

Is the Effect of Justice System Attitudes on Recidivism Stable After Youths' First Arrest? Race and Legal Socialization Among First-Time Youth Offenders

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Youth who hold negative attitudes toward the justice system are more likely to engage in crime. It is particularly important to study attitudes early in someone's criminal career when they may still be open to change. To date, however, there has been no empirical test assessing whether the relation between attitudes and behavior changes after a first arrest. Using a sample of 1,216 first-time, male, juvenile offenders from the Crossroads Study, the present study explored: (a) racial/ethnic differences in the longitudinal patterns of youths' attitudes; and (b) reciprocal associations between youths' attitudes and both their offending behavior and rearrests in the 2.5 years after their first arrest. The results indicated that White youths' attitudes remained largely stable, Black youths' attitudes became more negative, and Latino youths' attitudes became more negative but only among Latino youth who reoffended. Although the results indicated that youths' attitudes were related to both offending and rearrest, the bidirectional relation between attitudes and offending weakened across time. After 2.5 years after their first arrest, attitudes no longer predicted offending or rearrests. These novel findings suggest that a youth's first contact is likely the most impactful. When it comes to young offenders' interactions with the justice system, first impressions matter.

Keywords: legal socialization, procedural justice, race, justice system legitimacy

When individuals come into contact with a justice system that they perceive to be legitimate, they tend to obey the laws set forth by that system (Beetham, 1991; Sunshine & Tyler, 2003; Tyler, 1990, 2005). Conversely, when individuals view the justice system

as less legitimate, they may feel justified in breaking the law (Sampson & Bartusch, 1998; Tyler, 1990). Negative attitudes toward the legitimacy of the justice system are associated with higher rates of offending among adults (e.g., Fagan & Piquero, 2007; Reisig, Wolfe, & Holtfreter, 2011) and adolescents (e.g., Cavanagh & Cauffman, 2015b; Fagan & Tyler, 2005; Piquero et al., 2005). However, it is not known whether the strength of the effect of a youth's attitudes toward the justice system on his or her criminal offending changes in the years after the juvenile's first contact with the justice system.

When addressing this important policy question, it is important to consider that there are stark racial/ethnic differences in juvenile justice system contact, such that non-White youth are consistently overrepresented in the system relative to White youth (Stevens & Morash, 2015). However, few studies have tracked the development of justice system attitudes separately by race (Fine & Cauffman, 2015; Piquero, Bersani, Loughran, & Fagan, 2014; Woolard, Harvell, & Graham, 2008), and none has examined racial differences in the strength of the relation between attitudes and offending. The goal of the present study is to determine whether the effect of attitudes on offending behavior changes over the course of 2.5 years after youths' first

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adjudication and whether there are racial/ethnic differences in this pattern of associations.

Justice System Legitimacy

Procedural Justice

Justice system legitimacy is a foundational component of both criminological research and public policy (Jackson & Gau, 2015). The concept of authority legitimation stems from Max Weber's (1978) seminal work on power, Tapp and Levine's pioneering work on socialization of law-related norms (Tapp, 1976; Tapp & Levine, 1974), and Thibaut and Walker's (1975) work connecting fair processes to the acceptance of undesirable outcomes. More recently, the procedural justice model of justice system legitimacy has expanded on this literature. The procedural justice model posits that the perceived fairness of the treatment of citizens when they come in contact with legal authority informs citizens' beliefs about the justice system's legitimacy (Sunshine & Tyler, 2003; Tyler, 1990). One's sense of legitimacy reflects a general orientation toward the social responsibility to obey legal authority (Beetham, 1991; Kelman & Hamilton, 1989). This compliance derives from voluntary respect for the justice process rather than fear of punishment (Tyler, 1990). Just as fair treatment signals to citizens that legal authority is to be obeyed, unfair direct (Paternoster, Brame, Bachman, & Sherman, 1997; Slocum, Wiley, & Esbensen, 2015) or vicarious (e.g., Fine, Cavanagh, Donley, Steinberg, Frick, & Cauffman, 2016) experiences with the law may disrupt one's sense that the justice system is a legitimate authority (Sunshine & Tyler, 2003; Tyler, 1990).

Criminal Offending

A primary premise of the procedural justice model is that an individual's view of legitimacy affects his or her likelihood of violating the law (Tyler & Huo, 2002). Fair treatment signals to citizens that legal authority is to be obeyed, which in turn is associated with law-abiding behavior (Hinds, 2009; Paternoster, Brame, Bachman, & Sherman, 1997; Tyler, 1990). In contrast, unfair treatment undermines not only the perception of legitimacy of the institution, but also this obligation to obey (Agnew, 1992; Sherman, 1993; Tyler, 2006). Individuals who perceive the justice system as less legitimate may feel more justified in breaking laws and may engage in more offending (e.g., Fagan & Piquero, 2007; Reisig, Wolfe, & Holtfreter, 2011). Conversely, promoting perceptions of procedural justice or the system's legitimacy is promising as a crime deterrent in the community (Kirk & Matsuda, 2011; McGarrell, Corsaro, Hipple, & Bynum, 2010) and among individuals (Wallace, Papachristos, Mearns, & Fagan, 2015).

Legal Socialization

During adolescence, the capacity to construct a coherent worldview develops (Kohlberg, 1969), and attitudes both generally (Vollebergh, Iedema, & Raaijmakers, 2001) and specifically toward the legitimacy of the justice system (Augustyn, 2015a; 2015b; Cohn et al., 2010; Cohn & White, 1990; Fagan & Tyler, 2005; Tapp & Levine, 1974; Woolard et al., 2008) are fluid. This normative, sociocognitive-developmental process, termed "legal

socialization," involves internalizing and evaluating a society's rules and enforcement mechanisms (Fagan & Tyler, 2005). Like adults, youth base their legitimacy attitudes on the accrual of personal or vicarious experiences with the justice system (Cavanagh & Cauffman, 2015b; Piquero et al., 2005; Wolfe, McLean, & Pratt, 2016). Legal socialization is an interactive construct; as youth observe or learn about the justice system, they develop a particular orientation toward the legitimacy of that system (Brick, Taylor, & Esbensen, 2009; Sprott & Greene, 2010).

As with adults, youths who negatively evaluate the justice system are more likely to engage in criminal offending, recidivating, and rule-violating, patterns that have been found in both community (Trinkner, 2012; Trinkner & Cohn, 2014) and delinquent samples (Augustyn & Ward, 2015; Cavanagh & Cauffman, 2015a; Fagan & Tyler, 2005; Hinds, 2007; Otto & Dalbert, 2005; Piquero et al., 2005; Sprott & Greene, 2010). When youth who report low justice system legitimacy violate the law, they may induce a belief-enforcing response from legal actors, perpetuating a cycle of distrust and offending (Fagan & Tyler, 2005; Piquero et al., 2005). Thus, determining how youths' attitudes toward the justice system change over time may inform interventions to decrease youthful offending. In fact, recent evidence suggests that the association between procedural justice and cooperation with law enforcement may be even stronger among youth than adults (Murphy, 2015).

Race/Ethnicity and Justice System Legitimacy

Research has consistently documented that non-White individuals have more negative attitudes toward the justice system than do White individuals. The same is true for justice system-involved youth (see Peck, 2015 for a review), likely based on disparate justice system experiences. Relative to White youth, non-White youth may face greater community monitoring, disproportionately high justice system involvement (Leiber & Peck, 2014), and harsher sanctions within the justice system (Cochran & Mears, 2014). Non-White youth are also more likely to describe their interactions as unfair (Geistman & Smith, 2007; Hagan, Shedd, & Payne, 2005). Studies that dichotomize White versus non-White youths when examining differences in justice system attitudes may miss important nuances. There is evidence that Latinos, the fastest-growing ethnic group in the United States, fall between Black and White youth, both in terms of the degree to which they are criminalized (Hagan, Shedd, & Payne, 2005) and attitudes toward the justice system (Fine & Cauffman, 2015). Indeed, Black (Hurst, Frank, & Lee Browning, 2000; Wu, Lake, & Cao, 2015) and Latino youth consistently report more negative attitudes toward the police than White youth (Solis, Portillos, & Brunson, 2009; Wu, Lake, & Cao, 2015). Although the majority of this work has been on attitudes toward police specifically, there is evidence of similar trends in attitudes toward the justice system more broadly (Fine & Cauffman, 2015).

Recent high-profile instances of violence and acrimony between police officers and community members—the majority of whom have been non-White—highlight the importance of understanding how young people develop attitudes toward the justice system, and the role of race/ethnicity in legal socialization. For example, Fine and Cauffman (2015) found that among serious youthful offenders, Black and Latino youth viewed the justice system as significantly

less legitimate than did White youth, a difference that amplified over time. However, this study used a sample of serious (e.g., mostly felony-level) youthful offenders who were not new to the justice system; it is likely that previous justice system experiences affected their attitudes. For this reason, it is especially important to study how interactions with the justice system affect a youth's attitudes toward the system after the youth's *first* arrest.

The Stability of the Relation Between Justice System Attitudes and Crime

Although there is considerable evidence that juveniles' attitudes toward the legal system are associated with their rule-breaking behavior, to date, there has been no empirical test assessing whether this relation remains constant over time. This is a particularly important question among delinquent youth, given that (a) their attitudes toward the justice system are continuing to develop and (b) these attitudes are informed by prior attitudes and continued interactions and experiences with the justice system (Augustyn, 2015b). If attitudes toward the justice system consistently affect youth behavior, we would expect that regardless of how much time has passed since the youth entered the justice system, his attitudes would affect his propensity to engage in crime. Thus, attitudes toward the justice system would be expected to affect youth crime both immediately after first exposure to the justice system and in the ensuing months and years. However, it is also possible that attitudes toward the justice system are most influential immediately after the youth's first exposure to the system. Over time, youths' attitudes toward the justice may habituate, such that the effect of these attitudes on youth offending behavior weakens or disappears. It is also possible that Black or Latino youth differ from White youth in the strength and magnitude of the association between attitudes and crime, given evidence that Black and Latino youthful offenders report more negative views toward the justice system relative to White youth (Fine & Cauffman, 2015).

Reciprocal Relation Between Attitudes and Crime

It is also possible that there is a reciprocal relation between attitudes toward the justice system and law-breaking behavior. Just as youths' negative attitudes affect their propensity to engage in crime, it is likely that their offending alters their subsequent attitudes. Engaging in misconduct may lead one to devalue moral standards (Hirschi, 1969), though researchers have found that this effect is weak (Shulman, Cauffman, Piquero, & Fagan, 2011). Further, youth who engage in delinquency may develop increasingly strong attitudes supporting subsequent delinquency (Engels, Luijpers, Landsheer, & Meeus, 2004). Although it has not been tested empirically beyond studies of correlational design, it is likely that offending behavior reinforces negative attitudes toward the justice system. Further, youth who are rearrested may be more likely to develop increasingly negative attitudes.

The Present Study

The present study is the first to explore longitudinal, reciprocal associations between youths' attitudes toward the justice system and offending after adolescents' first personal justice system ex-

perience. Additionally, we build on previous research to chart racial/ethnic differences in these associations. First, we track attitude development over the 2.5 years after first arrest for Black, White, and Latino youth, separating trajectories for those who reoffend and those who do not. Second, we examine the longitudinal, reciprocal effects of attitudes on offending over time for the full sample, then individually by racial/ethnic group. Third, we track attitude development over time by race/ethnicity, separating trajectories for those who are rearrested and for those who are not rearrested. Finally, we track the reciprocal effects of attitudes on rearrest over time for the full sample then individually by racial/ethnic group. If attitudes toward the justice system consistently affect youth behavior, we would expect that a youth's negative attitude would affect his propensity to engage in crime and his likelihood of being rearrested regardless of how much time has passed since the youth entered the justice system. However, it is also possible that attitudes toward the justice system have the biggest impact immediately after the youth's first exposure to the system. Thus, over time, youths' attitudes toward the justice may habituate such that the effect of these attitudes on youth offending behavior weakens or disappears.

Method

Participants

The sample included 1,216 male juvenile offenders who were ages 13 to 17 ($M = 15.3$, $SD = 1.3$) at baseline from the Crossroads Study. Crossroads follows male adolescent offenders after their first official contact with the juvenile justice system. The youths had each been arrested for a range of nonfelony offenses, with the most frequent charges including vandalism (17.5%), theft (16.7%), and possession of marijuana (14.8%). Youths were sampled from three sites: Philadelphia, PA ($N = 533$); Jefferson Parish, LA ($N = 151$); and Orange County, CA ($N = 532$). Consistent with the overrepresentation of racial/ethnic minority youth in the juvenile justice system, the sample was racially diverse: Latino (46%), Black (37%), White (15%), and self-identified other (2%).

Of the initial 1,216 youth enrolled in the study, approximately 96% completed the 6-month interview, 94% the 12-month interview, 94% the 18-month interview, 93% the 24-month interview, and 92% the 30-month interview. The sample size of youth with complete data for all study measures was 1,216 at baseline, 987 at 6 months, 988 at 12 months, 1,005 at 18 months, 1,015 at 24 months, and 1,008 at 30 months. Results of Little's missing complete at random test, $\chi^2(85, N = 1216) = 91.23$, $p = .302$, indicated that data were missing completely at random (Li, 2013; Little, 1988; Little, 1992).

Procedures

The Institutional Review Board (IRB) at all three institutions (University of California, Irvine; Temple University; and University of New Orleans) approved the study procedures. Signed parental consent and youth assent were obtained for all participants before interviews were conducted. Participants were informed of the nature of the study and were told that there was no penalty for not participating. Youth completed an interview within 6 weeks

after the disposition hearing for their first arrest, as well as follow-up interviews approximately 6, 12, 18, 24, and 30 months after their initial interview. Face-to-face interviews with the youth ranged from 2–3 hr and were documented using a secure computer-administered program. A Privacy Certificate issued by the Department of Justice protects participants' privacy by exempting their identity and responses from subpoenas, court orders, or other types of involuntary disclosures. Participants were given a detailed explanation of the Privacy Certificate before beginning the interview and were reminded again before sensitive questions, such as those about offending, were asked.

Measures

Demographic information. Youth self-reported general demographic information, including age and race. Youth also reported on the highest level of education that his parent had received, which was used as a proxy for socioeconomic status. Based on the distribution, the variable was split into three categories for analyses: 27% had parents who had not finished high school, 35% had parents who had finished high school or had received a GED, and 38% had at least some exposure to higher education (e.g., trade, business, professional, or college).

Attitudes toward the justice system. At every wave, Tyler's measure of justice system legitimacy was used to assess how the youth perceived the legitimacy of the justice system (Tyler, 1990, 1997; Tyler & Huo, 2002). Using a 5-point scale ranging from *strongly disagree* to *strongly agree*, youth indicated their agreement with 11 statements about the legitimacy of the justice system and its actors (e.g., "I have a great deal of respect for the police," or "The basic rights of citizens are protected in the courts"). Higher values indicate higher levels of perceived legitimacy of the law. As reviewed by Tyler and Jackson (2013), numerous studies find that legitimacy explains variation in both complying with the law and offending in children, adolescents, and adults (Fagan & Tyler, 2005; Jackson et al., 2012; Reisig, Wolfe, & Holtfreter, 2011; Tyler, 2006; Tyler & Fagan, 2008). Psychometric analyses of the scale indicated that it was reliable at each wave. Alphas, means, and SDs are presented in Table 1.

Self-reported offending. Involvement in criminal behavior during each recall period was assessed using the Self-Report of Offending (SRO; Huizinga, Esbensen, & Weiher, 1991). Participants reported if they had been involved in any of 24 criminal acts (ranging in severity from selling drugs to homicide) during the preceding 6 months. Responses were summed to create variety scores, which indicate the number of different types of criminal acts that the youth engaged in during each 6-month period divided by the total number of different criminal acts endorsed by the youth (see Table 1). Variety scores are widely used in criminological research because they are highly correlated with measures of seriousness of antisocial behavior, yet are less subject to recall bias than are self-reports of frequency of antisocial behavior (see Hindelang, Hirschi, & Weis, 1981; Osgood, McMorris, & Potenza, 2002). This approach reduces the inherently skewed distribution caused by the fact that the modal response for each offending behavior is zero, and a few respondents may engage in some behaviors frequently. Further, the variety score enhances the contribution of serious offenses because high scores would only result if respondents engaged in a wider variety of serious offending

Table 1
Means, SDs, and Correlations Among Study Variables

| | M | SD | N | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | |
|------------------|-------|------|-------|---------|---------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| 1. Age | 15.29 | 1.29 | 1,216 | | | | | | | | | | | | | | | | | | |
| 2. Legitimacy T1 | 2.58 | .55 | 982 | -.11*** | | | | | | | | | | | | | | | | | |
| 3. Legitimacy T2 | 2.54 | .57 | 993 | -.09** | (.812) | | | | | | | | | | | | | | | | |
| 4. Legitimacy T3 | 2.53 | .58 | 996 | -.05 | .59*** | (.840) | | | | | | | | | | | | | | | |
| 5. Legitimacy T4 | 2.49 | .58 | 1,019 | .01 | .55*** | .61*** | (.853) | | | | | | | | | | | | | | |
| 6. Legitimacy T5 | 2.49 | .60 | 1,031 | -.02 | .48*** | .53*** | .57*** | (.852) | | | | | | | | | | | | | |
| 7. Legitimacy T6 | 2.46 | .60 | 1,015 | .03 | .48*** | .53*** | .57*** | .66*** | (.911) | | | | | | | | | | | | |
| 8. SRO T1 | .06 | .09 | 1,216 | .10*** | -.26*** | -.20*** | -.20*** | -.21*** | -.16*** | -.19*** | .51*** | | | | | | | | | | |
| 9. SRO T2 | .06 | .09 | 1,165 | .05 | -.23*** | -.26*** | -.22*** | -.21*** | -.17*** | -.19*** | .43*** | .59*** | | | | | | | | | |
| 10. SRO T3 | .05 | .09 | 1,141 | .01 | -.17*** | -.18*** | -.16*** | -.17*** | -.15*** | -.14*** | .33*** | .43*** | .60*** | | | | | | | | |
| 11. SRO T4 | .04 | .08 | 1,139 | -.04 | -.10*** | -.16*** | -.15*** | -.17*** | -.15*** | -.14*** | .36*** | .42*** | .53*** | .62*** | | | | | | | |
| 12. SRO T5 | .04 | .08 | 1,129 | -.02 | -.09*** | -.14*** | -.14*** | -.13*** | -.17*** | -.15*** | .36*** | .42*** | .53*** | .62*** | .63*** | | | | | | |
| 13. SRO T6 | .04 | .08 | 1,122 | -.01 | -.11*** | -.13*** | -.15*** | -.17*** | -.15*** | -.16*** | .30*** | .37*** | .45*** | .53*** | .63*** | .09*** | | | | | |
| 14. Arrest T2 | .27 | .66 | 1,200 | .02 | -.09** | -.07** | -.09** | -.09** | -.10** | -.07** | .17*** | .22*** | .16*** | .13*** | .10*** | .09** | | | | | |
| 15. Arrest T3 | .20 | .53 | 1,192 | -.01 | -.06 | -.08* | -.09** | -.06* | -.03 | -.08** | .12*** | .20*** | .19*** | .16*** | .12*** | .10*** | .24*** | | | | |
| 16. Arrest T4 | .15 | .48 | 1,181 | -.04 | -.05 | -.04 | -.09** | -.13*** | -.07* | -.06** | .10*** | .10*** | .09** | .21*** | .18*** | .10*** | .19*** | .25*** | | | |
| 17. Arrest T5 | .14 | .45 | 1,175 | -.05 | -.01 | -.01 | -.03 | -.04 | -.06* | -.06* | .01 | .04 | .06* | .14*** | .13*** | .11*** | .14*** | .25*** | .31*** | | |
| 18. Arrest T6 | .14 | .46 | 1,184 | -.04 | -.05 | -.05 | -.06 | -.05 | -.04 | -.07* | .10*** | .08** | .14*** | .18*** | .15*** | .18*** | .19*** | .19*** | .22*** | .19*** | |

Note. Coefficient α s are reported in parentheses. Legitimacy = youth attitudes towards the legitimacy of the justice system; SRO = self-reported offending proportion variety score; Arrest = number of official record rearrests.
* $p < .05$. ** $p < .01$. *** $p < .001$.

behaviors. Thus, the variety score approach is the preferred method for summarizing individual criminality because it takes into account heterogeneity in crime types and gives more weight to more serious behaviors (Sweeten, 2012).

Official record rearrest. Data from official records were obtained to indicate the number of times the youth was rearrested during the 30-months after his first arrest. Data were then categorized into 6-month intervals (see Table 1).

Plan of Analysis

Self-reported offending. Two-level growth-curve modeling (MLM; Fitzmaurice, Laird, & Ware, 2012; Liu, Rovine, & Molenaar, 2012; Singer & Willett, 2004) was used to examine how youth attitude development varies by race, with longitudinal data involving six assessment points. Mixed models conceptualize growth curve models using two levels of analysis (Raudenbush & Bryk, 2002). The MLM was estimated in three stages. Analyses were estimated with Level 1 as time and Level 2 as individuals. First, we estimated unconditional growth models to examine the average pattern of change in perceived legitimacy across all participants. Because there was significant variability in initial levels (intercept) and change (slope) over time, we proceeded to estimating conditional growth models of legitimacy. Next, we examined how legitimacy developed once accounting for a variety of key predictors, including site, age centered on 13, and socioeconomic status (SES). Considering self-reported offending has been associated with legitimacy attitudes (Fagan & Tyler, 2005; Nivette et al., 2015), we also included a dichotomous, time-varying indicator of self-reported offending as a covariate in these analyses. The Level 1 equation estimates within-person or intraindividual change over time, assessing individual growth rates. In all models, we treat time as both a random and fixed effect, to explain specific time effects as well as change over time. The Level 2 model estimates interindividual change in predictors that are estimated as fixed effects. Race/ethnicity is included as a Level 2 variable. Accordingly, the model assesses within-person variability in the Level 1 predictors, or growth rates, as a function of Level 2 predictors (Fitzmaurice, Laird, & Ware, 2012). We then estimated a conditional growth model to examine whether race/ethnicity accounts for variability in legitimacy, accounting for self-reported offending at each wave. Because too few youth self-identified as "Other race" ($N = 30$), analyses were limited to youth who identified as Black, White, or Latino. The Likelihood Ratio χ^2 test between the model with and the model without race/ethnicity suggests that including race/ethnicity reduced error variability in legitimacy and improved model fit ($\chi^2 = 33.14, p < .001$). To evaluate the fit of the models, three goodness-of-fit indices were used (Singer & Willett, 2004): the deviance statistic, Akaike's information criterion (AIC), and the Bayesian information criterion (BIC). The decrease in the deviance statistic across models was significant ($p < .01$), indicating that the model including race provided the better fit. This model tracked the development of attitudes over time by pan-racial group.

To examine cross-lagged relations between youths' attitudes toward the justice system and self-reported reoffending, cross-lagged structural equation models were specified using Mplus (Muthén & Muthén, 2015). In cross-lagged models, changes in each variable over time are modeled using the stability coefficients

between time-adjacent measures of each variable (e.g., baseline attitudes predict wave one attitudes). Cross-lagged relations between youths' attitudes and self-reported offending are captured by the cross-lagged effects between two variables (e.g., baseline attitudes predict self-reported offending at the next wave, which in turn predicts attitudes at the following wave). Estimations of these parameters in the model account for the stability of the predictor variables; thus, any significant cross-lagged effects can be considered effects that add any predictive power over and above that which can be simply obtained from the stability of the measures. Because of the distribution of the self-reported offending variable was censored at zero, the robust weighted least squares (WLSMV) estimator was used (Asparouhov & Muthén, 2007; Muthén, du Toit, & Spisic, 1997; Oliveira, da Graca Temido, Henriques, & Vichi, 2012). All models included as covariates youth age, site, and SES. Model fit of all the cross-lagged models was assessed by the Tucker-Lewis Index (TLI; adequate if $> .90$), the comparative fit index (CFI; adequate if $> .90$), and the root-mean-square error of approximation (RMSEA; adequate if $< .07$; Browne & Cudeck, 1993; Hooper, Coughlan, & Mullen, 2008; Hu & Bentler, 1999; Steiger, 2007). The first model included the full sample. To examine potential race differences, the second model included only Black youth and the third only Latino youth.

Rearrest. First, we estimated a conditional growth model to examine whether race/ethnicity and rearrest throughout the study period accounted for variability in legitimacy. Because of the limited variability in rearrest over time, rearrest was dichotomized into ever rearrested ($N = 501$) or never rearrested ($N = 715$) during the study period. The Likelihood Ratio χ^2 test between the model with and the model without rearrest suggested that including rearrest reduced error variability in legitimacy and improved model fit ($\chi^2 = 61.29, p < .001$). This model tracked attitude development over the study period by rearrest within each pan-racial group. Finally, to examine cross-lagged, reciprocal associations between youths' attitudes toward the justice system and rearrest, cross-lagged structural equation models were specified using Mplus (Muthén & Muthén, 2015). Because of the distribution of the official-record rearrest variable was censored at zero, the robust weighted least squares (WLSMV) estimator was used (Asparouhov & Muthén, 2007; Muthén, du Toit, & Spisic, 1997; Oliveira, da Graca Temido, Henriques, & Vichi, 2012). All models included as covariates youth age, site, and parental education. The first model included the full sample. To examine potential race differences, the second model included only Black youth and the third only Latino youth.

Results

Mean scores for key study variables were calculated and stability between time-points was assessed using Pearson correlation among same assessments over time (see Table 1).

Race and Reoffending

Attitudes by race over time. The first MLM examined whether race/ethnicity accounted for variability in legitimacy over time. Results of likelihood-ratio χ^2 tests suggested that both the random intercept ($\chi^2 = 15.69, p < .001$) and random slope ($\chi^2 = 67.70, p < .001$) were significant. The results of the Likelihood

Ratio χ^2 test suggested that including the interaction between race/ethnicity and time improved model fit ($\chi^2 = 33.14, p < .001$; AIC = 5817.27; BIC = 5998.01; deviance = 5761.27) and results of an omnibus test of the interaction suggest that it was significant ($\chi^2 = 7.90, p = .019$; Figure 1). White youth reoffenders reported more negative attitudes than White nonreoffenders beginning at baseline ($-.14, p = .017, 95\%$ confidence interval [CI] $[-.25, -.02]$) through 24 months ($-.15, p = .018, 95\%$ CI $[-.27, -.03]$) but there were no reported differences by 30 months ($-.15, p = .068, 95\%$ CI $[-.31, .01]$). Indeed, results of simple slopes analyses suggested that White youths' attitudes did not change over time, either for nonoffenders ($dy/dx = -.02, p = .178, 95\%$ CI $[-.06, .01]$) or for reoffenders ($dy/dx = -.03, p = .092, 95\%$ CI $[-.05, .01]$). Further, the rates of change did not differ between the two groups ($p = .911$). This suggests that for White youth, attitudes did not change over time regardless of examining reoffenders or those who desist.

Black reoffenders reported more negative attitudes than nonreoffenders at baseline ($b = -.11, p < .001, 95\%$ CI $[-.16, -.07]$). This difference decreased over time and was not statistically significant by 30 months ($-.08, p = .123, 95\%$ CI $[-.18, .02]$). Results of simple slopes analyses indicated that Black reoffenders ($dy/dx = -.04, p < .001, 95\%$ CI $[-.06, -.02]$) and Black nonreoffenders' ($dy/dx = -.06, p < .001, 95\%$ CI $[-.08, -.04]$) attitudes both became more negative over time, but the rates of change did not differ from each other ($p = .253$). This suggests that for all Black youth, regardless of their reoffending, attitudes toward the justice system became more negative.

Latino reoffenders reported somewhat more negative attitudes than nonreoffenders beginning at baseline ($-.07, p = .04, 95\%$ CI $[-.13, -.01]$), though the differences increased over time through 30 months ($-.16, p < .001, 95\%$ CI $[-.25, -.08]$). Simple slopes analyses indicate that Latino reoffenders' attitudes became more negative over time ($dy/dx = -.03, p = .002, 95\%$ CI $[-.05, -.01]$), whereas Latino nonreoffenders' attitudes did not change over time ($dy/dx = -.01, p = .268, 95\%$ CI $[-.03, .01]$),

though the rates of change did not differ ($p = .125$). This suggests that for Latino youth, attitude development may have varied for those who reoffended versus those who desisted, though it is important to note that the rate of change for reoffenders was quite small.

Reciprocal associations between attitudes and reoffending.

A series of cross-lagged models was specified to test the relation between youths' attitudes and self-reported offending. In the first cross-lagged model, we estimated: (a) stability coefficients for attitudes and for self-reported offending for both 6 and 12-month durations; (b) the errors of attitudes and self-reported offending were correlated within each wave; (c) and the cross-lagged effects between attitudes and self-reported offending. Both six- and 12-month stability paths were included. The model fit was acceptable (TLI = .944; CFI = .964; RMSEA = .050, 90% CI $[\.04, .06]$). Correlating disturbances between waves improved model fit (TLI = .980; CFI = .967; RMSEA = .038, 90% CI $[\.03, .04]$). The model diagram is presented in Figure 2.

Attitudes toward the justice system and self-reported offending both were moderately stable over time. Of greatest interest in the model were the two significant and negative paths from baseline legitimacy to self-reported offending at 6 months, and from self-reported offending at 6 months to legitimacy attitudes at 12 months. Specifically, more positive attitudes toward the justice system at baseline predicted less offending during the subsequent 6 months, and engagement in crime was then associated with more negative attitudes toward the justice system. In other words, attitudes toward the justice system accounted for a unique proportion of the variation in crime engagement. In total, however, attitudes at baseline explained less than 2% of the variance in crime engagement during the following 6 months. Furthermore, this association declined over time, such that beginning at 12 months after initial justice system contact, attitudes were no longer associated with crime engagement once accounting for prior crime involvement.

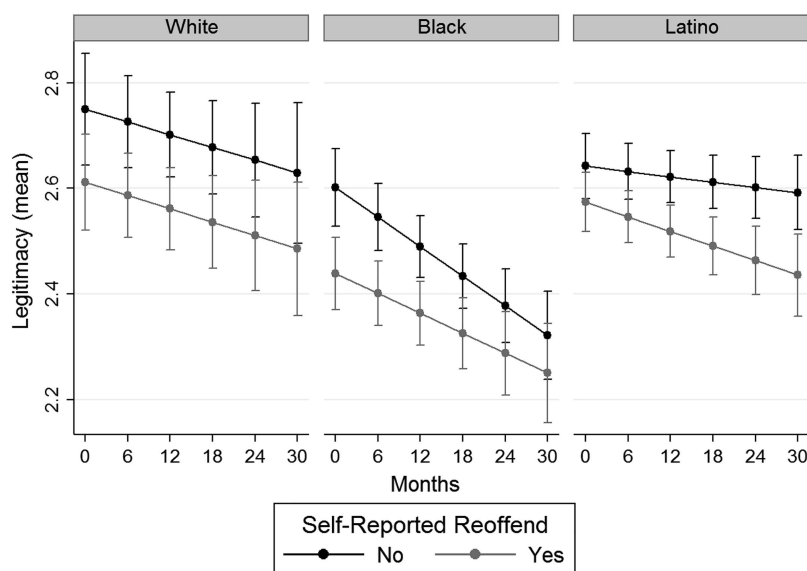


Figure 1. Growth model of legitimacy by race and reoffending for the 30 months after a first arrest.

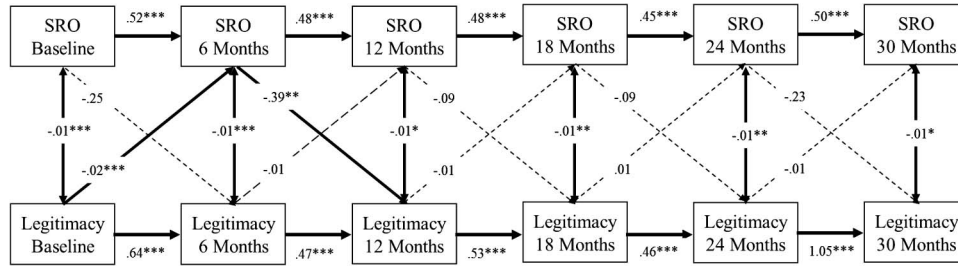


Figure 2. Cross-lagged model between self-reported offending and legitimacy attitudes toward the justice system. Results from the cross-lagged analysis. SRO = self-reported offending proportion variety score; Legitimacy = youth attitudes toward the legitimacy of the justice system. Single-headed lines represent path coefficients, double-headed lines represent covariances, and dashed lines represent nonsignificant coefficients. Values shown are unstandardized parameter estimates. * $p < .05$. ** $p < .01$. *** $p < .001$.

To examine potential race differences, the cross-lagged models were repeated using only Black youth (TLI = .975; CFI = .986; RMSEA = .031, 90% CI [.014, .045]) and then only Latino youth (TLI = .978; CFI = .988; RMSEA = .034, 90% CI [.021, .046]). For Black youth (see Figure 3), offending was unrelated to subsequent attitudes at all time points. However, negative attitudes were associated with subsequent offending through 18 months. For Latino youth (see Figure 4), offending was related to subsequent attitudes through 12 months, but not thereafter. Negative attitudes were associated with subsequent offending for only the initial 6 months.

Race and Rearrest

Attitudes by race and rearrest over time. The same self-reported offending and race MLM was expanded by adding a dichotomous indicator of rearrest throughout the study period. Results of likelihood-ratio χ^2 tests suggest that both the random intercept ($\chi^2 = 15.94, p < .001$) and random slope ($\chi^2 = 60.71, p < .001$) were significant. The Likelihood Ratio χ^2 test between the model with and the model without rearrest suggested that including rearrest reduced error variability in legitimacy and improved model fit ($\chi^2 = 61.29, p < .001$; AIC = 5779.98; BIC = 6038.17; deviance = 5699.98). Results of an omnibus test of the interaction including arrest, race, and wave suggested that it explained significant variance in legitimacy ($\chi^2 = 6.63, p = .036$;

Figure 5). The attitudes of White youth who were rearrested ($dy/dx = -.04, p = .038, 95\% \text{ CI } [-.08, .01]$) became more negative over time whereas the attitudes of those who were not rearrested did not change over time ($dy/dx = -.02, p = .279, 95\% \text{ CI } [-.04, .01]$). However, the difference between these rates of change was not significant ($.03, p = .271, 95\% \text{ CI } [-.02, .08]$). This suggests that development of attitudes did not vary between White youth who were rearrested versus those who are not.

The attitudes of Black youth who were rearrested ($dy/dx = -.08, p < .001, 95\% \text{ CI } [-.11, .06]$) became more negative over time, whereas the attitudes of those who were not rearrested ($dy/dx = -.01, p = .259, 95\% \text{ CI } [-.03, .01]$) did not change over time. Indeed, the rate of change between the two groups differed ($.07, p < .001, 95\% \text{ CI } [.04, .10]$). This suggests that attitude development varied between Black youth who were rearrested versus those who were not rearrested.

The attitudes of Latino youth who were rearrested ($dy/dx = -.03, p = .003, 95\% \text{ CI } [-.05, -.01]$) become more negative over time whereas the attitudes of those who were not rearrested ($dy/dx = -.01, p = .315, 95\% \text{ CI } [-.03, .01]$) did not change over time. However, the rate of change between the two groups did not differ ($.02, p = .115, 95\% \text{ CI } [-.01, .05]$), suggesting that the rate of change in attitude development was so small that attitude development did not statistically vary between those who were rearrested and those who were not rearrested.

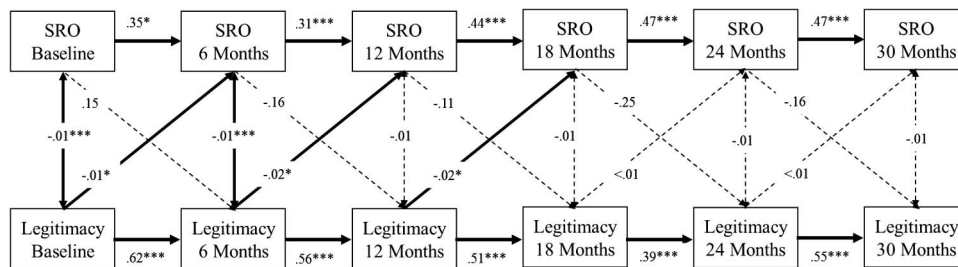


Figure 3. Cross-lagged model between self-reported offending and legitimacy attitudes toward the justice system for Black youth. Results from the cross-lagged analysis for Black youth. SRO = self-reported offending proportion variety score; Legitimacy = youth attitudes toward the legitimacy of the justice system. Single-headed lines represent path coefficients, double-headed lines represent covariances, and dashed lines represent nonsignificant coefficients. Values shown are unstandardized parameter estimates. * $p < .05$. ** $p < .01$. *** $p < .001$.

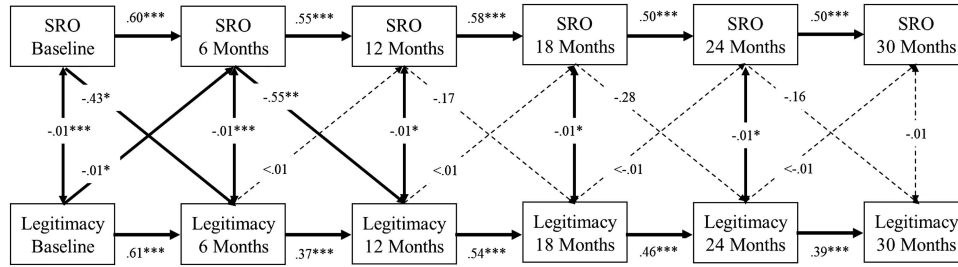


Figure 4. Cross-lagged model between self-reported offending and legitimacy attitudes toward the justice system for Latino youth. Results from the cross-lagged analysis for Latino youth. SRO = self-reported offending proportion variety score; Legitimacy = youth attitudes toward the legitimacy of the justice system. Single-headed lines represent path coefficients, double-headed lines represent covariances, and dashed lines represent nonsignificant coefficients. Values shown are unstandardized parameter estimates. * $p < .05$. ** $p < .01$. *** $p < .001$.

Reciprocal associations between attitudes and rearrest. In the second cross-lagged model, we replaced self-reported offending with official arrest records to examine the bidirectional effects of arrest with attitudes toward the justice system. The first model fit was acceptable (TLI = .918; CFI = .907; RMSEA = .057). Correlating disturbances between waves improved model fit and the resulting model fit the data well (TLI = .945; CFI = .944; RMSEA = .046). Because results were consistent when the model was reanalyzed using maximum likelihood with robust SEs and with the rearrest specified as a zero-inflated poisson distribution, this model is presented for clarity (see Figure 6). Results indicated that arrests were moderately stable, with significant associations between arrests at every wave. At baseline, more positive attitudes toward the justice system were associated with fewer rearrests 6 months later. However, more positive attitudes toward the justice system were not associated with rearrests at any subsequent time-point. Of particular note were the significant and negative paths from arrests to attitudes. Even after accounting for stability paths between attitudes across waves, arrests were associated with more negative attitudes

toward the justice system at both 6 and 12 months. That is, net of the effects of youths' prior attitudes toward the justice system, subsequent arrests were associated with increasingly negative attitudes toward the justice system. These effects, however, were not seen past the initial year of youths' justice system exposure. From 18 to 30-months after their entrance to the justice system, youths' rearrests were not associated with their attitudes toward the justice system. Arrests negatively affected attitudes toward the justice system only during the first year and a half of justice system experience.

To examine potential race differences, the cross-lagged models were repeated using only Black youth (TLI = .987; CFI = .991; RMSEA = .021) and then only Latino youth (TLI = .935; CFI = .930; RMSEA = .056). For Black youth (see Figure 7), negative attitudes were never associated with rearrests, nor were rearrests associated with negative attitudes. For Latino youth (see Figure 8), negative attitudes were associated with rearrests only during the initial 6 months. Similar to Black youth, arrests were not associated with subsequently more negative attitudes.

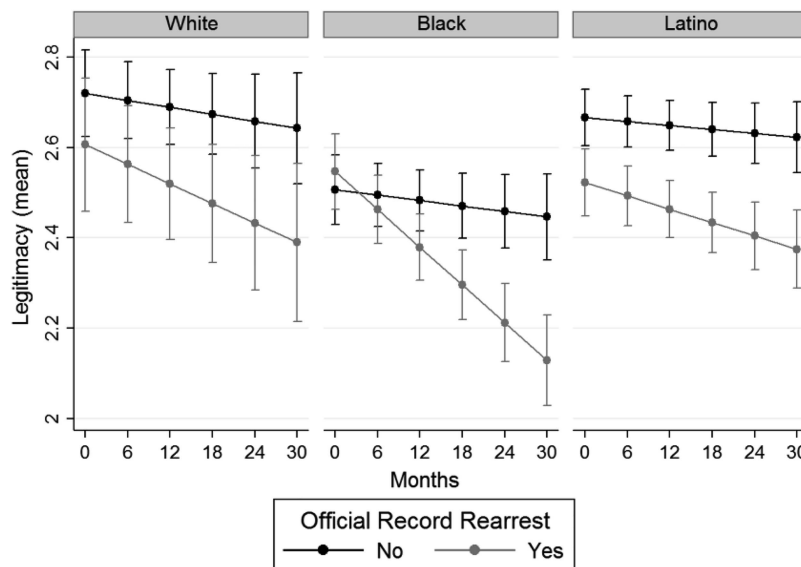


Figure 5. Growth model of legitimacy by race and rearrest for the 30 months after a first arrest.

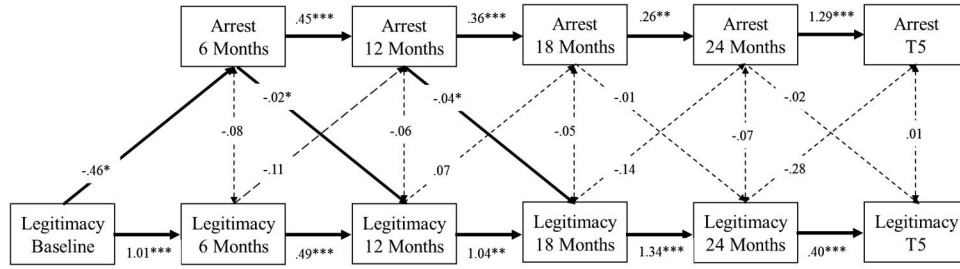


Figure 6. Cross-lagged model between rearrests and legitimacy attitudes toward the justice system. Results from the cross-lagged analysis. Arrest = official record rearrests; Legitimacy = youth attitudes toward the legitimacy of the justice system. Single-headed lines represent significant path coefficients, double-headed lines represent covariances, and dashed lines represent nonsignificant path coefficients. Values shown are unstandardized parameter estimates. * $p < .05$. ** $p < .01$. *** $p < .001$.

Discussion

Results of the present study suggest that there are race/ethnicity-specific effects on the development of first time offenders’ attitudes toward the system and on the bidirectional relations between youths’ attitudes and both reoffending and rearrests. Consistent with previous research on felony-level juvenile offenders (Fine & Cauffman, 2015), we find that even after 2.5 years after their first arrest, White youths’ attitudes toward the system remain largely stable. We also find no evidence among White youth that the development of attitudes differed between youths who reoffended and those who did not, nor did they differ between youths who were rearrested and those who were not. In contrast, Black youths’ perceptions grew more negative over time, both among those who reoffended and among those who did not. However, this trend appears to be driven by Black youth who had been rearrested. Black youth who were rearrested developed more negative attitudes regarding the system, whereas the attitudes of Black youth who were not rearrested remained relatively stable. Finally, among Latino youth, we find that attitudes toward the system remain largely stable across the 2.5 years after first arrest, except among Latino youth who reported reoffending. Latinos who self-reported engaging in offending developed more negative attitudes regarding the system compared with Latino youths who did not self-report offending behaviors. These race/ethnicity-specific findings suggest that the development of attitudes toward the justice system after youths’ first arrest may involve different processes for youth of

different races/ethnicities as a function of their reoffending and/or rearrest.

Cross-lagged analyses were also conducted to test for bidirectional effects of justice system attitudes on both youths’ offending behaviors and their likelihood of being rearrested. Among Black youth, at no point during the 2.5 years after their first arrest were their offending behaviors predictive of their subsequent attitudes toward the system. However, Black youths’ more negative attitudes toward the system were predictive of their offending behaviors for the first 18 months after their first arrest. Additionally, we found no evidence that Black youths’ rearrests predicted their attitudes or, consistent with prior research on adults (Rosenbaum, Schuck, Costello, Hawkins, & Ring, 2005), that their attitudes toward the system predicted their likelihood of being rearrested. That is, among Black youths, negative attitudes were associated with offending, but not necessarily with whether that youth would be arrested. Among Latino youth, we find that youths who engaged in offending subsequently had more negative attitudes toward the system for the 12 months after their first arrest. Additionally, we found that Latino youths’ more negative attitudes toward the system predicted reoffending but only for the initial 6 months after their first arrest. Finally, we also found that Latino youths’ more negative attitudes toward the system predicted their likelihood of being rearrested for the first 6 months after their first arrest, however, at no point during the 2.5 years after their first arrest did their rearrests predict more negative attitudes toward the

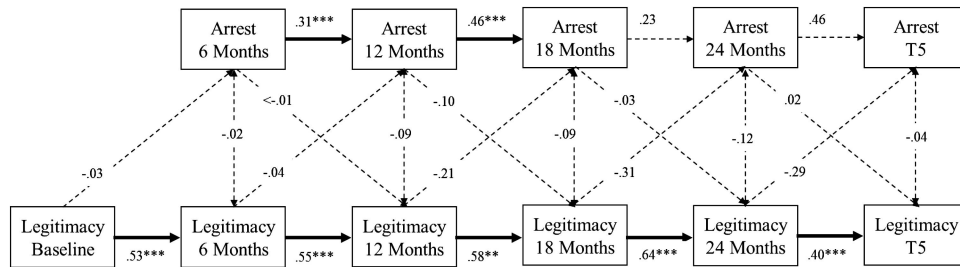


Figure 7. Cross-lagged model between rearrests and legitimacy attitudes toward the justice system for Black youth. Results from the cross-lagged analysis for Black youth. Arrest = official record rearrests; Legitimacy = youth attitudes toward the legitimacy of the justice system. Single-headed lines represent significant path coefficients, double-headed lines represent covariances, and dashed lines represent nonsignificant path coefficients. Values shown are unstandardized parameter estimates. * $p < .05$. ** $p < .01$. *** $p < .001$.

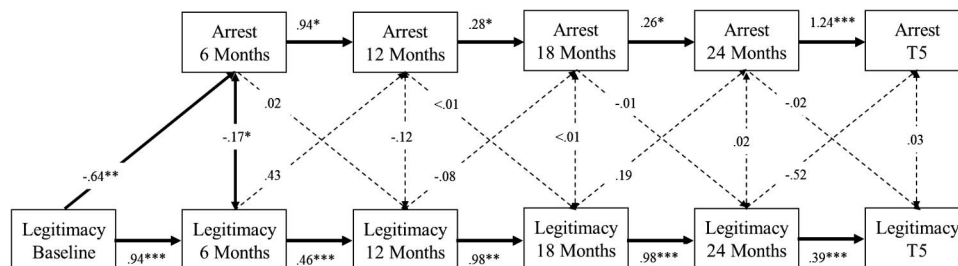


Figure 8. Cross-lagged model between rearrests and legitimacy attitudes toward the justice system for Latino youth. Results from the cross-lagged analysis for Latino youth. Arrest = official record rearrests; Legitimacy = youth attitudes toward the legitimacy of the justice system. Single-headed lines represent significant path coefficients, double-headed lines represent covariances, and dashed lines represent nonsignificant path coefficients. Values shown are unstandardized parameter estimates. * $p < .05$. ** $p < .01$. *** $p < .001$.

system. That is, for Latino youth, negative attitudes were associated with offending and the likelihood of being rearrested, but only for the first 6 months after their first arrest.

The noted racial/ethnic differences in attitude development and their bidirectional effect on reoffending and rearrests suggest different race/ethnicity-specific processes may be at play. For both Black and Latino youth, rearrests were not associated with increasingly more negative attitudes. Previous research (e.g., Rosenbaum et al., 2005) provides one possible explanation: direct experience with the justice system may not be enough to change attitudes particularly if youth already hold negative perceptions of the justice system. Negative interactions with justice system officials might not affect racial/ethnic minority youths' attitudes if they already expected aversive interactions in the first place. Further, in addition to being informed by direct, personal experiences, it is also important to note that adolescents' attitudes are influenced vicariously through the experiences of their friends, families, neighborhoods, or even those they see in the media. Youths whose friends have been arrested (Fine et al., 2016), who have witnessed their friends being stopped by police (Brunson, 2007; Flexon, Lurigio, & Greenleaf, 2009), whose friends are engaged in antisocial behavior (Fagan & Tyler, 2005; Nivette, Eisner, Malti, & Ribeaud, 2015), who have heard about a friend's bad experience with police (Romain & Hassell, 2014), whose parents hold negative attitudes toward the justice system (Cavanagh & Cauffman, 2015a), or who have witnessed others being treated disrespectfully by police (Flexon et al., 2009) report more negative attitudes. Further, considering recent media coverage (e.g., Buchanan et al., 2014; Dewan & Opper, 2015) on unjust interactions that adolescents have with legal authorities, it is also possible that the current cultural context may disproportionately negatively affect racial/ethnic minority youths' attitudes. More important, previous research finds that minority adults' attitudes toward police are affected more by vicarious experiences than by direct experiences (Rosenbaum et al., 2005). It is possible that the attitude development of racial/ethnic minority youth in this study could be explained by differences in: (a) exposure to more of these vicarious experiences in general; (b) exposure to more of adverse vicarious experiences with officials after entering the juvenile justice system; or (c) in line with adult research (Rosenbaum et al., 2005), such vicarious experiences disproportionately affect their attitudes. One possible explanation, therefore, is that disparities in vicarious

experiences in particular may affect the attitudes of racial/ethnic minority youth in the justice system.

One finding that was consistent across racial/ethnic groups is that the reciprocal associations between attitudes and offending, as well as between attitudes and rearrest, weaken across time. That is, within a 2.5 year frame, we found evidence that the bidirectional effects of youths' justice system attitudes and their offending behaviors or rearrests weaken across time. This finding suggests that youthful offenders may habituate or become used to interactions with the justice system. This is consistent with the results of Engels and colleagues (2004) who found that for youth already engaged in delinquency, attitudes affect behavior less, suggesting that a youth's very first contact with the system is likely the most impactful. However, the lack of reciprocal associations over time may also stem from the fact that the associations between attitudes and offending or arrests, and vice versa, were small to begin with. This finding indicates that although there may be some developmental change, youths' attitudes may stabilize as they get older. The lack of longitudinal, reciprocal associations between attitudes and behavior could be because of the fact that compared with attitudes, prior offending behavior is more strongly associated with subsequent offending. That is, although more negative attitudes may be associated with offending, prior behavior is simply a better predictor of future behavior.

Among the strengths of this study were its methodological and analytical approaches. First, all participants in our study were first-time offenders, enabling us to examine whether the relations between youths' behaviors and attitudes varied over the 2.5 years since their first arrest. A second strength of the current study was its analytical approach. Using longitudinal data, we were able to control for several important confounds. Our models took into account youths' past offending behaviors (or rearrests) and legitimacy attitudes, as well as concurrent relations between offending behaviors (or rearrests) and attitudes, while predicting future offending behaviors (or arrests) and attitudes. In other words, our analyses simultaneously accounted for youths' past trajectories of attitudes and behaviors, as well as concurrent relations between attitudes and behaviors, allowing us to better isolate and identify relations across time. A final strength of the current study was the use of both self-reported offending behavior data as well as official reports of youths' rearrests. It is likely that there are youth whose offending behaviors are not detected by the system and, therefore, do not result in rearrests. Self-reported offending and

rearrests should, therefore, be conceptualized as related yet distinct constructs. Indeed, significant but small correlations between self-reported offending and official rearrests in our and other studies support this. The similar pattern of habituation found in our models that use self-reported offending behaviors and official rearrests suggests that our findings are consistent across two related yet distinct measures of offending.

Despite these strengths, the study was limited in several important ways. Although we controlled for offenders' age, because of limited statistical power, we were unable to test for age interactions. Future work may consider, for example, whether our findings of habituation are similar for offenders whose first arrests happened at an earlier age, particularly considering attitudes toward the justice system may begin developing earlier during adolescence. Further, it is important to consider that offenders whose first arrests occur earlier in life are at particularly high risk of continuing offending (Moffitt, 1993). It is possible that youths who are first arrested at younger ages will continue to offend and continue to be at higher risk of being arrested, regardless of their attitudes toward the system. This is a possible alternate explanation for the observed habituation which requires further empirical testing. Also, although we followed youth after their first arrest, we were unable to prospectively examine the effect of the initial arrest. If early arrests are the most influential, future research should assess youths' attitudes preceding their first arrest and track them prospectively. This would provide an ideal test of the effect of a first arrest on attitude development. Further, we were not able to assess what occurred during the disposition hearing. It is of course possible that youth who were treated unfairly or unjustly would develop more negative perceptions. Finally, it is important to note that race/ethnicities varied by site purposefully to be more representative of the local juvenile justice population. However, that meant that race/ethnicities differed by site (California was 78.4% Latino, 17.5% White, and 0.9% Black; Pennsylvania was 65.3% Black, 23.1% Latino, and 9.9% White; and Louisiana was 63/6% Black, 22.5% White, and 11.3% Latino). Although all analyses accounted for site, it is possible that because of the correlations between site and race, we underestimated the race/ethnicity effects. Because of this possibility, we analyzed all race/ethnicity-specific SEM models again, but without accounting for site. Results remained consistent in both direction and significance, providing additional support for the race/ethnicity findings. However, the race/ethnic differences by site still render it important for future research to replicate these novel findings with a racially and ethnically diverse sample of youth within multiple jurisdictions.

This study found that immediately after youths' first arrests, youths' attitudes regarding the legitimacy of the system are related to both their offending behaviors and their likelihood of being rearrested. However, this study also found that for all youth, after 2.5 years after their first arrest, attitudes are no longer predictive of offending behaviors or rearrests. One interpretation of the data is that the bidirectional effects of youths' justice system attitudes and their offending behaviors or rearrests weaken across time. In line with this interpretation, perhaps the most important lesson to be learned from this study would be that when it comes to young offenders' interactions with the justice system, early impressions likely matter the most. Interactions with the justice system after this window may not shape youths' attitudes toward the system above and beyond those they have already formulated. Justice system arbiters may thus be tempted to believe that their interactions with youths whose first contact with the system

occurred more than 2 years ago are of no consequence. These youths have experienced habituation and their attitudes toward the system might be less predictive of their behaviors; thus, the way officials interact with and treat these youth is of no consequence for affecting their attitudes or behavior. We believe, however, that the second application of the current findings is more appropriate. Justice system arbiters can capitalize on this window immediately after youths' first arrests by promoting, cultivating, and prioritizing fair interactions particularly because this first contact with the system may be the most influential and provide the foundation from which the youth's attitudes develop. In this light, the current findings suggest a window of opportunity immediately after offenders' first arrest during which justice system arbiters' impressions on youth may be especially important and protective against subsequent offending. When it comes to young offenders' interactions with the justice system, first impressions likely matter the most.

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