




Police legitimacy: identifying developmental trends and whether youths' perceptions can be changed

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Abstract

Objective Examine youths' perceptions of police legitimacy. Study one establishes age-graded trends in perceptions from childhood into adolescence. Study two tests whether a structured, in-school, non-enforcement-related program involving repeated prosocial exposure to police can improve youths' perceptions of police legitimacy.

Methods In study one, a cross-sectional sample ($N=959$) of youth ages 7 to 14 was used to assess age-graded perceptions of police legitimacy. In study two, a 4-school, randomized controlled trial was conducted in Compton, California ($N=499$).

Results Age-graded differences in police legitimacy perceptions vary by race, but generally begin declining during late childhood. The program significantly improved youths' perceptions of police legitimacy.

Conclusion Racial differences in perceptions of police legitimacy can be traced to childhood, and perceptions of law enforcement appear to begin declining during childhood. Further, repeated exposure to law enforcement officials in a positive, non-enforcement capacity may improve youths' legitimacy perceptions.

Keywords Legal socialization · Perceptions of police · Police legitimacy · Procedural justice · Youth

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Introduction

Individuals who perceive police to be fair, just, and honest are likely to perceive the police as a legitimate authority (Tyler 1990; Solomon 2019; Sunshine and Tyler 2003). Both research and policy recognize the importance of police legitimacy (see Moule et al. 2019; Nagin and Telep 2017; President's Task Force on 21st Century Policing 2015) in large part because police legitimacy is associated with compliance with the law (Walters and Bolger 2019). While the vast majority of research continues to focus on adults' perceptions of police legitimacy, researchers are increasingly focusing on understanding its developmental etiology (see Cavanagh et al. 2020; McLean et al. 2019; Tyler and Trinkner 2018; Walters 2018). Indeed, emerging research suggests that not only is the association between perceptions of the police and behavior stronger among youth than among adults, but the way youth perceive police also sets the tone for how they both view and interact with police during adulthood (Murphy 2015). Examining youths' perceptions of police legitimacy becomes even more important considering that youth today are growing up in an age of mistrust of police (see Trinkner and Tyler 2016).

While research suggests that perceptions of the police have reached historic lows in the USA (Fine et al. 2019b), virtually no studies have empirically identified ways to improve perceptions of the police (contra Fine et al. 2019a), or have examined at what ages perceptions of police legitimacy actually begin to decline among modern youth. For researchers, policymakers, and practitioners seeking to improve police-community relations, it is critical to both identify age-graded trends in modern youths' perceptions of police legitimacy and to understand whether efforts can impact youths' perceptions. Utilizing large, community samples of children and adolescents spanning ages 7 to 14 from racial/ethnic minority backgrounds, this paper examines age-graded trends in youths' perceptions of police and presents a randomized controlled trial examining whether youths' perceptions of police legitimacy can be improved.

Perceptions of police legitimacy

The procedural justice framework indicates that both direct (Paternoster et al. 1997) and vicarious (Fine et al. 2016) interactions impact the way individuals view police (Sunshine and Tyler 2003; Tyler 1990). Aspects of interpersonal treatment, such as respect, dignity, trust, neutrality, and voice (Mazerolle et al. 2014), are crucial during these interactions. Regardless of whether they are youth or adult samples both within and outside of the criminal justice system (Baz and Fernández-Molina 2018; Hinds and Murphy 2007; Kaiser and Reisig 2019; Penner et al. 2014; Piquero et al. 2005; Reisig and Lloyd 2009; White et al. 2016; Wolfe et al. 2016b; Vidal et al. 2017), evidence suggests that when an individual feels their interactions with police were fair and just, they are more likely to view police as a legitimate authority (Hinds 2009; Tyler 1990).

Part of the reason why perceptions of police legitimacy are critically important is that positive perceptions are associated with obeying the law, crime reporting, and the willingness to assist in investigations (Fagan and Tyler 2005; Sunshine and Tyler 2003; Trinkner et al. 2018; Tyler 1990; Walters and Bolger 2019). Negative perceptions, on the other hand, are associated with a greater likelihood of offending and engaging in other rule-violating behavior (Hinds 2007; Trinkner 2012; Trinkner and

Cohn 2014; Tyler and Trinkner 2018). What is more, while the association between perceptions of police and behavior is pronounced among adults, this association may be even more salient among youth under the age of 18 (Murphy 2015). Considering negative events and information tends to be more impactful for youth as compared to adults (Reed et al. 2014), early interactions with police may be particularly crucial for impacting youths' perceptions of police and subsequent behavior.

Developmental trends in perceptions of the police

Classical legal socialization research focuses on understanding how attitudes and beliefs about the law and legal authorities are formed during development (Cohn et al. 2010; Cohn and White 2012; Tapp and Levine 1974). Grounded in the cognitive-developmental framework, which itself originated in traditional developmental theories (Kohlberg 1969; Piaget 1932/1965; Tapp and Kohlberg 1971), classical legal socialization researchers recognized that during early childhood, children exhibit particularly strong authority-oriented views (Hogan and Mills 1976; Laupa et al. 1995). Young children view adult authorities as generally omniscient, and notions of authority are typically unilateral (see Laupa et al. 1995). However, as children progress through childhood and into adolescence, they mature both cognitively and emotionally (Sindall et al. 2017; Icenogle et al. 2019). Marked cognitive improvements occur that enable youth to think more abstractly (Dumontheil 2014), to consider and to use others' perspectives to guide decision making (Dumontheil et al. 2010), and to empathize with others (Allemand et al. 2014). The legal socialization literature suggests that this improving cognitive development permits children to begin developing their own complex conceptions of laws and legal authorities (see Cohn et al. 2010; Cohn et al. 2012; Cohn and White 2012; Tapp and Levine 1974; Torney 1971; Tyler and Trinkner 2018). Indeed, as children age, more nuanced and complex patterns of perceptions of justice, welfare, rights, and authority do emerge (Killen et al. 2006; Mulvey et al. 2016; Smetana and Ball 2018; Tisak 1986). These marked developmental improvements are theorized to underlie a purported shift from largely unquestioning obedience and acceptance of legal authority to more critically evaluating and challenging legal authority (Tapp and Levine 1974). That is, the simplistic view of police officers as authorities that must be revered and obeyed that tends to exist during early childhood may begin to shift towards complex and critical evaluation with age (see also Hogan and Mills 1976). Consequently, the literature indicates that perceptions of police legitimacy may begin declining during late childhood, long before adolescence, let alone adulthood.

Yet, decades later, only a few recent studies have examined legal socialization developmentally (see Sindall et al. 2017; Tyler and Trinkner 2018). Most frequently, legal socialization studies have used the Pathways to Desistance sample of serious, juvenile offenders (e.g., Augustyn 2015; Kaiser and Reisig 2019; Piquero et al. 2016; Wolfe et al. 2016a). However, even among these studies, few have attempted to trace perceptions by age. Among those that have examined these concepts by age, legitimacy attitudes have been found to change through adolescence (Fine and Cauffman 2015; McLean et al. 2019). However, because the Pathways sample consists of youth who were at least age 14 at the time of their first interview, the dataset is unable to trace age-graded trends earlier than age 14. That is, it is inherently unable to examine whether

perceptions of police legitimacy may begin declining at even younger ages, particularly during the transition from childhood to adolescence (see Cohn and White 2012; Tapp and Levine 1974). Further, considering the Pathways sample consists of “serious” offenders who were adjudicated or waived to adult court between 2000 and 2003, the sample may not be generalizable to either modern or non-justice-involved youth.

Two studies have studied perceptions of police legitimacy among non-justice-involved samples of youth in the USA. In a seminal paper, Fagan and Tyler (2005) sampled 215 children and adolescents in New York City during the early 2000s. They found evidence that perceptions of police legitimacy decline “sharply and monotonically from age 10 through age 14” (pg. 229). These findings resonate quite well with the only other developmental study of community youths’ perceptions of police in the USA. Using a large sample of 1773 children and adolescents who participated in the D.A.R.E. program in Illinois during the 1990s, Schuck (2013) found that “attitudes towards the police” are more positive at younger ages (10–12) and decline into adolescence. However, as the researchers note, the data may not generalize to youth today considering they were collected during the 1990s. Further, while impressive that they were able to incorporate five items to assess youths’ “attitudes toward the police,” the items may not tap into legitimacy (e.g., “if you give a police officer a chance, he will be your friend,” pg. 586). Considering legitimacy in particular appears to be instrumental in promoting compliance with the law (Walters and Bolger 2019), the present study builds on Fagan and Tyler (2005) and Schuck’s (2013) research by specifically examining age-graded differences in contemporary youths’ perceptions of police legitimacy using a more well-established police legitimacy scale and beginning at even younger ages.

Changing perceptions of police

Youth today are growing up in an age of mistrust of police (see Trinkner and Tyler 2016). In fact, research suggests that while youths’ fear of crime has remained largely stable in recent years, their perceptions of police have been declining and have recently reached a decades-long low (Fine et al. 2020). In the face of concerns over perceptions of police legitimacy, President Obama’s Task Force on 21st Century Policing (2015) explicitly recommended that in addition to obviously improving biased and unjust policing practices, they must engage with communities in non-enforcement settings to become better integrated into the communities they protect and serve.

Despite recommendations, little research has been dedicated to evaluating the potential for positive, non-enforcement-related interactions to improve youths’ perceptions of police. The literature has largely focused on the impact of negative encounters with police on individuals’ perceptions, and most previous work has focused on university-based or other adult samples (Broaddus et al. 2013; Li et al. 2016; Maguire et al. 2017; Reisig et al. 2018; Skogan 2006). Comparatively, few studies have sought to understand these concepts among youth (Freiburger 2018; see also Murphy 2015; Murphy and Mazerolle 2018). Further, even less research has examined these concepts among youth of color or youth living in low socioeconomic areas (Fine et al. 2019a). This is particularly problematic given that racial/ethnic minority youth are more likely to report negative interactions with police compared to White youth, resulting in worse perceptions of police (Alberston and Gorey 2018; Fine and

Cauffman 2015; Hagan et al. 2005). This relative dearth of research has led to an increased focus by researchers to understand how youth develop their perceptions of the police (see McLean et al. 2019).

Overview of studies

Legitimacy is critically important for promoting compliance with the law (Jackson 2018; Tyler 2017; Walters and Bolger 2019). While it is acknowledged that children and adolescents are a key population for both police officials and legal socialization scholars, few studies (e.g., Fagan and Tyler 2005; Schuck 2013) have actually tracked age-graded patterns in community youths' perceptions of police legitimacy in the USA and none have sampled children younger than the age of 10. As a result, we lack an understanding of the normative development of legitimacy perceptions from childhood into adolescence.

Beyond the theoretical significance, identifying age-graded patterns of youths' perceptions of police legitimacy also serves a practical purpose; it may help identify at what ages interventions should be focused in the first place. The current studies fill the void left by previous literature in two key ways. First, both studies utilize large, predominantly racial/ethnic minority and low-SES youth spanning ages 7 to 14. The first study directly tests whether developmental trends in perceptions of police legitimacy vary as a function of race. Scholars have argued that considering excessive policing practices often affect communities of color (see Parker et al. 2005; Smith and Holmes 2014; Terrill and Mastrofski 2002; Trinkner and Goff 2016), it is perhaps unsurprising that youth of color tend to perceive police more negatively than do White individuals (see Peck 2015; Fine and Cauffman 2015; Fine et al. 2019b; Unnever and Gabbidon 2015; Weitzer and Tuch 1999). Based on prior literature, it is expected that as compared to other youth, and White youth in particular, Black youth will report worse perceptions of police legitimacy. Further, their perceptions will decline at a more rapid pace by age. Second, after establishing an understanding of the developmental trends in perceptions of police legitimacy, we then employ a randomized controlled trial evaluating an intervention to determine whether perceptions of police legitimacy can be changed.

Study 1

For the first study, cross-sectional data were collected from a sample of predominantly racial/ethnic minority children and adolescents spanning ages 7 to 14. The first study served two purposes. First, we examined age-graded trends in youths' perceptions of police legitimacy. Grounded in the cognitive-developmental view, we expected that perceptions of police legitimacy would decline through childhood and into the transition to adolescence. Second, we tested whether developmental trends in perceptions of police legitimacy may vary by race. Based on prior literature, we expected that as compared to other youth, and White youth in particular, Black youth would report worse perceptions of police legitimacy. Further, we hypothesized their perceptions would decline more rapidly by age.

Method

Sample Youth were sampled from six schools in southern California that serve predominantly students who receive free-or-reduced-price lunch. Team Kids, a 501(c)(3) organization, orchestrated data collection and worked with teachers to deliver the surveys in classrooms. Youth completed the self-reported surveys independently in class. Students were instructed to ask any questions if they were confused, were told that there were no right or wrong answers, and were encouraged to answer honestly because their responses were anonymous.

Out of the 1073 sampled youth, 959 provided complete data for age, race, gender, and perceptions of the police. The sample with complete data did not vary on perceptions of police legitimacy, $t(1004) = -.28$, $p = .78$, gender, $\chi^2(1) = 2.25$, $p = .13$, or age, $t(1034) = -.41$, $p = .68$. While there were race differences in completion rates, $\chi^2(3) = 10.42$, $p = .02$, they were actually minimal and the vast majority of students in each racial/ethnic group had complete data: 95.22% of Latinx youth, 92.63% of White youth, 91.22% of Black youth, and 87.01% of Other race/ethnicity youth had complete data. Considering the study focuses on the three racial/ethnic groups (i.e., Latinx, White, and Black) that all have complete data rates over 90% and there were no differences between the complete and incomplete surveys on the main dependent variable, we are unconcerned by this difference. Of the youth with complete data and who constituted the final sample, the majority of children self-identified as Latinx/Hispanic (64.34%), followed by Black/African American (19.50%), White (9.18%), and Other race/ethnicity (6.99%). Approximately 51.72% of the sample self-identified as “boy/male.” Children were on average 10.24 (SD = 1.09, range = 7, 14) years old (Table 1).

Police legitimacy The police legitimacy scale (Tyler, 2006, p. 48) was selected because it has been used in multiple longitudinal studies in the USA (Fine et al. 2017; McLean et al. 2019). Using a five-point Likert scale from *Strongly Disagree* (1) to *Strongly Agree* (5), children self-reported their agreement with four items (*I have a great deal of respect for the police; Overall, the police are honest; I feel proud of the police; I feel people should support the police*). Items were mean-scored such that higher values indicated more positive perceptions of police legitimacy ($M = 3.87$, $SD = 0.99$, range = 1, 5). The scale was internally consistent both overall ($\alpha = .87$) and at each age ($\alpha_{\text{range}} = .85-.93$).

Table 1 Descriptive statistics ($N = 959$)

| | <i>M</i> | % |
|------------------------|----------|-------|
| Age | 10.24 | |
| Boy/male | | 51.72 |
| Race/ethnicity | | |
| Black/African American | | 19.50 |
| Latinx/Hispanic | | 64.34 |
| White | | 9.18 |
| Other | | 6.99 |

Plan of analysis

To test whether perceptions of police legitimacy varied by age and by race/ethnicity, perceptions of police legitimacy were regressed on age, race/ethnicity (Latinx/Hispanic, White/Caucasian, Black/African American, and Other), and gender (female, male). The results of a Breusch-Pagan/Cook-Weisberg test indicated that there was heteroscedasticity ($\chi^2(1) = 18.09, p < .001$), and models were analyzed using the Huber/White/sandwich estimator to adjust the standard errors. The second set of models examined the age-graded trends in police legitimacy for each racial/ethnic group. Models were analyzed for each group separately to identify the functional form of age (e.g., linear, quadratic, cubic) for each racial/ethnic group. Models were analyzed with both raw and collapsed versions of the age variable as an internal robustness check. Given the results did not change, the raw models are presented (the latter are available upon request).

Results

The results of the first regression ($F(5, 953) = 12.80, p < .001$) indicated that age and race ($F(3, 953) = 10.15, p < .001$) were associated with perceptions of police legitimacy but gender was not (Table 2). As expected, older children reported worse perceptions of police legitimacy. Further, consistent with extant research, as compared with White youth, Black youth reported worse perceptions of police legitimacy, though White youth and Latinx youth did not differ. To further assess racial differences, the comparison group was changed to Black youth. As compared with Black youth, each of the other three racial/ethnic groups including White youth, Latinx youth ($b = .48, SE = .09, t = 5.45, p < .001, 95\% CI [31, .65]$), and Other youth ($b = .33, SE = .14, t = 2.28, p = .023, 95\% CI [.05, .61]$) reported more positive perceptions of police legitimacy.

The second set of regressions examined the association between age and perceptions of police by each racial/ethnic group. The interactions between race and age ($F(3,$

Table 2 Results of ordinary least squares regression for perceptions of police legitimacy

| | Model 1 | | | | |
|-------------------|----------|------|----------|----------|---------------|
| | <i>b</i> | SE | <i>t</i> | <i>p</i> | 95% CI |
| Female | 0.11 | 0.06 | 1.76 | 0.079 | [-0.01 0.23] |
| Age | -0.17 | 0.03 | -5.06 | <0.001 | [-0.23 -0.10] |
| Race ^A | | | | | |
| Latinx | 0.16 | 0.11 | 1.38 | 0.167 | [-0.07 0.38] |
| Black | -0.32 | 0.13 | -2.41 | 0.016 | [-0.58 -0.06] |
| Other | 0.01 | 0.16 | 0.03 | 0.973 | [-.31 0.32] |
| Constant | 4.31 | 0.15 | 28.67 | <0.001 | [4.02 4.261] |

^A Race: Comparison group is White

Model uses Huber/White/sandwich estimator to adjust the standard errors

950) = 3.57, $p = .014$), as well as between race and age² ($F(11, 946) = 7.01, p < .001$), were significant. Thus, models were analyzed for each race separately in order to comprehensively examine the functional form of age (e.g., linear, quadratic, cubic) for each group. The results are presented in Fig. 1. The results of the regressions with Latinx youth indicated that the functional association between age and perceptions of police legitimacy was quadratic ($b = -.06, SE = .02, p = .011, 95\% CI [-.11, -.01]$). Specifically, among Latinx youth, perceptions of police legitimacy improve from ages 7 to 9, at which point they begin declining (Fig. 1). The results varied for White youth ($b = -.03, SE = .08, p = .734, 95\% CI [-.19, .13]$), indicating that age was not associated with perceptions of police legitimacy. Across the ages of 7 to 14, White youth report similar perceptions of police legitimacy. Finally, the results varied markedly for Black youth, with age being linearly associated with police legitimacy ($b = -.15, SE = .07, p = .035, 95\% CI [-.29, -.01]$), such that each year, youth reported an average of .15 units worse perceptions of police legitimacy.

Discussion

This study provides the first examination of perceptions of police legitimacy among a large, cross-sectional sample of children and adolescents spanning the ages of 7 to 14. Specifically, this study contributes to the literature on youths' perceptions of police legitimacy through (1) assessing contemporary children at younger ages than other samples; (2) leveraging a widely used measure of police legitimacy; (3) exploring potential curvilinear associations between age and police legitimacy; and (4) examining age-graded differences separately by race.

The results of this study suggested that in general, there are age-graded differences in youths' perceptions of police legitimacy, such that older youth report worse perceptions of police legitimacy than do younger youth. Further, the findings clearly indicated that the developmental trends varied substantially by race; Latinx children's perceptions of police legitimacy appear to improve during middle-to-late childhood, from ages 7 to 9. However, Latinx children's perceptions peak around age 9 before declining rapidly thereafter. Black children and adolescents tended to report the worst perceptions

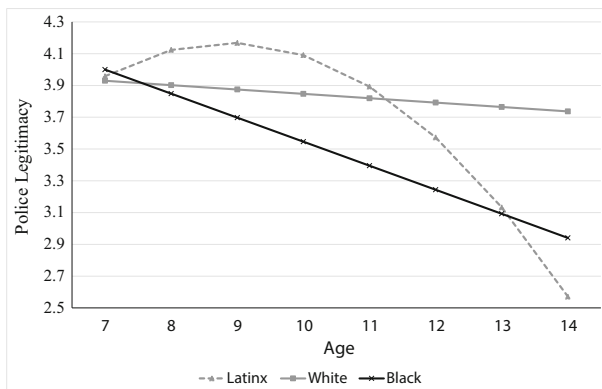


Fig. 1 Perceptions of police legitimacy by age and race ($N = 959$)

of police legitimacy, and their perceptions appeared to decline rapidly and consistently from ages 7 to 14.

Similar to studies of adolescents in the USA, including *Pathways to Desistance* (McLean et al. 2019), *Crossroads* (Fine et al. 2017), and *Monitoring the Future* (Fine et al. 2020), this study found that White children tend to report more positive perceptions of police legitimacy than Black youth, particularly during early adolescence. Within this sample, during childhood, their perceptions of police are not distinguishable from Black children. Further, there do not appear to be any age-graded differences or changes in their perceptions between ages 7 and 14. Because this study assessed children at younger ages than most others in the literature, the results uniquely indicate that such racial differences observed during adolescence may be reflective of differences that actually can be traced back to changes that occur between the transition from childhood to early adolescence. That is, as the cognitive-developmental framework has long suspected, this study provides empirical evidence that the transition from childhood to adolescence emerges as a critically important period for the development of perceptions of police, particularly for the emergence of racial differences (see Cohn et al. 2010; Cohn et al. 2012; Cohn and White 2012; Tapp and Levine 1974; Torney 1971; Tyler and Trinkner 2018).

This study certainly has several limitations. First, the data were cross-sectional in nature. As a result, they preclude identifying attitudinal changes over the course of a particular youth's development, identifying multiple trajectories of socialization, or parsing out cohort effects. While we can identify potential age-graded differences, we cannot fully establish developmental trends without longitudinal data. The findings, however, suggest that there may indeed be age-graded trends that vary for racial/ethnic groups, which requires future longitudinal research.

Second, this study focuses on identifying age-graded trends of youth perceptions of police while accounting for key individual-level factors (i.e., gender and race/ethnicity). However, the current study does not argue that age and race alone cause changes in perceptions of police. Indeed, a host of other factors (e.g., personal and vicarious contact, neighborhood characteristics, immigration status) likely shape the development of these perceptions. For example, Black youth may experience more negative direct and vicarious interactions with police beginning at an earlier age, which may explain what appears in this study to be a steady, age-graded decline of Black youths' perceptions of police. As another example, the fact that Latinx youths' perceptions of police appear to peak at age nine should not be misinterpreted to mean that the very fact that they turned nine years old impacted their perceptions. Rather, from a developmental and life-course criminological perspective (Laub and Sampson 2019), it is likely that social (e.g., exposure to personal or vicarious contacts), biological (e.g., becoming more adult-like in stature), and even combinations of factors and experiences (e.g., physical changes requiring parents to feel obligated to speak to youth about interacting with police) undergird these shifting perceptions. Unfortunately, the short survey designed for youthful participants was unable to assess a variety of factors that may impact youth perceptions of police legitimacy. Future work is necessary to identify potential mechanisms through which youth develop their perceptions of police legitimacy, mechanisms which may themselves follow an age-graded curve.

Third, while the sample size is large, the youth all come from schools in southern California and are predominantly low-SES. The results may not be generalizable to

samples with other demographic characteristics. Finally, Jackson (2018) recently noted that the “remarkable burst of international enthusiasm for studying the legitimacy of legal authorities has outpaced attention to equivalence, rigor of measurement, and theoretical ambition” (pg. 160). In response to this and others’ concerns (Tankebe et al. 2016), the police legitimacy scale (Tyler, 2006) was selected precisely because it is grounded in extant research (see McLean et al. 2019; Fine et al. 2017) and because it captures, “the concepts of trust, honesty, and respect that have been identified as key components of legitimacy” (McLean et al. 2019, pg. 55). However, research would benefit from using other and more specific measures of police legitimacy, procedural justice, and normative alignment.

Study 2

Positive perceptions of police legitimacy are associated with obeying the law, reporting crime, and being willing to assist police in investigations. Consequently, policymakers and practitioners are interested in how to improve the public’s perceptions of police legitimacy. In fact, President Obama’s Task Force on 21st Century Policing’s landmark report (2015) placed “improving police legitimacy” as the first pillar and explicitly indicated that police must engage with communities in positive, non-enforcement settings. Specifically, it stated, “Law enforcement agencies should create opportunities in schools and communities for positive non-enforcement interactions with police” (pg. 15).

Heeding this call, study two provides one of the first evaluations of a structured, in-school program involving repeated prosocial exposure to police officials in a non-enforcement capacity on youths’ perceptions of police legitimacy. We conducted a full randomized controlled trial involving four schools in Compton, California, which we selected due to its notorious history of experiencing unjust and biased policing (Bjornstrom 2015; Davis 2017), as well as its long history of being high crime and economically disadvantaged (see Corsaro and Wilson 2018; Sides 2004). We hypothesized that students in schools participating in the treatment program would exhibit improved legitimacy perceptions relative to the comparison schools that did not receive the treatment program.

Method

For the purposes of a randomized controlled trial, selecting matched pairs is critically important. With the assistance of school district officials and principals, two matched pairs of schools from the same district in Compton, CA, were selected for the study. Within each pair, schools were matched with respect to location, size, racial/ethnic composition, and proportion of students receiving free-or-reduced-price lunch (Table 3). All schools opted to take part in the study. All four Title I schools serve predominantly non-white students and report high levels of participation in the National School Lunch program, a proxy often used for poverty (see Nicholson et al. 2014; Day et al. 2016). Students were enrolled in fourth through seventh grade and ranged between the ages of 7 and 14 (Pair 1: $M = 10.46$, $SD = 0.97$; Pair 2: $M = 10.29$, $SD = 0.92$).

Table 3 Descriptive statistics on schools

| | School | Distance between matched schools | Matched surveys N youth | % Students Hispanic/Latinx or Black/African American | % students free/reduced-price lunch |
|--------|-----------|----------------------------------|-------------------------|--|-------------------------------------|
| Pair 1 | Control | 1.70 miles | 123 | 79.69% | 90.00% |
| | Treatment | | 129 | 77.04% | 92.10% |
| Pair 2 | Control | 2.40 miles | 128 | 81.74% | 92.80% |
| | Treatment | | 119 | 87.18% | 85.60% |
| | Total | | 499 | | |

Procedure Within each pair, one school was randomly assigned to participate in the Team Kids Challenge (TKC), described in further detail later. In the treatment schools, the first wave of surveys was conducted prior to program implementation and the second wave of surveys occurred following the conclusion of the TKC program. In the control schools, wave one and wave two surveys were administered within one day of administration in their respective treatment school. Students independently completed their self-report, in-class surveys and were directed to ask for clarification if needed. Youth were informed of their anonymity and were encouraged to respond truthfully. It is important to note that while the comparison schools did not initially participate in the TKC, we utilized a waitlist design so that they did receive the program after the conclusion of the RCT.

The TKC is a structured, in-school, five-week-long program designed and implemented by Team Kids, a non-profit organization pursuing the mission of empowering children to positively impact their community. To accomplish this goal, TKC facilitates repeated interactions with first responders (such as police and/or firefighters) and Team Kids coaches (typically college students or recent graduates) as non-parental adults to support youth in mobilizing their power to influence change in their community in ways that the youth find meaningful.

Prior to the inaugural assembly, officers were trained in positive youth development and how to promote the message that children have the power to change their community. Following the officer training, an in-school, lunchtime assembly was held in which youth were shown a short video portraying elementary school-age children talking about their dreams to make the world a better place. Following the video, students discussed with police what challenges they saw in their community. At the conclusion of the assembly, police officials directly appealed to students with the following message, “Our job is helping people. We can’t do this work by ourselves. We are truly inspired to learn how you will work together to make a difference in your community, and have one question for you... Can we be on your team?”

Students in the upper grades then identified community needs and selected school-wide “challenges” to benefit local 501(c)(3) organizations within the community that address those needs (e.g., collect 200 gently used blankets for local animal shelters). During the three weeks following the assembly, students in the upper grades met weekly with police officials and TK coaches during their lunch periods to orchestrate a school-wide carnival fundraising event to benefit a broader

community issue to which carnival proceeds would be donated (e.g., child abuse, suicide, homelessness, abandoned animals). Within the weekly meetings with police officials, students worked in small groups to create low-cost, handmade games/activities (e.g., bowling using recycled bottles) for the carnival that occurred during the last week of the program. In an effort to tangibly support and empower students, local police officials participated in carnival activities and contributed to their fundraising efforts. Funds emerging from the student-led carnival were donated towards a local 501(c)(3) organization relevant to the children's selected issue. In the final meeting, students presented a physical check to a chosen representative of their selected non-profit organization, were able to view photos from their time participating in the Team Kids Challenge, and were congratulated for their achievements by the police officers who worked alongside them.

Measures

Police legitimacy Similar to study one, youth self-reported their agreement with the same four police legitimacy items (*I have a great deal of respect for the police; Overall, the police are honest; I feel proud of the police; I feel people should support the police*) and items were mean-scored to create the scale. The scale was internally consistent (schools pair 1: baseline $\alpha = 0.87$, wave 2 $\alpha = 0.92$; schools pair 2: baseline $\alpha = 0.87$, wave 2 $\alpha = 0.86$).

Missing data

As is customary with school-based research, schools did not provide us with information on the students who opted out of participating in the TKC and/or refused to complete survey(s) for whatever reason (< 5%). Considering surveys were administered during class and collected at two different time points, there are multiple reasons (e.g., absent, refused, out of class, finishing other work in class, teacher ran out of class time) why students may not have completed their surveys. Listwise deletion was implemented such that only surveys with complete data on the police legitimacy scale were included in the analyses.

Matched pair 1 In the treatment school, 135 students had complete data on the police legitimacy scale on the pre-TKC survey. Of these, we were able to link 129 students' pre- and post-TKC data. In the comparison control school, 128 students had complete data on the police legitimacy scale on the baseline survey. Of these, we were able to link 123 students' wave two data. Youth with and without matched surveys did not differ on perceptions of police legitimacy in either school.

Matched pair 2 In the treatment school, 120 students had complete data on the police legitimacy scale on the pre-TKC survey. Of these, we were able to link 119 students' pre- and post-TKC data. In the comparison school, 129 students had complete data on the police legitimacy scale on the baseline survey and we were able to link 128 students' wave two data. Students with and without completed surveys did not differ on their perceptions of legitimacy in either school.

Analytic plan

Although we selected the intervention schools at random, potential differences in youths' perceptions of police legitimacy at baseline were assessed using 2-sample t tests. Next, ANOVAs were utilized to examine treatment effects between the schools using the baseline score as a covariate (Wan 2018). We ran these separately by pair of school to provide a more nuanced analysis of the program effects, though the results are the same if we combine across schools. Further, to provide alternative metrics of effect sizes, we supplemented these analyses using paired t tests within each school.

Results

Baseline comparison Because the study relies on assessing the effects of the program on youths' perceptions, it is important to examine whether the youth in the matched pairs of schools had pre-existing differences in perceptions of police legitimacy. Prior to the TKC, there were no statistically significant differences in baseline perceptions of police legitimacy between youth in the first ($t(250) = 1.63, p = .10$) or second ($t(247) = -1.08, p = .28$) pair of schools.

Program effects As depicted in Fig. 2, after controlling for students' baseline scores in the first pair of matched schools, the ANOVA indicated a significant main effect of treatment, $F(1, 244) = 5.64, p = .02, \eta^2 = .02, 95\% \text{ CI } [.01, .07]$. In the treatment schools, A paired t test revealed that in the treatment school, students' average legitimacy scores improved from 3.89 ($\pm .17$) to 4.08 ($\pm .16$), an average improvement of .19 units ($95\% \text{ CI } \Delta [.05, .32]; t(128) = 2.72, p = .004$). In contrast, students' legitimacy scores in the control school did not change ($t(117) = -1.26, p = .211$). The results of the paired t tests for each school are also provided visually in Fig. 3.

As depicted in Fig. 2, an ANOVA with the second pair of schools indicated there was a main effect of treatment after accounting for baseline scores, ($F(1, 244) = 8.46, p = .004, \eta^2 = .03, 95\% \text{ CI } [.01, .09]$). Results of a paired t test indicated that in the

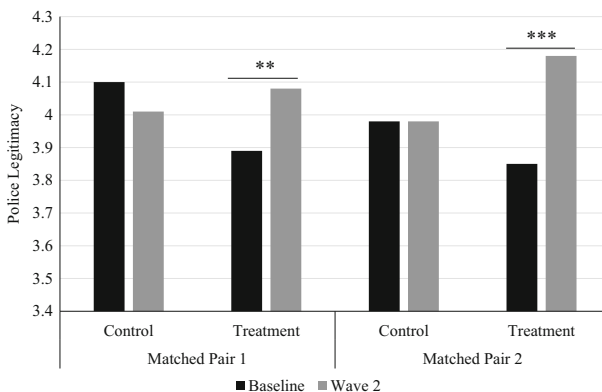


Fig. 2 Effects of the Team Kids Challenge on youths' perceptions of police legitimacy by school $**p < 0.01$, $***p < .001$

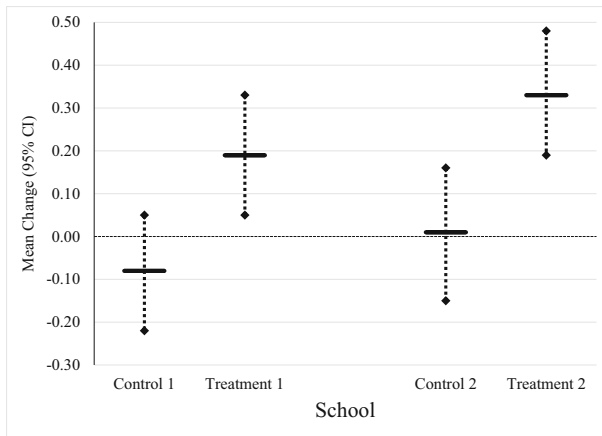


Fig. 3 Mean changes in youths' perceptions of police legitimacy from wave 1 to wave 2 by school. This figure visually displays the results of paired *t* tests within each school, comparing students' wave 2 perceptions to their wave 1 perceptions. The solid line indicates that school's mean difference score and the dotted lines indicate the 95% confidence intervals

treatment school, students' legitimacy scores improved from an average of 3.85 ($\pm .18$) to 4.18 ($\pm .15$), an average improvement of .33 units (95% CI Δ [.19, .48]; $t(118) = 4.55$, $p < .001$). In contrast, students' legitimacy scores in the control school did not change ($t(127) = .05$, $p = .96$). That is, in both pairs of treatment schools, but in neither of the control schools, students exhibited improvements in perceptions of police legitimacy. The results of the paired *t* tests for each school are also provided visually in Fig. 3.

Discussion

Legal socialization research focuses on understanding how individuals develop their beliefs and attitudes towards the law, legal institutions, and legal actors (Tapp and Levine 1974; Cohn and White 2012). Recently, scholars have been particularly interested in studying perceptions of police legitimacy (Tyler and Trinkner 2018), finding that both direct (Paternoster et al. 1997) and indirect interactions (Fine et al. 2016) impact perceptions. Historically, research examining perceptions of police legitimacy have often utilized adults in the general population or have focused on university-based samples (Li et al. 2016; Skogan 2006; Reisig et al. 2018; Maguire et al. 2017).

However, the cognitive-developmental framework (Kohlberg 1969; Laupa et al. 1995; Piaget 1965; Tapp and Kohlberg 1971) suggests that perceptions of police may begin forming at even earlier ages than current studies tend to sample. In fact, there may be a developmental trend in perceptions of police that begins emerging during childhood and the transition to early adolescence. Among the relatively few studies that have examined youth (Hinds 2009; Fagan and Tyler 2005), most have focused on justice-involved samples (McLean et al. 2019; Fine et al. 2017), and if they have focused on youth in the community, the samples have typically been from outside of the USA (e.g., Nivette et al. 2020; Trinkner et al. 2019). Further, virtually no studies have focused on children younger than age 10, potentially neglecting a crucial point of

development in which these perceptions may actually begin to change and may be the most malleable (Sindall et al. 2017; Schuck 2013; Fagan and Tyler 2005).

Together, these two studies provide a novel contribution to the growing literature on youths' perceptions of police legitimacy. Study one provided the first examination of age-graded developmental patterns of legitimacy perceptions among a large sample of community youth in southern California. The results indicated that age-graded differences in youths' legitimacy perceptions varied by race in ways consistent with Weitzer and Tuch's (2005) racial/ethnic gradient found in adults. Specifically, White youth reported the most positive perceptions of police legitimacy, Black youth reported the worst perceptions, and Latinx youth fell somewhere in between, though closer to White youth overall. Beyond these simple racial differences, this study uniquely found that each of the three racial/ethnic groups also varied in their age-graded differences in perceptions of police legitimacy. Specifically, while the data are cross-sectional, evidence of three potential developmental trends emerged that varied substantially by race. Latinx children's perceptions of police legitimacy appear to improve during middle-to-late childhood before declining rapidly thereafter. Black children and adolescents tended to report the worst perceptions of police legitimacy, and their perceptions appeared to decline rapidly and consistently from childhood into adolescence. Finally, White children and adolescents tended to report the most positive perceptions of police legitimacy and their perceptions remained largely stable from childhood into adolescence.

In line with the cognitive-developmental framework's long-held expectation that the transition from childhood to adolescence would be a critically important developmental period for legal socialization (see Cohn et al. 2010; Cohn et al. 2012; Cohn and White 2012; Tapp and Levine 1974; Torney 1971; Tyler and Trinkner 2018), the trends emerging in the first study suggest that it is during this developmental period that modern youth—particularly youth of color—begin to critically evaluate police and develop increasingly poor perceptions. The cognitive improvements during this developmental period likely mean that Black youths' increasingly poor perceptions of law enforcement reflect their awareness or understanding that unjust policing disproportionately impacts people of color. Certainly, longitudinal data are necessary to support this proposition, but this large, cross-sectional study suggests that researchers must consider sampling youth at even younger ages. It is during the transition through childhood and into adolescence that perceptions of police legitimacy may be the most malleable.

In study two, a randomized controlled trial examined the impact of repeated prosocial exposure to police in a non-enforcement capacity through the Team Kids Challenge on youths' perceptions of police legitimacy. Notably, despite similar perceptions of police legitimacy at baseline as compared to students in the control schools, students in both treatment schools that participated in the Team Kids Challenge reported significant improvements in perceptions of police legitimacy.

Despite their strengths, these two studies were limited in important ways. As noted, the first study was cross-sectional; thus, while we can identify age-graded differences, we cannot fully establish within-person developmental trends without longitudinal data. Second, while we were able to conduct a four-school randomized controlled trial for the second study, the results are based on data from a limited number of schools in a limited geographic location. Despite the close proximity of treatment and control

schools and the fact that we worked closely with administrators to select matched pairs of schools on a variety of characteristics (e.g., location, size, racial/ethnic composition, and proportion of students receiving free or reduced-price lunch), it is possible that systematic differences between students attending each school (e.g., neighborhood characteristics and events) may have influenced their perceptions of police during the study period. Indeed, the fact that there were only four data collection sites is a clear limitation and future research should replicate these findings with a larger sample of schools. Data from a larger-scale study in multiple jurisdictions are clearly necessary. Third, it is possible that youth who did not complete surveys came from households with more negative direct and vicarious experiences with law enforcement. Consequently, the estimated impact of the TKC may be conservative due to the possible missingness of youth with the largest potential for improved perceptions of police. However, we present this tentatively as we cannot test the assumption. Finally, we were unable to collect a third wave of data to parse stability effects. A third wave of data would clearly be necessary in future work.

Conclusion

Researchers, policymakers, and practitioners alike recognize the critical importance of police legitimacy (see Moule et al. 2019; Nagin and Telep 2017), in part because it is routinely associated with compliance with the law (Walters and Bolger 2019). In light of these concerns over perceptions of police legitimacy, President Obama’s Task Force on 21st Century Policing (2015) explicitly recommended that police, “create opportunities in schools and communities for positive non-enforcement interactions with police” (pg. 15). Despite these clear recommendations, little research has been devoted to evaluating the potential for positive, non-enforcement-related interactions to improve youths’ perceptions of police legitimacy.

The results of the first study indicated that youths’ perceptions of police legitimacy may begin declining as early as during childhood. The fact that perceptions of law enforcement appear to begin declining among youth of color at such young ages is vitally important when considered within the broader ecological and historical context. Namely, police departments across the USA face a hiring shortage, yet simultaneously, they are often far from racially and ethnically representative of the communities they serve even in light of evidence that such representativeness appears to be critical for enhancing policing practices (Hong 2016; Hong 2017; Riccucci et al. 2018; Trochmann and Gover 2016). As such, it may be the case that among youth of color, their poor perceptions of law enforcement may deter them from pursuing careers in law enforcement.

The results of the second study—a randomized controlled trial of a program championed and welcomed by educators in the local community—indicated that when police participate in a structured, non-enforcement-based program involving repeated, prosocial exposure to youth that empowers youth to make a difference in their own community in ways they find meaningful, they may significantly improve youths’ perceptions of police legitimacy. This finding indicates that it appears to be entirely possible for police to build better relationships with the communities they serve, including enhancing their legitimacy. When police make an effort to become better integrated into and supportive of the communities they are

charged with protecting and serving, they may begin repairing relationships and improving public trust and legitimacy—even among children.

However, the findings should not be misinterpreted to indicate that police should replace procedurally just policing practices, trainings, and resources with such community-based efforts. As the Task Force on 21st Century Policing's report indicates quite clearly on page one, "The public confers legitimacy only on those whom they believe are acting in procedurally just ways." Certainly, events like the deaths of George Floyd, Breonna Taylor, and Eric Garner at the hands of law enforcement undermine police legitimacy, not just locally but also nationally. As accumulating evidence supporting these efforts suggests (Engel et al. 2020; Goff et al. 2016; O'Brien and Tyler 2020; Wheeler 2019; Wood et al. 2020), the critical first step to building police legitimacy is to focus on improving procedurally just policing practices through training, retraining, and oversight.

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References

- Alberton, A., & Gorey, K. (2018). Contact is a stronger predictor of attitudes toward police than race: a state-of-the-art review. *Policing: An International Journal of Police Strategies & Management*, 41(1), 2–23. <https://doi.org/10.1108/PIJPSM-06-2017-0070>.
- Allemand, M., Steiger, A. E., & Fend, H. A. (2014). Empathy development in adolescence predicts social competencies in adulthood. *Journal of Personality*, 83(2), 229–241. <https://doi.org/10.1111/jopy.12098>.
- Augustyn, M. B. (2015). The (ir) relevance of procedural justice in the pathways to crime. *Law and Human Behavior*, 39(4), 388–401. <https://doi.org/10.1037/lhb0000122>.
- Baz, O., & Fernández-Molina, E. (2018). Process-based model in adolescence. Analyzing police legitimacy and juvenile delinquency within a legal socialization framework. *European Journal on Criminal Policy and Research*, 24(3), 237–252.
- Bjornstrom, E. E. (2015). Race-ethnicity, nativity, neighbourhood context and reports of unfair treatment by police. *Ethnic and Racial Studies*, 38(12), 2019–2036. <https://doi.org/10.1080/01419870.2015.1023821>.
- Broadus, E. T., Scott, K. E., Gonsalves, L. M., Rhodes, E. L., Donovan, S. E., & Winch, P. J. (2013). Building connections between officers and Baltimore city youth: key components of a police-youth teambuilding program. *Journal of Juvenile Justice*, 3(1), 48–60.
- Cavanagh, C., Dalzell, E., & Cauffman, E. (2020). Documentation status, neighborhood disorder, and attitudes toward police and courts among Latina immigrants. *Psychology, Public Policy, and Law*, 26(1), 121.
- Cohn, E. S., & White, S. O. (2012). *Legal socialization: A study of norms and rules*. Springer Science & Business Media.
- Cohn, E. S., Bucolo, D., Rebellon, C. J., & Van Gundy, K. (2010). An integrated model of legal and moral reasoning and rule-violating behavior: the role of legal attitudes. *Law and Human Behavior*, 34(4), 295–309.
- Cohn, E. S., Trinkner, R. J., Rebellon, C. J., Van Gundy, K. T., & Cole, L. M. (2012). Legal attitudes and legitimacy: extending the integrated legal socialization model. *Victims & Offenders*, 7(4), 385–406.
- Corsaro, N., & Wilson, J. M. (2018). The effects of police contracting on crime: an examination of Compton, California. *Journal of Experimental Criminology*, 14(1), 59–81.
- Davis, M. (2017). Fortress Los Angeles: the militarization of urban space. In *Cultural Criminology* (pp. 287–314). Routledge.
- Day, S. E., Hinterland, K., Myers, C., Gupta, L., Harris, T. G., & Konty, K. J. (2016). A school-level proxy measure for individual-level poverty using school-level eligibility for free and reduced-price meals. *Journal of School Health*, 86(3), 204–214.

- Dumontheil, I. (2014). Development of abstract thinking during childhood and adolescence: the role of rostralateral prefrontal cortex. *Developmental Cognitive Neuroscience, 10*, 57–76. <https://doi.org/10.1016/j.dcn.2014.07.009>.
- Dumontheil, I., Apperly, I. A., & Blakemore, S.-J. (2010). Online usage of theory of mind continues to develop in late adolescence. *Developmental Science, 13*(2), 331–338. <https://doi.org/10.1111/j.1467-7687.2009.00888.x>.
- Engel, R. S., McManus, H. D., & Isaza, G. T. (2020). Moving beyond “best practice”: experiences in police reform and a call for evidence to reduce officer-involved shootings. *The Annals of the American Academy of Political and Social Science, 687*(1), 146–165.
- Fagan, J., & Tyler, T. R. (2005). Legal socialization of children and adolescents. *Social Justice Research, 18*(3), 217–241. <https://doi.org/10.1007/s11211-005-6823-3>.
- Fine, A., & Cauffman, E. (2015). Race and justice system attitude formation during the transition to adulthood. *Journal of Developmental and Life-Course Criminology, 1*(4), 325–349.
- Fine, A., Cavanagh, C., Donley, S., Steinberg, L., Frick, P. J., & Cauffman, E. (2016). The role of peer arrests on the development of youths’ attitudes towards the justice system. *Law and Human Behavior, 40*(2), 211.
- Fine, A., Cavanagh, C., Donley, S., Frick, P. J., Steinberg, L., & Cauffman, E. (2017). Is the effect of justice system attitudes on recidivism stable after youths’ first arrest? Race and legal socialization among first-time youth offenders. *Law and Human Behavior, 41*(2), 146.
- Fine, A. D., Donley, S., Cavanagh, C., & Cauffman, E. (2020). Youth Perceptions of law enforcement and worry about crime from 1976 to 2016. *Criminal Justice and Behavior, 47*(5), 564–581.
- Fine, A. D., Padilla, K. E., & Tapp, J. (2019a). Can youths’ perceptions of the police be improved? Results of a school-based field evaluation in three jurisdictions. *Psychology, Public Policy, and Law, 25*(4), 303.
- Fine, A., Rowan, Z., & Simmons, C. (2019b). Do politics trump race in determining America’s youths’ perceptions of law enforcement? *Journal of Criminal Justice, 61*, 48–57.
- Freiburger, T. L. (2018). Improving Youths’ Attitudes About the Police: Results From an Experimental Design. *Criminal Justice Review* 0734016818811919.
- Hinds, L. (2007). Building police–youth relationships: The importance of procedural justice. *Youth Justice, 7*(3), 195–209.
- Goff, P. A., Lloyd, T., Geller, A., Raphael, S., & Glaser, J. (2016). *The science of justice: race, arrests, and police use of force*. New York: Center for Policing Equity.
- Hagan, J., Shedd, C., & Payne, M. R. (2005). Race, ethnicity, and youth perceptions of criminal injustice. *American Sociological Review, 70*(3), 381–407. <https://doi.org/10.1177/000312240507000302>.
- Hinds, L. (2009). Youth, police legitimacy and informal contact. *Journal of Police and Criminal Psychology, 24*(1), 10–21.
- Hinds, L., & Murphy, K. (2007). Public satisfaction with police: using procedural justice to improve police legitimacy. *Australian & New Zealand Journal of Criminology, 40*(1), 27–42.
- Hogan, R., & Mills, C. (1976). Legal socialization. *Human Development, 19*(5), 261–276. <https://doi.org/10.1159/000271533>.
- Hong, S. (2016). Representative bureaucracy, organizational integrity, and citizen coproduction: does an increase in police ethnic representativeness reduce crime? *Journal of Policy Analysis and Management, 35*(1), 11–33.
- Hong, S. (2017). Does increasing ethnic representativeness reduce police misconduct? *Public Administration Review, 77*(2), 195–205.
- Icenogle, G., Steinberg, L., Duell, N., Chein, J., Chang, L., Chaudhary, N., et al. (2019). Adolescents’ cognitive capacity reaches adult levels prior to their psychosocial maturity: evidence for a “maturity gap” in a multinational, cross-sectional sample. *Law and Human Behavior, 43*(1), 69–85. <https://doi.org/10.1037/lhb0000315>.
- Jackson, J. (2018). Norms, normativity, and the legitimacy of justice institutions: international perspectives. *Annual Review of Law and Social Science, 14*, 145–165. <https://doi.org/10.1146/annurev-lawsocsci-110316-113734>.
- Kaiser, K., & Reisig, M. D. (2019). Legal socialization and self-reported criminal offending: the role of procedural justice and legal orientations. *Journal of Quantitative Criminology, 35*(1), 135–154.
- Killien, M., Smetana, J. G., & Smetana, J. (2006). Social-cognitive domain theory: Consistencies and variations in children’s moral and social judgments. In *Handbook of moral development* (pp. 137–172). Psychology Press.
- Kohlberg, L. (1969). *Stage and sequence: The cognitive-developmental approach to socialization*. Rand McNally.

- Laub, J. H., & Sampson, R. J. (2019). Life-course and developmental criminology: looking back, moving forward—ASC Division of Developmental and Life-Course Criminology Inaugural David P. Farrington Lecture, 2017. *Journal of Developmental and Life-Course Criminology*, 1–14.
- Laupa, M., Turiel, E., & Cowan, P. (1995). Obedience to authority in children and adults. In *Morality in everyday life: Developmental perspectives* (pp. 131–165).
- Li, Y., Ren, L., & Luo, F. (2016). Is bad stronger than good? The impact of police-citizen encounters on public satisfaction with police. *Policing: An International Journal of Police Strategies & Management*, 39(1), 109–126.
- Maguire, E. R., Lowrey, B. V., & Johnson, D. (2017). Evaluating the relative impact of positive and negative encounters with police: a randomized experiment. *Journal of Experimental Criminology*, 13(3), 367–391. <https://doi.org/10.1007/s11292-016-9276-9>.
- Mazerolle, L., Sargeant, E., Cherney, A., Bennett, S., Murphy, K., Antrobus, E., & Martin, P. (2014). *Procedural justice and legitimacy in policing*. Springer.
- McLean, K., Wolfe, S. E., & Pratt, T. C. (2019). Legitimacy and the life course: an age-graded examination of changes in legitimacy attitudes over time. *Journal of Research in Crime and Delinquency*, 56(1), 42–83. <https://doi.org/10.1177/0022427818793934>.
- Moule Jr., R. K., Fox, B. H., & Parry, M. M. (2019). The long shadow of Ferguson: legitimacy, legal cynicism, and public perceptions of police militarization. *Crime & Delinquency*, 65(2), 151–182. <https://doi.org/10.1177/0011128718770689>.
- Mulvey, K. L., Hitti, A., Smetana, J., & Killen, M. (2016). Morality, context and development. In L. Balter & C. Tamis-LeMonda (Eds.), *Child psychology: A handbook of contemporary issues* (3rd ed., pp. 285–304). NY: Psychology Press.
- Murphy, K. (2015). Does procedural justice matter to youth? Comparing adults' and youths' willingness to collaborate with police. *Policing and Society*, 25(1), 53–76.
- Murphy, K., & Mazerolle, L. (2018). Policing immigrants: using a randomized control trial of procedural justice policing to promote trust and cooperation. *Australian & New Zealand Journal of Criminology*, 51(1), 3–22.
- Nagin, D. S., & Telep, C. W. (2017). Procedural justice and legal compliance. *Annual Review of Law and Social Science*, 13, 5–28.
- Nicholson, L. M., Slater, S. J., Chriqui, J. F., & Chaloupka, F. (2014). Validating adolescent socioeconomic status: comparing school free or reduced price lunch with community measures. *Spatial Demography*, 2(1), 55–65.
- Nivette, A., Eisner, M., & Ribeaud, D. (2020). Evaluating the shared and unique predictors of legal cynicism and police legitimacy from adolescence into early adulthood. *Criminology*, 58(1), 70–100.
- O'Brien, T. C., & Tyler, T. R. (2020). Authorities and communities: can authorities shape cooperation with communities on a group level? *Psychology, Public Policy, and Law*, 26(1), 69–87. <https://doi.org/10.1037/law0000202>.
- Parker, K. F., MacDonald, J. M., Jennings, W. G., & Alpert, G. P. (2005). Racial threat, urban conditions and police use of force: assessing the direct and indirect linkages across multiple urban areas. *Justice Research and Policy*, 7(1), 53–79.
- Paternoster, R., Bachman, R., Brame, R., & Sherman, L. W. (1997). Do fair procedures matter—the effect of procedural justice on spouse assault. *Law and Society Review*, 31, 163.
- Peck, J. (2015). Minority perceptions of the police: a state-of-the-art review. *Policing: An International Journal of Police Strategies & Management*, 38(1), 173–203. <https://doi.org/10.1108/PLJPSM-01-2015-0001>.
- Penner, E. K., Viljoen, J. L., Douglas, K. S., & Roesch, R. (2014). Procedural justice versus risk factors for offending: predicting recidivism in youth. *Law and Human Behavior*, 38(3), 225. <https://doi.org/10.1037/lhb0000055>.
- Piaget, J. (1965). *The moral judgment of the child*. Harmondsworth: Penguin Books (Original work published 1932).
- Piquero, A. R., Bersani, B. E., Loughran, T. A., & Fagan, J. (2016). Longitudinal patterns of legal socialization in first-generation immigrants, second-generation immigrants, and native-born serious youthful offenders. *Crime & Delinquency*, 62(11), 1403–1425. <https://doi.org/10.1177/0011128714545830>.
- Piquero, A., Fagan, J., Mulvey, E. P., Steinberg, L., & Odgers, C. (2005). Developmental trajectories of legal socialization among serious adolescent offenders. *The Journal of Criminal Law and Criminology*, 96(1), 267–298 <http://www.jstor.org/stable/30038030>.
- President's Task Force on 21st Century Policing. (2015). *Final Report of the President's Task Force on 21st Century Policing*. Washington, DC: Off. Community Oriented Polic. Serv., US Dep. Justice.

- Reed, A. E., Chan, L., & Mikels, J. A. (2014). Meta-analysis of the age-related positivity effect: age differences in preferences for positive over negative information. *Psychology and Aging, 29*(1), 1–15. <https://doi.org/10.1037/a0035194>.
- Reisig, M. D., & Lloyd, C. (2009). Procedural justice, police legitimacy, and helping the police fight crime: results from a survey of Jamaican adolescents. *Police Quarterly, 12*(1), 42–62 <https://doi-org.ezproxy1.lib.asu.edu/10.1177/1098611108327311>.
- Reisig, M. D., Mays, R. D., & Telep, C. W. (2018). The effects of procedural injustice during police–citizen encounters: a factorial vignette study. *Journal of Experimental Criminology, 14*(1), 49–58. <https://doi.org/10.1007/s11292-017-9307-1>.
- Riccucci, N. M., Van Ryzin, G. G., & Jackson, K. (2018). Representative bureaucracy, race, and policing: a survey experiment. *Journal of Public Administration Research and Theory, 28*(4), 506–518.
- Schuck, A. M. (2013). A life-course perspective on adolescents’ attitudes to police: DARE, delinquency, and residential segregation. *Journal of Research in Crime and Delinquency, 50*(4), 579–607.
- Sides, J. (2004). Straight into Compton: American dreams, urban nightmares, and the metamorphosis of a black suburb. *American Quarterly, 56*(3), 583–605.
- Sindall, K., McCarthy, D. J., & Brunton-Smith, I. (2017). Young people and the formation of attitudes towards the police. *European Journal of Criminology, 14*(3), 344–364.
- Skogan, W. G. (2006). Asymmetry in the impact of encounters with police. *Police & Society, 16*(2), 99–126. <https://doi.org/10.1080/10439460600662098>.
- Smetana, J. G., & Ball, C. L. (2018). Young children’s moral judgments, justifications, and emotion attributions in peer relationship contexts. *Child Development, 89*(6), 2245–2263. <https://doi.org/10.1111/cdev.12846>.
- Smith, B. W., & Holmes, M. D. (2014). Police use of excessive force in minority communities: a test of the minority threat, place, and community accountability hypotheses. *Social Problems, 61*(1), 83–104.
- Solomon, S. J. (2019). How do the components of procedural justice and driver race influence encounter-specific perceptions of police legitimacy during traffic stops? *Criminal Justice and Behavior, 46*(8), 1200–1216.
- Sunshine, J., & Tyler, T. R. (2003). The role of procedural justice for legitimacy in shaping public support for policing. *Law and Society Review, 37*(3), 513–548.
- Tankebe, J., Reisig, M. D., & Wang, X. (2016). A multidimensional model of police legitimacy: a cross-cultural assessment. *Law and Human Behavior, 40*(1), 11–12. <https://doi.org/10.1037/lhb0000153>.
- Tapp, J. L., & Kohlberg, L. (1971). Developing senses of law and legal justice. In J. L. Tapp & F. J. Levine (Eds.), *Law, justice and the individual in society*. New York: Holt, Rinehart and Winston.
- Tapp, J. L., & Levine, F. J. (1974). Legal socialization: strategies for an ethical legality. *Stanford Law Review, 27*, 1–72. <https://doi.org/10.2307/1227929>.
- Terrill, W., & Mastrofski, S. D. (2002). Situational and officer-based determinants of police coercion. *Justice Quarterly, 19*(2), 215–248.
- Tisak, M. S. (1986). Children’s conceptions of parental authority. *Child Development, 166*–176.
- Torney, J. V. (1971). Socialization of attitudes toward the legal system. *Journal of Social Issues, 27*(2), 137–154.
- Trinkner, R. J. (2012). *Testing the procedural justice model of legal socialization: Expanding beyond the legal world (Doctoral dissertation)*. University of New Hampshire: Retrieved from <https://scholars.unh.edu/dissertation/666/>
- Trinkner, R., & Cohn, E. S. (2014). Putting the “social” back in legal socialization: procedural justice, legitimacy, and cynicism in legal and nonlegal authorities. *Law and Human Behavior, 38*(6), 602–617. <https://doi.org/10.1037/lhb0000107>.
- Trinkner, R., & Goff, P. A. (2016). The color of safety: the psychology of race & policing. *The SAGE handbook of global policing*, 61–81.
- Trinkner, R., & Goff, P. A. (2016). The color of safety: The psychology of race & policing. *The SAGE handbook of global policing*, 61–81.
- Trinkner, R., Jackson, J., & Tyler, T. R. (2018). Bounded authority: expanding “appropriate” police behavior beyond procedural justice. *Law and Human Behavior, 42*(3), 280–293. <https://doi.org/10.1037/lhb0000285>.
- Trinkner, R., Rodrigues, H., Piccirillo, D., Gifford, F. E., & Gomes, A. M. M. (2019). Legal socialization in Brazil: examining the generalizability of the procedural justice model. *International Journal of Comparative and Applied Criminal Justice, 1*–21. <https://doi.org/10.1080/01924036.2019.1587710>.
- Trochmann, M. B., & Gover, A. (2016). Measuring the impact of police representativeness on communities. *Policing: An International Journal of Police Strategies & Management, 39*(4), 773–790.
- Tyler, T. R. (1990). *Why people obey the law*. New Haven: Yale University Press.

- Tyler, T. R. (2017). Procedural justice and policing: a rush to judgment? *Annual Review of Law and Social Science*, 13, 29–53.
- Tyler, T. R., & Trinkner, R. (2018). *Why children follow rules: legal socialization and the development of legitimacy*. New York: Oxford University Press.
- Unnever, J., & Gabbidon, S. (2015). Do Blacks speak with one voice? Immigrants, public opinions, and perceptions of criminal injustices. *Justice Quarterly*, 32(4), 680–704. <https://doi.org/10.1080/07418825.2013.791714>.
- Vidal, S., Cleary, H., Woolard, J., & Michel, J. (2017). Adolescents' legal socialization: effects of interrogation and Miranda knowledge on legitimacy, cynicism, and procedural justice. *Youth Violence and Juvenile Justice*, 15(4), 419–440. <https://doi.org/10.1177/1541204016651479>.
- Walters, G. D. (2018). Procedural justice, legitimacy beliefs, and moral disengagement in emerging adulthood: explaining continuity and desistance in the moral model of criminal lifestyle development. *Law and Human Behavior*, 42(1), 37–49. <https://doi.org/10.1037/lhb0000266>.
- Walters, G. D., & Bolger, P. C. (2019). Procedural justice perceptions, legitimacy beliefs, and compliance with the law: A meta-analysis. *Journal of experimental Criminology*, 15(3), 341–372.
- Wan, F. (2018). Analyzing pre-post randomized studies with one post-randomization score using repeated measures and ANCOVA models. *Statistical Methods in Medical Research*. <https://doi.org/10.1177/0962280218789972>.
- Weitzer, R., & Tuch, S. A. (1999). Race, class, and perceptions of discrimination by the police. *Crime & Delinquency*, 45(4), 494–507.
- Weitzer, R., & Tuch, S. A. (2005). Racially biased policing: determinants of citizen perceptions. *Social Forces*, 83(3), 1009–1030.
- Wheeler, A. P. (2019). Allocating police resources while limiting racial inequality. *Justice Quarterly*, 1–27. <https://doi.org/10.1080/07418825.2019.1630471>.
- White, M. D., Mulvey, P., & Dario, L. M. (2016). Arrestees' perceptions of the police: Exploring procedural justice, legitimacy, and willingness to cooperate with police across offender types. *Criminal Justice and Behavior*, 43(3), 343–364.
- Wolfe, S. E., McLean, K., & Pratt, T. C. (2016a). I learned it by watching you: legal socialization and the intergenerational transmission of legitimacy attitudes. *British Journal of Criminology*, 57(5), 1123–1143.
- Wolfe, S. E., Nix, J., Kaminski, R., & Rojek, J. (2016b). Is the effect of procedural justice on police legitimacy invariant? Testing the generality of procedural justice and competing antecedents of legitimacy. *Journal of Quantitative Criminology*, 32(2), 253–282.
- Wood, G., Tyler, T. R., & Papachristos, A. V. (2020). Procedural justice training reduces police use of force and complaints against officers. *Proceedings of the National Academy of Sciences*, 117(18), 9815–9821.

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