HHS Public Access

Author manuscript

Psychol Public Policy Law. Author manuscript; available in PMC 2022 May 01.

Published in final edited form as:

Psychol Public Policy Law. 2021 May ; 72(2): 283–291. doi:10.1037/law0000282.

The point of diminishing returns in juvenile probation: Probation requirements and risk of technical probation violations among first-time probation-involved youth

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Abstract

Technical probation violations are common among probation-involved youth, and across many jurisdictions, may result in detention or residential placement. The current study examined prevalence of technical violations occurring during one's *first* probation period, the average time to technical violation, and individual-level and justice-related factors related to technical violations among probation-involved youth in a juvenile justice system. We analyzed electronic criminal records of 18,289 probation-involved youth following their first arrest (68.7% male, 53.9% Black, *M*age=15.2). Technical violation was defined as a violation resulting from a non-criminal incident. We examined effects of charge severity, probation conditions (e.g., electronic monitoring) and program referrals (e.g., mental health) on likelihood of technical violation utilizing survival analysis stratified by race. Across 18,289 youth, 15.3% received a technical violation during their first probation; Black youth violated more quickly compared to White youth (log-rank test $p<.001$). In multivariate survival analyses, the hazard for time to technical violation was higher for Black youth compared to white youth ($p<.001$), males ($p=.04$), and younger youth ($p<.001$). Youth assigned to more probation requirements violated more quickly. Electronic monitoring and education, mental health, and drug programs were associated with shorter time to violation, controlling for race, ethnicity, and charge severity. Black youth violate more quickly compared to White youth. Across all youth, assignment to more probation requirements increased risk of technical violation and shorter time to violation. Despite the benefit of probation interventions, system-level efforts are needed to help youth adhere to probation requirements and successfully complete probation.

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Keywords

juvenile justice; probation; technical violation

Introduction

Probation is a common rehabilitation strategy used in the juvenile justice system; in 2009, 60% of delinquent youth in the US were placed on formal probation (Knoll & Sickmund, 2012; Livsey, 2012). Although probation was originally implemented as an alternative to incarceration and to keep youth in the community (Livsey, 2012), it can be viewed as a delayed path to prison rather than a true alternative, since a violation can lead to prolonged system involvement, including subsequent detention (Klingele, 2013; Phelps, 2017). One type of probation violation that is common across jurisdictions is technical violations, which are non-criminal, non-delinquent incidents in which an individual fails to meet the terms of their probation (Leiber & Peck, 2013; Smith et al., 2009). These actions may include failure to meet with a probation officer, failure to provide a urine drug test, or school absence during a period of required school attendance (Leiber & Peck, 2013; Smith et al., 2009). The focus of the current study is examining technical probation violations among youth on probation in a juvenile justice system during their first probation period, the average time to technical violation, as well as the impact of probation-ordered requirements on risk of and time to technical violations across black and white youth.

It should be noted that the study focuses on *technical* probation violations, rather than probation *noncompliance*. Probation noncompliance is similar to a technical violation (i.e., same actions), but technical violations are formally filed in the court and addressed by court personnel. While probation noncompliance is common among youth across jurisdictions, with estimates of up to 50% of youth with noncompliance (Adams et al., 2002; NeMoyer et al., 2014), rates of technical violations are lower (e.g., 14%; Smith et al., 2009), suggesting there is discretion and decision-making by both the probation officers and the court regarding issuance of technical violations for noncompliance.

In addition to inconsistency in formal documentation of technical violations, there is heterogeneity in decision-making surrounding the violation, such as whether to modify probation terms, detain the youth, or even revoke probation and place the youth in a residential facility (NeMoyer et al., 2014). This decision-making is important, as the consequences of these decisions have a significant impact on youth. Detention and residential placement are significant consequences for noncriminal actions, yet nationwide census data illustrates that 24% of youth in detention are detained for a technical violation (Sickmund et al., 2011, 2015). Detainment or placement following noncriminal violations is concerning given the negative impact of detention and residential placement on youth (Barnert et al., 2016; Gatti et al., 2009; Holman & Ziedenberg, 2006; Mendel, 2011).

One less severe consequence for a technical violation is an extended probation period. Prolonging a probation period is also disadvantageous for youth, as extended probation time further increases the risk of more violations (Benedict & Huff-Corzine, 1997) and thus perpetuates a continuous cycle of justice system involvement (Leiber & Peck, 2013; Phelps,

2017). This is particularly harmful for youth who are in a vulnerable developmental period where rational decision-making and behavioral regulation that would be expected of adults on probation is more challenging for youth (Phelps, 2017; Steinberg, 2008).

There is some research examining factors that may increase risk of probation noncompliance (NeMoyer et al., 2014); however, fewer studies have examined formal technical violations (Bechtold et al., 2015; NeMoyer et al., 2016). Moreover, to date no studies have examined factors influencing the risk of technical violation during one's *first* probation period, which is important as these youth have no previous legal history influencing probation decision-making and a successful probation completion may end their involvement with the justice system, compared to technical violations which will only prolong their justice system involvement. Next, we summarize findings from juvenile justice studies on factors associated with probation noncompliance (NeMoyer et al., 2014) and formal technical violations (Austin et al., 2005; Gies et al., 2009; Moeller, 2011).

Requirements

Justice-involved youth are often court-ordered to complete a number of different requirements as part of their probation. Requirements can range from probation conditions, such as electronic monitoring or curfew conditions, to participation in probation-required programs, such as drug screening, education programs, and completion of community service (NeMoyer et al., 2014). Many jurisdictions obligate multiple conditions and requirements on youth during probation, with one study finding that some youth had up to nine probation requirements with which to comply (NeMoyer et al., 2014). Some argue that the more requirements that youth are assigned, the more difficult it is for youth to complete all requirements, in turn decreasing their likelihood of "successfully" completing probation (NeMoyer et al., 2014). Assignment to such programs incites risk of noncompliance which can result in a technical violation (NeMoyer et al., 2014); failure to complete probation-required programs and school attendance were among the most common reasons for technical violation in two large jurisdictions (Bechtold et al., 2015).

Still, probation-required programs are seen as rehabilitative, and thus, probation decision-making is seen as a reflection of the needs of the individual rather than strict and intensive monitoring. For example, rates of both mental health and substance use problems among justice-involved youth are high (Fazel et al., 2008; Teplin et al., 2002), and as such, participation in mental health programs (e.g., individual therapy) and substance use programs (e.g., mandatory drug testing or treatment) are often a requirement of probation. Many evidence-based mental/behavioral health interventions have shown promise in reducing risk of recidivism among youth (Evans-Chase & Zhou, 2014; Lipsey, 2009), and as such there are ongoing efforts to implement such interventions across jurisdictions (Wiley et al., 2015).

Demographic Characteristics

Race/ethnicity.—There is extensive literature examining ethnic and racial disparities in the juvenile justice system on the front end of arrest and sentencing (Bishop, 2005); however, less research has examined differences among probation-involved youth (Bechtold

et al., 2015; Leiber & Peck, 2013; Steinmetz & Anderson, 2016), and findings are mixed. There is some evidence that Black and Hispanic youth are more likely to be issued a technical violation (Steinmetz & Anderson, 2016) or cited for noncompliance (NeMoyer et al., 2014; Smith et al., 2009) compared to White youth, while other evidence demonstrates similar rates of probation violations across race and ethnicity (Bechtold et al., 2015). Similar patterns of findings exist with respect to decision-making and consequences of technical violations: some studies have found that Black youth are more likely to receive harsher consequences, such as detainment or probation revocation as a result of probation violations (Krezmien et al., 2008; Mallett & Stoddard-Dare, 2010; Steinmetz & Anderson, 2016), while other studies have shown no differences in consequences of probation violations (i.e., rates of detention) across race and ethnicity (Bechtold et al., 2015; Leiber & Peck, 2013). The reason for racial disparities is unclear; however, racial/ethnic disparities are likely to result from both differential treatment by the juvenile justice system as well as different rates of offending (Bechtold et al., 2015; Piquero, 2008). The current study extends this literature by examining whether there are racial/ethnic differences in the time to probation violations among first-time probation-involved youth.

Gender and age.—Gender and age may also influence risk of technical probation violation and time to violation. For example, probation officers report using more intensive interventions (e.g., more frequent contact with youth, electronic monitoring) and confrontational strategies (e.g., threatening consequences of noncompliance) with younger adolescents (Glisson & Green, 2006; Latimer, 2011; Schwalbe & Maschi, 2009, 2011; Smith et al., 2009; Sorensen & Lopez, 2013). With respect to gender, there are conflicting findings (Espinosa et al., 2013; Leiber & Peck, 2008; Onifade et al., 2008) as to whether boys (NeMoyer et al., 2016) or girls (Tracy et al., 2009) are subject to harsher consequences – such as detainment – for violating probation, or whether there are no gender differences in processing of probation violations (McGuire et al., 2013) or risk of detainment (Espinosa et al., 2013).

Charge Severity.—Although evidence suggests that the severity of a youth's crime does not correlate with likelihood of future re-offending, there is evidence that the severity of the crime influences judicial decision-making on the front end as well as probation officer decision-making regarding choices to divert youth or formally process them (Applegate et al., 2000; Fine et al., 2017). Juveniles with more severe criminal charges, such as burglary versus a runaway, are typically subject to stricter decision-making by the probation officer, such as choosing to place youth in department of corrections or other restrictive placement (Aalsma, Holloway, et al., 2017). Thus, it is possible that youth with more severe charges may violate more quickly as the tolerance for probation noncompliance may be lower.

While these previous studies offer insight on factors related to technical violations, to date, few studies have examined the trajectory or timeline from *first* probation period to first technical violation or the impact of various probation conditions on risk of violation. One previous study examined the time to probation violation among youth across two jurisdictions (Bechtold et al., 2015); however, the sample size was small (n=264) and limited to only youth with technical violations rather than all probation-involved youth. The current

study expands on these findings by focusing on first-time probation-involved youth across a large jurisdiction.

Current Study

The current study seeks to examine risk of and time to first technical violation during juvenile probationers' first probation period. Given that previous legal history largely influences PO decision-making, we sought to focus on technical violations occurring during a youth's first probation period, as this time could be a critical period that defines a youth's future involvement with the justice system. Based on previous findings, we hypothesized that Black and other racial minority youth as well as and younger juveniles would be more likely to receive a technical violation and would violate more quickly. We also hypothesized that those assigned to more probation requirements, including probation supervision conditions (e.g., electronic monitoring, curfew) and probation-required rehabilitative programs (e.g., mental health, substance use treatment) would violate more quickly. Better understanding of factors that influence the chances of probation violations could inform policy and system-level changes that could help to increase juveniles' successful completion of probation, particularly for those following their first offense resulting in probation to prevent further system involvement.

Method

Data were gathered from a retrospective cohort study of youth who were involved in the juvenile justice system in Marion County, Indiana between January 1, 2000 and December 31, 2016. Electronic criminal records for each offender were retrieved from the date of the youth's first arrest. For the current study, a subsample of 18,289 youth with data from their *first* probation period were included in analyses. All procedures were approved by the Indiana University Institutional Review Board.

Measures

Youth gender, age at first arrest, and race/ethnicity were gathered from electronic criminal records. Race was categorized as Black (African American), White (Caucasian, European), or other racial minority (Asian/Pacific Islander, American Indian, multiracial). The severity of the youth's charge resulting in probation was categorized as felony (most severe), misdemeanor, or status offense (least severe, e.g., truancy). Technical probation violations were identified based on the electronic system's record of a technical probation violation. Violations could result from multiple incidents, such as failing to meet with probation officer at scheduled time, school absence, or missing curfew. We coded for both probation conditions as well as program referrals as part of probation. We define probation conditions as conditions related to supervision and monitoring. Probation *conditions* were categorized as follows: electronic monitoring, curfew conditions, and reporting conditions. We define probation-required *programs* as referrals to rehabilitative programs that target the youth's needs. The following probation-required *programs* were categorized as follows: mental health programs (e.g., individual or group mental health counseling); substance use programs (i.e., drug testing and/or substance use program); and restorative justice programs (e.g., community service, apology letter). We also coded for whether or not the youth was

detained as a result of a probation violation, based on a detention occurring within three weeks following documentation of a violation.

Statistical Analysis

All analyses were conducted using SAS 9.4 (SAS Institute Inc., 2013). We assessed the time from probation start date to the date of technical violation using survival analysis. Youth were censored if they were sent to Department of Corrections for placement or had no technical violations during the probation period. Technical violation-free probability stratified by race groups (White, Black, other race) was presented by Kaplan-Meier survival curve and compared utilizing log-rank tests. For multiple comparisons of survival curves, the Bonferroni adjustment was applied. Multivariable Cox proportional hazard models were conducted on covariates of interest, including race (Black, White, other racial-ethnic minority), ethnicity (Hispanic vs. non-Hispanic), charge severity, age, number of probation conditions, and number of probation-required programs. Follow-up multivariable cox proportional hazard models were conducted to determine whether specific conditions (e.g., electronic monitoring, curfew) or programs (e.g., mental health) were associated with time to technical violation.

Results

Preliminary Analyses

There were 18,289 youth (53.9% black; 68.7% male; age M=15.2 years) placed on probation following their first arrest incident between 2000 to 2016 (see Table 1). Black youth (p_{bon}<.001) and other racial minority youth (p_{bon}<.001) were assigned to more probation conditions than White youth, while White youth were referred to more programs than Black youth (p_{bon} <.001). Mental health programs were the most common program across all youth (33.9%). Overall, 46.4% of the sample were charged with felonies; Black youth had higher rates of felonies and misdemeanors compared to White youth and other racial minority youth (p_{bon}<.001).

Of 18,289 youth on probation, 15.3% (n=2,594) received a technical violation during their first probation; Black (16.7%) youth were more likely to receive a technical violation compared to White youth (13.3%); there were no other differences across race. Significantly more White youth (43.2%) than Black youth (37%) and other racial minority youth (28.6%) were detained as a result of technical violation (p=.002 and p=.02, respectively).

Figure 1 presents rates technical violations at each year over time.

Survival Analysis

The Kaplan-Meier curves for time to first technical violation across each race group are presented in Figure 2. Log-rank tests show that there were significant differences in survival probabilities across race; at the 25th percentile, Black youth violated more quickly (271 days) compared to White youth (311 days); the 25th percentile was not reached for other racial minority youth.

Multivariate survival analysis

In multivariate Cox regression examining time to first technical probation violation, the hazard for time to technical violation was 16% higher for Black youth (*AHR*=1.16, $p<.001$) and 28% higher for other racial minority youth (*AHR*=1.28, $p<.001$) compared to White youth; the hazard for time to violation for Hispanics was 80% lower compared to non-Hispanic youth (*AHR*=0.80, $p=.03$; see Table 2). Males also had a 22% higher hazard for time to technical violation compared to females (*AHR*=1.22, $p=.001$) and younger youth had a higher hazard (AHR=0.94, $p<.001$). Regarding charge severity, youth with misdemeanors (*AHR*=0.77, $p<.001$) and felonies (*AHR*=0.62, $p<.001$) had lower hazards for time to technical violation compared to youth with a minor status offense. In regards to probation requirements, more program referrals (*AHR*=1.84, $p<.001$) and more probation conditions (*AHR*=1.28, $p<.001$) were associated with higher hazards, suggesting more programs and conditions were associated with shorter time to violation.

Follow-up multivariate survival analysis

Follow-up survival analyses examined whether certain probation requirements or program referrals were associated with technical violation risk (see Table 3). Males (*AHR*=1.21, $p<.001$), Black (*AHR*=142, $p<.001$) and other racial minority (*AHR*=1.30, $p=.006$), and younger youth (*AHR*=0.93, $p<.001$) violated more quickly. Youth with status offenses violated more quickly compared to those with misdemeanors (*AHR*=0.80, $p<.001$) and felonies (*AHR*=0.58, $p<.001$). Regarding probation requirements, assignment to electronic monitoring (*AHR*=2.98, $p<.001$) and curfew conditions (*AHR*=1.34, $p<.001$) were associated with shorter time to technical violation. Further, assignment to education (*AHR*=1.19, $p=.03$), mental health (*AHR*=1.57, $p<.001$), and drug (*AHR*=1.88, $p<.001$) programs were all associated with shorter time to technical violation.

Discussion

The current study sought to examine factors related to time to technical violation following a youth's first incident resulting in probation among a large sample of probation-involved youth. This is the first study to examine rates of technical violations across a large juvenile justice jurisdiction, as well as the first to examine the rates of violations and *time* to technical violation during youth's *first* probation period, in which they have no previous criminal history.

Black youth were more likely to receive a technical violation and had a shorter time to technical violation compared to White youth; further, even when accounting for other factors, such as charge severity and probation requirements, Black youth showed higher risk of and shorter time to technical violation compared to White youth; no differences were seen with other racial minority youth. Findings add to the sparse and divergent literature on technical violations across racial and ethnic groups (Bechtold et al., 2015). Interestingly, despite the shorter time to technical violation for Black youth, White youth had higher rates of detention as a result of technical violation compared to Black and other racial minority youth. Further examination is needed to determine whether these differences are due to differences in decision-making by probation officers or differences in incidents resulting in

violations among youth. Nonetheless, findings highlight the complexity of racial disparities that exist not only on the front end of the juvenile justice system but also with probation and consequences of non-criminal incidents. Across many jurisdictions there is a tendency towards punitive decision-making in response to non-criminal incidents, which is concerning given the potentially negative impact that detention can have on youth (Gatti et al., 2009). Additional understanding of what factors influence a judge's decision-making regarding consequences following technical violations is a clear direction for future research.

We also found that regardless of race, age, gender, and charge severity, the more probation-required programs and probation supervision conditions youth were assigned, the less time to technical violation; further, assignment to electronic monitoring, curfew conditions, education, mental health, and drug programs all decreased the time to technical violation. Findings could be explained by the risk-needs-responsivity (RNR) model (Bonta & Andrews, 2007) and the premise that a youth with more challenges (e.g., substance use, mental health) is not only at higher risk of violating or re-offending but also more likely to be referred to more services and potentially more intensive services. In this case, we would expect that a youth with more challenges would be more likely to recidivate or violate and also be referred to more services. Still, the goal of the RNR model is to appropriately address both a youth's risks – through conditions such as electronic monitoring – as well as needs – through rehabilitative programs – in order to reduce the chances of re-offending or violating probation (Bonta & Andrews, 2007).

Another explanation for findings could be related to the burden of probation requirements and their impact on successful probation, which is consistent with the argument that assigning youth to multiple requirements and probation conditions is not necessarily effective but instead makes it more difficult for youth to succeed. For example, many justice-involved youth come from families with minimal resources (Paik, 2017), creating barriers to following probation conditions, such as missing required appointments or meetings due to transportation issues. Parent engagement in probation is crucial and often a part of probation (e.g., engagement in family therapy); however, parent engagement in probation is often challenging (Burke et al., 2014; Paik, 2017; Walker et al., 2015). Nonetheless, probation-required programs are generally *intended* to be non-punitive wrap-around services to assist the youth in rehabilitation and positive development, although parents and youth do not always view probation programs as non-punitive (Paik, 2017).

Findings may also reflect probation officer decision-making. Given that juvenile probation officers (JPO) must balance both rehabilitative strategies while enforcing public safety, there is great discretion in decision-making with probation-involved youth (Griffin & Torbet, 2002; Ward & Kupchik, 2010). For example, compared to other justice officials, JPOs are more likely to use additional punitive monitoring strategies and law enforcing tactics rather than rehabilitative tactics (Bechtold et al., 2015; Hsieh et al., 2016). There is also evidence that JPOs use different strategies depending on youth circumstances. For example, there is evidence that JPOs use different more restorative justice rather than punitive strategies for youth with substance use and mental health issues (Holloway et al., 2017). Additionally, JPOs consider a youth's home environment and social circle in addition to crime severity and prior criminal involvement when deciding if a youth should be formally processed

(Fine et al., 2017). Given that those with mental health and substance use issues are likely assigned to such programs, findings could be a result of stricter probation strategies used with these youth.

Relatedly, crime severity often influences JPO's probation strategies, such that JPOs use stricter strategies with youth with more severe charges (Fine et al., 2017). Contrary to hypotheses, we found that youth with less severe charges (status offense) violated more quickly compared to youth with more severe charges (felony or misdemeanor). It could be that youth with more severe charges were more likely to be re-offend and be charged with a new offense before they had the opportunity to receive a technical violation as a result of stricter court decision-making on the front end (Applegate et al., 2000). Still, conclusions cannot be made based on the current results and further research is needed to explore if this is a consistent pattern or if this is unique to the current sample.

Implications

Results highlight implications for the juvenile-justice system. First, additional research on probation and technical violations is needed to better understand reasons for a technical violation, such as failure to attend a mental health appointment, as well as the utility of technical violations and how and when they should be issued. This is especially critical given that, in many jurisdictions, these non-criminal incidents result in a detention or extended probation period. As discussed earlier, detention and prolonged probation are both associated with poor outcomes for youth (Gatti et al., 2009). Either choosing the most appropriate requirements for youth (e.g., Bonta & Andrews, 2007) or not penalizing youth for failing to comply with these requirements may increase youth's success in probation. Further, efforts should be made to address youth barriers to meeting these requirements (i.e., transportation, other environmental barriers or family challenges) rather than punishing youth for lack of adherence.

It is also important to note that adolescence is a time in which experiencing mastery and developing self-efficacy is paramount for youth positive development (Crone & Dahl, 2012); by burdening youth with multiple requirements only to penalize them for noncompliance with one or more of these requirements instead of rewarding them for those that they complete robs them of the opportunity to develop a sense of self-efficacy. Even more, detaining youth as a result of violation is also detrimental, as detention has been shown to hinder psychosocial development (Dmitrieva et al., 2012).

There have been significant efforts more recently to amend probation policies to improve outcomes among youth (e.g., Mendel, 2018). These initiatives emphasize two main transformations to juvenile probation: (1) diverting low-level offenses from the juvenile justice system, which would result in reduced probation violations, and (2) reformatting probation to serve more as interventions that foster growth and behavioral changes. For instance, in Akron, Ohio, local police departments referred nearly 20% of the delinquency cases to a police-led diversion program, compared to formally arresting. Similarly, police agencies in Florida issued nearly 10,000 civil citations to youths in 2016 rather than arresting for low-level offenses. For youth with offenses that cannot be differed counties have taken a broader probation approach to include families, community groups, and other

services to assist youth while on probation. For example, the City of St. Louis develops a plan for each individual youth with the probation officer, family, and youth. Results indicate a 59% decrease in recidivism while on probation (Mendel, 2018). Additional efforts include a focus on disproportionate minority contact and thinking through how to mitigate these encounters with the justice system.

Further, findings add to the extensive literature on racial disparities in the juvenile justice system and racial disparities related to probation (Leiber & Peck, 2013; NeMoyer et al., 2014, 2016; Steinmetz & Anderson, 2016). In order to address this bias, states have utilized dispositional guidelines and sentencing guidelines for the treatment of juvenile probation violations (National Center for Juvenile Justice, 2006). Standardized guidelines may reduce racial disparities among juvenile offenders; however, Washington is the only state to have currently implemented such guidelines (Bechtold et al., 2015).

Limitations

The study is not without limitations. For one, as discussed above, reasons for the probation violation are unknown, thus, it is difficult to determine the exact influence of these probation requirements on risk of violation. Likewise, we only have data on issued technical violations, and do not have data on probation non-compliance that was not formally processed by the court (e.g., see NeMoyer et al., 2014); further research should examine decision-making and processes related to formally issuing a technical violation for probation non-compliance. Second, we do not know outcomes of probation completion, and thus, cannot determine the impact of violations. Third, we rely on administrative data, in which data quality is often a concern. Still, we utilized sophisticated data management and cleaning to ensure data quality (Aalsma, Schwartz, et al., 2019). Lastly, we are unable to account for the probation officer's perspective and judgement during the decision-making process. Related to this, we did not have data on assessments related to the youth's risk level and needs, which likely impacted decision-making regarding most appropriate probation conditions for youth.

Conclusion

This study examined technical violations among first time juvenile probationers in a large juvenile justice population utilizing administrative records. In addition to evidence for racial disparities among probation-involved youth, across all youth, more referrals to programs and probation conditions were associated with increased risk of technical violation. Findings highlight the need for a better understanding of reasons for violation and judicial decision-making into program assignment from a research and policy perspective.

Acknowledgments

The study was supported by grants through the U.S. DHHS, Health Resources and Services Administration, Maternal and Child Health Research Program (R40MC08721, PI: Matthew C. Aalsma) as well as the Agency for Healthcare Research and Quality (R01HS022681, PI: Matthew C. Aalsma; R01HS023318, PI: Sarah E. Wiehe).

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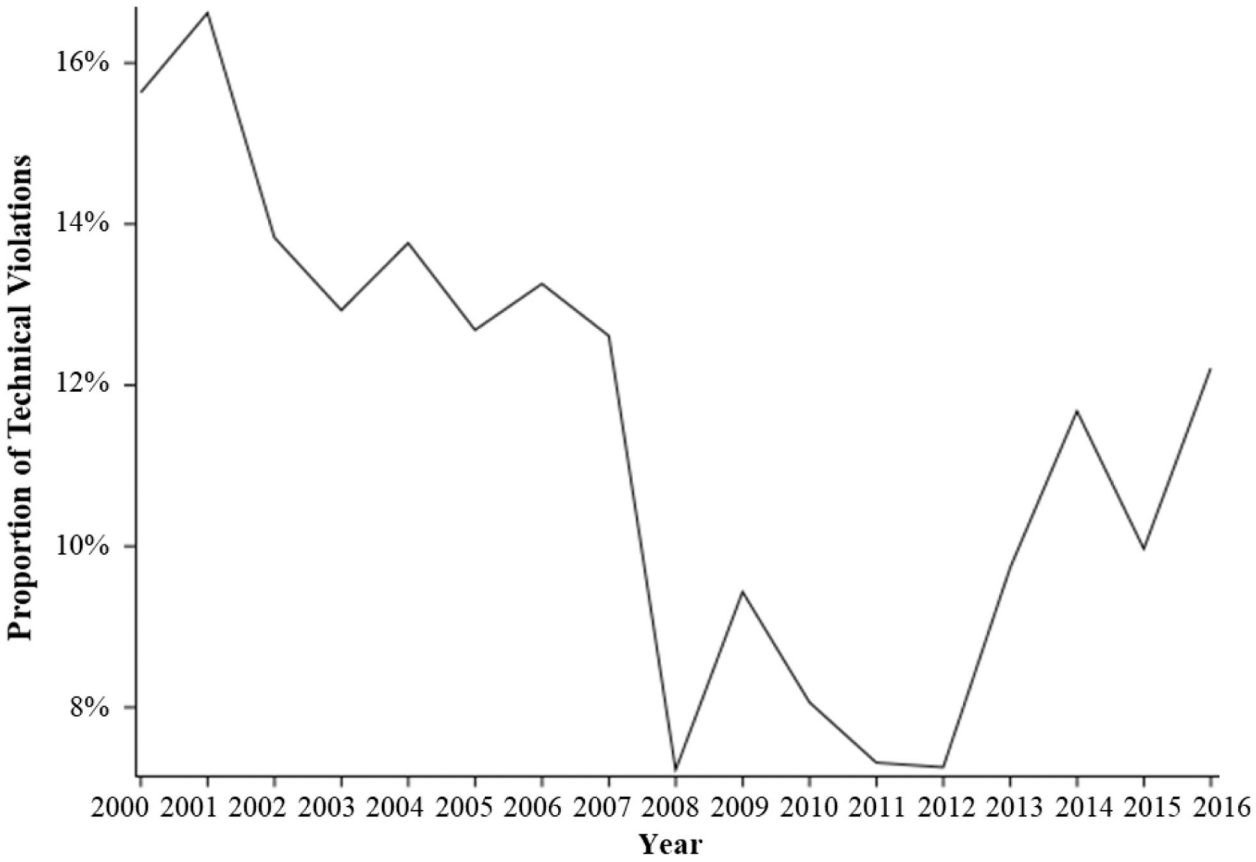

Figure 1.

Proportion of Technical Violations from 2000 to 2016

Note. Proportion of technical violation at year x was calculated as number of the first technical violations of year x divided by number of probations of year x.

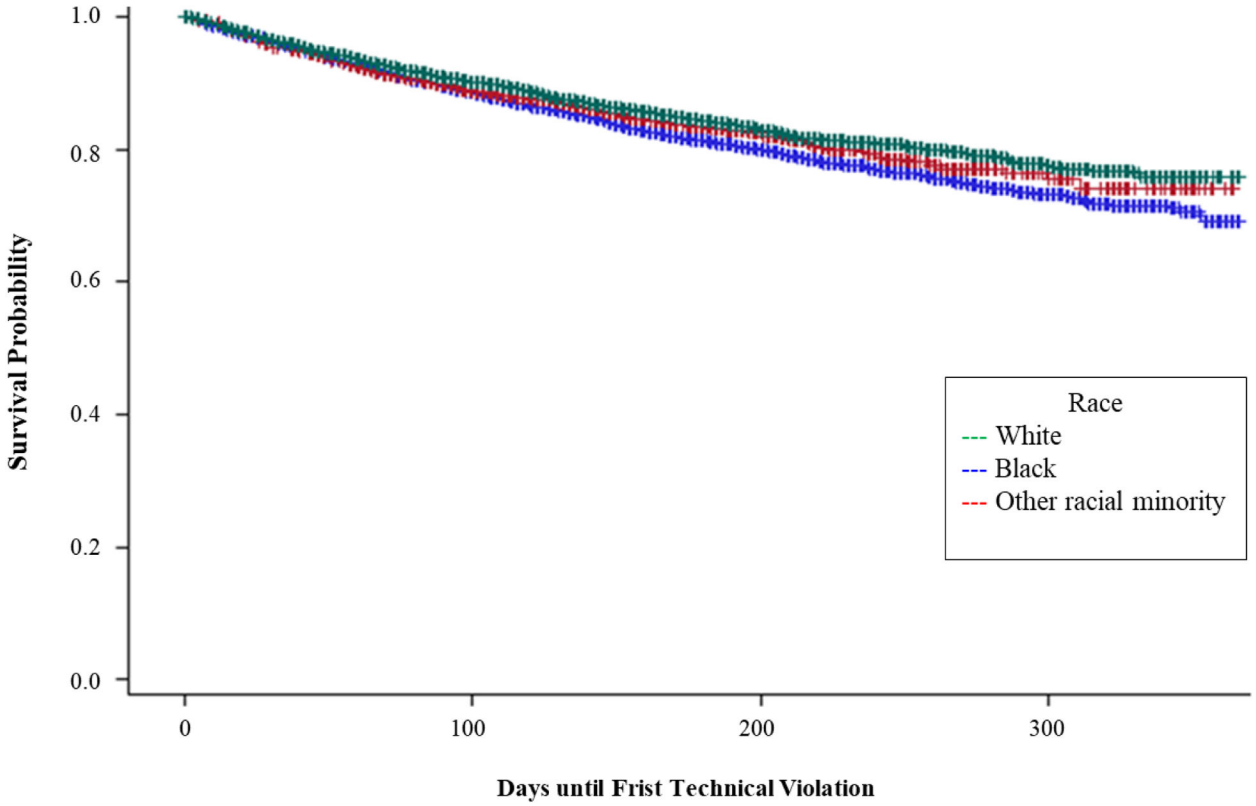

Figure 2.

Kaplan-Meier Survival Curve Estimates for Time until First Technical Violation

Note. Median length of probation period was 137 (IQR: 95–197) days for Black youth, 127 (IQR: 95–207) days for White youth, and 139 (IQR: 96–211) days for other racial minority youth. Black youth had significantly longer probation period than White youth (Wilcoxon test using Bonferroni correction: p_{bon}<.001). + Denotes censored data if youth was sent to Department of Corrections for placement or had no technical violations during the probation period.

Table 1

Baseline Demographics and Probation Characteristics

Characteristics	Overall sample (*N*=18289)	Black (*n*=9852)	White (*n*=7139)	Other race (*n*=1298)	*P*-value[a]	*P*-value[b]	*P*-value[c]
Gender					.04	.36	.047
Female	5,719 (31.3%)	3,156 (32.0%)	2,183 (30.6%)	380 (29.3%)			
Male	12,559 (68.7%)	6,691 (67.9%)	4,952 (69.4%)	916 (70.6%)			
Ethnicity					<.001	<.001	<.001
Non-Hispanic	17,423 (95.3%)	9,836 (99.8%)	6,823 (95.6%)	764 (58.9%)			
Hispanic	866 (4.7%)	16 (0.2%)	316 (4.4%)	534 (41.1%)			
Age at incident	15.2 (1.7)	15.1 (1.8)	15.3 (1.7)	15.1 (1.7)	<.001	.08	.77
Technical Violation (Y/N)	2,594 (15.3%)	1,645 (16.7%)	949 (13.3%)	199 (15.3%)	<.001	.054	.20
Detention following Violation	1,020 (39.3%)	609 (36.9%)	411 (43.2%)	57 (28.6%)	.002	.001	.02
Total Probation Conditions	0.29 (0.77)	0.33 (0.85)	0.22 (0.61)	0.31 (0.88)	<.001	<.001	1.0
Electronic monitoring	2,782 (15.2%)	1,664 (16.9%)	918 (12.9%)	200 (15.4%)	<.001	.013	.18
Curfew conditions	1,104 (6.0%)	706 (7.2%)	313 (4.4%)	85 (6.5%)	<.001	<.001	.42
Total Program Referral	1.29 (1.08)	1.24 (1.06)	1.35 (1.08)	1.28 (1.17)	<.001	.07	.93
Education program	1,199 (6.6%)	681 (6.9%)	470 (6.6%)	48 (3.7%)	.40	<.001	<.001
Community program	778 (4.3%)	532 (5.4%)	192 (2.7%)	54 (4.2%)	<.001	.004	.06
Restorative justice program	7,779 (42.5%)	4229 (42.9%)	3026 (42.4%)	524 (40.4%)	.48	.18	.08
Mental health program	6,185 (33.8%)	3,234 (32.8%)	2,529 (35.4%)	422 (32.5%)	<.001	.043	.82
Drug program	4,190 (22.9%)	1,815 (18.4%)	2,050 (28.7%)	325 (25.0%)	<.001	.007	<.001
Drug testing	1,518 (8.3%)	776 (7.9%)	615 (8.6%)	127 (9.8%)	.08	.17	.012
Charge severity					<.001	.89	<.001
Minor (status offense)	2272 (12.4%)	873 (8.9%)	1189 (16.7%)	210 (16.2%)			
Misdemeanor	7529 (41.2%)	4200 (42.6%)	2818 (39.5%)	511 (39.4%)			
Felony	848 (8.4%)	477 (9.5%)	313 (2.9%)	577 (4.5%)			

Note. Values are *M*(*SD*) or *n*(*%*). Using ANOVA for continuous variables and Chi-square test for categorical variables; pairwise comparisons were adjusted using Bonferroni correction.

[a]White vs. Black,

[b]White vs. other racial minority,

[c]Black vs. other racial minority.

Table 2

Multivariate Cox Regression of Time to First Technical Probation Violation

	AHR (95% CI)	***P*-value**
Gender (Male)	1.09 (1.00, 1.19)	.04
Race (referent: White)		
Black	1.16 (1.07, 1.26)	<.001
Other racial minority	1.11 (0.95, 1.31)	.20
Ethnicity (Hispanic=1)	0.80 (0.65, 0.98)	.03
Charge severity (referent: status offense)		
Misdemeanor	0.84 (0.75, 0.95)	.004
Felony	0.62 (0.55, 0.70)	<.001
Age (with 1 year increase)	0.93 (0.91, 0.95)	<.001
Program referral (with 1 count increase)	1.12 (1.09, 1.16)	<.001
Probation conditions (with 1 count increase)	1.34 (1.30, 1.38)	<.001

Note. AHR=adjusted hazard ratio.

Table 3

Follow-up Multivariable Cox Regression of Time to First Technical Probation Violation

	***AHR* (95% CI)**	***P*-value**
Gender (Male)	1.09 (1.00, 1.19)	.048
Race (referent: White)		
Black	1.22 (1.12, 1.32)	<.001
Other racial minority	1.14 (0.97, 1.34)	.11
Ethnicity (Hispanic=1)	0.84 (0.68, 1.03)	.09
Charge severity (referent: status offense)		
Misdemeanor	0.80 (0.71, 0.91)	<.001
Felony	0.58 (0.52, 0.66)	<.001
Age (with 1 year increase)	0.93 (0.91, 0.96)	<.001
Electronic monitor[a]	2.11 (1.93, 2.31)	<.001
Curfew condition[a]	2.09 (1.92, 2.27)	<.001
Education program[a]	1.33 (1.15, 1.53)	<.001
Mental health program[a]	1.63 (1.51, 1.76)	<.001
Drug program[a]	1.32 (1.20, 1.44)	<.001

Note. N=18,289. AHR=adjusted hazard ratio.

[a]Dichotomous variables representing 1=yes assigned to program/requirement.