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Can Youths' Perceptions of the Police Be Improved? Results of a School-Based Field Evaluation in Three Jurisdictions

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The way police officers interact with individuals fundamentally impacts the public's perceptions of law enforcement. Such perceptions are, in turn, linked to a variety of key outcomes, including crime commission, crime reporting, and the willingness to be a witness. Considering that the way children perceive the police may set the tone for how they view and interact with law enforcement during adolescence and into adulthood, identifying whether children's perceptions of the police can be changed is essential. The present study examined whether a positive youth development program that enables police officers to work collaboratively with children on community service projects might improve children's perceptions of police. The results of analyses, which used pre- and postevaluation data on a sample of predominantly Hispanic/Latinx or Black/African American 5th and 6th graders located in 3 jurisdictions in the United States, suggested that enabling law enforcement officers to work collaboratively with children can improve children's perceptions of police.

Keywords: procedural justice, interventions, legitimacy, perceptions, police

The way law enforcement officials treat individuals in the community fundamentally impacts the public's perceptions of law enforcement and the justice system's legitimacy (Nagin & Telep, 2017; Tyler, 2017). Researchers have long suggested that perceptions of law enforcement are critically important for increasing both compliance with the law and cooperation in fighting crime (Tyler, 2017). The essence of the procedural justice framework is that "if [citizens] regard legal authorities as more legitimate, they are less likely to break any laws, for they believe that they ought to follow them" (Tyler, 1990, p. 4). Consequently, recent scholarship considers procedural justice to be critical to "building a better cop" as well as to constructing better police–community relationships (Mazerolle & Terrill,

2018). Perhaps unsurprisingly, paralleling the surging empirical literature, the guiding framework for policing has shifted to improving legitimacy (Tyler, 2017). For instance, President Obama's Task Force on 21st Century Policing (2015) described legitimacy as the first pillar of policing and advocated efforts to build police legitimacy. Specifically, the text reads, "[l]aw enforcement agencies should create opportunities in schools and communities for positive non-enforcement interactions with police" (p. 15). The focus on schools and positive, non-enforcement interactions is particularly relevant to the current study.

As compared with adults, young people tend to hold less favorable views of law enforcement (Fagan & Tyler, 2005; Hurst & Frank, 2000; Leiber, Nalla, & Farnworth, 1998). Considering that the way children perceive law enforcement and justice system officials may set the tone for how they view and interact with law enforcement during adulthood (Murphy, 2015; Tyler & Trinkner, 2018), identifying whether children's perceptions of law enforcement can be changed is essential. The present study examines whether children's perceptions of police might change after working collaboratively with police officers on in-school service-learning challenges. Uniquely, the students were sampled in multiple jurisdictions across the United States and are predominately Hispanic/Latinx or Black/African American, groups that have traditionally had more negative interactions with police and possess worse perceptions of police worse as compared with White individuals (Alberton & Gorey, 2018; Fine & Cauffman, 2015; Fine, Kan, & Cauffman, 2019; Hurst, Frank, & Lee Browning, 2000; Peck, 2015; Wu, Lake, & Cao, 2015).

Perceptions of Law Enforcement

The vast majority of scholarship that focuses on perceptions of law enforcement has been conducted within the procedural justice literature. The procedural justice model posits that the general

public's perceptions of law enforcement derive from how they feel they and others have been treated by law enforcement (Sunshine & Tyler, 2003; Tyler, 1990). Definitions of *procedural justice* vary in the field, though the common elements in most theoretical and empirical conceptualizations focus on the individual's evaluation of interpersonal treatment (e.g., respect, dignity, trustworthy, neutrality, and voice; Mazerolle et al., 2014; O'Brien, Tyler, & Meares, 2019). Specifically, treating individuals with dignity and respect is critically important.

Consistent with the theory (Sunshine & Tyler, 2003; Tyler, 1990), unfair direct (Paternoster, Brame, Bachman, & Sherman, 1997; Slocum, Ann Wiley, & Esbensen, 2016) or vicarious (Fine, Cavanagh, Donley, Steinberg, Frick, & Cauffman, 2016; Weitzer & Tuch, 2005) experiences with law enforcement and justice system officials affect one's views of legitimacy. Studies suggest that procedural justice is linked with perceptions of legitimacy among adult and juvenile samples in both community and justice system contexts (Baz & Fernández-Molina, 2017; Hinds & Murphy, 2007; Kaiser & Reisig, 2017; Penner, Viljoen, Douglas, & Roesch, 2014; Piquero, Fagan, Mulvey, Steinberg, & Odgers, 2005; Reisig & Lloyd, 2009; Vidal, Cleary, Woolard, & Michel, 2017; White, Mulvey, & Dario, 2016; Wolfe, Nix, Kaminski, & Rojek, 2016).

Altogether, studies are increasingly focusing on understanding the public's perceptions of law enforcement (Dai, Hu, & Time, 2019; Murphy, 2009). There are a variety of theoretical and practical reasons for studying perceptions of law enforcement. As opposed to focusing on deterrence-based strategies to force compliance, ranging from threats of punishment and sanctions, the procedural justice model posits that voluntary compliance occurs when individuals respect the justice process (Tyler, 1990). Specifically, individuals who perceive law enforcement to be fair, just, and legitimate should be more likely to obey the law (Sunshine & Tyler, 2003; Tyler, 1990). The empirical literature does suggest that fair treatment signals to citizens that legal authority is legitimate and must be obeyed and such feelings, in turn, are associated with law-abiding behavior (Paternoster et al., 1997; Tyler, 1990).

In contrast, unfair treatment undermines the obligation to obey legal authority (Tyler, 2006) and is linked to crime involvement (Fagan & Piquero, 2007; Reisig, Wolfe, & Holtfreter, 2011). As with adults, studies of youth in both community (Trinkner & Cohn, 2014; Tyler & Trinkner, 2018) and delinquent samples (Augustyn & Ward, 2015; Cavanagh & Cauffman, 2015; Hinds & Murphy, 2007; Sprott & Greene, 2010) indicate that negative legitimacy views appear to be associated with the likelihood of criminal offending, rule-violating behavior, and recidivating. Certainly, the associations between legitimacy and law-related behavior may be bidirectional (Nagin & Telep, 2017; Trinkner, Mays, Cohn, Van Gundy, & Rebellon, 2019). Yet, it has been understood for decades that negative perceptions of law enforcement are linked to decreases in cooperation, which inherently makes it more difficult for law enforcement to fulfill their duties (Hahn, 1971). Considering that a fundamental aspect of law enforcement's mandate is to serve the public, Brown and Benedict (2002) aptly suggested that "police officers ought to be concerned about how they are viewed by the public, if for no other reason than preservation of their careers" (p. 545).

Developmental Perspective of Legal Socialization

Legal socialization refers to our understanding of the processes through which the public acquires attitudes and beliefs about the law, its representatives, and institutions. Despite robust empirical developments in the legal socialization literature in recent years, a relatively small proportion of studies focus on samples of children and adolescents. As others have attested (Baz & Fernández-Molina, 2017; Tyler & Trinkner, 2018), this is surprising considering legal socialization begins long before adulthood (Cohn, Bucolo, Rebellon, & Van Gundy, 2010; Tapp & Levine, 1974).

During childhood, individuals exhibit an obedience-based perspective, wherein authorities and laws are perceived to be forces that must simply be obeyed. In line with classic developmental theories of cognitive development (Piaget, 1932/1965) and moral reasoning (Tapp & Kohlberg, 1971), adolescents become increasingly able to think abstractly (Tapp & Levine, 1974), to consider and to use others' perspectives to guide decision making (Dumontheil, Apperly, & Blakemore, 2010), to empathize with others (Allemand, Steiger, & Fend, 2015), and to engage in hypothetical thinking (Piaget, 2008). These developmental changes permit youth to develop increasingly complex conceptions of rules, laws, justice, and fairness and to begin to critically evaluate legal authorities (Cohn et al., 2010; Cohn, Trinkner, Rebellon, Van Gundy, & Cole, 2012; Tyler & Trinkner, 2018) and to differentiate between legal and social authorities (Fine, Kan, & Cauffman, 2019).

Evidence suggests that perceptions of the justice system and its authorities begin forming well before adulthood (Augustyn, 2016; Brunson, 2007; McLean, Wolfe, & Pratt, 2018). Personal experiences with justice-system actors play an especially important role in shaping a person's views about the system, although vicarious experiences certainly matter as well (Cavanagh & Cauffman, 2015; Wolfe, McLean, & Pratt, 2016). Studies have found that as children age into adolescence and adulthood, both direct and indirect experiences shape judgments of police (Brunson, 2007; Fine & Cauffman, 2015; Fine et al., 2016; Tyler & Darley, 2000). Given that the perceptions formed in childhood might set the tone for how people in adulthood view and interact with law enforcement (Murphy, 2015; Tyler & Trinkner, 2018)—and because public discourse in the United States surrounding perceptions of legal authorities has become increasingly widespread (Friedman, 2017; Tyler, Goff, & MacCoun, 2015; Trinkner & Tyler, 2016)—understanding legal socialization during childhood and adolescence is of critical importance.

Determinants of Perceptions of Law Enforcement

It has long been acknowledged that race and prior contact with law enforcement are perhaps the two most important determinants of individuals' perceptions of law enforcement (Brown & Benedict, 2002; Decker, 1981). Beginning with race, compared with White youth, racial/ethnic minority youth are more likely to both come into contact with justice system officials and describe the procedures used by legal authorities as more unfair (Fine & Cauffman, 2015; Hagan, Shedd, & Payne, 2005; Nivette, Eisner, Malti, & Ribeaud, 2014). Black youth in particular consistently report more negative perceptions of the police than do White youth (Alberton & Gorey, 2018; Hurst et al., 2000; Peck, 2015; Wu et al., 2015). Hispanic/Latinx youths' perceptions of the police tend to lie

somewhere between Whites and Blacks (Fine, Rowan, et al., 2019; Weitzer & Tuch, 2004).

However, evidence from a recent meta-analysis suggests that as compared to the association between race and perceptions of police, the independent association of prior contact with the police appears to be substantially larger (Alberton & Gorey, 2018). Research has long demonstrated that the actions of individual police officers can directly and fundamentally enhance or diminish people's judgments of police legitimacy (Reiss, 1971). The literature has largely focused on the impact of negative encounters with law enforcement on individuals' perceptions. Consequently, most studies on law enforcement contact take the tone of Mastrofski, Snipes, and Supina (1996), who years ago concluded that "[o]ur police may be able to do little to enhance their cause, but a great deal to hurt it" (p. 296).

Nonetheless, researchers have taken up this charge to examine whether individuals' perceptions of law enforcement can be improved. Skogan (2006) conducted seminal work examining the effects of positive versus negative encounters with law enforcement on individuals' perceptions. Across samples spanning multiple cities, the results resoundingly indicated that as compared with the impact of having a positive encounter with law enforcement, the impact of having a bad experience is four to 14 times larger. As Skogan concluded, these findings are not particularly hopeful for law enforcement. More recently, Li, Ren, and Luo (2016) conducted a random telephone survey in Houston, Texas that included approximately 1,143 residents. Their findings indicate that net of neighborhood context and demographic characteristics, negative contacts more strongly influence perceptions of law enforcement than do positive contacts.

Classic psychological research on the power of negative experiences (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001) clarifies why such negative encounters with law enforcement may outweigh the effects of positive encounters. For instance, negative events often outweigh the effect of positive events, and combinations of negative and positive events yield evaluations that are more negative than simple algebraic sums would predict. Further, as compared with adults, youth attend to and remember negative information and events more strongly than those that are positive (Baumeister et al., 2001; Reed, Chan, & Mikels, 2014). Nonetheless, this does not imply that positive encounters do not matter. For instance, findings from the London Metropolitan Police Service's Public Attitude Survey (Bradford, Jackson, & Stanko, 2009) indicated that although negative encounters weighed more heavily on citizen perceptions of law enforcement, positive encounters could improve those perceptions in a substantive way.

Following Bradford and colleagues' (2009) work, subsequent experimental, quasi-experimental, and nonexperimental studies suggest that positive experiences can impact the public's perceptions of law enforcement. For instance, Mazerolle, Antrobus, Bennett, & Tyler, 2013; Mazerolle, Bennett, Antrobus, & Eggins, 2012 examined police stops in Australia and found that a single experience of procedural justice affected trust in the police. However, similar studies found that such interactions shaped individuals' views of the specific law enforcement officers who were involved in the interaction, but did not generalize beyond that to perceptions of the entire department or law enforcement more generally (MacQueen & Bradford, 2015; Sahin, Braga, Apel, & Brunson, 2017).

Critically, the vast majority of the studies that have focused on potentially changing individuals' perceptions of law enforcement have examined samples of university students using vignette designs (Reisig, Mays, & Telep, 2018) or video clips of police encounters (Lowrey, Maguire, & Bennett, 2016). The results of these studies typically find that the students who viewed or received the procedurally just condition reported feeling more obligated to obey an officer and higher levels of trust in the officer (Barkworth & Murphy, 2015; Parry, Moule, & Dario, 2019). However, Maguire and colleagues (2017) demonstrated that whereas both positive and negative treatments could influence students' perceptions of law enforcement, the effects on more global or generalized perceptions of law enforcement might be limited. Nonetheless, exposure to the procedural justice condition enhanced students' encounter-specific willingness to cooperate, obligation to obey, trust, and confidence in law enforcement—a finding echoed by a subsequent study of college students in other universities (Johnson, Wilson, Maguire, & Lowrey-Kinberg, 2017).

Only a handful of studies have attempted to change perceptions of law enforcement directly in the community setting and measured changes quantitatively (Broaddus et al., 2013). Peak, Bradshaw, and Glensor (1992) examined community perceptions before and after the implementation of a new community policing initiative in Reno, Nevada and found significant improvements in both the image of the police department and perceptions of its performance more generally. Goodrich, Anderson, and Lamotte (2015) evaluated pre- and posttests of 119 youth who participated in police-youth programs in Connecticut, and though the sample was predominantly White, they similarly found that youths' perceptions of police might be able to be improved.

Two studies are most directly relevant to the present study. The results of a recent, randomized field trial by Murphy and Mazerolle (2018) indicated that the effect of procedural justice on trust and crime reporting may be moderated by age, such that the effect is stronger among younger participants (though that study focused on individuals generally younger than age 26). This resonates with other studies that suggest that individuals under the age of 18 are particularly sensitive to procedural justice and their interactions with law enforcement (Murphy, 2015). Further, Freiburger (2018) conducted a study of youth in schools in Milwaukee, Wisconsin. While the most populated city in the state of Wisconsin and the 39th most populous city in the United States, Milwaukee does not appear to have as marked a history of poor police-community relationships as the Los Angeles and New York City regions and is clearly less populous. As a result, the present study constitutes the first to evaluate changing youths' perceptions of police in major, urban U.S. cities. Further, whereas Freiburger's sample was remarkable (37 schools), the program focused on youth "leaders" identified by each school. In contrast, the present program (as described subsequently) was designed to enable all students in the grades to work collaboratively with law enforcement on positive, community service challenges.

Present Study

The present study makes a critical contribution to the literature by focusing on improving perceptions of law enforcement among juveniles (specifically, children in Grades 5 and 6).

Juveniles are widely recognized for their importance to both law enforcement policy and life-course criminological theory pertaining to legal socialization, particularly considering their perceptions of law enforcement are still being formed. Oddly, juveniles have rarely been the target for evaluation studies in the field to date.

The present study explores the effect of juveniles' contacts with law enforcement within a structured, in-school setting on their perceptions of law enforcement. This question is examined using data collected from fifth and sixth grade students before and after repeated exposure (i.e., multiple days across 5 weeks) with law enforcement officers during their time participating in the Team Kids Challenge (TKC; see Method section for additional detail). The repeated exposure component is important, as "it is unrealistic to expect a single encounter with the police to substantially influence views" (Tyler, 2017, p. 36; see also, Nagin & Telep, 2017).

Further, the TKC is designed to be positive and goal-oriented, with law enforcement working with children to complete community service "challenges" together. This is critically important for promoting positive experiences, as opposed to merely satisfactory experiences, considering Jacob's (1971) finding that merely "satisfactory experiences [did] not elevate evaluations of the police" (p. 78; Skogan, 2006). Further, the program is designed based on positive youth development theorizing in that it emphasizes building nonparental adult–child relationships (Sanders & Munford, 2014), enables the students to accomplish something that they find meaningful and that makes a contribution beyond self-interest (Lerner, 2018), and gives students the opportunity to take a leadership role (Lerner et al., 2019). As a result, it is highly likely that the extent to which students feel as though they were given useful roles and responsibilities will be associated with the degree to which they report improved perceptions of police.

In totality, this study has four significant strengths: (1) the child participants involved were far younger (i.e., approximately 10 to 11 years of age) than the traditionally-used university students or general population respondents that are typically aged 18 years or older; (2) the child participants are predominately Hispanic/Latinx or Black/African American; (3) the study included both pre- and postintervention surveys to provide estimates of the amount of change, if any, in children's perceptions of law enforcement; and (4) the study spans several schools in multiple jurisdictions in two large cities (Los Angeles, CA and New York City, NY). The use of multiple jurisdictions is crucial because social-contextual factors, such as the climate of police–community relations, are known to influence individuals' perceptions of police behavior (Braga, Winship, Tyler, Fagan, & Meares, 2014). Finally, considering the preponderance of the children are Black or Latinx, the sample constitutes a group that may otherwise develop negative perceptions of law enforcement because they may experience disproportionately more negative personal and vicarious contacts with law enforcement (Alberton & Gorey, 2018; Brunson, 2007; Fine & Cauffman, 2015; Hurst et al., 2000; Peck, 2015; Weitzer & Tuch, 2004; Wu et al., 2015). Consequently, it is vital to understand how positive interactions with police officers may affect how these children's perceptions develop, particularly considering individuals' general views of the police may also impact how they interpret

their subsequent experiences with law enforcement (Brandl, Frank, Worden, & Bynum, 1994).

Method

Team Kids Challenge (TKC)

Team Kids is a 501(c)(3) organization whose mission is "to empower our kids to change the world." According to the organization's records, since Team Kids was founded in 2001, more than 170,000 elementary students have participated in the TKC, a school-based youth empowerment program that leverages first responders (typically law enforcement and/or firefighters) and Team Kids coaches (typically college students or recent graduates) as nonparental adults to empower children to make a difference in their community. The program began with a school-wide assembly during the lunch block featuring uniformed law enforcement officers. The officers were trained to deliver a message that children are powerful resources and are needed to meet community needs. A "Dream Peace" video was shown depicting elementary school-children talking about their dreams of making the world a better place, followed by a discussion with children about what challenges they see in their community. The law enforcement officers then challenged the students to participate in three weekly school-wide "Challenges" that students in the upper grades selected via a vote. While this is not a procedural justice intervention, in line with the procedural justice framework, the challenges are intended to increase both the level of exposure to and quality of bidirectional relational experiences with law enforcement personnel. Considering this is primarily a youth empowerment program designed to enable students to contribute to their community, the weekly challenges benefit local 501(c)(3) community-based organizations with quantifiable goals (e.g., collect 300 cans of food for a local food pantry to help alleviate hunger; collect 200 gently used towels or blankets for a nearby animal shelter to help care for neglected pets). The public safety officers then closed the assembly with the following message to the students:

> 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?

Throughout the month, students in the upper grades met with law enforcement and TKC staff weekly during lunch to plan a school-wide, fundraising carnival. The students selected a community issue that the carnival's proceeds would address (e.g., child abuse, suicide, homelessness, abandoned animals). During the weekly meetings, the students worked in small groups to develop low-cost, homemade games or activities for the carnival. During the last week of the program, students hosted the carnival during lunch recess. Law enforcement attended the carnival to congratulate the students and to participate in the games to support the students' efforts. All of the student-driven proceeds from the carnival went toward a local 501(c)(3) organization that addresses the issue children previously selected. During a final debrief meeting, students presented a check to a representative of the chosen beneficiary, watched a slideshow of pictures taken during the month of service, and were congratulated by Team Kids coaches and law enforcement partners.

Sample

TKC was implemented in five kindergarten through fifth or sixth grade schools in two jurisdictions of the Los Angeles region of southern California. The schools were located specifically in cities with marked histories of poor police-community relationships. It is well known that the area has borne witness to a marked history of unjust police–citizen encounters and policing practices (Bjornstrom, 2015; Davis, 2017) and has had a long history of being high crime and disadvantaged (Corsaro & Wilson, 2018; Sides, 2004). The vast majority of students in these schools participate in the National School Lunch Program, a proxy commonly used for poverty (Day et al., 2016; Nicholson, Slater, Chriqui, & Chaloupka, 2014), and are Hispanic/Latinx or Black/African American (Schools 1 through 5; see Table 1). Finally, the TKC was implemented in one school in the area of New York City (School 6). Like most of the schools in southern California, this school was predominantly comprised of students in the National School Lunch Program and who are Hispanic/Latinx or Black/African American.

Students completed the pre-TKC wave one day before the program began and completed the post-TKC wave one day after the program's completion. To encourage honest reporting, before completing the surveys, students were reminded that "[y]our answers are anonymous, which means there is no way for the people collecting the information to tell who you are. This is not a test. There are no right or wrong answers to these questions." Because of school administrators' concerns about students' confidentiality, students only reported the first letter of their first name, first letter of their last name, grade, teacher, and school. Pre- and post-TKC survey data were linked using those characteristics. Out of the 1,583 total completed surveys across the schools, we were unable to link 37.46% of the records (records: $N = 593$) for a number of reasons: Students did not complete a presurvey or a postsurvey because they were absent, did not report all characteristics, reported the same identifying characteristics (e.g., same initials within the same classroom), or we did not know whether students had switched teachers. We were able to link 62.54% of the students' pre- and post-TK survey data (records: $N = 990$) with 100% certainty, yielding a total linked sample size of 495 (see Table 1). Among students with post-TKC data, those with linked data reported similar perceptions of police as those without linked data, $t(684) = -.90$, $p = .37$, $d = -.08$, 95% CI [$-.24$, .09]. As a result, despite the fact that we only able to link pre-TKC and post-TKC data on approximately 63% of the students ($N = 495$), missing data were not considered to be an issue because there were no discernable differences between the students with and without linked data.

Measures

Perceptions of police. On both the pre-TKC survey and post-TKC survey, the instructions were as follows: "Read each sentence below, and circle the one answer that best describes what you think." Students then self-reported their responses to eight items regarding police on a scale from 1 (*not at all true*) to 4 (*very true*). (See Table 2.) These items tap students' connection and normative alignment with police (e.g., "police officers care about me," "police officers think I am an important part of the community," "police are an important part of my community").

Participation. On the post-TKC survey, students were asked to report on a scale ranging from 1 (*not at all true*) to 4 (*very true*) how much they felt they had been given useful roles and responsibilities in the program ($M = 2.87$, $SD = 1.04$; range = 1–4).

Plan of Analysis

First, a Flesch–Kincaid Reading Level Test was conducted to establish the reading level and readability of the police items, based on the normative reading level for U.S. school grades (Farr, Jenkins, & Paterson, 1951; Flesch, 1948; Williamson & Martin, 2010). To explore the perceptions of police measure, we conducted exploratory factor analysis (EFA) on the pre-TKC data (Floyd & Widaman, 1995). The sample size was well above a ratio of 10 observations to one variable (Costello & Osborne, 2005; Yong & Pearce, 2013). Following the exploratory factor analysis, we conducted confirmatory factor analysis (CFA) using the post-TKC wave of data. We used the diagonally adjusted weighted least squares estimator (Li, 2016) in Mplus (Muthén & Muthén, 2017). The use of EFA with one wave to establish measurement structure and then CFA with the other wave enables us to comprehensively establish configural measurement invariance across the two waves (Newsom, 2015). Third, utilizing a structural equation modeling approach (Newsom, 2015), we assessed metric invariance, factor invariance, and measurement intercept invariance.

Table 1
Number of Records at Each Wave and Total Number of Linked Cases

School	Pre-TKC survey (number of records)	Post-TKC survey (number of records)	Youth with linked Pre- and Post-TKC survey data (number of youth)	School percentage: Hispanic/Latinx or Black/African American	School percentage: National School Lunch Program
School 1	110	87	49	98	84
School 2	80	79	37	95	89
School 3	129	110	82	97	86
School 4	159	121	114	51	46
School 5	215	131	109	21	15
School 6	195	167	104	94	95
Total	888	695	495		

Note. TKC = Team Kids Challenge.

Table 2
Perceptions of Police Scale, Items, Means, and Standard Deviations (in Parentheses) at Both Study Waves

	Pre-TKC survey		Post-TKC survey	
Item	M (SD)	EFA loading	M (SD)	CFA loading (SE)
Police officers do more than enforce the law.	3.29 (.91)	.55	3.51 (.77)	.65*** (.03)
Police officers help kids succeed.	3.03 (.94)	.68	3.37 (.81)	.73*** (.02)
Police officers care about me.	3.05 (1.03)	.76	3.36 (.89)	.87*** (.02)
Police are an important part of my community.	3.57 (.79)	.59	3.72 (.63)	.69*** (.03)
Police officers want me to help others.	3.24 (.93)	.71	3.55 (.75)	.77*** (.02)
Police officers believe in me.	2.92 (1.01)	.81	3.32 (.89)	.89*** (.01)
Police officers think I can make a difference in my community.	2.99 (1.00)	.77	3.36 (.85)	.84*** (.02)
Police officers think I am an important part of the community.	2.91 (1.04)	.76	3.32 (.89)	.85*** (.02)
Total	3.13 (.68)	α = .856	3.44 (.61)	α = .881

Note. TKC = Team Kids Challenge; EFA = exploratory factor analysis; CFA = confirmatory factor analysis.
*** $p < .001$.

Finally, students' perceptions of police at pre-TKC and post-TKC were compared using three methods. The simplest comparison used t tests of all students with data, only students with complete and linked data, or students within each school separately. In all analyses, effect sizes were calculated using Cohen's d. Next, we conducted a latent difference model (McArdle, 2001). As explained by Newsom (2015), the latent difference score model represents the difference between two measurements within the autoregressive structure. That is, it places constraints on the autoregression coefficients within a structural model to derive difference scores. Specifically, the autoregression coefficient is replaced by 1, such that the residual is expressed as the difference between y_{ti} and $y_{t-1,i}$. The average residual then becomes equal to the average of the difference scores across all of the cases. The difference score factor, $\Delta\eta_3$, is equal to the simple difference score, $\Delta y_{t,t-1,i}$. The difference score factor is estimated by specifying a single indicator, y_{ti}, with its loading set equal to 1, that is predicted by the observed variable at the previous wave, $y_{t-1,i}$, with its path set equal to 1 (Newsom, 2015, p. 249). Finally, recall that during the post-TKC wave, students self-reported the extent to which they had been given useful roles and responsibilities. Within the latent difference score model, we included that variable as a predictor of the latent difference to examine the extent to which it predicted change in students' perceptions of police.

Results

Measurement

The results of a Flesch–Kincaid Reading Level Test, which is scored as the normative reading level for U.S. school grades, indicated that the scale's grade level rated at a fourth month of fourth grade level. The results of a Flesch Reading Ease Test (comprehension difficulty) indicated that the scale was easy to read (76.9%; highest possible score is 100%, and scores above 70% are considered easy to follow). Consequently, the items were considered appropriate for the students in the sample.

The second set of analyses focused on the factor structure and internal consistency of the perceptions of police measure. The Kaiser-Meyer-Olkin measure of sampling adequacy (Kaiser, 1974) values at pre-TKC (.90) and post-TKC (.91) confirmed that the sample size was adequate for factor analyses (see also de Winter,

Dodou, & Wieringa, 2009). The data were absent multicollinearity and singularity based on the squared multiple correlations (pre-TKC range = .23–.57). The results of the exploratory factor analyses and scree plots using the pre-TKC data indicated that there was a single eigenvalue (4.02) above the 1.0 threshold. The items loaded strongly onto this single factor (see Table 2). Confirmatory factor analysis using the diagonally adjusted weighted least squares estimator for ordinal data indicated that the one-factor model fit the post-TKC data well (comparative fit index [CFI] = .988, Tucker-Lewis index [TLI] = .983, root mean square error of approximation = .077). Consistent with the exploratory factor analysis, all items loaded strongly onto the single factor (see Table 2), indicating configural measurement invariance across the two waves.

We then assessed metric invariance, or invariance of factor loadings between the two waves. The unconstrained model, in which all loadings were freely estimated except the first indicator, fit the data well, $\chi^2(111) = 274.69$, $p < .001$, CFI = .952, TLI = .941, standardized root mean square residual = .046. If loadings were constrained to be equal, the model did not differ significantly from the unconstrained model, $\Delta\chi^2(7) = 3.152$, $p = .871$, suggesting that metric invariance between the two waves was met. The next step examined factor variances, comparing this model, $\chi^2(112) = 275.390$, $p < .001$, to the model with constrained factor loadings (Newsom, 2015). The results, $\Delta\chi^2(6) = 2.45$, $p = .874$, indicated that the factor variances did not differ across the two waves. The next step assessed measurement intercept invariance. Compared with the model with loadings constrained to be equal but unconstrained mean structure, $\chi^2(125) = 281.485$, $p < .001$, the model with equality constraints on the intercepts for the indicators, $\chi^2(118) = 277.840$, $p < .001$, did not have a significantly different fit, $\Delta\chi^2(7) = 3.645$, $p = .820$, indicating invariance in measurement intercepts.

Altogether, these results indicate that the level of measurement invariance reaches strong factorial invariance (Meredith, 1993). Consequently, the items were mean scored such that higher values at pre-TKC ($M = 3.13$, $SD = .68$) and post-TKC ($M = 3.44$, $SD = .61$) indicated more positive perceptions of police. The scale was internally consistent at both pre-TKC ($\alpha = .856$) and post-TKC ($\alpha = .881$).

Comparing Pretest and Posttest Scores

We began with t tests. The results of t tests indicated that students' perceptions of police post-TKC were significantly higher than pre-TKC, regardless of whether we examined all data, $t(1,563) = 9.38$, $p < .001$, $\Delta = .31$; Cohen's $d = .48$, 95% CI [.38, .58], paired t tests with only students with complete and linked data at both waves, $t(494) = 10.75$, $p < .001$, $\Delta = .29$; Cohen's $d = .45$, 95% CI [.33, .58], or students within each school separately (see Figure 1). In all analyses, the effect sizes were medium to large.

Next, we conducted a latent difference model (McArdle, 2001). The mean of the first factor α_1 (i.e., Wave 1 latent variable) was 3.149 and the intercept of the difference factor (i.e., difference between Wave 2 and Wave 1 latent variables) was .299 ($SE = .029$, $z = 10.389$, $p < .001$). The variance of the difference score was .337 ($SE = .024$). Using Mplus's STDYX standardization, the intercept of the difference factor (i.e., standardized difference between Wave 2 and Wave 1 latent variables) was .515 ($SE = .05$, $z = 9.762$, $p < .001$).

Finally, recall that during the post-TKC wave, students self-reported the extent to which they had been given useful roles and responsibilities. Within the latent difference score model, we included that variable as a predictor of the latent difference to indicate the extent to which it predicted change in students' perceptions of police. The results indicated that it was associated with the change in students' perceptions of police ($b = .08$, $SE = .02$, $p < .001$; $\beta = .15$, $SE = .04$, $p < .001$). The more students felt as though they had been given more useful roles and responsibilities, the more they reported improved perceptions of police.

Supplemental Analyses

It is entirely plausible that schools' characteristics may explain variation in perceptions of the police. We compared students' baseline perceptions of police across schools using an analysis of variance. The results indicated that there were differences, $F(5, 489) = 7.21$, $p < .001$. Post hoc analyses indicated that schools with a higher percentage of students of color tended to report worse perceptions of the police. Schools with a lower percentage of students of color or students in the National School Lunch Program (NSLP) tended to report more positive perceptions of the police pre-TKC than did schools with a higher percentage of students of color or students in the NSLP.

Discussion

Studies focusing on improving the public's perceptions of police officers have historically utilized samples of adults, particularly college students. However, from a developmental perspective, we know that attitudes begin developing much earlier than adulthood (Fagan & Tyler, 2005; Murphy, 2015; Tyler & Trinkner, 2018). Researchers rarely study children, despite the fact that their perceptions may be comparatively more flexible and have the potential to be altered in a positive way. The results of the present study indicate that juveniles (i.e., fifth and sixth grade students) who participated in the TKC reported significantly more positive perceptions of law enforcement after their participation.

Although studies have examined how interacting with school resource officers may impact youths' perceptions of school resource officers (Devlin & Gottfredson, 2018; Theriot, 2016; Theriot & Orme, 2016), perceptions of law enforcement have not been adequately examined among children. The TKC is designed to provide children with the opportunity to engage with law enforcement in a positive, community-service focused context. Certainly, although the goal of this study is not to test the procedural justice model, an aim of the program is to have police officers treat groups of young students with dignity and respect and to provide them
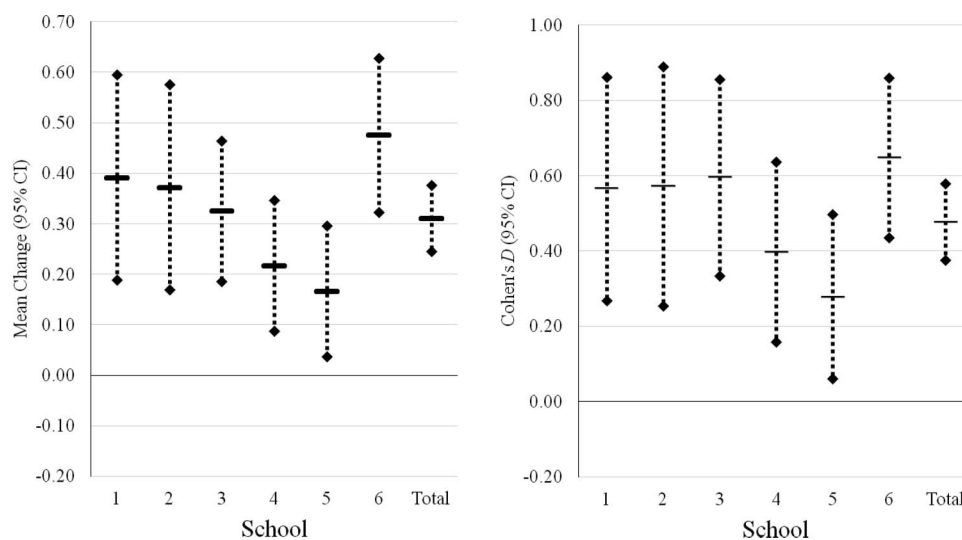

Figure 1. Mean changes in perceptions of police by school, with 95% confidence intervals. These figures depict the amount that youths' perceptions of police changed by school both in terms of means and in effect sizes (Cohen's *d*), including 95% confidence intervals for all statistics. Values above zero indicate that in a particular school, youths' perceptions of police improved.

with voice and participation, which are key aspects in the procedural justice model that purportedly lead to improvements in legitimacy (Sunshine & Tyler, 2003; Tyler, 1990). These experiential components of the procedural justice framework (e.g., respect, dignity, voice, participation) are entirely consistent with theorizing within the positive youth development (PYD) literature (Lerner, 2017; Overton, 2015). Indeed, the program itself was designed based on PYD in that it emphasizes building adult–child relationships (Sanders & Munford, 2014), enables the young person to accomplish something that is meaningful to and makes a contribution beyond self-interest (e.g., to plant trees in whose shade you will never sit; Lerner, 2018), and provides students with the opportunity to take a leadership role (Lerner et al., 2019). Altogether, consistent with elements of both frameworks, the results indicated that the more students felt as though they had been given more useful roles and responsibilities, the greater the degree of change between their pre-TKC and post-TKC perceptions of police.

The age–crime curve, being one of the few widely accepted "facts" of criminology (Hirschi & Gottfredson, 1983), emphasizes that delinquency escalates during adolescence and peaks in early adulthood. We were able to capture the perceptions of law enforcement personnel among a young cohort of juveniles that has yet to enter into this curve, whose perceptions are likely more malleable, and who have not yet had repeated contacts with police, as compared with other samples in the literature (e.g., Augustyn, 2016; Fagan & Piquero, 2007; Fine et al., 2016; Penner et al., 2014; Wolfe et al., 2016). That is, we were able to capture children's perceptions of law enforcement while these orientations are likely being formed. The ability to address these considerations was a critical component of the present study, given the roles that past personal and vicarious experiences (e.g., Weitzer & Tuch, 2005) play in affecting one's views of law enforcement and the way one interprets future experiences with law enforcement (Brandl et al., 1994).

One of the key strengths of this study relates to the sample. The sample consisted of large cohorts of fifth and sixth grade students, which are predominately Hispanic/Latinx or Black/African American, in multiple schools across multiple jurisdictions in two large cities (Los Angeles, CA and New York City, NY). Consequently, the sample choice provides a unique opportunity to measure perceptions among a group that otherwise has been neglected by legal socialization scholars, despite our understanding that general perceptions of police officers inform and influence later interactions. The models indicated that perceptions of police did vary by schools in ways predicted by prior research. Specifically, schools with more students participating in free-and-reduced lunch, a proxy for poverty (Day et al., 2016; Nicholson et al., 2014), and with a higher percentage of students of color reported worse perceptions of the police prior to the implementation of the TKC. These findings are consistent with the literature that suggests that high poverty areas tend to be policed differently. Specifically, individuals in such neighborhoods tend to experience a disproportionate amount of unjust policing tactics. Further, these results are consistent with the number of studies demonstrating individuals of color tend to have worse perceptions of law enforcement (Alberton & Gorey, 2018; Hurst et al., 2000; Peck, 2015; Weitzer & Tuch, 2004; Wu et al., 2015). Other strengths of the present study include the robust analytic strategy. The fact that the findings remained

consistent across a variety of analytic approaches provides strong evidence of internal robustness, a key aspect in promoting replication and robustness in the open science climate (Duncan, Engel, Claessens, & Dowsett, 2014).

Despite these strengths, the study was limited in important ways. First, due to school administrators' concerns about students' confidentiality, we were unable to collect demographic information on specific students. Instead, demographics were collected on a school level. As a result, we were unable to parse whether within a given school, students of any racial/ethnic group experienced pronounced changes in perceptions of law enforcement or whether the perceptions among children who had previously either personally or vicariously interacted with law enforcement exhibited a certain trajectory. Second, because all schools were eager to implement the TKC as soon as possible, we were unable to complete a randomized controlled trial, which is the gold standard in evaluation research (Granger & Maynard, 2015). Third, we were unable to conduct long-term follow-ups to examine stability and decay. Despite the medium-to-large effect sizes (e.g., Cohen's $d \sim .5$), examining long-term stability and deterioration is of utmost importance for future research considering effects may wane over time. Finally, it can certainly be argued that several of the items used to assess perceptions of police align with notions of a dialogic or relational approach to legitimacy (Bottoms & Tankebe, 2012). Nonetheless, future research should utilize established constructs to examine particular dimensions of perceptions of police, including legitimacy (Jackson, 2018; Jackson & Bradford, 2019).

Implications

Researchers have long suggested that improving the public's perceptions of law enforcement is vital for promoting both compliance with the law and cooperation in fighting crime (Tyler, 2017). Yet, with respect to what officers can actually do to improve their relationships with the communities they serve, Mastrofski and colleagues (1996) concluded years ago that "[o]ur police may be able to do little to enhance their cause but a great deal to hurt it" (p. 296). Certainly, when police engage in unjust, biased, and fatal interactions, they detrimentally impact the community's perceptions of law enforcement, (Friedman, 2017; Tyler et al., 2015; Trinkner & Tyler, 2016). These are critically important concerns and improving these policing practices should be the central priority.

At the same time, as a part of "Building Trust and Legitimacy," President Obama's Task Force on 21st Century Policing (2015) explicitly stated that "[l]aw enforcement agencies should also proactively promote public trust by initiating positive non-enforcement activities to engage communities" (p. 2). Indeed, the specific action item stated "[l]aw enforcement agencies should create opportunities in schools and communities for positive non-enforcement interactions with police" (p. 15). In line with this action item, this school-based program was implemented in six diverse schools in two states. The findings indicate that when law enforcement officers become partners in empowering students to make a difference in their communities, they may help build better relationships with the communities they serve and improve children's perceptions of the police.

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