs. There were not enough participants in the Miscellaneous strategy area to estimate effects.[11] For strategy area subgroup analyses, we re-ran the matching estimator to produce new matched groups for each strategy area separately. We ensured that the subgroups demonstrated appropriate covariate balance. The same analytic model was run for each strategy area using matched data.

Target Population Analyses. We estimated impacts within target populations by subsetting the overall sample by key criteria. To examine outcomes by the severity of the triggering arrest, we re-ran the analytic model for matched pairs within each triggering arrest category: 707(b) felony (e.g., serious or violent felony), non-707(b) felony, misdemeanor, and other. Similarly, we re-ran the analytic model within each racial/ethnic category—Black, Latinx, and other—and by gender—male or female. In consultation with our DCYF and JPD partners, we examined the outcomes for youth in three age categories: youth ages 14 and younger (or mostly middle school aged), youth ages 15–16 (or mostly high school aged), and youth ages 17–20 (potentially out of high school).

Matched Comparison Sample

In Exhibit 4, we summarize the measured baseline factors, such as prior offending history and demographic characteristics, as well as the recidivism outcomes that we will analyze, after propensity score matching. We present summary statistics for the justice-involved DCYF Justice Services participants and the comparison group of nonparticipants who were matched to the participants using propensity scores. As demonstrated by the means and percentages reported in Exhibit 4, participants and the comparison group of matched nonparticipants were similar in measures of justice system involvement (prior offending and recidivism risk, arrest severity, and recidivism measures), as well as demographic characteristics after matching. The SMD for nearly all covariates was less than the recommended threshold of 0.10 (see Appendix B for further details on the matching diagnostics). After matching, more participants than nonparticipants resided in San Francisco County, and nonparticipants were missing county residence information more than participants. There may be a greater proportion of San Francisco County residents in the participant group because Justice Services programming

[11] The matched sample had 30 participants, but our threshold for inclusion was greater than 30.

operates within San Francisco County. The matching estimator did not produce matches for 290 participants and 1,759 nonparticipants.

Exhibit 4. Descriptive Statistics of the Analytic Sample of Justice-Involved Youth, July 2018 to June 2022

Variables used in the analytic models		Youth participating in DCYF-funded Justice Services (and potentially other DCYF-funded services)	Matched records for youth (did not participate in any DCYF-funded services)
Baseline characteristics			
YLS score	*Mean* (*SD*)	6.63 (8.06)	6.23 (7.72)
Missing YLS scores	*n* (%)	187 (45.3%)	174 (42.1%)
Number of prior arrests	*Mean* (*SD*)	1.29 (2.70)	1.12 (2.32)
Number of prior petitions	*Mean* (*SD*)	0.70 (1.55)	0.63 (1.37)
Triggering arrest category: 707(b) felony[a]	*n* (%)	89 (21.5%)	100 (24.2%)
Triggering arrest category: Non-707(b) felony	*n* (%)	132 (32%)	149 (36.1%)
Triggering arrest category: Misdemeanor	*n* (%)	147 (35.6%)	124 (30%)
Triggering arrest category: Other[b]	*n* (%)	45 (10.9%)	40 (9.7%)
Prior arrest category: 707(b) status felony[a]	*n* (%)	75 (18.2%)	59 (14.3%)
Prior arrest category: Non-707(b) status felony	*n* (%)	50 (12.1%)	50 (12.1%)
Prior arrest category: Misdemeanor	*n* (%)	20 (4.84%)	21 (5.08%)
Prior arrest category: Other[b]	*n* (%)	268 (64.9%)	283 (68.5%)
Age at triggering arrest	*Mean* (*SD*)	16.3 (1.42)	16.3 (1.36)
Triggering arrest date	*Mean* (*SD*)	October 21, 2019 (475 days)	October 18, 2019 (508 days)
Race/ethnicity: Black	*n* (%)	182 (44.1%)	193 (46.7%)
Race/ethnicity: Latinx	*n* (%)	147 (35.6%)	143 (34.6%)
Race/ethnicity: Other/unknown	*n* (%)	84 (20.3%)	77 (18.6%)
Gender: Male	*n* (%)	304 (73.6%)	309 (74.8%)
Gender: Female	*n* (%)	109 (26.4%)	104 (25.2%)
County of residence: San Francisco	*n* (%)	211 (51.1%)	177 (42.8%)
County of residence: Outside San Francisco	*n* (%)	145 (35.1%)	182 (44.1%)
County of residence: Missing	*n* (%)	57 (13.8%)	54 (13.1%)
Justice outcome measures			
Rearrested	*n* (%)	138 (33.4%)	116 (28.1%)
Number of rearrests	*Mean* (*SD*)	0.72 (1.34)	0.86 (2.48)
Future petition filed	*n* (%)	82 (19.9%)	77 (18.6%)
Number of future petitions filed	*Mean* (*SD*)	0.38 (0.98)	0.51 (1.64)
Sample sizes			
Number of participants and nonparticipants who had contact with the juvenile justice system, July 2018 to June 2022	*n*	413	413[c]

Note. YLS = Youth Level of Service.

[a] 707(b) felony offenses are juvenile strike offenses and include a range of those that are serious and/or violent charges, such as homicide, rape, and robbery. [b] Other offenses include infractions, warrants, court orders, holds, placement return/failure, home detention or probation violations, and status offenses or a missing classification on the offense severity. [c] The 413 unique arrest records used for comparison include 334 unique (i.e., unduplicated) individuals. See Exhibit C2 in Appendix C for counts of how many nonparticipants' arrest records were used to match to participant arrest records.

Youth in both groups demonstrated low risk for recidivism based on average Youth Level of Service (YLS[12]) risk assessment scores (Campbell et al., 2014), with roughly half of the youth missing YLS scores. On average, youth were previously arrested approximately one time and received petitions for approximately three quarters of those arrests. Most triggering arrests were categorized as misdemeanors (including offenses such as battery, petty theft, vandalism) or non-707(b) felonies (including any felonies not otherwise listed in the 707(b) code). Most prior arrests were categorized as other (including status offenses, infractions, warrants, court orders, holds, placement return/failure, home detention or probation violations, and status offenses).

Participants and nonparticipants also displayed similar demographic characteristics after matching. A young person's triggering arrest occurred when they were about 16 years old. Close to half of the analytic sample identified as Black, close to one third of the analytic sample identified as Latinx, and most youth were male. Roughly half of the sample resided in San Francisco County at the time of their triggering arrest.

About one third of the participants and nonparticipants were rearrested during the evaluation period, with less than one rearrest on average across all youth. About one fifth of the youth received a petition along with their arrest during the evaluation period, with less than one petition on average across all youth.

Findings

Across our evaluation time period (July 2018–June 2022), 3,763 young people (ages 10–25 years old) were arrested within San Francisco; of these, approximately one third were rearrested within the evaluation period. In partnership with JPD and other San Francisco justice-serving agencies, DCYF designed a network of community-based supports for young people with prior justice contact designed to mitigate the likelihood of future contact and enable thriving. With this study, AIR examined the effects of these programs. When examining outcomes across our entire study population, results demonstrated a slight increase (7%) in the likelihood of program participants to experience rearrest compared with youth who did not receive DCYF services, although there were no differences between the groups in the likelihood of receiving a petition and the number of petitions received, nor in the number of rearrests. Our population-specific analyses revealed that some subgroups of youth demonstrated reduced system contact, whereas others experienced greater system contact following participation in DCYF Justice Services. Specifically, youth with 707(b) felony-level triggering arrests, Black youth, female youth, and relatively younger youth (ages 16 or younger) tended to experience greater future juvenile or criminal justice system contact than their matched comparison groups. In

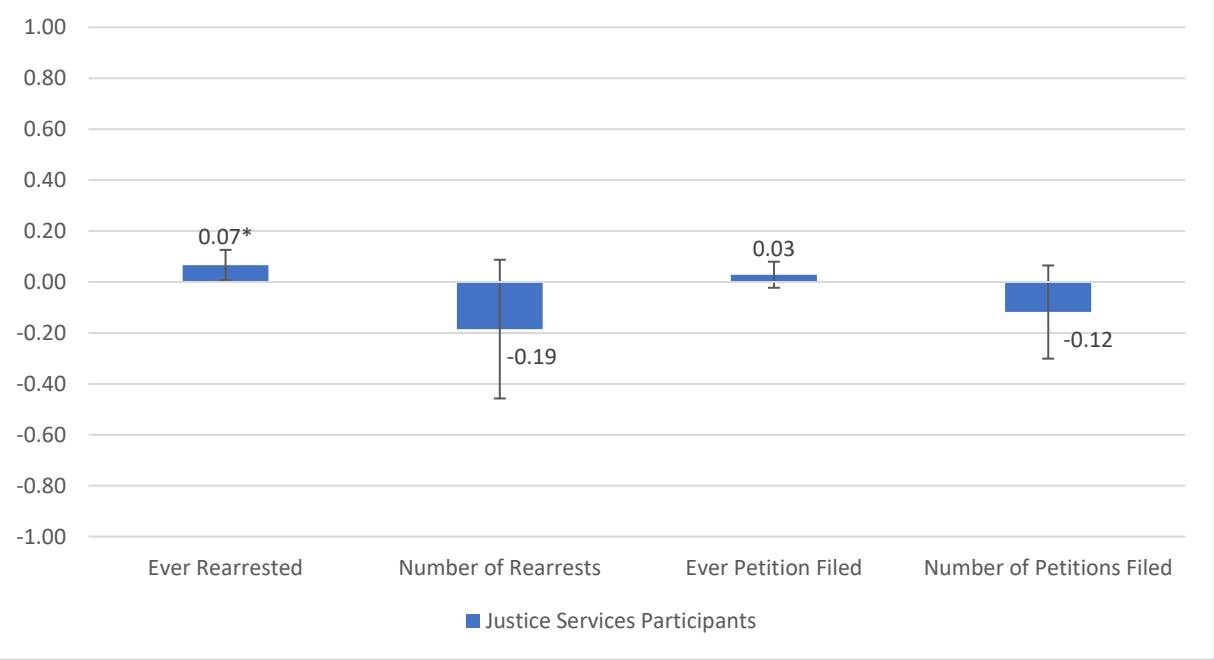
[12] The YLS, or Youth Level of Service/Case Management Inventory, is a commonly used, proprietary risk assessment tool grounded in the theory of the risk-need-responsivity model. As such, the YLS estimates a young person's criminogenic risk to assess for the level of services needed, how to target criminogenic needs addressed through specific service provision, and their responsivity toward services to maximize the impact of treatment (Campbell et al., 2014).

contrast, Latinx youth and relatively older youth (ages 17 or older) experienced less future system contact compared with their matched groups.

Findings for Justice Services Participants

Overall, DCYF Justice Services program participants experienced slightly more rearrests than comparison youth but otherwise did not experience greater levels of future justice involvement. Exhibit 5 shows the average differences in the study outcome measures.

Exhibit 5. The Impact of DCYF-Funded Justice Services Program Participation on Future Justice Involvement Outcomes, July 2018 to June 2022



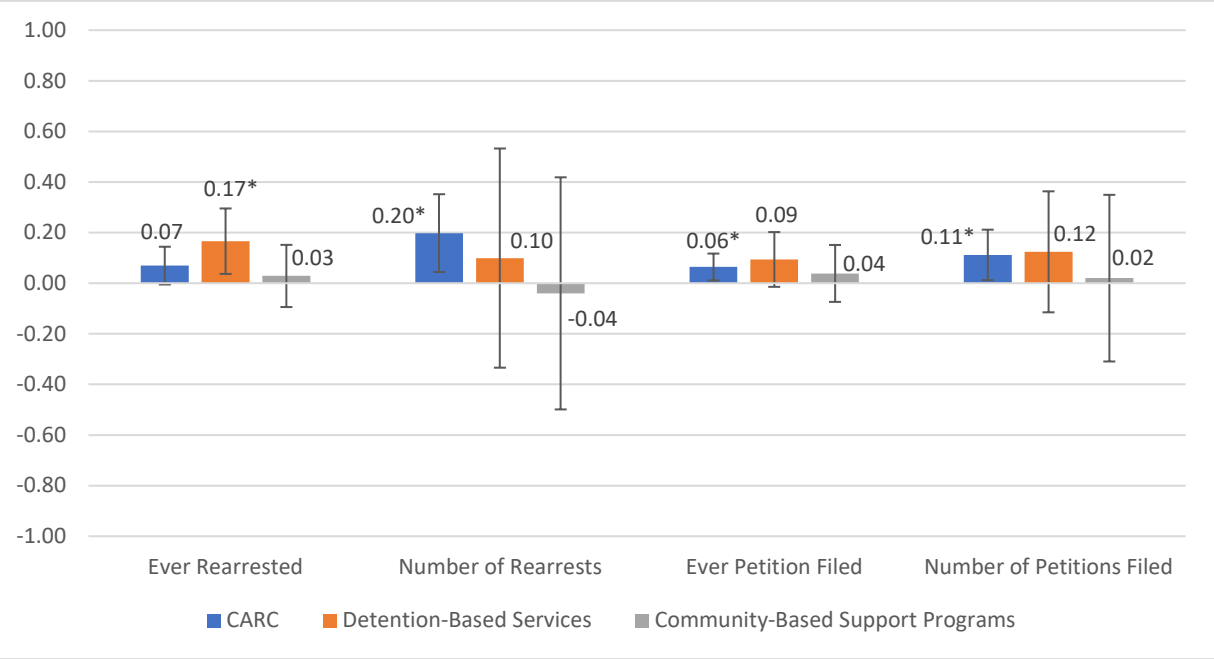
Note. DCYF = Department of Children, Youth and Their Families. The black bars represent the 95% confidence interval. The confidence intervals for number of arrests, ever petition filed, and number of petitions filed include the value of 0, which is interpreted to mean that we cannot be confident that any of these estimates are different from 0 or have no effect.

$^{*}p < 0.05$.

Strategy Area Differences

Findings by strategy area (Exhibit 6) demonstrate that youth who participated in CARC and Detention-Based Services experienced greater justice system involvement than nonparticipants. Specifically, participants in Detention-Based Services experienced a higher likelihood of rearrest (+17 percentage points), and participants in CARC experienced a slightly greater likelihood of having a future petition filed (+6 percentage points), as well as an increased number of both rearrests (+20 percentage points) and number of petitions (+11 percentage points). There were no differences in justice system involvement between participants in Community-Based Support programs and nonparticipants.

Exhibit 6. The Impact of DCYF-Funded Justice Services Program Strategy on Future Justice Involvement Outcomes, July 2018 to June 2022

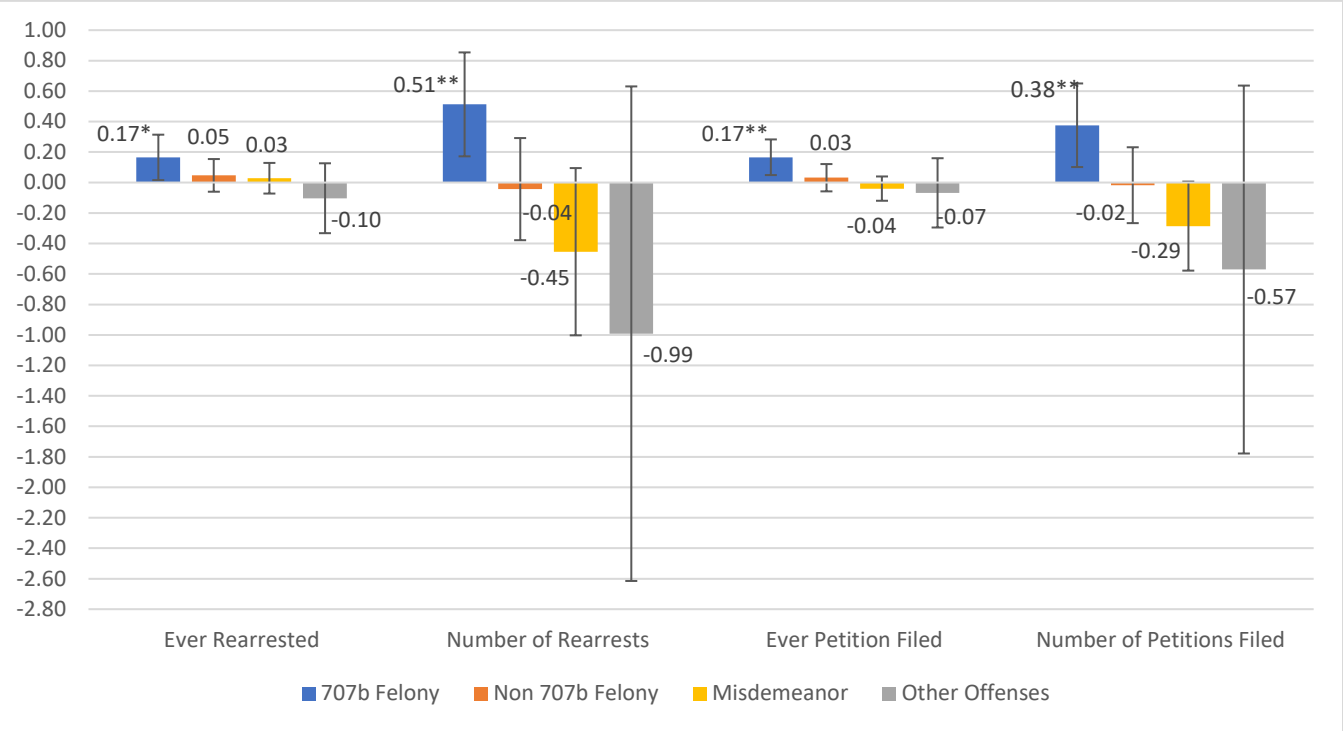


Note. CARC = Community Assessment and Resource Center; DCYF = Department of Children, Youth and Their Families. Community-based support programs include three strategy areas: Girls' and Young Women's Programming, Cultural Programming, and Multi-Service programming. The black bars represent the 95% confidence interval.
$^{*}p < 0.05$.

Severity of Triggering Arrest Differences

Findings by triggering arrest severity demonstrate that participant youth with a 707(b) felony triggering arrest are more likely to experience all types of additional justice system involvement (Exhibit 7). Participant youth with a triggering 707(b) felony arrest are more likely to be rearrested (+17 percentage points), have more rearrests (+51 percentage points), have future petitions (+17 percentage points), and experience a larger (+0.38 percentage points) number of petitions filed in the future. Participant youth with a non-707(b) felony triggering arrest, misdemeanor triggering arrest, or some other triggering arrest are not different from their comparison groups in future justice involvement.

Exhibit 7. The Impact of DCYF-Funded Justice Services Programming on Future Justice Involvement Outcomes by Severity of Triggering Arrest, July 2018 to June 2022

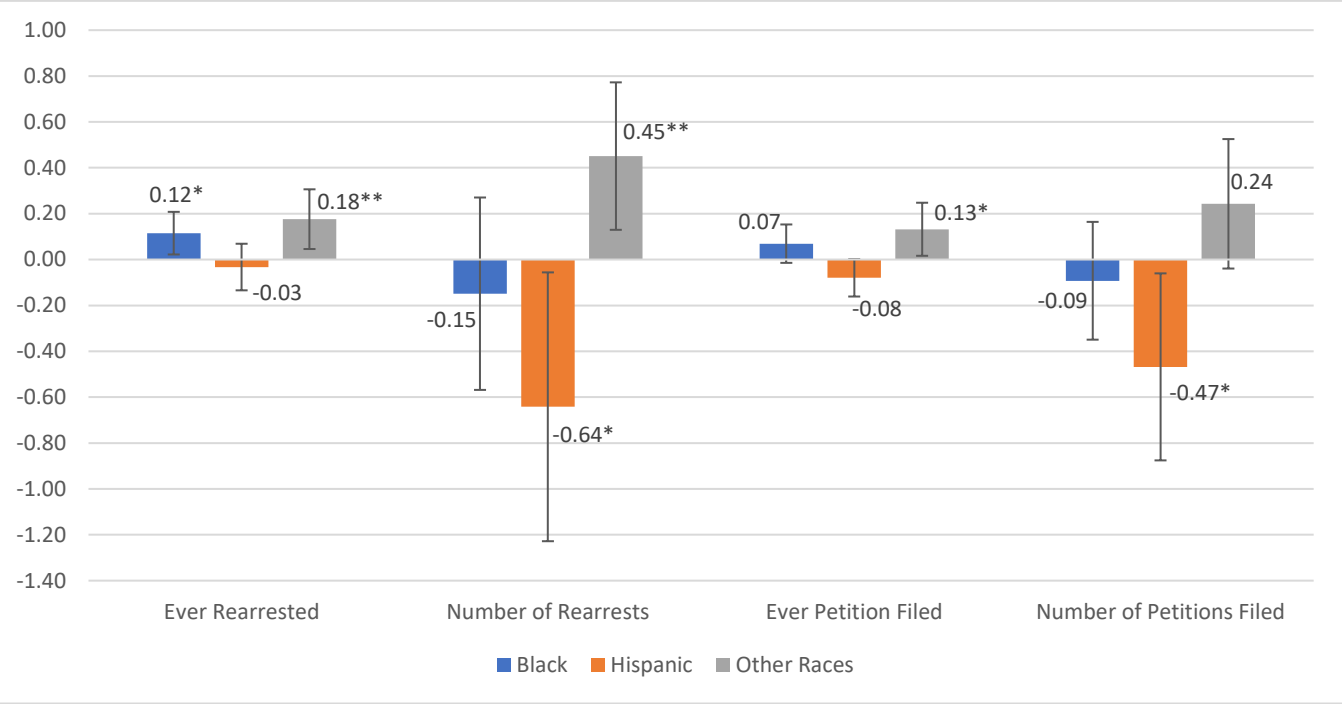


Note. DCYF = Department of Children, Youth and Their Families. Other offenses include infractions, warrants, court orders, holds, placement return/failure, home detention or probation violations, and status offenses, or a missing classification on the offense severity. Serious or violent felony offenses are 707(b) felonies. The black bars represent the 95% confidence interval.
$^{*}p < 0.05$. $^{**}p < 0.01$.

Racial/Ethnic Differences

In San Francisco, as with the United States broadly, Black youth are the most overrepresented racial/ethnic population in the justice system. For this reason, San Francisco's DCYF services include a special focus on supporting Black and other youth of color with culturally affirming services. Our findings demonstrate that Black participant youth experience a greater likelihood of being rearrested (+12 percentage points) but do not differ from their matched comparison group otherwise (Exhibit 8). Participant youth from other racial/ethnic backgrounds (including White, Asian, other, and unknown) demonstrated a higher likelihood of being arrested (+18 percentage points), having a petition filed (+13 percentage points), and a greater number of rearrests (+45 percentage points) compared with their matched comparison group. Participant Latinx youth experienced fewer rearrests (-64 percentage points) and fewer petitions (-47 percentage points) than nonparticipant Latinx youth.

Exhibit 8. The Impact of DCYF-Funded Justice Services Programming on Future Justice Involvement Outcomes by Racial/Ethnic Background, July 2018 to June 2022

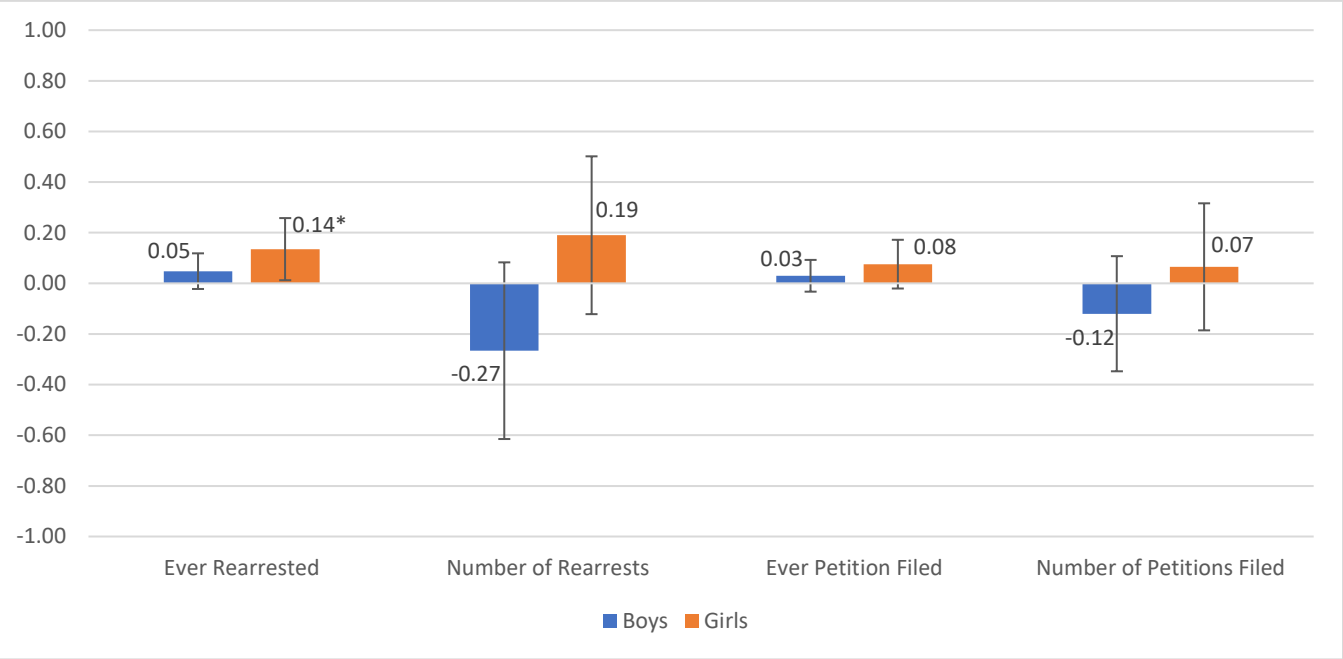


Note. DCYF = Department of Children, Youth and Their Families. The black bars represent the 95% confidence interval.
$^{*}p < 0.05$. $^{**}p < 0.01$.

Gender Differences

In San Francisco and overall in the United States, boys experience greater justice involvement than girls (Exhibit 9). Contrary to these typical findings, we find that girls who participate in DCYF-funded Justice Services programming experience a greater risk of being rearrested than girls who do not participate in programming (+14 percentage points).

Exhibit 9. The Impact of DCYF-Funded Justice Services Programming on Future Justice Involvement Outcomes by Gender, July 2018 to June 2022

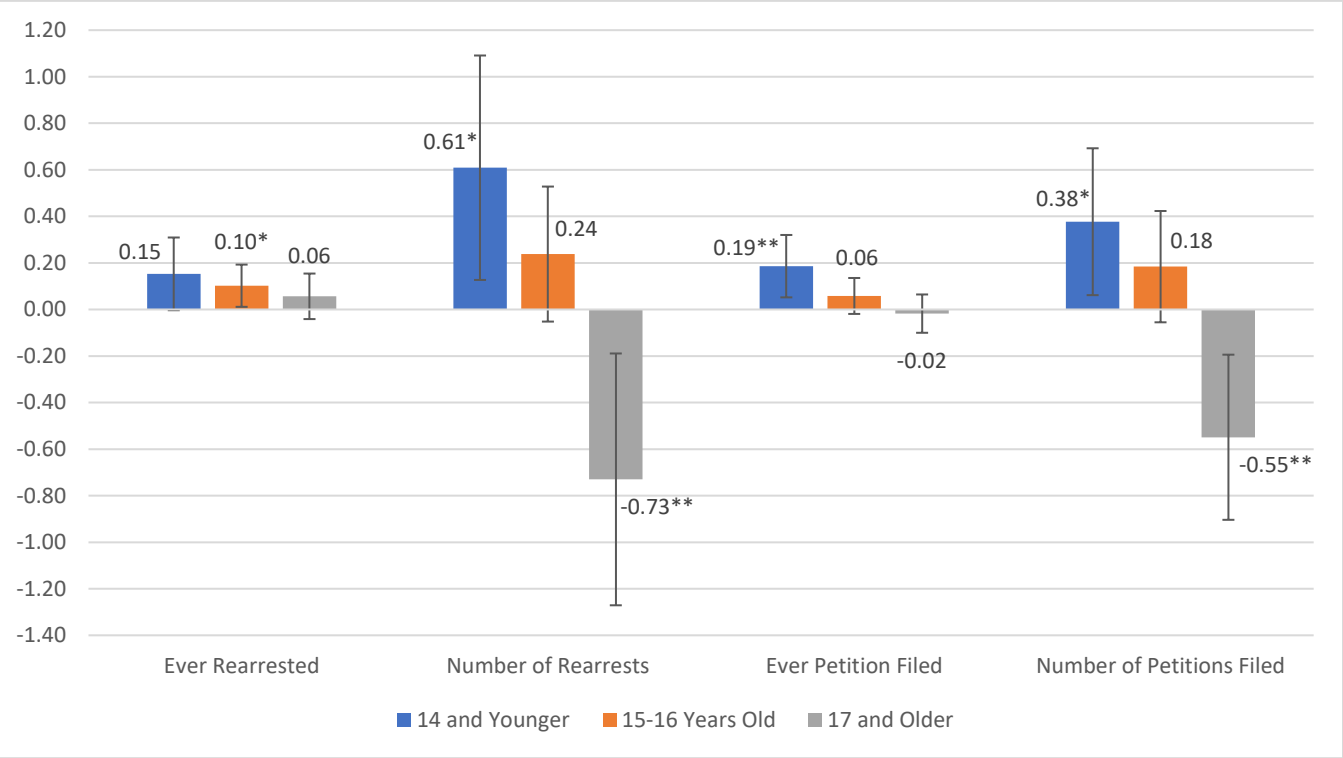


Note. DCYF = Department of Children, Youth and Their Families. The black bars represent the 95% confidence interval.
*$p < 0.05$.

Age Differences

In general, younger participant youth (below age 17) experienced worse outcomes than their matched comparison groups. The youngest participant youth (ages 14 and younger) were rearrested more (+61 percentage points), had more petitions filed (+38 percentage points), and experienced a greater risk of receiving petitions (+19 percentage points) than their matched counterparts. High school-aged youth participants (15–16 years old) experienced a greater likelihood of being rearrested (+10 percentage points). Older participant youth (ages 17 or older) experienced a fewer number of future arrests (-0.73 percentage points) and petitions (-0.55 percentage points) compared with their matched sample. As discussed in the data measures section, the decline in arrests among older youth includes adult arrest outcomes captured through DA records.

Exhibit 10. The Impact of DCYF-Funded Justice Services Programming on Future Justice Involvement Outcomes by Age, July 2018 to June 2022



Note. DCYF = Department of Children, Youth and Their Families. The black bars represent the 95% confidence interval.
$^{*}p < 0.05$. $^{**}p < 0.01$.

Discussion, Limitations, and Future Directions

Building from its aims to make San Francisco a great place to grow up, DCYF connects young people with an ecosystem of supports designed to engender equitable access to the resources young people need to thrive. Young people who have come into contact with the justice system often experience challenges from preexisting structural inequities that research suggests can be compounded by exposure to traditional justice system frameworks. For example, in 2019, Black youth were twice as likely to be arrested and six times as likely to be detained as White peers (Office of Juvenile Justice and Delinquency Prevention, 2019). And growing research demonstrates that inequitable policing—such as stop-and-frisk and zero tolerance policing—escalates violence and trauma to those arrested, their family members, and their communities (Alpert et al., 2005; Cobbina-Dungy & Jones-Brown, 2021; Gelman et al., 2007; Jones-Brown & Williams, 2021).

To address inequitable policing practices and its disproportionate impacts on individual and community system involvement, policymakers are increasingly engaging community partners to build accountability and redeploy resources (Heinze et al., 2016; Janzer, 2022). Consistent with this practice, DCYF has worked with 33 community-based service providers to support young people across the Bay Area who come into contact with the San Francisco justice system.

With this report, AIR shares findings and recommendations from our matched comparison analysis of the impact of DCYF Justice Services on subsequent youth justice involvement. Across our evaluation time period (July 2018–June 2022), 30% of justice-involved youth participated in DCYF-funded Justice Services programs. Overall, justice-involved youth who participate in DCYF Justice Services programming experienced slightly increased risk for future rearrest compared with their matched nonparticipants, although no differences existed between the groups in the likelihood of receiving a petition, the number of petitions received, or the number of rearrests. When estimating results for specific populations, there were some key exceptions to this pattern: In some cases, DCYF participating youth fared better than their comparison group (Latinx youth and youth ages 17 or older) and some fared worse (youth in Detention-Based Services and CARC, youth with a 707(b) felony-level triggering arrests, Black youth, female youth, and youth ages 16 or younger).[13]

In general, these results recapitulate existing inequities for youth in the juvenile justice system. Youth in detention (Mendel, 2011), those receiving more stringent attention (e.g., following a felony conviction; Fine et al., 2017), Black youth (Onifade et al., 2019), and younger youth (Kiessl & Würger, 2002) tend to experience higher levels of future contact with the justice system. More recently, girls and young women have become the fastest growing incarcerated group in America (Sue & Sue, 2016). We caution against assuming that these findings suggest that youth who experience different amounts of future justice involvement become better or worse as a result of program participation given the quasi-experimental, matched comparison nature of the research design and the lack of transparency in referrals for programming and engagement in program participation.

From this report, we provide the following recommendations:

1. Provide more targeted supports that align with youth needs.

DCYF programming targets youth most in need of intervention, so it is possible that youth who participate in programming represent those that are at highest risk for future system involvement. Youth who experience the greatest structural inequities (e.g., young Black youth) may experience even greater levels of system involvement in the absence of program participation. DCYF has started to deepen strategic investments into programming for youth at highest need; for instance, given that young women are the fastest growing incarcerated group in America (Sue & Sue, 2016), DCYF began allocating funding toward the Girls' and Young Women's Programming.

Our recent work focused on youth experiences in juvenile hall (report forthcoming) highlights the need to integrate youth perspectives and recommendations into the design of programming. Youth know what programming is best for their development, and having the freedom to choose programming will aid in identity development (Benson et al., 2006; Osher et al., 2020). By providing programming that provides supports for youth most in need and integrates the perspectives of the young people

[13] Youth who reside in county also show small increases in the number of rearrests, but this could be explained by the inability of the study to examine future arrests in surrounding counties.

programming is intended to serve, DCYF can provide even more targeted supports. We recommend that DCYF continue funding the Girls' and Young Women's Programming strategy and similarly direct additional resources to support young people we find to have greater system involvement (e.g., youth in Detention-Based Services and CARC, youth with a 707(b) felony-level triggering arrests, Black youth, female youth, and youth ages 16 or younger).

2. Carefully evaluate the program referral process.

To address uncertainty about why youth may or may not participate in programming, we recommend a careful study of the referral process. This could include examining the perspective of participants and caregivers on the reasons for their participation behavior across diverse youth, for youth who chose to participate following justice involvement and those who did not. DCYF also would further benefit from learning about experiences with various programs and how these experiences inform their decisions about continued program engagement. This might illuminate systemic factors that a successful investigation could measure and consider or at least highlight the nature of the bias (e.g., whether related to caregiver resources, whether programs are court-ordered, or whether program participation may feel mandatory, such as within the context of Detention Based Services for incarcerated youth).

3. Conduct future impact studies leveraging more rigorous understanding of selection biases regarding program participation, including randomization.

Our quasi-experimental, matched comparison design is a valid tool for estimating differences in program impacts in lieu of randomization, when available data can adequately equate groups on key factors, including accounting for possible selection biases. However, the capacity of any estimation strategy to accurately identify causal findings depends on the ability of the variables in the matching estimator and regression controls to absorb baseline differences between groups. It is unclear how justice-involved young people in San Francisco receive referrals to the various Justice Services programs, and why some youth do or do not decide to participate in programming. Differences in how and why youth participate in programming may reflect baseline differences between our groups that are not observable in the administrative data we analyze. Examining how young people receive referrals to services also may help identify any systemic gaps in selecting and enrolling certain groups of youth into programming.

In addition to better understanding how youth are or are not routed into service provision, AIR recommends that, when possible, future impact analyses leverage randomized assignment between youth offered the ability to receive DCYF Justice Services and those who do not, such as through the administration of a lottery for any oversubscribed programs. Such a design will remove the influence of unobserved factors and provide the county with an unbiased treatment effect of participating in DCYF Justice Services programming.

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Appendix A. List of DCYF Justice Services Programs

DCYF Justice Services span an array of 33 programs across seven strategy areas:

1. Community Assessment and Resource Center (one program)
    a. Huckleberry Community Assessment and Resource Center
2. Cultural Programming (nine programs)
    a. Destinos Nuevos
    b. Home Detention
    c. HOMEY CALLES Case Management Program
    d. Legal Services for Children Justice Services Project
    e. OMI RITES (Reshaping Ideas Through Empowerment and Support)
    f. Tailor Made
    g. Transforming Our Attitude
    h. Young Men's Reentry
    i. Youth Justice Services
3. Detention-Based Services (six programs)
    a. ADAPT (A Dream and A Plan for Tomorrow)
    b. CJCJ Juvenile Justice Services
    c. Girls' and Young Women's Detention Advocacy Project
    d. Pathways to Success
    e. Peer Counseling
    f. Transition Aged Youth Resiliency
4. Girls' and Young Women's Programming (seven programs)
    a. Cambios
    b. Huckleberry Advocacy & Response Team Program Service for Justice-Involved Girls and Young Women
    c. Occupational Therapy Training Program–San Francisco
    d. Stepping into Sisterhood
    e. UCSF ZSFG Gender-Responsive Care for Justice-Involved Girls and Young Women
    f. Women Rising/Rising Voices
    g. Young Queens on the Rise
5. Miscellaneous (three programs)
    a. AFS Family Homes for Youth
    b. Expeditor Services
    c. San Francisco Boys' and Girls' Homes
6. Multi-Service (six programs)
    a. Asian Pacific Islander Violence Prevention Services
    b. Justice Services
    c. Re-Entry Integrative Services for Employment

   d. RESET
   e. Second Chance Youth Program and Tattoo Removal Clinic
   f. United Playaz Violence Interventions
7. Young Adult Court case management (one program)
   a. Felton's Young Adult Court Program

Appendix B. Propensity Score Matching Detail

Rationale for Using Propensity Score Matching

To understand how program participation may impact participants, one evaluation approach is to compare outcomes for youth who participate in programming with those who do not participate. One challenge of this type of quasi-experimental study is that the young person's participation in programming is not random, perhaps based on other factors (e.g., personal choice by the youth, targeted outreach by the program) that may relate to outcomes independent of programming. For this evaluation, we know that DCYF-funded Justice Services programs specifically target their supportive services to youth in need who are justice involved or at risk for future justice system involvement. Thus, simply comparing outcomes for youth who do and do not participate in DCYF Justice Services would not sufficiently account for any differences between these groups. Not accounting for these differences would lead to biased estimates of the program impacts. Any differences in outcomes could be attributable to DCYF services or to unobservable baseline differences between the two groups. Propensity score matching is a useful strategy for creating a statistically similar comparison group that matches the characteristics of the participants to nonparticipants to equate groups on observable characteristics. Propensity scores represent the probability of a young person in the sample being a DCYF participant after accounting for all observed background covariates; youth can then be matched based on the propensity score, rather than attempting to find a match for each value of all covariates. Matching on observed covariates also has the benefit of matching on any unobserved characteristics, which are correlated with observed characteristics. In this way, we can compare groups that are more similar to each other to reduce the chance that outcomes are influenced by baseline differences between groups.

Matching Sample Sizes and Criteria

We examined the impact of program participation on young people's justice system outcomes occurring after they began participating in Justice Services programming (i.e., after July 2018). For participants, we considered the arrest immediately preceding Justice Services participation as the triggering arrest (e.g., this arrest triggered program participation). There is no equivalent triggering arrest for nonparticipants. To select an arrest record that most closely matched a participant's triggering arrest record, we performed propensity score matching at the level of arrest rather than at the level of the individual. The triggering arrest record of DCYF participants was matched to a similar arrest record for a nonparticipant that occurred within 6 months of the triggering arrest. In Exhibit B1, we note the number of nonparticipants, the number of prior arrests among nonparticipants that could be used for matching, and the number of participants across all Justice Services programming. Because each participant has only one triggering arrest, and we matched to triggering arrests, the number of triggering arrests equals the number of participants.

Exhibit B1. Sample Sizes Before and After Matching Across Justice Services Programming

	Number of nonparticipants	Number of prior arrests among nonparticipants	Number of participants	Number of triggering arrests among participants
Total	2,093	4,952	703	703
Matched	334	413	413	413
Unmatched	1,759	4,539	290	290

Unmatched participants (*n* = 290) and unmatched nonparticipants (*n* = 1,759) were not included in the impact analyses. We matched without replacement, such that each nonparticipant arrest record was matched only once. However, because matching occurred at the arrest level, arrests from the same nonparticipant could be matched to multiple participants' triggering arrest records. Exhibit B2 demonstrates how many arrest records per nonparticipant were matched to a participant's triggering arrest record across all Justice Services programming. Exhibit B2 also demonstrates how many arrest records per nonparticipant were matched to a participant's triggering arrest record across all Justice Services programming.

Exhibit B2. Number of Times Nonparticipants' Arrest Records Were Used to Match Across Justice Services Programming

	Number of nonparticipant arrest records				
	1	2	3	4	7
Number of times nonparticipant arrest record were matched	282	34	12	5	1

To account for the nonindependence of matched observations in our analyses (which occurred at the person level), we used cluster-robust standard errors, in which clusters correspond to pair membership.

We matched arrest records based on justice involvement and demographic characteristics. Current and prior arrest records were matched according to the severity of the offense: a felony categorized as serious or violent according to the California statute (i.e., Welfare and Institutions Code 707(b)); a non-707(b) felony; a misdemeanor; or other including infractions, warrants, court orders, holds, placement return/failure, home detention or probation violations, and status offenses. We also matched based on the number of both prior arrests and prior petitions at the time of the triggering (or prior) arrest; doing so allowed us to equate prior justice-system involvement. We also matched on risk assessment scores to equate calculated recidivism risk, including whether risk assessment scores were missing. Finally, we matched on the time frame of arrest, matching records from nonparticipants to participants' triggering arrest records if they occurred within 6 months to equate the environment in which the arrests took place. For demographic characteristics, we matched records based on age at the time of arrest. We also matched using an interaction between race/ethnicity and gender (e.g., a White male participant's triggering arrest was matched to a White male nonparticipant's prior arrest). Lastly, we matched on youth county of residence: in San Francisco County, outside the county, or missing county of residence information.

Matching Optimization and Diagnostics

Matching Optimization

Matching Software. We used the MatchIt library in R version 4.2.0 (Ho et al., 2011).

Matching Strategy. We employed a nearest neighbor matching strategy. This strategy estimates the propensity score of program participation using logistic regression based on provided covariates. Then the program computes the difference between the propensity score of each participant's triggering arrest record and each nonparticipant's prior arrest record. Records are then paired in descending order from the highest propensity score while minimizing the global distance in propensity scores across all pairs to form the full matched comparison sample.

Calipers. Calipers define the maximum distance between covariates allowable when pairing matches. We restricted matches to 0.2 *SD* of the logit of the propensity scores across all covariates, as recommended when estimating differences in means across groups (Austin, 2011). We also restricted matches to ±180 days (6 months), which can help us equate the environment in which these arrests occurred. For instance, changes in the sociopolitical climate, legislature, and legislation can and do impact the types of charges for which youth are arrested, rules and regulations for police officers, and other justice system–related factors. This means that a participant arrested in 2018 may have experienced a different overall environment compared with a nonparticipant arrested in 2020. Similarly, the experiences of a nonparticipant who was arrested once in 2018 and again in 2020 may have been different. By restricting matches in a smaller time window (e.g., 6 months versus the entire 5-year evaluation period), we attempted to control for this.

Any participants and nonparticipants whose arrest records had no available matches were dropped from the matched sample. When treatment individuals (e.g., participants) are unmatched because of the use of calipers, the subsequent impact analyses measure the average treatment effect in the remaining matched sample versus the average treatment effect in the treated. This means that the treatment effects will reflect the participants in the matched sample.

Matching Diagnostics

Covariate Balance. To determine whether the matching procedure successfully created a matched sample, we examined covariate balance; that is, the distribution of covariates across the resulting participant and nonparticipant groups. When groups have evenly distributed covariates, the effects from subsequent impact analyses are less sensitive to model misspecification. The MatchIt documentation describes several common metrics and diagnostic plots for assessing covariate balance. Here, we describe the subset of metrics we examined and note the summary of covariate balance for our sample before matching in Exhibit B3 and after matching in Exhibit B4, as well as describe and display the diagnostic plots from our matched sample in Exhibits B5 and B6.

Exhibit B3. Covariate Balance Before Matching Across Justice Services Programming

	Participants	Nonparticipants	SMD	Variance ratio	Mean eCDF	Max eCDF
Mean propensity score distance	0.58	0.06	1.95	3.16	0.46	0.81
YLS score	7.92	3.00	0.59	1.45	0.14	0.46
Proportion with YLS score	0.68	0.21	1.01	—	0.47	0.47
Proportion without YLS score	0.32	0.79	-1.01	—	0.47	0.47
Mean number of prior arrests	1.44	2.24	-0.26	0.94	0.04	0.21
Mean number of prior petitions	0.79	1.10	-0.18	1.12	0.03	0.19
Triggering arrest category: 707(b) felony	0.25	0.18	0.17	—	0.07	0.07
Triggering arrest category: Non-707(b) felony	0.29	0.27	0.05	—	0.02	0.02
Triggering arrest category: Misdemeanor	0.37	0.34	0.05	—	0.03	0.03
Triggering arrest category: Other	0.09	0.21	-0.41	—	0.12	0.12
Prior arrest category: 707(b) felony	0.21	0.28	-0.16	—	0.07	0.07
Prior arrest category: Non-707(b) felony	0.10	0.19	-0.33	—	0.10	0.10
Prior arrest category: Misdemeanor	0.05	0.10	-0.20	—	0.04	0.04
Prior arrest category: Other	0.64	0.43	0.43	—	0.21	0.21
Mean age at arrest: 8	0.00	0.00	-0.02	—	0.00	0.00
Mean age at arrest: 9	0.00	0.00	-0.03	—	0.00	0.00
Mean age at arrest: 10	0.00	0.00	-0.03	—	0.00	0.00
Mean age at arrest: 11	0.00	0.01	-0.16	—	0.01	0.01
Mean age at arrest: 12	0.03	0.03	-0.01	—	0.00	0.00
Mean age at arrest: 13	0.07	0.07	-0.02	—	0.01	0.01
Mean age at arrest: 14	0.15	0.12	0.08	—	0.03	0.03
Mean age at arrest: 15	0.18	0.19	-0.02	—	0.01	0.01
Mean age at arrest: 16	0.24	0.23	0.00	—	0.00	0.00
Mean age at arrest: 17	0.31	0.28	0.06	—	0.03	0.03
Mean age at arrest: 18	0.03	0.06	-0.19	—	0.03	0.03
Mean age at arrest: 19	0.00	0.01	-0.08	—	0.01	0.01
Mean age at arrest: 20	0.00	0.00	-0.02	—	0.00	0.00
Mean age at arrest: 21	0.00	0.00	-0.02	—	0.00	0.00
Proportion Black male	0.31	0.41	-0.22	—	0.10	0.10
Proportion Black female	0.17	0.15	0.08	—	0.03	0.03
Proportion Latino	0.23	0.22	0.02	—	0.01	0.01
Proportion Latina	0.08	0.05	0.11	—	0.03	0.03
Proportion other/unknown races male	0.16	0.14	0.05	—	0.02	0.02
Proportion other/unknown races female	0.05	0.03	0.07	—	0.02	0.02
Mean arrest date	November 4, 2019	October 5, 2014	4.04	0.18	0.41	0.86
County of residence: San Francisco	0.66	0.59	0.15	—	0.07	0.07
County of residence: Outside San Francisco	0.10	0.04	0.18	—	0.05	0.05
County of residence: Missing	0.24	0.37	-0.28	—	0.12	0.12

Note. SMD = standardized mean difference; eCDF = empirical cumulative distribution function; YLS = Youth Level of Service. 707(b) felonies refer to any serious or violent offenses.

Exhibit B4. Covariate Balance After Matching Across Justice Services Programming

	Participants	Nonparticipants	SMD	Variance ratio	Mean eCDF	Max eCDF
Mean propensity score distance	0.46	0.44	0.07	1.12	0.00	0.06
YLS score	6.63	6.29	0.04	1.09	0.02	0.05
Proportion with YLS score	0.55	0.58	-0.07	—	0.03	0.03
Proportion without YLS score	0.45	0.42	0.07	—	0.03	0.03
Mean number of prior arrests	1.29	1.12	0.05	1.36	0.01	0.03
Mean number of prior petitions	0.70	0.63	0.04	1.27	0.01	0.02
Triggering arrest category: 707(b) felony	0.22	0.24	-0.06	—	0.03	0.03
Triggering arrest category: Non-707(b) felony	0.32	0.36	-0.09	—	0.04	0.04
Triggering arrest category: Misdemeanor	0.36	0.30	0.12	—	0.06	0.06
Triggering arrest category: Other	0.11	0.10	0.04	—	0.01	0.01
Prior arrest category: 707(b) felony	0.18	0.14	0.09	—	0.04	0.04
Prior arrest category: Non-707(b) felony	0.12	0.12	0.00	—	0.00	0.00
Prior arrest category: Misdemeanor	0.05	0.05	-0.01	—	0.00	0.00
Prior arrest category: Other	0.65	0.69	-0.08	—	0.04	0.04
Mean age at arrest: 8	0.00	0.00	0.00	—	0.00	0.00
Mean age at arrest: 9	0.00	0.00	0.00	—	0.00	0.00
Mean age at arrest: 10	0.00	0.00	0.00	—	0.00	0.00
Mean age at arrest: 11	0.00	0.00	0.06	—	0.00	0.00
Mean age at arrest: 12	0.02	0.01	0.09	—	0.01	0.01
Mean age at arrest: 13	0.04	0.06	-0.06	—	0.01	0.01
Mean age at arrest: 14	0.13	0.13	-0.01	—	0.00	0.00
Mean age at arrest: 15	0.17	0.18	-0.04	—	0.02	0.02
Mean age at arrest: 16	0.25	0.22	0.08	—	0.03	0.03
Mean age at arrest: 17	0.34	0.35	-0.02	—	0.01	0.01
Mean age at arrest: 18	0.04	0.05	-0.06	—	0.01	0.01
Mean age at arrest: 19	0.00	0.00	0.00	—	0.00	0.00
Mean age at arrest: 20	0.00	0.00	0.00	—	0.00	0.00
Mean age at arrest: 21	0.00	0.00	0.00	—	0.00	0.00
Proportion Black male	0.29	0.33	-0.08	—	0.04	0.04
Proportion Black female	0.15	0.14	0.03	—	0.01	0.01
Proportion Latino	0.29	0.28	0.02	—	0.01	0.01
Proportion Latina	0.07	0.07	0.00	—	0.00	0.00
Proportion other/unknown races male	0.16	0.14	0.05	—	0.02	0.02
Proportion other/unknown races female	0.05	0.05	0.00	—	0.00	0.00
Mean arrest date	October 21, 2019	October 18, 2019	0.01	0.87	0.01	0.10
County of residence: San Francisco	0.51	0.43	0.17	—	0.08	0.08
County of residence: Outside San Francisco	0.14	0.13	0.02	—	0.01	0.01
County of residence: Missing	0.35	0.44	-0.21	—	0.09	0.09

Note. SMD = standardized mean difference; eCDF = empirical cumulative distribution function; YLS = Youth Level of Service. 707(b) felonies refer to any serious or violent offenses.

Standardized Mean Difference and Love Plots. The SMD reflects the difference in covariate means between participants and nonparticipants standardized by a standardization factor to allow for the value to be on the same scale for all covariates. The standardization factor is the standard deviation of the covariate in the remaining matched sample. Published best practices suggest thresholds of 0.1 as indicative of balanced covariates and 0.5 for prognostically important covariates, especially when simulation studies demonstrate that average SMDs often correlate with the degree of bias in the

treatment effects (Belitser et al., 2011; Stuart et al., 2013). A Love plot visually displays the summary of balance across all covariates used in the matching procedure on the *y*-axis and absolute SMD on the *x*-axis. The plot displays these values before and after matching. In the regression analyses, we controlled for all covariates used in the matching procedure; this is especially useful to remove residual confounding bias for covariates with a SMD greater than 0.10 after matching (Nguyen et al., 2017).

Variance Ratio. This metric represents the ratio of covariate variance between groups; thus, a value close to 1 suggests good balance (Austin, 2009). Variance ratios are available for only continuous, not categorical, variables.

Empirical Cumulative Distribution Function Statistics. The empirical cumulative distribution function, or eCDF, of a variable describes the distribution of values for that variable. The maximum and mean differences between groups of the eCDF for a given covariate can provide additional insight into covariate balance. Values closer to 0 indicate better balance.

Empirical Quantile-Quantile Plot. For each covariate, empirical quantile-quantile plots (eQQ) display each value of the covariate for participants on the *y*-axis, and the value of the covariate at the corresponding quantile for nonparticipants. For continuous covariates, values falling along the 45-degree line suggest balance between the groups. For categorical covariates, a roughly equal distribution of values in the bottom left and upper right corners suggest balance between the groups.

After matching, the SMD for nearly all covariates was less than 0.10. The largest imbalance remained after matching between participants and nonparticipants on county of residence; participants resided in San Francisco County more than nonparticipants, and nonparticipants were missing county residence information more than participants. Participants also were arrested for misdemeanors as their triggering arrest more so than nonparticipants. The variance ratios for the propensity score distance, mean risk assessment score, and mean age at arrest improved. However, the variance ratios for prior arrests and petitions increased, reflecting more prior arrests and petitions in the participant group. The full sample included many nonparticipants who were arrested before DCYF programming began in 2018—the mean arrest date for nonparticipants before matching was in 2014. After matching using a caliper on arrest date, the range of available arrest dates was more targeted for nonparticipants, which may have resulted in a participant sample with more arrests and petitions in the target dates. As DCYF targets programming toward youth who need of services and are at risk for future justice involvement, this may provide further evidence that DCYF programming is appropriately targeted.

Exhibit B5 (created in RStudio using the *cobalt* package) displays the absolute value of the SMD of the mean propensity score distance and across all covariates used for matching in descending order of their unadjusted mean differences. Unfilled triangles represent the absolute SMD of covariates prior to matching, and filled circles represent the absolute SMD of covariates after matching. The dashed line at 0.10 SMD represents the suggested threshold, which is indicative of balance across covariates. Variables with SMD greater than 0.10 SMD must be controlled for in regression analyses. Matching resulted in greater covariate balance.

Exhibit B5. Absolute Standardized Mean Differences of Covariates Before and After Matching

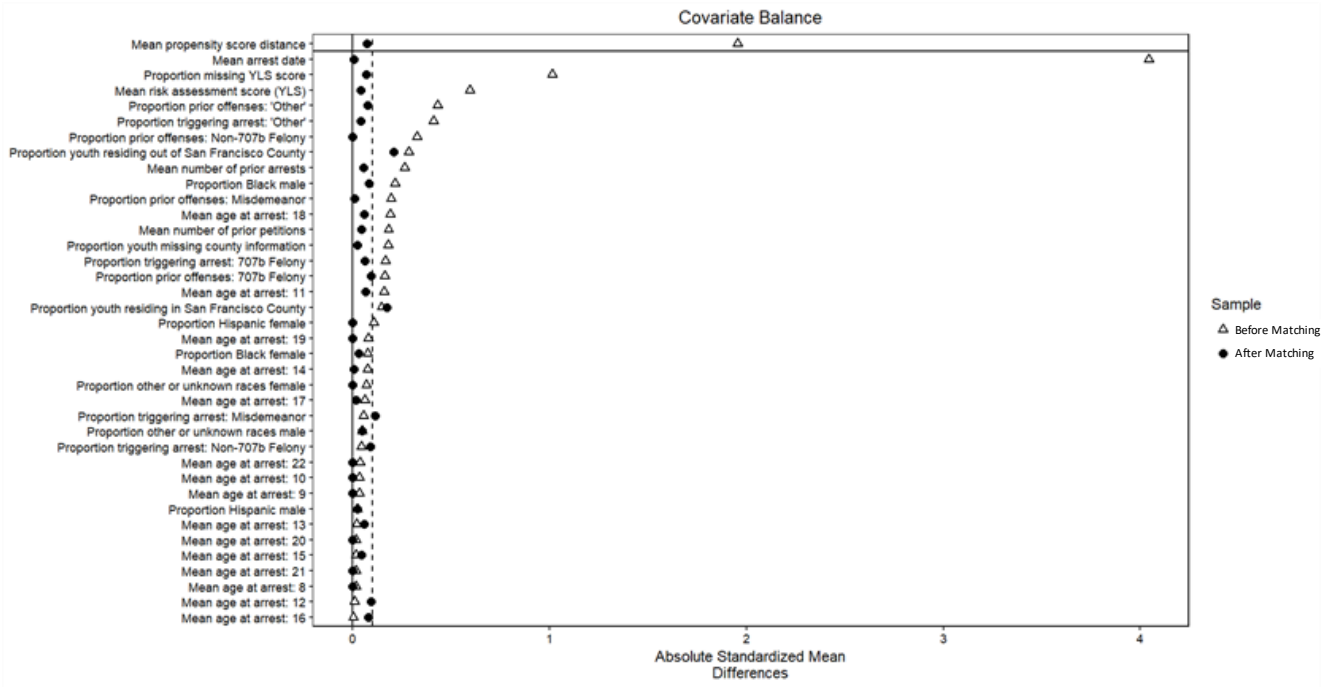
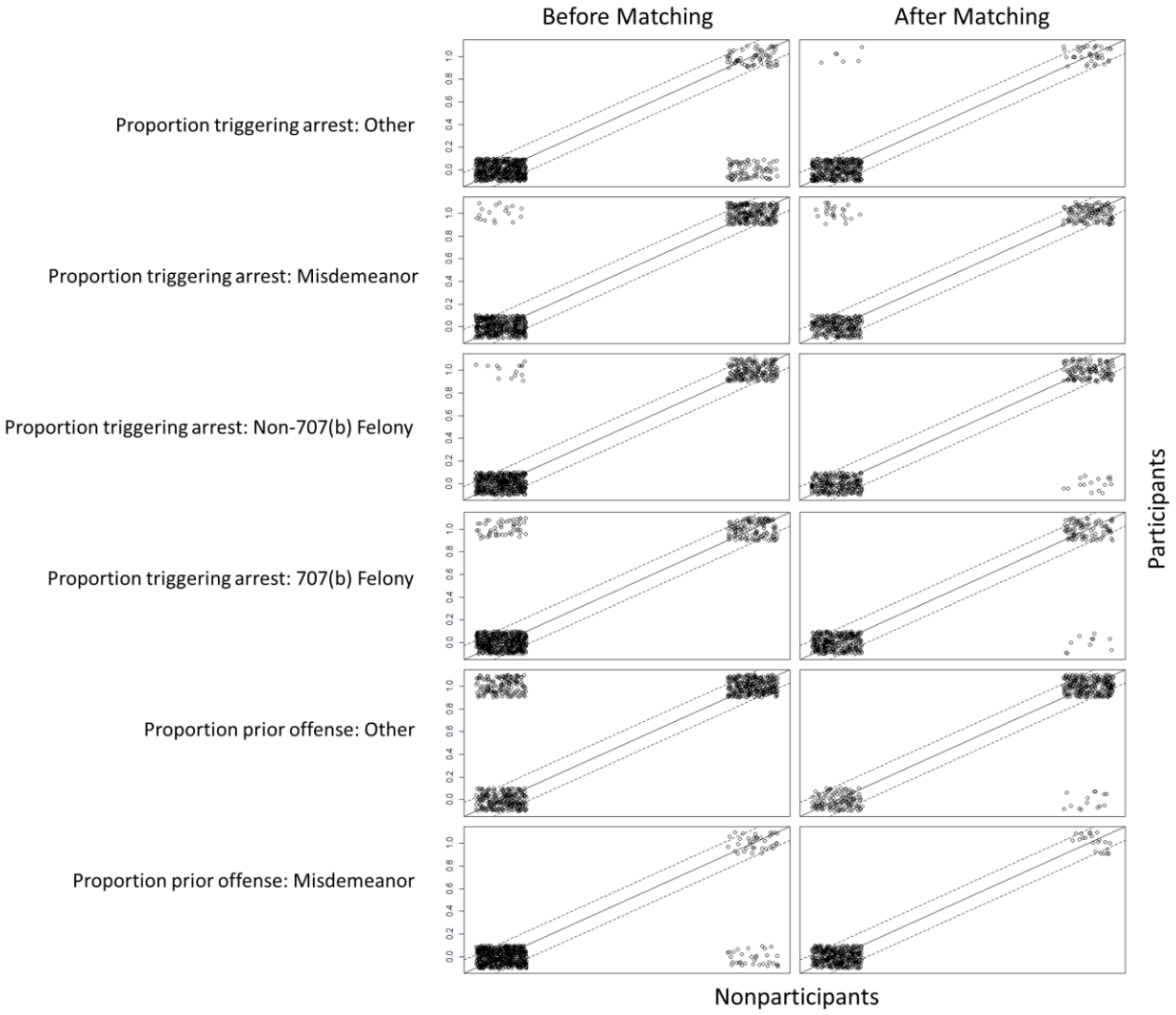
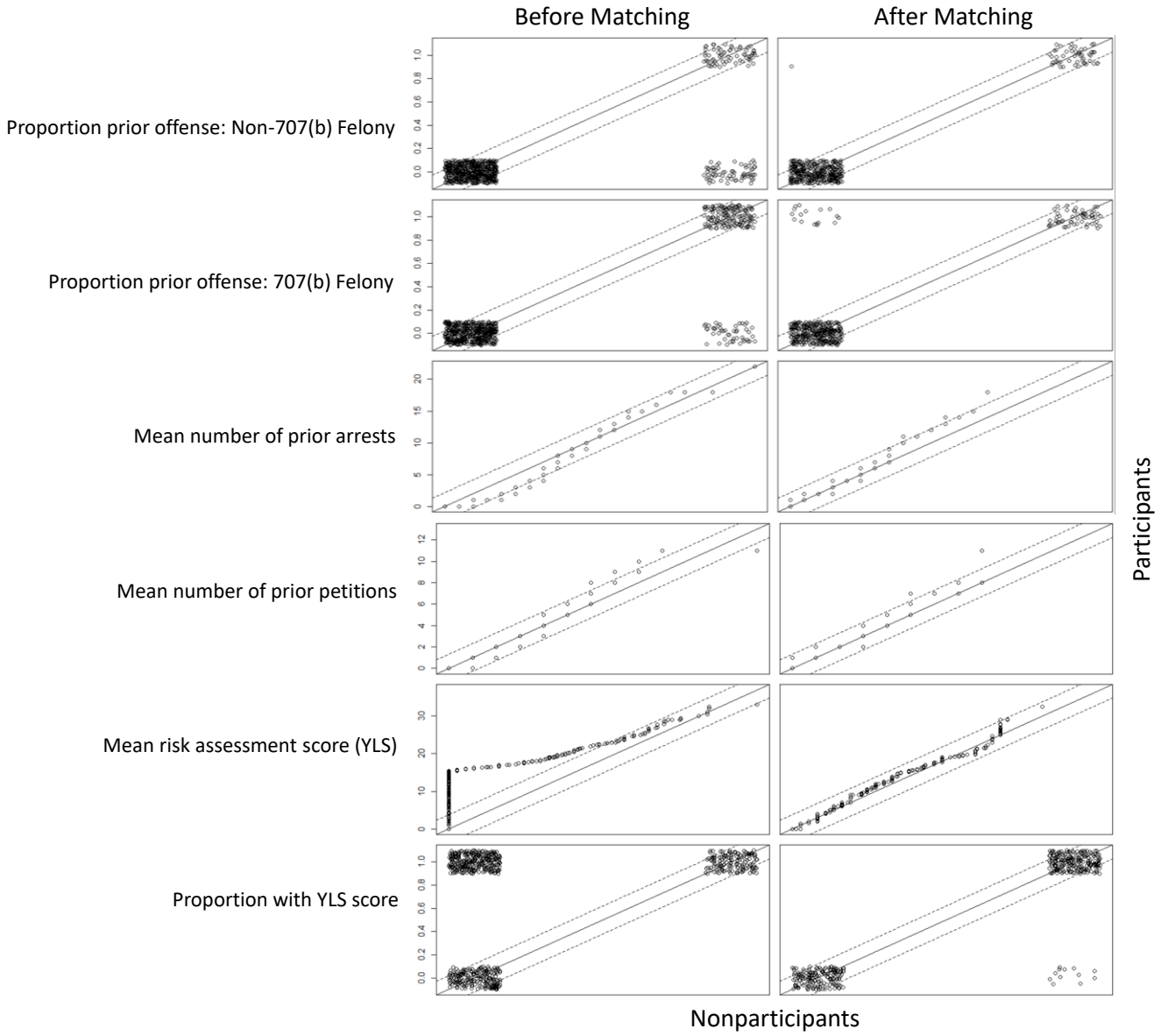
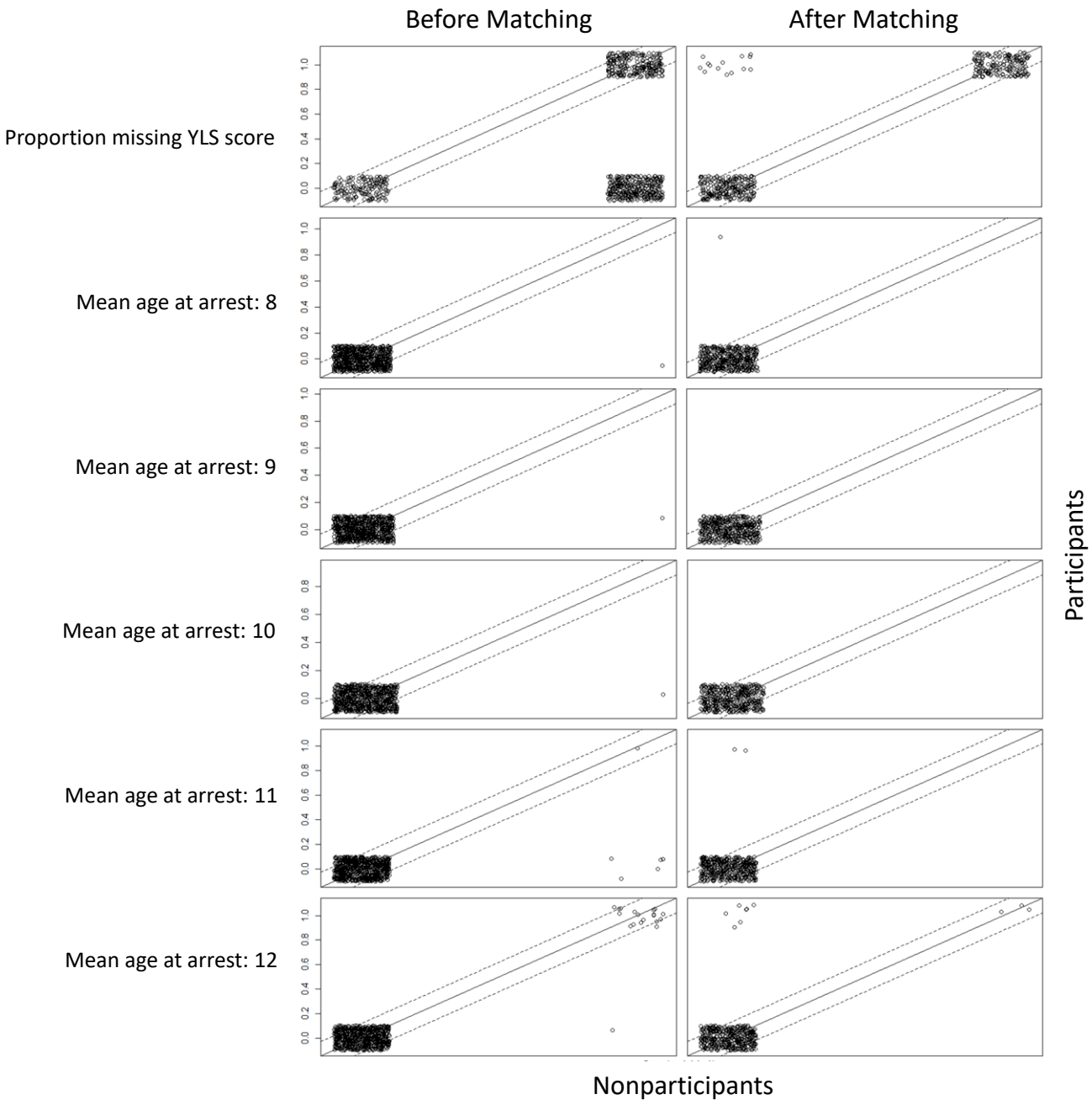


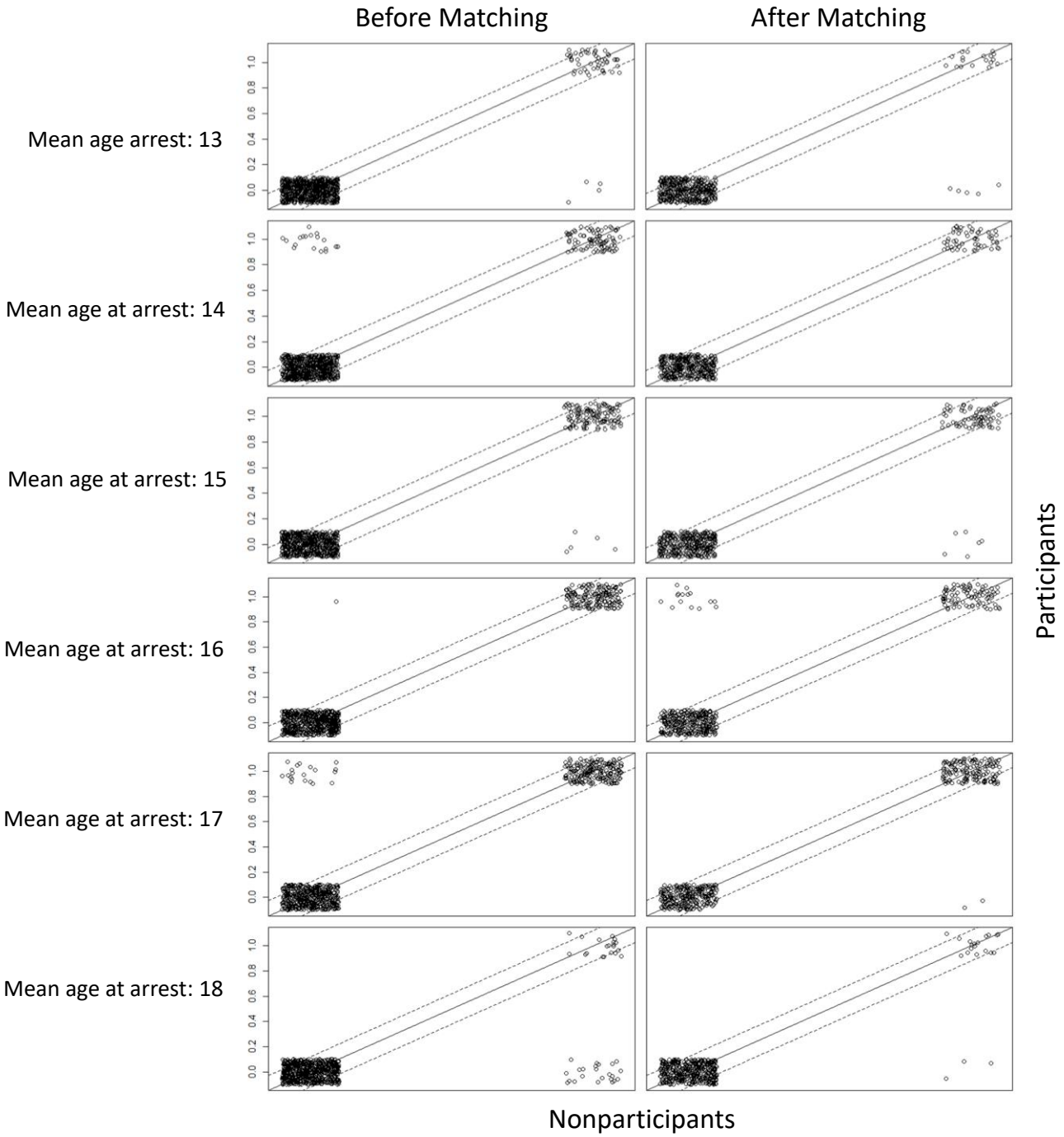
Exhibit B6 (created in RStudio with the base R *plot* function) displays eQQ plots across all covariates used for matching, with the value of each covariate for participants on the *y*-axis, and the corresponding quantile for nonparticipants on the *x*-axis. For continuous covariates, values falling along the 45-degree line suggest balance between the groups. For categorical covariates, a roughly equal distribution of values in the bottom left and upper right corners suggest balance between the groups. Matching resulted in greater covariate balance.

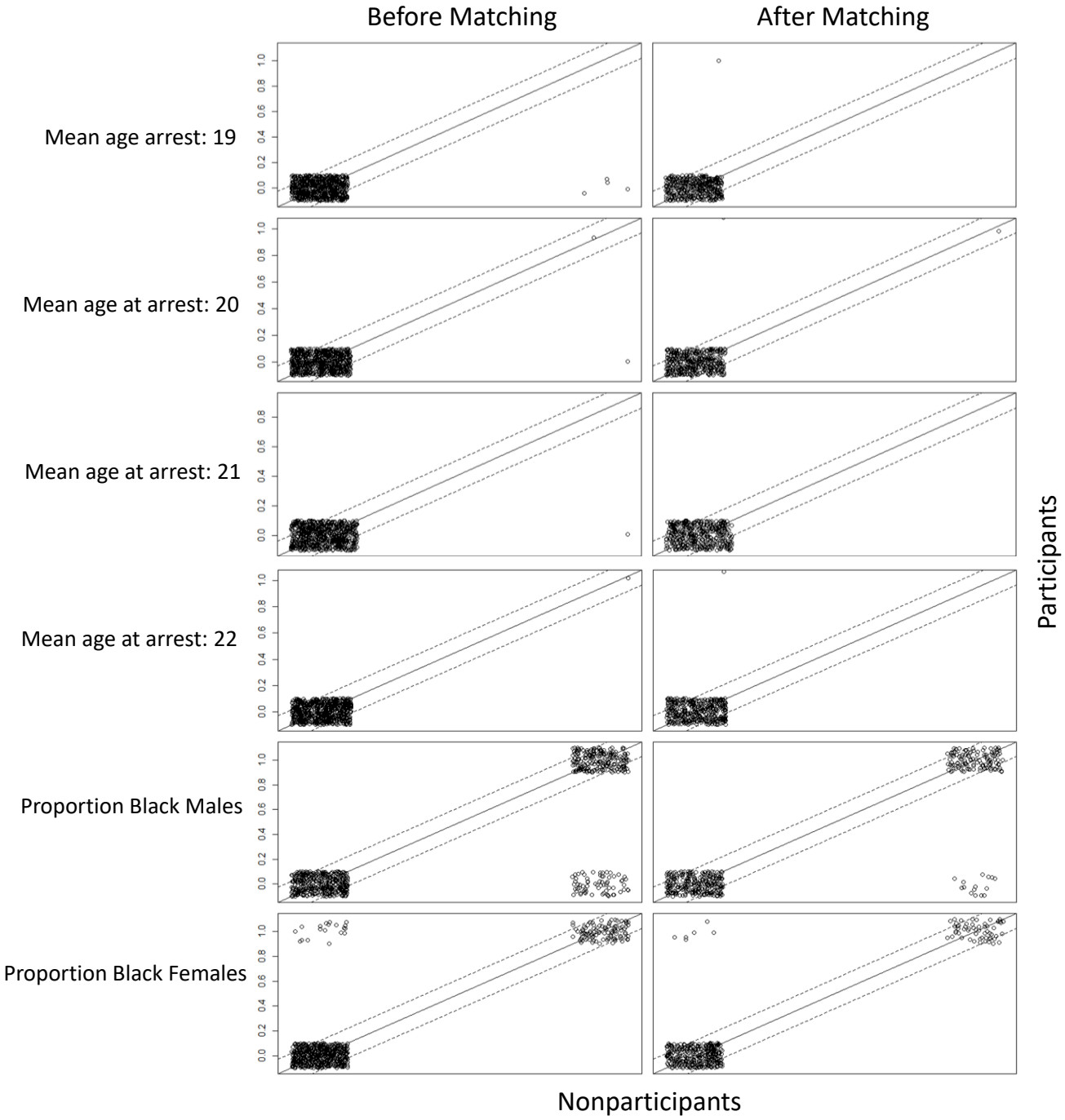
Exhibit B6. eQQ Plots for All Covariates Before and After Matching

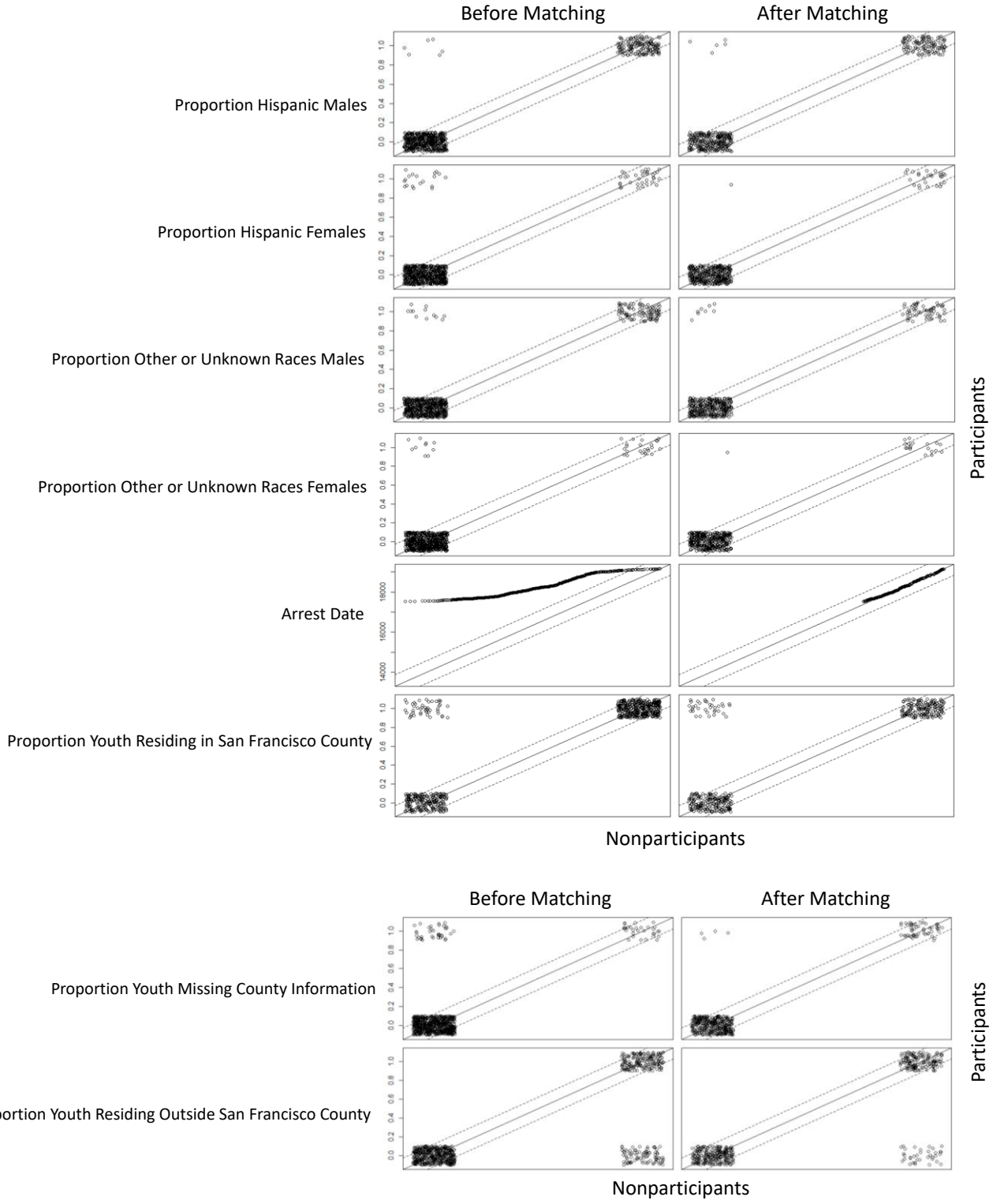



Before Matching
After Matching
Proportion prior offense: Non-707(b) Felony
Proportion prior offense: 707(b) Felony
Mean number of prior arrests
Mean number of prior petitions
Mean risk assessment score (YLS)
Proportion with YLS score
Participants
Nonparticipants


Before Matching
After Matching
Proportion missing YLS score
Mean age at arrest: 8
Mean age at arrest: 9
Mean age at arrest: 10
Mean age at arrest: 11
Mean age at arrest: 12
Participants
Nonparticipants


Before Matching
After Matching
Mean age arrest: 13
Mean age at arrest: 14
Mean age at arrest: 15
Mean age at arrest: 16
Mean age at arrest: 17
Mean age at arrest: 18
Participants
Nonparticipants


Before Matching
After Matching
Mean age arrest: 19
Mean age at arrest: 20
Mean age at arrest: 21
Mean age at arrest: 22
Proportion Black Males
Proportion Black Females
Participants
Nonparticipants


Before Matching
After Matching
Proportion Hispanic Males
Proportion Hispanic Females
Proportion Other or Unknown Races Males
Proportion Other or Unknown Races Females
Arrest Date
Proportion Youth Residing in San Francisco County
Participants
Nonparticipants
Before Matching
After Matching
Proportion Youth Missing County Information
Proportion Youth Residing Outside San Francisco County
Participants
Nonparticipants

Appendix C. Data Processing Detail

In this appendix, we present details on our processing decisions across three data sources.

Data From the Juvenile Probation Department

From the data provided by the San Francisco JPD (i.e., JPD data), we obtained information on youth demographics (race/ethnicity, gender, and county); youth identification information (first name, last name, and date of birth); youth risk assessment scores (YLS score); and information on each arrest, including arrest date, whether a petition was filed, and offense severity level. We limited the sample to arrests in which the person was younger than 25 years old as of July 1, 2018, and the arrest date was between August 2004 and June 2022. There were 10,340 arrest records (with individuals duplicated) in our sample. After removing duplicates, the number of unique individuals, who we refer to as justice-involved youth, was 3,763.

Data From the DCYF's Contract Management System

From the data provided by DCYF's CMS, we obtained information on youth demographics (race/ethnicity and gender); youth identification information (first name, last name, and date of birth); and information on DCYF program participation, including participation dates, length of each participation, DCYF program name, strategy, and service area. We limited the sample to youth who participated in DCYF programs between July 1, 2018, and June 30, 2022. Youth who participated in any DCYF programs were referred to as DCYF participants. Youth who participated in Justice Services programming were referred to as "Justice Service participants," and they include youth who participated in Justice Service programs only and youth who participated in both Justice Service programs and other DCYF programs. The unique number of DCYF participants in this data set (after removing duplicates) was 79,684, and approximately 4% (3,132) were Justice Service participants.

Data From the San Francisco District Attorney

From the data provided by the San Francisco DA's Office, we obtained individuals' identification information (first name, last name, and date of birth) and arrest information, including arrest dates and whether a charge was filed for each arrest. We limited the sample to adults who were younger than 25 years old as of July 1, 2018, and who had an arrest date between February 2011 and June 2022. These adults were referred to as justice-involved adults. There were 24,107 records on the person and arrest date level in our sample; after removing duplicates, the unique number of justice-involved adults was 13,294.

Merging JPD Data With CMS Data

Next, we merged CMS data (person-level indicators for DCYF participation) onto JPD data (arrest level) by first name, last name, and date of birth using a fuzzy merge function built into Stata (*reclink* command). Of the 3,763 unique justice-involved youth in the JPD data (10,340 arrests), 1,670 unique youth ever participated in any of DCYF's programs between July 1, 2018, and June 30, 2022. Of these,

1,121 unique youth participated in Justice Services (Justice Services only or both Justice Services and other DCYF programs), whereas 549 only participated in DCYF programs other than Justice Services.

Of the 1,121 unique youth who participated in Justice Services (representing 4,048 arrests in the JPD data), we sought to retain only those for whom their first DCYF participation appeared to be tied to a recent arrest. We operationalized this by limiting the data to those whose first observed DCYF participation occurred in the 6 months following any of the individual's arrests. Applying this criterion left 703 unique justice-involved youth who first participated in DCYF Justice Services between July 1, 2018, and June 30, 2022, and had an arrest in the 6 months prior to their first participation. The arrest immediately preceding the first DCYF participation was the triggering arrest (i.e., if there were multiple arrests in the 6 months preceding first DCYF participation, the arrest closest in time was the triggering arrest). For propensity score matching to select a comparison group, only the triggering arrest record was retained.

For selecting the comparison group, we retained records for justice-involved youth who never participated in any DCYF programs as a pool for potential matching. This pool included 4,952 associated arrest records for 2,093 unique youth. It is important to note that there is no equivalent concept as a triggering arrest for youth in the comparison pool, so we retained all arrest records for these youth to, as described in Appendix B, search for potential matches to the DCYF participants using propensity scores.

After conducting propensity score matching, we finalized a set of justice-involved youth who participated in DCYF Justice Services and the matched comparison youth to use for analysis. In this final sample used for analyses, there were 413 records (413 unique youth) in the treatment group and 413 records (334 unique youth) in the comparison group. The arrest dates in the final analytic sample ranged from August 9, 2017,[14] to June 26, 2022.

Merging Matched Data With the DA's Data

For the analysis data set, we merged both JPD and DA records to create recidivism measures that spanned both juvenile and adult systems. We used the *stringdist_inner_join* command from the *fuzzyjoin* package in R for merging DA records to the analysis data set (which is based on JPD records) by youth's first and last name and date of birth. We used DA data to provide information on whether youth were rearrested or received a petition in the adult system during the evaluation period (July 1, 2018, and June 30, 2022).

[14] Arrests in the analytic sample that occurred prior to January 1, 2018 (e.g., 6 months prior to July 1, 2018, the start of the evaluation period) reflect those of nonparticipants. Only arrests occurring after January 1, 2018, were considered for participants.

Appendix D. Regression Output

Exhibit D1. The Overall Impact of DCYF-Funded Justice Services on Future Justice Involvement Outcomes, July 2018 to June 2022

	Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed
Justice Services participant	0.0660*	-0.185	0.0285	-0.118
SE	*0.0307*	*0.139*	*0.0261*	*0.0934*
Triggering arrest: Misdemeanor	0.0611	0.885*	0.155*	0.537*
SE	*0.0620*	*0.386*	*0.0603*	*0.261*
Triggering arrest: Non-707(b) felony	0.113	0.879*	0.213***	0.674**
SE	*0.0633*	*0.343*	*0.0589*	*0.240*
Triggering arrest: 707(b) felony	0.0494	0.613	0.0986	0.360
SE	*0.0664*	*0.328*	*0.0603*	*0.227*
Prior most severe arrest: Misdemeanor	0.0788	-0.148	-0.0341	-0.137
SE	*0.0788*	*0.275*	*0.0664*	*0.171*
Prior most severe arrest: Non-707(b) felony	0.0852	-0.0575	0.0261	-0.0451
SE	*0.0644*	*0.262*	*0.0586*	*0.206*
Prior most severe arrest: 707(b) felony	0.107	0.481	0.0916	0.382
SE	*0.0690*	*0.334*	*0.0644*	*0.257*
Number of prior arrests	-0.00130	0.216	-0.00692	0.0407
SE	*0.0179*	*0.152*	*0.0185*	*0.104*
Number of prior petitions	0.00621	-0.123	0.0302	0.0742
SE	*0.0300*	*0.236*	*0.0308*	*0.172*
YLS score	0.0194***	0.0736***	0.0128***	0.0422***
SE	*0.00358*	*0.0156*	*0.00334*	*0.0113*
YLS missing	-0.0100	0.346*	-0.0454	0.229*
SE	*0.0485*	*0.154*	*0.0420*	*0.111*
Latinx male	0.00608	0.140	-0.0289	0.0517
SE	*0.0417*	*0.193*	*0.0361*	*0.135*
Other or unknown races male	-0.0928*	-0.364*	-0.0999*	-0.206
SE	*0.0453*	*0.170*	*0.0410*	*0.121*
Black female	0.0330	-0.144	-0.00633	0.0269
SE	*0.0502*	*0.197*	*0.0441*	*0.142*

	Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed
Latinx female	-0.0566	-0.312	-0.141**	-0.303**
SE	*0.0589*	*0.165*	*0.0429*	*0.112*
Other or unknown races female	-0.0238	-0.110	-0.0469	-0.174
SE	*0.0593*	*0.208*	*0.0526*	*0.118*
Residence in San Francisco County	-0.0184	0.207	-0.0334	0.0520
SE	*0.0328*	*0.135*	*0.0291*	*0.0915*
Missing county of residence information	-0.0673	-0.00411	-0.0974**	-0.0842
SE	*0.0463*	*0.134*	*0.0371*	*0.0984*

Note. *n* = 826. DCYF = Department of Children, Youth and Their Families; YLS = Youth Level of Service. Standard errors (*SE*) are in italic. The reference category includes youth impacted by the San Francisco justice system who did not participate in DCYF services of any kind including Justice Services; youth with a triggering arrest other than misdemeanor, 707(b) felony (serious or violent offense), or non-707(b) felony; youth with a prior most severe arrest other than misdemeanor, 707(b) felony, or non-707(b) felony; youth age 11; Black male youth; and youth with a residence outside San Francisco county. All models include a fixed effect for age at the time of the arrest and a fixed effect for time (in quarter-year increments).
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Exhibit D2. Regression Output for Exhibit 7: The Impact of DCYF-Funded Justice Services Program Strategy on Future Justice Involvement Outcomes, July 2018 to June 2022

	CARC				Community				Detention			
	Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed	Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed	Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed
Justice Services participant	0.0695	0.198*	0.0641*	0.112*	0.0287	-0.0402	0.0386	0.0200	0.166*	0.0993	0.0939	0.124
SE	*0.0381*	*0.0784*	*0.0271*	*0.0508*	*0.0627*	*0.234*	*0.0574*	*0.168*	*0.0660*	*0.221*	*0.0552*	*0.122*
Triggering arrest: Misdemeanor					-0.0270	-0.150	0.0586	-0.271	-0.0420	0.424	0.163	0.308
SE					*0.101*	*0.401*	*0.0899*	*0.285*	*0.113*	*0.404*	*0.105*	*0.202*
Triggering arrest: Non-707(b) felony	0.0550	0.0673	0.00953	0.0265	0.145	0.476	0.277**	0.283	0.157	0.801*	0.293**	0.600**
SE	*0.0433*	*0.0880*	*0.0329*	*0.0433*	*0.113*	*0.486*	*0.105*	*0.381*	*0.114*	*0.360*	*0.0984*	*0.186*
Triggering arrest: 707(b) felony	-0.00558	-0.0892	-0.0999*	-0.125	0.170	0.360	0.212	0.0896	-0.0212	0.385	0.0584	0.222
SE	*0.0702*	*0.110*	*0.0401*	*0.0658*	*0.116*	*0.432*	*0.113*	*0.337*	*0.124*	*0.334*	*0.109*	*0.198*
Prior most severe arrest: Misdemeanor	-0.0842	-0.273	-0.229*	-0.356*	0.0221	-0.214	-0.0314	-0.0811	0.0720	-0.632	-0.0947	-0.443
SE	*0.124*	*0.358*	*0.0925*	*0.139*	*0.163*	*0.461*	*0.123*	*0.243*	*0.178*	*0.404*	*0.128*	*0.225*
Prior most severe arrest: Non-707(b) felony	0.167	0.250	0.0100	0.0526	0.118	0.269	0.0971	0.183	0.135	-0.212	0.0550	-0.0845
SE	*0.141*	*0.241*	*0.0974*	*0.172*	*0.131*	*0.484*	*0.128*	*0.323*	*0.117*	*0.341*	*0.101*	*0.211*
Prior most severe arrest: 707(b) felony	0.193	0.305	0.0856	0.195	0.0894	0.660	0.137	0.537	0.0397	-0.200	0.0260	-0.217
SE	*0.177*	*0.356*	*0.161*	*0.285*	*0.132*	*0.500*	*0.123*	*0.362*	*0.119*	*0.316*	*0.106*	*0.211*
Number of prior arrests	0.0661	0.243	0.100	0.0979	-0.00556	0.105	-0.0224	0.0162	-0.00632	0.267	0.0206	0.0750
SE	*0.0567*	*0.159*	*0.0513*	*0.0839*	*0.0290*	*0.165*	*0.0297*	*0.0962*	*0.0393*	*0.168*	*0.0366*	*0.0909*
Number of prior petitions	-0.197*	-0.609**	-0.187*	-0.254*	0.0647	-0.0113	0.0807	0.0506	0.0489	0.0146	0.0229	0.110
SE	*0.0808*	*0.225*	*0.0743*	*0.122*	*0.0482*	*0.236*	*0.0566*	*0.163*	*0.0578*	*0.240*	*0.0568*	*0.131*
YLS score	0.0204**	0.0507***	0.0177**	0.0319**	0.0153**	0.0560**	0.0123*	0.0298*	0.00906	0.0555**	0.00757	0.0196
SE	*0.00639*	*0.0150*	*0.00540*	*0.0101*	*0.00576*	*0.0194*	*0.00519*	*0.0123*	*0.00714*	*0.0195*	*0.00628*	*0.0103*
YLS missing	-0.0343	-0.0557	-0.0279	-0.0631	0.0967	1.108*	0.147	0.827*	0.0841	0.238	-0.0689	-0.0770
SE	*0.0730*	*0.124*	*0.0537*	*0.0816*	*0.112*	*0.463*	*0.0967*	*0.336*	*0.121*	*0.261*	*0.0989*	*0.156*
Latinx male	0.0535	0.138	-0.00332	0.0775	0.0405	-0.0237	0.0338	0.129	0.0269	0.336	-0.0402	-0.0342
SE	*0.0537*	*0.105*	*0.0398*	*0.0732*	*0.0851*	*0.344*	*0.0910*	*0.250*	*0.0957*	*0.333*	*0.0827*	*0.200*

	CARC				Community				Detention			
	Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed	Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed	Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed
Other or unknown races male	-0.0501	0.00278	-0.0159	0.00524	-0.195	-0.467	-0.130	-0.103	-0.0682	-0.0676	-0.0740	-0.211
SE	*0.0562*	*0.129*	*0.0442*	*0.0713*	*0.0985*	*0.326*	*0.0962*	*0.223*	*0.103*	*0.295*	*0.0902*	*0.184*
Black female	0.105	0.0779	-0.0195	-0.0344	0.0228	-0.219	-0.0233	0.127	0.0883	-0.0888	0.0498	-0.0208
SE	*0.0644*	*0.106*	*0.0423*	*0.0614*	*0.0977*	*0.416*	*0.0922*	*0.260*	*0.104*	*0.378*	*0.104*	*0.214*
Latinx female	-0.0519	-0.141	-0.0743	-0.0966	0.0274	-0.532	-0.210	-0.441	-0.0401	0.216	-0.0993	-0.143
SE	*0.0830*	*0.125*	*0.0584*	*0.0809*	*0.140*	*0.393*	*0.117*	*0.250*	*0.152*	*0.352*	*0.0887*	*0.177*
Other or unknown races female	-0.102	-0.202	-0.0736	-0.0835	-0.0893	0.0383	-0.0639	-0.169	0.00892	0.686	0.142	0.274
SE	*0.0825*	*0.143*	*0.0525*	*0.0948*	*0.142*	*0.448*	*0.110*	*0.215*	*0.138*	*0.350*	*0.122*	*0.234*
Residence in San Francisco County	-0.00494	0.0400	-0.0238	-0.0162	-0.0553	-0.352	-0.0583	-0.328	0.0238	0.499*	0.00330	0.121
SE	*0.0448*	*0.0831*	*0.0298*	*0.0543*	*0.0704*	*0.299*	*0.0663*	*0.228*	*0.0685*	*0.217*	*0.0656*	*0.120*
Missing county of residence information	0.0295	0.141	-0.00813	0.0330	-0.462***	-1.092**	-0.385***	-0.779**	-0.0600	0.107	-0.0254	-0.00280
SE	*0.0573*	*0.116*	*0.0399*	*0.0803*	*0.102*	*0.382*	*0.102*	*0.293*	*0.115*	*0.234*	*0.0820*	*0.142*

Note. n = 392 for CARC; n = 218 for Community; n = 214 for Detention. DCYF = Department of Children, Youth and Their Families; YLS = Youth Level of Service. Standard errors (*SE*) are in italic. The reference category includes youth impacted by the San Francisco justice system who did not participate in DCYF services of any kind including Justice Services; youth with a triggering arrest other than misdemeanor, 707(b) felony (serious or violent offense), or non-707(b) felony; youth with a prior most severe arrest other than misdemeanor, 707(b) felony, or non-707(b) felony; youth age 11; Black male youth; and youth with a residence outside San Francisco county. All models include a fixed effect for age at the time of the arrest and a fixed effect for time (in quarter-year increments). Community-based support programs include three strategy areas: Girls' and Young Women's Programming, Cultural Programming, and Multi-Service.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Exhibit D3. Regression Output for Exhibit 8: The Impact of DCYF-Funded Justice Services Programming on Future Justice Involvement Outcomes by Severity of Triggering Arrest, July 2018 to June 2022

	Other offenses				Misdemeanor				Non-707(b) felony				707(b) felony			
													Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed
Justice Services participant	-0.103	-0.992	-0.0677	-0.571	0.0282	-0.454	-0.0398	-0.286	0.0470	-0.0433	0.0317	-0.0174	0.165*	0.513**	0.166**	0.376**
SE	*0.117*	*0.828*	*0.116*	*0.616*	*0.0513*	*0.280*	*0.0407*	*0.149*	*0.0547*	*0.171*	*0.0457*	*0.127*	*0.0761*	*0.174*	*0.0597*	*0.140*
Prior misdemeanor	0.518	-0.813	0.485	-0.312	0.127	-0.765	-0.132	-0.547	0.00972	-0.163	-0.0421	-0.208	0.0962	0.347	-0.0361	0.0384
SE	*0.367*	*1.974*	*0.310*	*1.526*	*0.160*	*0.640*	*0.100*	*0.342*	*0.127*	*0.392*	*0.116*	*0.226*	*0.187*	*0.444*	*0.161*	*0.325*
Prior non-707(b) felony	0.631*	-0.644	0.343	-0.691	0.235	-0.389	-0.0502	-0.279	-0.0881	-0.257	0.00495	-0.0687	0.0792	0.399	0.0737	0.378
SE	*0.253*	*1.193*	*0.229*	*0.825*	*0.137*	*0.721*	*0.113*	*0.475*	*0.108*	*0.414*	*0.106*	*0.305*	*0.228*	*0.621*	*0.190*	*0.424*
Prior 707(b) felony	0.667**	0.256	0.411*	0.153	0.250	1.495	0.247	1.365	0.133	0.980	0.205	0.757	-0.00428	-0.146	-0.0126	-0.127
SE	*0.222*	*0.784*	*0.199*	*0.521*	*0.168*	*1.205*	*0.176*	*0.847*	*0.123*	*0.703*	*0.130*	*0.594*	*0.157*	*0.416*	*0.150*	*0.357*
Number of prior arrests	-0.0150	-0.107	-0.0410	-0.204	-0.00748	0.483	-0.00555	0.161	0.00952	0.287	0.0335	0.119	-0.00516	-0.102	0.0398	0.0292
SE	*0.0320*	*0.277*	*0.0304*	*0.210*	*0.0387*	*0.408*	*0.0343*	*0.246*	*0.0329*	*0.232*	*0.0322*	*0.125*	*0.0755*	*0.231*	*0.0773*	*0.156*
Number of prior petitions	-0.0268	0.294	0.0797	0.480	-0.0463	-0.791	-0.0542	-0.395	0.0434	-0.0991	-0.00845	0.101	-0.00479	0.262	-0.0496	0.00770
SE	*0.0560*	*0.489*	*0.0512*	*0.378*	*0.0573*	*0.681*	*0.0525*	*0.455*	*0.0689*	*0.356*	*0.0648*	*0.240*	*0.122*	*0.337*	*0.115*	*0.234*
YLS score	0.0367***	0.106*	0.0200**	0.0674	0.0161*	0.0747	0.0158*	0.0368	0.0189**	0.0608**	0.0135*	0.0375**	0.0132	0.0564*	0.0139*	0.0377
SE	*0.00876*	*0.0418*	*0.00686*	*0.0354*	*0.00727*	*0.0486*	*0.00734*	*0.0329*	*0.00693*	*0.0219*	*0.00609*	*0.0140*	*0.00806*	*0.0227*	*0.00693*	*0.0205*
YLS missing	0.782**	2.478*	0.658*	1.838*	-0.0819	0.282	-0.0882	0.162	-0.0272	0.254	-0.0844	0.168	-0.0618	0.284	0.0465	0.255
SE	*0.250*	*0.960*	*0.255*	*0.732*	*0.0846*	*0.449*	*0.0830*	*0.289*	*0.0865*	*0.280*	*0.0762*	*0.196*	*0.0997*	*0.249*	*0.0771*	*0.204*
Latinx male	0.181	1.300	-0.102	0.221	-0.128	-0.146	-0.166*	-0.0490	0.122	0.288	0.0964	0.254	-0.161	-0.429	-0.165*	-0.380*
SE	*0.154*	*1.502*	*0.166*	*1.097*	*0.0794*	*0.512*	*0.0703*	*0.321*	*0.0777*	*0.235*	*0.0674*	*0.182*	*0.0913*	*0.234*	*0.0796*	*0.160*
Other or unknown races male	-0.118	-1.399	-0.273	-1.281	-0.200*	-0.826*	-0.256***	-0.486*	-0.00932	-0.256	0.0175	-0.144	-0.108	0.115	-0.0636	0.155
SE	*0.219*	*1.010*	*0.153*	*0.938*	*0.0770*	*0.363*	*0.0679*	*0.229*	*0.0850*	*0.267*	*0.0779*	*0.159*	*0.104*	*0.428*	*0.0882*	*0.415*

	Other offenses				Misdemeanor				Non-707(b) felony				707(b) felony			
													Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed
Black female	-0.0647	-0.391	-0.241	-0.488	-0.0543	-0.829	-0.179*	-0.454	0.111	0.287	0.153	0.414	-0.0650	-0.408	-0.143	-0.318*
SE	*0.192*	*0.690*	*0.163*	*0.571*	*0.0944*	*0.525*	*0.0768*	*0.345*	*0.0864*	*0.310*	*0.0776*	*0.226*	*0.123*	*0.217*	*0.0884*	*0.152*
Latinx female	-0.554*	-1.533	-0.464*	-1.257	-0.169	-0.608	-0.228**	-0.413	-0.0966	-0.155	-0.0814	-0.0895	0.243	-0.134	-0.255**	-0.437**
SE	*0.252*	*1.095*	*0.228*	*0.987*	*0.0876*	*0.394*	*0.0724*	*0.226*	*0.129*	*0.337*	*0.120*	*0.245*	*0.147*	*0.243*	*0.0905*	*0.166*
Other or unknown races female	-0.0918	-0.207	-0.129	-0.0331	-0.143	-0.556	-0.188*	-0.366	-0.103	-0.243	-0.0389	-0.101	0.116	0.491	0.0477	-0.0717
SE	*0.332*	*1.032*	*0.138*	*0.821*	*0.0968*	*0.445*	*0.0863*	*0.275*	*0.0879*	*0.256*	*0.0717*	*0.195*	*0.139*	*0.443*	*0.128*	*0.173*
Residence in San Francisco County	0.101	0.292	-0.00104	-0.00806	-0.0566	0.838*	-0.0126	0.389	-0.0551	-0.105	-0.0523	-0.109	0.0557	0.0785	-0.0410	-0.0949
SE	*0.167*	*0.609*	*0.124*	*0.480*	*0.0602*	*0.394*	*0.0573*	*0.241*	*0.0583*	*0.182*	*0.0543*	*0.132*	*0.0744*	*0.195*	*0.0660*	*0.138*
Missing county of residence information	-0.313	-0.219	-0.274	-0.325	-0.168*	0.224	-0.0832	0.0560	-0.0423	0.0136	-0.110	-0.108	-0.00336	-0.0316	0.0287	-0.0138
SE	*0.271*	*1.019*	*0.209*	*0.751*	*0.0850*	*0.441*	*0.0769*	*0.269*	*0.0832*	*0.201*	*0.0650*	*0.142*	*0.105*	*0.177*	*0.0828*	*0.156*

Note. n = 85 for youth with a triggering offense of other; n = 271 for youth with a triggering offense of misdemeanor; n = 281 for youth with a triggering offense of a non-707(b) felony; n = 189 for youth with a triggering offense of a 707(b) felony (serious or violent offense). DCYF = Department of Children, Youth and Their Families; YLS = Youth Level of Service. Standard errors (*SE*) are in italic. The reference category includes youth impacted by the San Francisco justice system who did not participate in DCYF services of any kind including Justice Services; youth with a prior most severe arrest other than misdemeanor, 707(b) felony, or non-707(b) felony; youth age 11; Black male youth; and youth with a residence outside San Francisco county. All models include a fixed effect for age at the time of the arrest and a fixed effect for time (in quarter-year increments).

*p < .05. **p < .01. ***p <.001.

Exhibit D4. Regression Output for Exhibit 9: The Impact of DCYF-Funded Justice Services Programming on Future Justice Involvement Outcomes by Racial/Ethnic Background, July 2018 to June 2022

	Black				Latinx				Other			
	Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed	Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed	Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed
Justice Services participant	0.115*	-0.149	0.0692	-0.0926	-0.0327	-0.642*	-0.0799	-0.468*	0.176**	0.451**	0.132*	0.243
SE	*0.0474*	*0.214*	*0.0427*	*0.131*	*0.0518*	*0.299*	*0.0415*	*0.208*	*0.0664*	*0.164*	*0.0590*	*0.144*
Triggering arrest: Misdemeanor	0.108	1.028*	0.191*	0.587	-0.120	0.987	0.0245	0.437	0.186	0.759*	0.201	0.451*
SE	*0.0831*	*0.494*	*0.0845*	*0.307*	*0.110*	*0.888*	*0.0956*	*0.623*	*0.137*	*0.300*	*0.106*	*0.214*
Triggering arrest: Non-707(b) felony	0.0839	0.886*	0.214*	0.709*	-0.0233	0.939	0.0816	0.544	0.266	0.710*	0.269*	0.397
SE	*0.0845*	*0.423*	*0.0878*	*0.299*	*0.114*	*0.807*	*0.0935*	*0.572*	*0.138*	*0.304*	*0.116*	*0.209*
Triggering arrest: 707(b) felony	0.0170	0.535	0.112	0.389	-0.0593	0.719	-0.0717	0.121	0.297*	1.118**	0.278*	0.675*
SE	*0.0896*	*0.380*	*0.0854*	*0.264*	*0.121*	*0.812*	*0.102*	*0.571*	*0.137*	*0.416*	*0.118*	*0.335*
Prior most severe arrest: Misdemeanor	0.170	0.266	0.0459	0.189	-0.0351	-1.081	-0.175*	-0.656	0.152	0.679	0.193	0.125
SE	*0.131*	*0.490*	*0.123*	*0.311*	*0.131*	*0.631*	*0.0692*	*0.413*	*0.194*	*0.675*	*0.149*	*0.211*
Prior most severe arrest: Non-707(b) felony	0.130	0.00699	0.0724	0.229	0.0678	0.126	-0.00192	0.0268	-0.0892	-0.498	-0.232	-0.503
SE	*0.102*	*0.423*	*0.0951*	*0.338*	*0.0936*	*0.571*	*0.0858*	*0.392*	*0.221*	*0.374*	*0.188*	*0.368*
Prior most severe arrest: 707(b) felony	0.184	0.565	0.146	0.443	-0.0879	0.428	-0.0447	0.571	0.159	0.718	0.0641	0.0771
SE	*0.101*	*0.483*	*0.0951*	*0.411*	*0.135*	*0.748*	*0.101*	*0.510*	*0.199*	*0.545*	*0.175*	*0.344*
Number of prior arrests	-0.0287	-0.0993	-0.0291	-0.202	0.0293	0.757	-0.0165	0.284	-0.0173	0.0677	-0.00995	0.129
SE	*0.0269*	*0.193*	*0.0274*	*0.124*	*0.0351*	*0.465*	*0.0356*	*0.324*	*0.0360*	*0.105*	*0.0325*	*0.104*
Number of prior petitions	0.0427	0.486	0.0624	0.556*	-0.0945	-1.013	-0.0211	-0.492	0.0688	-0.0992	0.0857	-0.125
SE	*0.0439*	*0.299*	*0.0450*	*0.221*	*0.0541*	*0.522*	*0.0507*	*0.355*	*0.0596*	*0.156*	*0.0549*	*0.157*

	Black				Latinx				Other			
	Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed	Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed	Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed
YLS score	0.0103	0.0417*	0.00554	0.0261	0.0273***	0.0986***	0.0212***	0.0610***	0.0273**	0.0869**	0.0197*	0.0542
SE	*0.00565*	*0.0201*	*0.00524*	*0.0148*	*0.00589*	*0.0242*	*0.00517*	*0.0162*	*0.00884*	*0.0280*	*0.00808*	*0.0296*
YLS missing	-0.110	0.254	-0.108	0.279	0.0389	0.448	-0.0732	0.221	0.0582	0.205	0.121	0.189
SE	*0.0803*	*0.267*	*0.0703*	*0.193*	*0.0834*	*0.290*	*0.0675*	*0.206*	*0.0923*	*0.179*	*0.0720*	*0.123*
Residence in San Francisco County	-0.0599	0.218	-0.00293	0.121	0.0236	0.429	-0.0666	0.139	0.0294	0.0577	-0.0468	-0.0476
SE	*0.0508*	*0.219*	*0.0435*	*0.151*	*0.0620*	*0.265*	*0.0475*	*0.175*	*0.0778*	*0.160*	*0.0633*	0.109
Missing county of residence information	-0.217**	-0.479	-0.210**	-0.444*	-0.0269	0.298	-0.110	0.115	0.0511	-0.0304	-0.0364	-0.0510
SE	*0.0769*	*0.247*	*0.0675*	*0.175*	*0.0744*	*0.232*	*0.0594*	*0.168*	*0.123*	*0.200*	*0.0899*	*0.148*

Note. n = 375 for Black youth; n = 290 for Latinx youth; n = 161 for other or unknown race youth. DCYF = Department of Children, Youth and Their Families; YLS = Youth Level of Service. Standard errors (*SE*) are in italic. The reference category includes youth impacted by the San Francisco justice system who did not participate in DCYF services of any kind including Justice Services; youth with a triggering arrest other than misdemeanor, 707(b) felony (serious or violent offense), or non-707(b) felony; youth with a prior most severe arrest other than misdemeanor, 707(b) felony, or non-707(b) felony; youth age 11; and youth with a residence outside San Francisco county. All models include a fixed effect for age at the time of the arrest and a fixed effect for time (in quarter-year increments).

*p < .05. **p < .01. ***p < .001.

Exhibit D5. Regression Output for Exhibit 10: The Impact of DCYF-Funded Justice Services Programming on Future Justice Involvement Outcomes by Gender, July 2018 to June 2022

	Male				Female			
	Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed	Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed
Justice Services participant	0.0481	-0.266	0.0299	-0.120	0.135*	0.190	0.0758	0.0652
SE	*0.0359*	*0.178*	*0.0320*	*0.116*	*0.0626*	*0.159*	*0.0491*	*0.128*
Triggering arrest: Misdemeanor	0.0344	0.986	0.150*	0.569	0.135	0.810*	0.160	0.670*
SE	*0.0727*	*0.511*	*0.0710*	*0.346*	*0.118*	*0.378*	*0.0890*	*0.320*
Triggering arrest: Non-707(b) felony	0.0728	0.835	0.167*	0.609*	0.166	1.114**	0.302**	1.017**
SE	*0.0742*	*0.444*	*0.0680*	*0.308*	*0.121*	*0.420*	*0.101*	*0.374*
Triggering arrest: 707(b) felony	-0.0108	0.632	0.0728	0.385	0.166	0.725*	0.135	0.474
SE	*0.0778*	*0.424*	*0.0696*	*0.294*	*0.131*	*0.365*	*0.105*	*0.297*
Prior most severe arrest: Misdemeanor	-0.125	-0.711*	-0.163*	-0.401*	0.540***	1.314**	0.281	0.634
SE	*0.0850*	*0.357*	*0.0689*	*0.198*	*0.142*	*0.437*	*0.146*	*0.364*
Prior most severe arrest: Non-707(b) felony	0.0237	-0.178	-0.00689	-0.109	0.174	0.0932	0.0121	-0.0749
SE	*0.0722*	*0.301*	*0.0678*	*0.222*	*0.158*	*0.493*	*0.111*	*0.436*
Prior most severe arrest: 707(b) felony	-0.0305	0.239	-0.0197	0.103	0.355*	1.097	0.380**	0.971
SE	*0.0793*	*0.390*	*0.0736*	*0.264*	*0.143*	*0.698*	*0.125*	*0.606*
Number of prior arrests	0.0120	0.287	0.00735	0.0469	-0.0231	0.0521	-0.0360	0.0983
SE	*0.0191*	*0.186*	*0.0204*	*0.122*	*0.0577*	*0.150*	*0.0383*	*0.143*
Number of prior petitions	0.000589	-0.232	0.0150	0.0549	0.0193	0.270	0.0477	0.153
SE	*0.0310*	*0.280*	*0.0331*	*0.201*	*0.105*	*0.301*	*0.0678*	*0.248*
YLS score	0.0216***	0.0899***	0.0176***	0.0579***	0.00875	-0.000642	0.000510	-0.0232
SE	*0.00404*	*0.0177*	*0.00396*	*0.0133*	*0.00767*	*0.0237*	*0.00604*	*0.0197*
YLS missing	-0.00975	0.318	-0.0389	0.229	-0.0520	0.168	-0.0576	0.0671
SE	*0.0515*	*0.176*	*0.0476*	*0.127*	*0.111*	*0.246*	*0.0825*	*0.193*
Latinx male	-0.0112	0.0806	-0.0376	0.00484				
SE	*0.0422*	*0.192*	*0.0364*	*0.136*				
Other races male	-0.118*	-0.449*	-0.111*	-0.275*				
SE	*0.0469*	*0.183*	*0.0432*	*0.130*				

	Male				Female			
	Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed	Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed
Residence in San Francisco County	0.00828	0.456*	-0.0272	0.181	-0.0585	-0.334	-0.0513	-0.258
SE	*0.0384*	*0.177*	*0.0338*	*0.113*	*0.0639*	*0.187*	*0.0590*	*0.163*
Missing county of residence information	-0.0187	0.294	-0.0885*	0.0752	-0.141	-0.505*	-0.0882	-0.382
SE	*0.0528*	*0.158*	*0.0434*	*0.114*	*0.0929*	*0.246*	*0.0747*	*0.210*
Latinx female					-0.0975	-0.174	-0.161**	-0.287*
SE					*0.0786*	*0.176*	*0.0606*	*0.140*
Other races female					-0.110	-0.0304	-0.0708	-0.150
SE					*0.0763*	*0.211*	*0.0670*	*0.140*

Note. n = 613 for male youth; n = 213 for female youth. DCYF = Department of Children, Youth and Their Families; YLS = Youth Level of Service. Standard errors (*SE*) are in italic. The reference category includes youth impacted by the San Francisco justice system who did not participate in DCYF services of any kind including Justice Services; youth with a triggering arrest other than misdemeanor, 707(b) felony, or non-707(b) felony; youth with a prior most severe arrest other than misdemeanor, 707(b) felony (serious or violent offense), or non-707(b) felony; youth age 11 (as a reference for those ages 14 and younger); young age 15 (as a reference for those age 16); youth age 17 (as a reference for those older than 17); and youth with a residence outside San Francisco county. All models include a fixed effect for age at the time of the arrest and a fixed effect for time (in quarter-year increments).

*p < .05. **p < .01. ***p < .001.

Exhibit D6. Regression Output for Exhibit 11: The Impact of DCYF-Funded Justice Services Programming on Future Justice Involvement Outcomes by Age, July 2018 to June 2022

	Age 14 and younger				Age 15–16				Age 17 and older			
								Number of petitions filed	Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed
Justice Services participant	0.153	0.609*	0.186**	0.377*	0.102*	0.238	0.0581	0.184	0.0565	-0.730**	-0.0178	-0.549**
SE	*0.0797*	*0.246*	*0.0684*	*0.161*	*0.0463*	*0.148*	*0.0394*	*0.122*	*0.0499*	*0.276*	*0.0420*	*0.181*
Triggering arrest: Misdemeanor	0.0932	-0.609	0.0413	-0.491	0.135	0.653	0.126	0.350	-0.0390	1.606*	0.180	0.965*
SE	*0.132*	*0.474*	*0.112*	*0.366*	*0.0929*	*0.342*	*0.0924*	*0.263*	*0.0989*	*0.737*	*0.0923*	*0.477*
Triggering arrest: Non-707(b) felony	-0.0156	-0.605	-0.0253	-0.361	0.135	0.553	0.135	0.402	0.151	1.746**	0.363***	1.227**
SE	*0.137*	*0.486*	*0.120*	*0.376*	*0.0949*	*0.323*	*0.0913*	*0.270*	*0.1000*	*0.578*	*0.0859*	*0.376*
Triggering arrest: 707(b) felony	0.0159	-1.064*	-0.105	-0.748	0.110	0.592	0.0665	0.240	0.0100	1.235*	0.191*	0.781*
SE	*0.138*	*0.501*	*0.123*	*0.391*	*0.103*	*0.323*	*0.0937*	*0.251*	*0.104*	*0.559*	*0.0870*	*0.375*
Prior most severe arrest: Misdemeanor	-0.138	-0.445	0.0524	-0.199	0.168	0.360	-0.0157	0.0631	0.182	0.0945	0.0480	-0.0390
SE	*0.185*	*0.348*	*0.156*	*0.186*	*0.122*	*0.387*	*0.103*	*0.299*	*0.123*	*0.570*	*0.102*	*0.294*
Prior most severe arrest: Non-707(b) felony	-0.00802	0.157	0.0435	0.455	0.212	0.727	0.120	0.365	0.0834	-0.203	0.00827	-0.144
SE	*0.188*	*0.653*	*0.124*	*0.484*	*0.109*	*0.425*	*0.101*	*0.371*	*0.100*	*0.409*	*0.0817*	*0.290*
Prior most severe arrest: 707(b) felony	-0.165	-1.104*	-0.246*	-0.636**	0.122	0.262	0.119	0.351	0.232	1.942*	0.244*	1.114*
SE	*0.152*	*0.451*	*0.111*	*0.223*	*0.107*	*0.477*	*0.104*	*0.421*	*0.127*	*0.802*	*0.113*	*0.565*
Number of prior arrests	0.0972	0.290	0.0505	0.0812	-0.0464	-0.0167	-0.00956	0.0320	0.0122	0.240	0.00981	0.0329
SE	*0.0737*	*0.205*	*0.0443*	*0.0965*	*0.0452*	*0.183*	*0.0443*	*0.151*	*0.0213*	*0.189*	*0.0219*	*0.131*
Number of prior petitions	-0.127	-0.0727	0.0115	0.122	0.0630	0.149	0.0237	0.0357	-0.0341	-0.262	-0.0157	0.0597
SE	*0.127*	*0.286*	*0.0810*	*0.149*	*0.0669*	*0.220*	*0.0626*	*0.155*	*0.0389*	*0.321*	*0.0393*	*0.236*
YLS score	0.0267***	0.0955***	0.0202*	0.0520***	0.0248***	0.0748**	0.0143**	0.0342	0.0133*	0.0600*	0.00715	0.0372*
SE	*0.00739*	*0.0233*	*0.00779*	*0.0142*	*0.00614*	*0.0231*	*0.00548*	*0.0199*	*0.00587*	*0.0287*	*0.00497*	*0.0187*
YLS missing	-0.0826	0.264	-0.0216	0.166	0.128	0.439*	0.00104	0.0783	-0.0614	0.448	-0.0966	0.418
SE	*0.107*	*0.285*	*0.0914*	*0.196*	*0.0752*	*0.197*	*0.0609*	*0.157*	*0.0775*	*0.318*	*0.0668*	*0.219*

	Age 14 and younger				Age 15–16				Age 17 and older			
								Number of petitions filed	Ever rearrested	Number of rearrests	Ever petition filed	Number of petitions filed
Latinx male	-0.0306	0.0254	0.00711	0.206	0.0807	0.204	0.0425	0.0440	-0.0881	-0.0343	-0.155*	-0.0753
SE	*0.107*	*0.353*	*0.0820*	*0.228*	*0.0628*	*0.187*	*0.0569*	*0.152*	*0.0763*	*0.433*	*0.0611*	*0.286*
Other or unknown races male	-0.245*	-0.584	-0.181*	-0.304	0.00976	0.216	0.0490	0.265	-0.0855	-0.683	-0.149*	-0.478*
SE	*0.0973*	*0.304*	*0.0756*	*0.198*	*0.0724*	*0.244*	*0.0673*	*0.230*	*0.0768*	*0.351*	*0.0690*	*0.233*
Black female	0.0566	-0.311	0.0365	-0.0455	0.0486	0.237	0.00189	0.249	-0.0318	-1.001*	-0.125	-0.461
SE	*0.0926*	*0.262*	*0.0910*	*0.163*	*0.0792*	*0.314*	*0.0719*	*0.279*	*0.0894*	*0.443*	*0.0753*	*0.263*
Latinx female	-0.0204	-0.174	-0.175*	-0.191	-0.0115	0.0409	-0.0513	-0.0612	-0.0877	-0.488	-0.210*	-0.448
SE	*0.141*	*0.288*	*0.0821*	*0.189*	*0.0884*	*0.204*	*0.0710*	*0.155*	*0.108*	*0.386*	*0.0820*	*0.251*
Other or unknown races female	0.197	0.0146	-0.0599	-0.140	-0.211*	-0.133	-0.0897	-0.222	-0.0284	-0.660	-0.0726	-0.429
SE	*0.151*	*0.371*	*0.143*	*0.237*	*0.0868*	*0.354*	*0.0804*	*0.179*	*0.0977*	*0.369*	*0.0956*	*0.219*
Residence in San Francisco County	-0.0266	0.120	-0.0930	0.0275	-0.0770	-0.279	-0.0688	-0.268	-0.0134	0.561	-0.0245	0.259
SE	*0.0699*	*0.221*	*0.0572*	*0.140*	*0.0550*	*0.164*	*0.0448*	*0.144*	*0.0554*	*0.289*	*0.0486*	*0.193*
Missing county of residence information	-0.220	-0.450	-0.283**	-0.395	-0.0625	-0.0424	-0.0606	-0.0771	-0.0642	0.138	-0.0916	0.00324
SE	*0.117*	*0.272*	*0.0987*	*0.218*	*0.0625*	*0.163*	*0.0499*	*0.132*	*0.0794*	*0.307*	*0.0667*	*0.221*

Note. n = 162 for youth ages 14 and younger; n = 337 for youth 15–16 years old; n = 327 for youth ages 17 and older. DCYF = Department of Children, Youth and Their Families; YLS = Youth Level of Service. Standard errors (*SE*) are in italic. The reference category includes youth impacted by the San Francisco justice system who did not participate in DCYF services of any kind including Justice Services; youth with a triggering arrest other than misdemeanor, 707(b) felony (serious or violent offense), or non-707(b) felony; youth with a prior most severe arrest other than misdemeanor, 707(b) felony, or non-707(b) felony; Black male youth; and youth with a residence outside San Francisco county. All models include a fixed effect for age at the time of the arrest and a fixed effect for time (in quarter-year increments).

*p < .05. **p < .01. ***p < .001.

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