

Perceptions of police-juvenile contact predicts self-reported offending in adolescent males

Hannah Walsh, Tina D. Wall Myers, James V. Ray, Paul J. Frick, Laura C. Thornton, Laurence Steinberg & Elizabeth Cauffman

To cite this article: Hannah Walsh, Tina D. Wall Myers, James V. Ray, Paul J. Frick, Laura C. Thornton, Laurence Steinberg & Elizabeth Cauffman (2019) Perceptions of police-juvenile contact predicts self-reported offending in adolescent males, *Psychology, Crime & Law*, 25:10, 963-976, DOI: [10.1080/1068316X.2019.1597094](https://doi.org/10.1080/1068316X.2019.1597094)

To link to this article: <https://doi.org/10.1080/1068316X.2019.1597094>



Published online: 27 Mar 2019.



Submit your article to this journal [↗](#)



Article views: 133





View related articles [↗](#)



View Crossmark data [↗](#)



Perceptions of police–juvenile contact predicts self-reported offending in adolescent males

Hannah Walsh ^a, Tina D. Wall Myers^b, James V. Ray^c, Paul J. Frick^{d,e},
Laura C. Thornton ^f, Laurence Steinberg^{g,h} and Elizabeth Cauffmanⁱ

^aDepartment of Psychology, University of North Texas, Denton, TX, USA; ^bDepartment of Psychology, University of Dayton, Dayton, OH, USA; ^cDepartment of Criminal Justice, University of Central Florida, Orlando, FL, USA; ^dDepartment of Psychology, Louisiana State University, Baton Rouge, LA, USA; ^eInstitute for Learning Sciences and Teacher Education, Australian Catholic University, Melbourne, Australia; ^fBoys Town National Research Hospital, Omaha, NE, USA; ^gDepartment of Psychology, Temple University, Philadelphia, PA, USA; ^hDepartment of Psychology, King Abdulaziz University, Jeddah, Saudi Arabia; ⁱPsychological Sciences, University of California, Irvine, CA, USA

ABSTRACT

Evidence suggests that positive experiences with the police can foster attitudes of respect towards the justice system that can reduce an adolescents' propensity to commit later illegal behaviors. To advance prior work, we tested whether this association might be stronger for those adolescents who associate with deviant peers. Additionally, we tested whether the link between attitudes towards police and the justice system, and the influence of peer delinquency, would be weaker for those with elevated callous–unemotional (CU) traits. These predictions were examined in a prospective study using a sample ($N=1,216$) of adolescent males who were followed prospectively for 2 years following their first official contact with the juvenile justice system. Positive experiences with the police following the youth's first arrest were associated with less self-reported delinquency 2 years later, which was partially mediated by reductions in adolescents' cynicism about the legal system. However, this link was only significant for youth with low levels of peer delinquency. Although CU traits were related to less positive perceptions of experiences with the police and greater cynicism about the justice system, CU traits did not moderate the associations among experiences, attitudes, and later illegal behavior nor did they moderate the influence of peer delinquency.

ARTICLE HISTORY

Received 27 August 2018
Accepted 4 March 2019

KEYWORDS

Procedural justice; legal cynicism; callous–unemotional traits; peer delinquency; self-reported delinquency

Introduction

There are a number of theories about how interactions with the police, both experienced and observed, shape a person's perceptions of law enforcement and subsequent willingness to obey the law (Piquero, Fagan, Mulvey, Steinberg, & Odgers, 2005; Tyler & Blader, 2003; Tyler & Huo, 2002). Tyler and Blader (2003) proposed that these interactions influence a person's attitudes towards procedural justice (i.e. whether law enforcement is viewed as harsh or unfair), which subsequently impacts a person's willingness to

CONTACT Hannah Walsh  HannahWalsh@my.unt.edu  Department of Psychology, University of North Texas, 1155 Union Circle, #311280, Denton, TX 76203-5017, USA

© 2019 Informa UK Limited, trading as Taylor & Francis Group

commit a criminal act. Although these attitudes (e.g. legal cynicism) have been predominantly studied in adults, there is evidence that this legal socialization is a developmental process that begins in childhood. For example, Fagan and Tyler (2005) found that children and adolescents (ages 10–16 years) reported higher levels of legal cynicism (i.e. less perceived legitimacy of the law) when they viewed interactions with law enforcement as harsh or unfair, and that these attitudes towards the law and legal authorities were related to later offending. Furthermore, in their longitudinal study of juvenile offenders on probation, Penner, Viljoen, Douglas, and Roesch (2014) demonstrated that justice-involved youth with positive attitudes towards the justice system were less likely to re-offend than youth with negative attitudes towards the justice system. Similarly, Kaiser and Reisig (2017) found that adolescents with more positive attitudes towards the justice system were less likely to re-offend over a seven-year follow-up period.

Unfortunately, there is limited research on whether contextual factors influence the associations among attitudes toward police, perceived fairness in the justice system, and later delinquent behavior. One potentially important contextual factor is the adolescent's peer group. Research has consistently found that adolescents are likely to adopt the behaviors, values, and attitudes of their peers (Krohn, Lizotte, Thornberry, Smith, & McDowall, 1996; Henry, et al., 2000; Pardini, Loeber, & Stouthamer-Loeber, 2005). In fact, one of the strongest predictors of delinquency among adolescents is their affiliation with delinquent peers (Cottle, Lee, & Heilbrun, 2001; Monahan, Steinberg, & Cauffman, 2009). It has been hypothesized that this association is due to the negative influence that deviant peers have on attitudes toward the acceptability of engaging in illegal behavior (Akers, 1977). Importantly, research has also documented that youth with a greater number of delinquent peers also tend to hold more negative perceptions of the legal system (Fagan & Tyler, 2005; Fine et al., 2016; Giordano, 1976; Nivette, Eisner, Malti, & Ribeaud, 2015). Further, adolescents with friends who have been arrested report more negative attitudes towards the justice system than adolescents without friends who have been arrested (Fine et al., 2016). Thus, it is possible that the link between negative perceptions of the legal system and later offending is amplified when a person associates with deviant peers.

Importantly, all of these associations may be dependent on characteristics of the person. For example, the association between procedural justice and police legitimacy (i.e. respect for police authority) was weaker for those with low self-control (Wolfe, 2011). Research has also found that psychosocial maturity moderates the association between negative perceptions of the legal system and recidivism, such that the association is stronger among those with higher levels of psychosocial maturity (Fine et al., 2017). Another potentially important personal characteristic is callous–unemotional (CU) traits. CU traits include a lack of empathy and guilt, shallow affect, and failure to put forth effort in important activities, and they have been related to criminal behavior in both adults (Blais, Solodukhin, & Forth, 2014) and youth (Frick, Ray, Thornton, & Kahn, 2014). Furthermore, persons with elevated levels of CU traits often have a history of aggression and antisocial behavior that starts early in childhood, typically predating their first contact with the police (Christian, Frick, Hill, & Tyler, 1997).

Thus, it is possible that the antisocial behavior that individuals with elevated CU traits exhibit is more influenced by personal characteristics (e.g. lack of empathy towards others) and less influenced by their experiences with the police and attitudes towards the justice system. In addition, adolescents with elevated CU traits are more likely to have deviant

peers (Kimonis, Frick, & Barry, 2004) and are more likely to commit crimes in groups (Goldweber, Dmitrieva, Cauffman, Piquero, & Steinberg, 2011). However, youth with elevated CU traits appear to be more likely to report being the leader and instigator in group crimes (Thornton et al., 2015) and are less influenced than other adolescents by their peers' delinquency (Kerr, Van Zalk, & Stattin, 2012). Thus, attitudes towards the police and the justice system may be less related to the offending of adolescents high on CU traits and the influence of peers on an adolescents' cynicism towards the police may be less in adolescents with elevated CU traits.

The present study uses data from a multi-site, longitudinal study of first-time adolescent male offenders to examine the link between adolescents' attitudes toward the police and later offending. However, to advance past work, we consider the influence of both peer delinquency and CU traits on these associations. That is, we hypothesized that consistent with past research, positive perceptions of experiences with the police would lead to fewer instances of later criminal behavior, and that this association would be mediated by a lower level of legal cynicism (i.e. greater beliefs of law enforcement legitimacy). We also tested the prediction that this mediational association would be stronger in those who have more delinquent peers but only for those who were not elevated on CU traits.

Methods

Participants

The current sample utilized three waves (baseline, 12, and 24 month) of data from the Crossroads Study. The study includes a sample of 1,216 adolescents who were drawn from the juvenile justice systems of Jefferson Parish, LA ($n = 151$); Orange County, CA ($n = 532$); and Philadelphia, PA ($n = 533$). To be eligible for the Crossroads Study, juveniles had to be first-time male offenders, English speakers between the ages of 13–17 years ($M = 15.29$; $SD = 1.29$) at the time of arrest, and have an eligible offense (e.g. mid-range offenses such as theft of goods, simple battery, and vandalism). Adolescents adjudicated who committed only status offenses were not included in the present study. Across all three locations, 72.32% of individuals eligible to participate enrolled in the study. The sample was predominately Latino (46.1%) and Black (38.1%), with a much smaller portion identifying themselves as White Non-Latino (15.7%). Participants' full scale IQ was assessed at baseline with the two subtest format of the Wechsler Abbreviated Scale of Intelligence (WASI-II; Wechsler, 2011) ($M = 88.42$; $SD = 11.59$).

Procedures

Institutional Review Board approval was obtained at each site before data collection began. Youth who met predetermined eligibility criteria were recruited by study personnel to participate in the Crossroads Study immediately following the initial processing decision based on court records. Eligible youth were enrolled in the study after consent was obtained from legal guardians and assent was obtained from the youth. Both the youth and guardian were informed that participation in the study was entirely voluntary and that participation would in no way influence the youth's treatment by the juvenile court system. The youth and guardian were also informed that the research project had

obtained a Privacy Certificate from the Department of Justice. Participants were first interviewed (baseline) within 6 weeks of a processing decision (i.e. either formal processing or informal processing) and were then interviewed every 6 months over the course of the two years. The current analysis includes only data collected at baseline and the two yearly follow-ups (i.e. 12-month and 24-month), as the yearly follow-ups provide a better test of longitudinality.

Interviews were conducted using laptop computers to assist with administration as well as ease of data entry. The laptops were equipped with an interviewing program that included all of the items and measures for standardized administration. The interviews took place at a location convenient to the youth, such as their home or a local place in the community (e.g. library, coffee shop) or in a facility if the youth had been incarcerated. The participants were compensated for their time. Participants received \$50 for the first baseline interview. For each successive interview, payment increased by \$15 at each follow-up. Retention at the 12-month ($n = 1141$; 93.83%) and 24-month ($n = 1,130$; 92.93% retention) follow-ups was quite high.

Baseline predictor

Positive experiences with police

The Procedural Justice Inventory is a measure of procedural justice adapted from a previous measure (Paternoster, Brame, Bachman, & Sherman, 1997; Tyler, 1997) that assesses experiences with the justice system and perceptions of fairness and equity connected with arrest and court processing. Specifically, the current study used a subscale of 19 items of the original 54-item measure that assesses a youth's perceptions of their experiences with police (e.g. 'The police treat me the same way they treat most people my age'). Items were limited to those focused on police encounters since many participants in this sample were informally processed and thus did not have any direct contact with judges or other persons in the juvenile justice system. Participants rated items on a five-point Likert Scale from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*), with higher scores indicating more positive perceptions of experiences with police. Positive experiences with the police have been positively correlated with cooperation with legal authorities and negatively correlated with illegal behavior in past studies of community-based adults (Sunshine & Tyler, 2003) and young adult male offenders (Walters, 2018). In the current sample, the scale showed acceptable internal consistency (Cronbach's $\alpha = .73$).

Mediators assessed at 12 month follow-up

Legal cynicism index

Legal Cynicism was measured based on five items developed by Sampson and Bartusch (1999) to assess one's attitudes towards laws and social norms (e.g. 'Laws are meant to be broken.'). Participants rated items on a five-point Likert Scale from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Higher scores on these subscales are indicative of lower levels of perceived legitimacy of the legal system (Tyler, 2009). Elevated scores on the legal cynicism index are correlated with greater tolerance of deviancy and more negative attitudes towards the police in adults (Sampson & Bartusch, 1999) and greater self-reported offending in adolescents (Sweeten, Piquero, & Steinberg, 2013). The scales showed modest internal consistency (Cronbach's $\alpha = .68$) in the current sample at the 12-month assessment.

Moderator variables assessed at 12 month follow-up

Callous–unemotional traits

The Inventory of Callous–Unemotional traits (ICU; Kimonis et al., 2008) is a 24-item instrument derived from the Antisocial Process Screening Device (APSD; Frick & Hare, 2001), which is a rating scale commonly used to assess CU traits in children and adolescents (Frick et al., 2014). Participants rated items on a four-point Likert scale from 0 (*Not at all true*) to 3 (*Definitely True*). The use of the total score on the ICU has been supported in factor analyses conducted with both detained (Kimonis et al., 2008) and community (Essau, Sasagawa, & Frick, 2006; Fanti, Frick, & Georgiou, 2009) samples of adolescents. Further, total scores on the ICU correlates positively with antisocial behavior and negatively with prosocial behavior (Essau et al., 2006; Fanti et al., 2009; Kimonis et al., 2008) in samples of adolescents. In the current sample, the ICU showed acceptable internal consistency (Cronbach's $\alpha = .79$) at the 12-month assessment.

Peer delinquency

The 13 items that comprise the Peer Delinquency Scale (PDS; Thornberry & Krohn, 1997) assess peer antisocial behaviors. The items ask about 13 different delinquent acts (e.g. '*Carried a knife?*', '*Hit or threatened to hit someone?*') and participants indicated how many of their friends have engaged in the specific behavior, ranging from 1 (*None of them*) to 5 (*All of them*). The scores are summed, with higher scores indicative of higher number of friends who are perceived to engage in the range of behaviors. The PDS was significantly correlated with both neighborhood disorder and self-reported offending in a sample of serious male juvenile offenders (Chung & Steinberg, 2006). In the current sample, the PDS showed excellent internal reliability ($\alpha = .92$) at the 12-month assessment.

Outcome assessed at 24 month follow-up

Delinquency

The self-report of offending scale (SRO; Huizinga, Esbensen, & Weiher, 1991) was used to assess delinquent behavior at the 24-month follow-up period. The SRO is comprised of dichotomous items (0 = no and 1 = yes) asking participants if they had engaged in 24 different types of crime in the past 6 months. The present study utilized SRO data collected at the 24-month follow-up ($M = 1.17$, $SD = 2.20$; range = 0–14). Thus, the outcome assessments assessed behaviors that occurred after the report of the potential mediator and moderator variables. The scores for each of the items are summed to create an overall measure of variety of offending, where higher scores are indicative of more different types of offending. The SRO has demonstrated significant correlations with official reports of offending (Thornberry & Krohn, 2000). The SRO showed fair internal consistency in the current sample ($\alpha = .62$).

Analyses

Analyses were carried out in IBM SPSS statistics version 23 (2015) and Mplus version 6.11 (Muthen & Muthen, 2011). In order to test the main study hypotheses of mediation and moderated-mediation, a series of path analysis models were conducted using syntax for estimating moderated-mediation models in Mplus (Stride, Gardner, Catley, & Thomas,

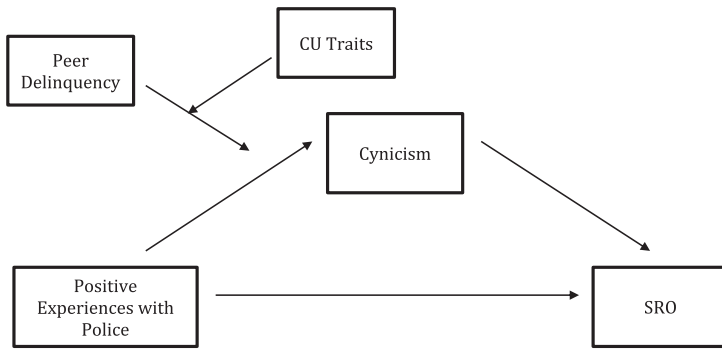


Figure 1. Path diagram for the conditional effect of callous-unemotional (CU) traits and affiliation with delinquent peers on the indirect effect of legal cynicism on self-reported offending (SRO).

2015) that are based on Hayes's (2012) Process models. First, in order to examine the role of legal cynicism in mediating the association between perceptions of experiences with the police and self-reported offending, a basic mediation model using path analysis was estimated. Second, in order to evaluate if any significant indirect effects were conditional on CU traits or affiliation with delinquent peers, a series of moderated-mediation models were conducted in the Mplus program using path analysis. Figure 1 presents the conceptual moderated-mediation model. Specifically, using path analysis for examining moderated-mediation, we examined if peer delinquency moderated the path between perceptions of experiences with the police and legal cynicism, and if this moderating effect was contingent on CU traits (i.e. a 3-way interaction: Experiences with the Police X CU Traits X Peer Delinquency). For both the basic mediation model and the moderated mediation model demographic characteristics (i.e. age and ethnicity) and IQ (i.e. WASI-II) were entered as covariates. The race/ethnicity variable was dummy coded. Given that the present sample was predominately comprised of adolescents who identified as Hispanic or Latino, the Latino group was held as the reference group. Ninety-five percent bootstrap confidence intervals were estimated based on 10,000 random samples. Additionally, variables used in the interactions were mean-centered prior to moderated-mediation analyses. Although the majority of variables had complete data or missing very few values, 89 participants were missing data on peer delinquency, 75 on CU traits, and 8 on perceptions of experiences with the police. Full information maximum likelihood (FIML) estimation was used to handle missing data in the mediation and moderated-mediation models.

Results

Bivariate associations

Table 1 presents descriptive statistics for, and zero-order correlations among, the main study variables. Given the extreme positive skew of self-reported offending, inverse logarithm transformation was used to approximate normality. All study variables were correlated in the expected directions, including those critical to the mediational hypotheses. That is, positive perceptions of experiences with the police at baseline were negatively correlated with legal cynicism at 12-months and self-reported offending within the past six months at the 24-month follow-up. Further, legal cynicism at 12-months was positively correlated with self-

Table 1. Zero-order Correlations among Study Variables.

	<i>M(SD)</i>	2.	3.	4.	5.	6.	7.	8.	9.	10.
Covariates (Baseline)										
1. Age	15.29 (1.29)	.08*	-.09**	.03	-.09**	-.01	.13**	.10**	-.01	-.01
2. IQ	88.43 (11.59)	–	.25**	-.15**	-.05	.02	-.16**	-.10**	.07*	.05
Ethnicity (%)										
3. White: 14.8%			–	-.34**	-.40**	.07*	-.07*	-.06	.15**	.09**
4. Black: 36.9%				–	-.73**	-.09**	.04	-.01	-.09**	-.08**
5. Latino:45.8%					–	.03	.02	.05	-.02	.01
Predictor (Baseline)										
6. PEP	3.12 (.56)					–	-.16**	-.17**	-.12**	-.09**
Mediator (12 months)										
7. Cynicism	2.00 (.61)						–	.43**	.32**	.19**
Moderators (12 Months)										
8. CU Traits	25.17 (8.46)							–	.24**	.19**
9. Peer Delinquency	1.62 (.70)								–	.42**
Outcome (24 months)										
10. SRO	.04 (.08)									–

Note: SRO = Self-reported offending; PEP = Positive Experiences with Police; Covariates and dispositional characteristics measured at baseline; Mediator and moderator measured at 12-month time-point; Outcome measured at 24-month time-point was log-transformed.

* $p < .05$; ** $p < .01$; * $p < .001$.

reported offending at 24-months. Finally, both moderators were associated with self-reported offending in expected directions, with both CU traits and peer delinquency at 12-months positively correlated with self-reported offending one year later.

Mediation analysis

Figure 2 presents the results of the test of mediation. Overall model fit was excellent (AIC = 7117.22; CFI = 0.90). There were significant direct effects of positive perceptions of experiences with the police at baseline on self-reported offending within the past six months at 24-month follow-up, and there were significant indirect effects of experiences with the police on offending that were mediated through legal cynicism at 12-months, after accounting for age, ethnicity, and IQ. The presence of significant direct effects indicates that positive perceptions of experiences with police exert an effect on self-reported offending, that is not mediated through legal cynicism. Aside from the significant coefficients shown in Figure 2, the only other significant predictor of self-reported offending at 24-months was being Black non-Latino, which was associated with lower rates of reoffending ($B = -.368, p < .05$). Additionally, IQ at baseline significantly predicted cynicism at 12-months ($B = -.009, p < .001$), such that lower IQs scores were associated with higher levels of legal cynicism.

Moderated mediation

Table 2 presents the results of the moderated mediation analysis evaluating if the indirect effects of perceptions of experiences with the police on self-reported delinquency through legal cynicism were conditional on peer delinquency and CU traits. Overall model fit was excellent (AIC = 24037.48; BIC = 24216.10; CFI = 0.92). As shown in Table 2, both delinquent peer association and CU traits at 12 months were significantly correlated with legal cynicism. More importantly, the 2-way interaction between positive perceptions of experiences with the police and peer delinquency was significant, but all other 2-way interactions did not reach statistical significance. Further, and contrary to predictions, the 3-way interaction including CU traits was not significant.

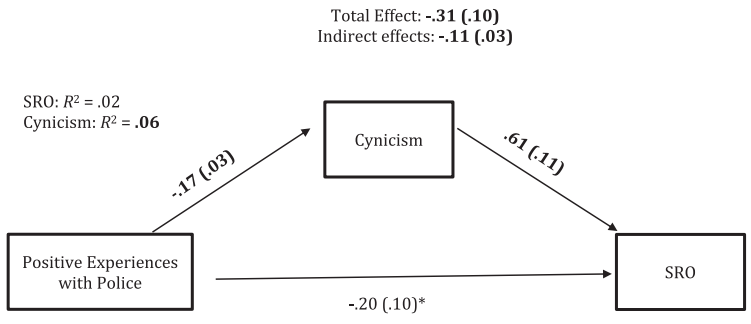


Figure 2. Mediation model for the indirect effects of direct experiences with police on self-reported offending through cynicism. Bolded coefficients significant at $p < .001$; $* = p < .05$; Unstandardized coefficients outside of parentheses and standardized in parentheses; All models control for ethnicity, age, and IQ; CU = callous-unemotional; SRO = self-reported offending.

Table 2. Indirect effects of positive experiences with the police on self-report offending through cynicism conditional on CU traits and peer delinquency.

Predictor	β	SE	95% CI (LL - UL)
<i>Cynicism</i>			
Age	.02	.01	-.01 - .04
IQ	-.01**	.002	-.01 - -.004
Race (Latino = Comparison)			
Black	.05	.04	-.02 - .12
White	-.03	.05	-.13 - .06
CU Traits	.03**	.002	.02 - .03
PEP	-.06	.03	-.13 - -.004
Peer Delinquency	.19**	.03	.14 - .25
PEP X CU Traits	-.01	.004	-.01 - .001
PEP X Peer Delinquency	.11*	.05	.02 - .20
CU Traits X Peer Delinquency	-.01	.003	-.01 - .00
CU X Peer Delinquency X PEP	-.01	.01	-.02 - .003
R² = .26			
<i>Self Reported Offending</i>			
Age	-.10	.13	-.35 - .15
IQ	.02	.02	-.01 - .05
Race (Latino - Comparison)			
Black	-.88*	.36	-1.59 - -.18
White	.45	.48	-.49 - 1.39
Cynicism	1.54**	.27	.99 - 2.08
Experiences w/Cops	-.29	.29	-.87 - .28
R² = .040			

Note: PEP = Positive Experiences with Police; Confidence intervals for conditional indirect effects are bias corrected based on 10,000 bootstrap samples.

* $p < .05$. ** $p < .001$.

The significant interaction between positive perceptions of experiences with police and peer delinquency on self-reported offending is graphed in Figure 3. As shown in this figure, more positive perceptions of experiences with police were negatively associated with self-reported offending, but only at low levels of peer delinquency. Further, there was also evidence that peer delinquency moderated the indirect effects of positive perceptions of experiences on self-report delinquency through legal cynicism (i.e. moderated mediation; see Table 3). That is, the impact of positive perceptions of experiences with the

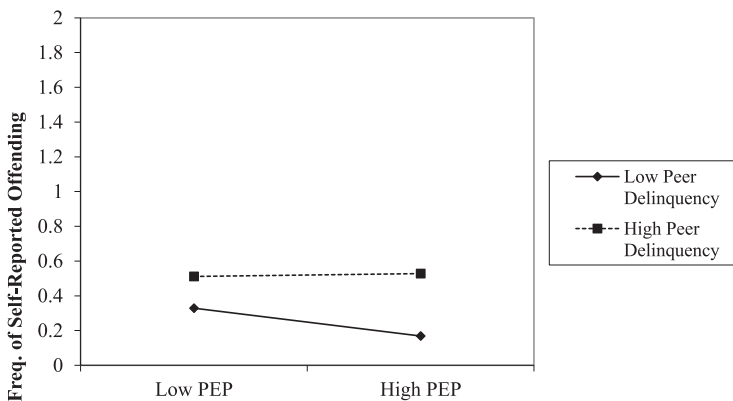


Figure 3. Graph of the 2-way interaction between peer delinquency and positive experiences with the police (PEP) at Low (-1 SD) and High (+1 SD) Levels.

Table 3. Conditional indirect effect of PEP on cynicism at low (-1 SD), medium (*Mean*), and high ($+1$ SD) levels of peer delinquency.

	Indirect Effect	SE	95% CI
Low Peer Delinquency	-.32	.09	-.52 – -.17
Medium Peer Delinquency	-.20	.06	-.35 – -.11
High Peer Delinquency	-.08	.07	-.22 – -.05

Note. Bolded coefficients are significant at $p < .05$.

police on legal cynicism is significant only at low and medium levels of peer delinquency. In other words, positive perceptions of experiences with the police result in lower levels of legal cynicism, but only when peer delinquency is not highly elevated.

Discussion

The current results support past research on the association between perceptions of experiences with the justice system and subsequent delinquency (Piquero et al., 2005; Tyler & Blader, 2003; Tyler & Huo, 2002). That is, more positive perceptions of experiences with the police were associated with less self-reported delinquency over the past six months at the two year follow-up. Further, and consistent with theoretical models of procedural justice, this link between perceptions of experiences with the justice system and later antisocial behavior was partially mediated through negative attitudes towards the justice system (e.g. legal cynicism) (Tyler & Blader, 2003). Specifically, about 34% of the total effects of positive perceptions of experiences with the police on self-reported offending within the past six months, after controlling for age, race, and IQ, was accounted for by legal cynicism. These findings highlight the importance of the quality of youths' experiences with the police at their first contact with the juvenile justice system because it can influence their attitudes towards the justice system and their subsequent risk for reoffending.

Our results also support the contention that an adolescent's association with a deviant peer group is also related to their attitudes towards the justice system and later offending. This is consistent with an extensive body of work linking association with deviant peers with frequent and severe delinquent behavior (Cottle et al., 2001; Dishion, McCord, & Poulin, 1999; Monahan et al., 2009). It also supports a more limited body of research suggesting that deviant peers also influence an adolescent's attitudes towards the justice system (Fagan & Tyler, 2005; Fine et al., 2016; Nivette et al., 2015). However, our results provide an important advance to these findings by showing that the association with deviant peers may negate the influence of positive perceptions of experiences with the police. That is, positive perceptions of experiences with the police was only negatively associated with subsequent delinquency at low levels of delinquent peer involvement (see Figure 3).

These findings highlight the importance of contextual factors, such as delinquent peer affiliation, in the formation of adolescents' beliefs and attitudes towards the justice system. Upon entering adolescence, children become more susceptible to the influence of their peer group in the development of attitudes about delinquency (Capaldi, Dishion, Stoolmiller, & Yoerger, 2001). For example, Pardini et al. (2005) found that increasingly tolerant attitudes about delinquency in middle adolescence are related to increases in delinquent

peer affiliation. The present study expands upon this past research by highlighting the importance of peers in also shaping adolescents' beliefs about the justice system. That is, association with delinquent peers negated any positive affect of having positive perceptions of experiences with the police on their later risk for delinquent behavior both directly and indirectly through the adolescents' attitudes towards the justice system.

Contrary to predictions, the influence of deviant peers was not moderated by the level of CU traits displayed by the adolescent. This finding is inconsistent with past research suggesting that adolescents with elevated CU traits are less influenced than other adolescents by their peers' delinquency (Kerr et al., 2012). Notably, this previous study was conducted with a community sample of adolescents and, as a result, its findings may not generalize to a sample with a higher base rate of antisocial behaviors, as is the case in the present study. However, our results do suggest that CU traits are negatively associated with positive perceptions of experiences with the police and positively associated with legal cynicism. These results are consistent with research on both adolescents and adults showing that CU traits are associated with more negative attitudes towards the justice system (Augustyn & Ray, 2016; Hare, 1999). Further, these results are also consistent with previous findings from a subset of this Crossroads sample showing that professionals in the juvenile justice system, such as probation officers, view adolescents with CU traits to be less remorseful about their crimes (Fine et al., 2016). As a result, this perception may lead to more negative interactions between juvenile justice professionals and justice-involved youth with CU traits. All of this work suggests that the role that CU traits play in an adolescent's interactions with and subsequent attitudes towards the justice system warrants further investigation.

The current study has a number of strengths that help to bolster confidence in these findings. Most importantly, we tested our mediational and moderational hypotheses in a relatively large and ethnically diverse sample. Further, the present study utilized a longitudinal methodology in which the proposed mediators and moderators were assessed at an intermediate time point from the predictor and outcomes variables. However, there were also a number of limitations in the study methods that need to be considered when interpreting the results. First, all measures relied on adolescent self-report and, thus, associations among variables may have been inflated due to shared method variance. Second, the study consisted only of boys who were first time offenders arrested for offenses that were of moderate severity. As a result, our findings need to be replicated with girls and samples of more serious offenders to determine their generalizability. Third, although our longitudinal methodology is a strength of the study, the follow-up period was relatively short (24 months), and it will be important to examine these questions over longer follow-up periods. Finally, the self-report measure of offending utilized in the present study reflected a relatively narrow period of time (i.e. six months prior to the 24-month follow-up period), rather than offending throughout the total duration of the follow-up period. This methodology was used to ensure that the outcome captured in a period after the periods in which the predictor, mediators, and moderator were assessed. However, it does limit the window in which the youth may have committed their delinquent acts and, as such, may have restricted the range of this variable.

Within the context of these limitations, the results have several important implications for policies and practice with justice-involved youth. Our findings support a growing body of research on the impact of procedural justice attitudes in juvenile offenders by

highlighting the importance of a youth's perceptions of experiences during their first contact with the police. That is, positive perceptions of experiences with police can lead to more positive attitudes towards the justice system and reduce later antisocial behavior. Thus, policies that encourage fair and unbiased treatment by police could have important crime reduction effects (Tyler & Huo, 2002). Our results also highlight potential contextual and dispositional influences on this process. That is, association with deviant peers could serve to reduce the beneficial impact of positive perceptions of experiences with police, and thus, interventions designed to reduce such contact should also be considered as an important part of reducing risk for reoffending (Butler, Baruch, Hickey, & Fonagy, 2011). Finally, youth with elevated CU traits appear to be at particularly high risk for reoffending (Frick et al., 2014). Our findings further suggest that these youths may have more negative perceptions of experiences with the police and more negative attitudes towards the justice system. These attitudes may elevate their risk for engaging in illegal behavior and should be an important focus of interventions designed to reduce reoffending.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work was supported by John D. and Catherine T. MacArthur Foundation: [Grant Number 09-94942-000 HCD,10-95802-000 HCD]; U.S. Department of Justice's Office of Juvenile Justice and Delinquency Prevention: [Grant Number 2012-IJ-CX-0020].

ORCID

Hannah Walsh  <http://orcid.org/0000-0003-3650-7463>

Laura C. Thornton  <http://orcid.org/0000-0001-5209-9098>

References

- Akers, R. L. (1977). Type of leadership in prison: A structural approach to testing the functional and importation models. *The Sociological Quarterly*, 18, 378–383. doi:10.1111/j.1533-8525.1977.tb01422.x
- Augustyn, M. B., & Ray, J. V. (2016). Psychopathy and perceptions of procedural justice. *Journal of Criminal Justice*, 46, 170–183. doi:10.1016/j.jcrimjus.2016.05.007
- Blais, J., Solodukhin, E., & Forth, A. E. (2014). A meta-analysis exploring the relationship between psychopathy and instrumental versus reactive violence. *Criminal Justice and Behavior*, 41, 797–821. doi:10.1177/0093854813519629
- Butler, S., Baruch, G., Hickey, N., & Fonagy, P. (2011). A randomized controlled trial of multisystemic therapy and a statutory therapeutic intervention for young offenders. *Journal of the American Academy of Child & Adolescent Psychiatry*, 50, 1220–1235. doi:10.1016/j.jaac.2011.09.017
- Capaldi, D. M., Dishion, T. J., Stoolmiller, M., & Yoerger, K. (2001). Aggression toward female partners by at-risk men: The contribution of male adolescent friendships. *Developmental Psychology*, 37, 61–73. doi:10.1037/0012-1649.37.1.61

- Christian, R. E., Frick, P. J., Hill, N. L., & Tyler, L. (1997). Psychopathy and conduct problems in children: II Implications for subtyping children with conduct problems. *Journal of the American Academy of Child & Adolescent Psychiatry*, 36, 233–241. doi:10.1097/00004583-199702000-00014
- Chung, H. L., & Steinberg, L. (2006). Relations between neighborhood factors, parenting behaviors, peer deviance, and delinquency among serious juvenile offenders. *Developmental Psychology*, 42, 319–331. doi:10.1037/0012-1649.42.2.319
- Cottle, C. C., Lee, R. J., & Heilbrun, K. (2001). The prediction of criminal recidivism in juveniles. *Criminal Justice and Behavior*, 28, 367–394. doi:10.1177/0093854801028003005
- Dishion, T. J., McCord, J., & Poulin, F. (1999). When interventions harm: Peer groups and problem behavior. *American Psychologist*, 54, 755–764. doi:10.1037/0003-066X.54.9.755
- Essau, C. A., Sasagawa, S., & Frick, P. J. (2006). Callous-unemotional traits in a community sample of adolescents. *Assessment*, 13, 454–469. doi:10.1177/1073191106287354
- Fagan, J., & Tyler, T. R. (2005). Legal socialization of children and adolescents. *Social Justice Research*, 19, 217–242.
- Fanti, K. A., Frick, P. J., & Georgiou, S. (2009). Linking callous-unemotional traits to instrumental and non-instrumental forms of aggression. *Journal of Psychopathology and Behavioral Assessment*, 31, 285–298. doi:10.1007/s10862-008-9111-3
- 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, 211–218. doi:10.1037/lhb0000167
- Fine, A., Wolff, K. T., Baglivio, M. T., Piquero, A. R., Frick, P. J., Steinberg, L., & Cauffman, E. (2017). Does the effect of justice system attitudes on adolescent crime vary based on psychosocial maturity? *Child Development*, 89, e468–e479.
- Frick, P. J., & Hare, R. D. (2001). *Antisocial process screening device: APSD*. Toronto: Multi-Health Systems. doi:10.1037/t00032-000
- Frick, P. J., Ray, J. V., Thornton, L. C., & Kahn, R. E. (2014). Can callous-unemotional traits enhance the understanding, diagnosis, and treatment of serious conduct problems in children and adolescents? A comprehensive review. *Psychological Bulletin*, 140, 1–57. doi:10.1037/a0033076
- Giordano, J. (1976). Community mental health in a pluralistic society. *International Journal of Mental Health*, 5, 5–15. doi:10.1177/0022427814557038
- Goldweber, A., Dmitrieva, J., Cauffman, E., Piquero, A. R., & Steinberg, L. (2011). The development of criminal style in adolescence and young adulthood: Separating the lemmings from the loners. *Journal of Youth and Adolescence*, 40, 332–346. doi:10.1007/s10964-010-9534-5
- Hare, R. D. (1999). *Without conscience: The disturbing world of the psychopaths among us*. New York, NY: Guilford Press.
- Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling [White paper]. Retrieved from <http://www.afhayes.com/public/process2012.pdf>.
- Henry, D., Guerra, N., Huesmann, R., Tolan, P., VanAcker, R., & Eron, L. (2000). Normative influences on aggression in urban elementary school classrooms. *American Journal of Community Psychology*, 28, 59–81. doi:10.1023/A:1005142429725
- Huizinga, D., Esbensen, F. A., & Weiher, A. W. (1991). Are there multiple paths to delinquency? *Journal of Criminal Law and Criminology*, 82, 83–118. doi:10.2307/1143790
- Kaiser, K., & Reisig, M. D. (2017). Legal socialization and self-reported criminal offending: The role of procedural justice and legal orientations. *Journal Of Quantitative Criminology*, 12, 1–20.
- Kerr, M., Van Zalk, M., & Stattin, H. (2012). Psychopathic traits moderate peer influence on adolescent delinquency. *Journal of Child Psychology and Psychiatry*, 53, 826–835. doi:10.1111/j.1469-7610.2011.02492.x
- Kimonis, E. R., Frick, P. J., & Barry, C. T. (2004). Callous-unemotional traits and delinquent peer affiliation. *Journal of Consulting and Clinical Psychology*, 72, 956–966. doi:10.1037/0022-006X.72.6.956
- Kimonis, E. R., Frick, P. J., Skeem, J. L., Marsee, M. A., Cruise, K., Munoz, L. C., ... Morris, A. S. (2008). Assessing callous-unemotional traits in adolescent offenders: Validation of the inventory of callous-unemotional traits. *International Journal of Law and Psychiatry*, 31, 241–252. doi:10.1016/j.ijlp.2008.04.002

- Krohn, M. D., Lizotte, A. J., Thornberry, T. P., & Smith, C. (1996). Reciprocal causal relationships among drug use, peers, and beliefs: A five-wave panel model. *Journal of Drug Issues, 26*, 405–428. doi:10.1177/002204269602600206
- Monahan, K. C., Steinberg, L., & Cauffman, E. (2009). Affiliation with antisocial peers, susceptibility to peer influence, and antisocial behavior during the transition to adulthood. *Developmental Psychology, 45*, 1520–1530. doi:10.1037/a0017417
- Muthen, L. K., & Muthen, B. O. (2011). *Mplus user's guide* (7th). Los Angeles, CA: Muthén & Muthén.
- Nivette, A. E., Eisner, M., Malti, T., & Ribeaud, D. (2015). The social and developmental antecedents of legal cynicism. *Journal of Research in Crime and Delinquency, 52*, 270–298.
- Pardini, D. A., Loeber, R., & Stouthamer-Loeber, M. (2005). Developmental shifts in parent and peer influences on boys' beliefs about delinquent behavior. *Journal Of Research On Adolescence, 15*, 299–323. doi:10.1111/j.1532-7795.2005.00098.x
- Paternoster, R., Bachman, R., Brame, R., & Sherman, L. W. (1997). Do fair procedures matter? The effect of procedural justice on spouse assault. *Law & Society Review, 31*, 163–204. doi:10.2307/3054098
- 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*, 225–237. doi:10.1037/lhb0000055
- Piquero, A. R., Fagan, J., Mulvey, E. P., Steinberg, L., & Odgers, C. (2005). Developmental trajectories of legal socialization among serious adolescent offenders. *The Journal of Criminal Law & Criminology, 96*, 267–298.
- Sampson, R. J., & Bartusch, D. J. (1999). Legal cynicism and tolerance of deviance: The neighborhood context of racial differences. *Law and Society Review, 44*, 1764–1778.
- Stride, C. B., Gardner, S., Catley, N., & Thomas, F. (2015). Mplus code for mediation, moderation, and moderated mediation models. Retrieved from <http://www.offbeat.group.shef.ac.uk/FIO/mplusmedmod.htm>
- Sunshine, J., & Tyler, T. (2003). The role of procedural justice and legitimacy in shaping public support for policing. *Law & Society Review, 37*, 513–548. doi:10.1111/1540-5893.3703002
- Sweeten, G., Piquero, A. R., & Steinberg, L. (2013). Age and the explanation of crime, revisited. *Journal of Youth And Adolescence, 42*, 921–938. doi:10.1007/s10964-013-9926-4
- Thornberry, T. P., & Krohn, M. D. (1997). Peers, drug use, and delinquency. In D. M. Stoff, J. Breiling, & J. D. Maser (Eds.), *Handbook of antisocial behavior* (pp. 218–233). Hoboken, NJ: John Wiley & Sons Inc.
- Thornberry, T. P., & Krohn, M. D. (2000). The self-report method for measuring delinquency and crime. *Measurement and Analysis of Crime and Justice, 4*, 1–51.
- Thornton, L. C., Frick, P. J., Shulman, E. P., Ray, J. V., Steinberg, L., & Cauffman, E. (2015). Callous-unemotional traits and adolescent's role in group crime. *Law and Human Behavior, 39*, 368–377. doi:10.1037/lhb0000124
- Tyler, T. R. (1997). Procedural fairness and compliance with the law. *Swiss Journal of Economics and Statistics, 133*, 219–240.
- Tyler, T. R. (2009). Legitimacy and criminal justice: The benefits of self-regulation. *Ohio State Journal of Criminal Law, 7*, 307–360.
- Tyler, T. R., & Blader, S. L. (2003). The group engagement model: Procedural justice, social identity, and cooperative behavior. *Personality And Social Psychology Review, 7*, 349–361. doi:10.1207/S15327957PSPRO704_07
- Tyler, T. R., & Huo, Y. J. (2002). *Trust in the law*. New York, NY: Russell Sage Foundation.
- 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. doi:10.1037/lhb0000266
- Wechsler, D. (2011). *Wechsler abbreviated scale of intelligence-second edition (WASI-II)*. San Antonio, TX: NCS Pearson.
- Wolfe, S. E. (2011). The effect of low self-control on perceived police legitimacy. *Journal of Criminal Justice, 39*(1), 67–74.