

Psychology of Violence

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Implications of Youths' Perceptions of Police Bias and the Code of the Street for Violent Offending

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Objective: Anderson's (1999) "code of the street" (CoS) framework posits that exposure to violence (ETV) is linked to violent offending through youth adopting the CoS. This study quantitatively examines this mediation, as well as the additional mediating role of youths' perceptions of police. **Method:** This study used a racially/ethnically diverse sample of 1,216 first-time juvenile offenders to test whether perceptions of police bias and the CoS mediate the association between ETV and violent offending. **Results:** The findings indicated that ETV is directly associated with violent offending but also operates indirectly through both perceptions of police bias and the CoS. However, the CoS emerged as a more impactful mediator than perceptions of the police. In totality, these results indicate that ETV is directly associated with violent offending, yet its effect also operates secondarily through the CoS. **Conclusion:** Collectively, the results portray the nuanced role that perceptions of the police and the CoS have in explaining violent offending among justice-involved adolescent males. Although affirming the Anderson's theory to some extent, the indirect pathway was less influential than anticipated. Consequently, consistent with literature on the cycle of violence, the results indicate that the mechanisms explaining why violence exposure may lead to violence perpetration appear to be wide-ranging and not uniformly explained by a single characteristic like perceptions of the police or the CoS.

Keywords: exposure to violence, police bias, code of the street, juvenile offending, violent offending

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There is a well-established link between exposure to violence (ETV) and violent offending: Youth who have been exposed to violence tend to engage in more violence (Benedini & Fagan, 2018; Brown, Fine, & Cauffman, 2019; Fehon, Grilo, & Lipschitz, 2005; Turanovic, 2019), and youth who offend violently often have a history of ETV (see Fox, Piquero, & Jennings, 2014; Turanovic, 2019). One proposed mechanism for this "cycle of violence" (Wilson, Stover, &

Berkowitz, 2009) is that ETV promotes the development of a "code of the street" (CoS). The CoS is a set of beliefs that promotes violent behavior through the use of informal rules that govern violent behavior to build and maintain respect (Anderson, 1999). However, the majority of research on the CoS has been ethnographic, and few empirical studies have explored the role of the CoS on the cycle of violence (Baron, 2017; Intravia et al., 2018; Intravia, Wolff, Stewart, & Simons, 2014; Stewart & Simons, 2006). Furthermore, integral to the CoS framework is the belief that one's perceptions of the police impact one's adherence to the CoS (Anderson, 1999). As Anderson (1999, p. 34) argued, the CoS is "a cultural adaptation to a profound lack of faith in the police and the judicial system . . ." Specifically, when youth perceive police to be biased or illegitimate, it is believed that they adapt the CoS as a means of self- and status protection. This notion resonates with empirical evidence that individuals who perceive police negatively are more likely to engage in violence (see Gau & Brunson, 2015; Kane, 2005). However, research has not incorporated youths' perceptions of police into our understanding of how the CoS might perpetuate the cycle of violence (see Baron, 2017). The present study addresses these gaps in the literature through examining whether the association between youths' ETV and violent offending is explained by their perceptions of police and adherence to the CoS.

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The Cycle of Violence

ETV includes direct exposure to physical, sexual, or emotional abuse, as well as indirect exposure through witnessing violence (Brown et al., 2019; Sharkey, 2018). ETV is associated with a host of externalizing problems (Trickett, Negriff, Ji, & Peckins, 2011), antisocial or delinquent outcomes (see Haynie, Petts, Maimon, & Piquero, 2009), and violent offending (Wilson et al., 2009). Importantly, the relation between ETV and delinquency persists above the effects of other risk factors for crime (Dodge, Bates, & Pettit, 1990; Smith & Thornberry, 1995). The fact that those who have been exposed to violence are then more likely to engage in violence is referred to as the “cycle of violence.” This process has been observed among community youth (Cuevas, Finkelhor, Turner, & Ormrod, 2007; Dodge et al., 1990; Smith & Thornberry, 1995), high-risk youth (Odgers et al., 2007), and detained youth (Baskin & Sommers, 2014; Spaccarelli, Coatsworth, & Sperry Bowden, 1995). Indeed, youth who offend violently are more likely to have a history of ETV (see Fox et al., 2014), and offenders who have experienced ETV engage in more violence (Fehon et al., 2005).

Yet despite the elevated degree to which the cycle of violence emerges within justice-involved populations, limited research has evaluated the effects of ETV on youth who are involved in the justice system but who are primarily serving their sentences in the community (i.e., arrested but not detained). Provided that the majority of youth who are arrested experience community corrections rather than detention (Office of Juvenile Justice and Delinquency Prevention, 2015), understanding the mechanisms underlying the cycle of violence among youthful offenders in the community is particularly relevant to policy.

The Code of the Street

Both structural and subcultural explanations have been offered to explain the cycle of violence. Anderson’s (1999) CoS framework integrates both levels of explanation and is particularly relevant to justice-involved youth. Anderson (1999) posited that structurally disadvantaged neighborhoods characterized by a lack of quality jobs, few public services, and hopelessness among residents create a broader social environment that fosters violence. Residents’ lived experiences promote a “street culture” that deteriorates mainstream norms and supplants them with norms that promote violence as a means of maintaining respect and status (Stewart & Simons, 2010). Anderson called these informal rules the CoS.

The CoS grounds interpersonal interactions in violence (Anderson, 1999). At the individual level, threats of victimization and ETV represent challenges to one’s respect and lead to the development of beliefs promoting violence. Indeed, Stewart and Simons (2006) observed that youth are more likely to adopt norms consistent with the CoS when residing in neighborhoods characterized by high structural disadvantage and violence (see also Berg, Lei, & Simons, 2019; Chan Tack & Small, 2017).

However, perceptions of the police are also central to the CoS (Anderson, 1999; Kubrin & Weitzer, 2003). Youth develop attitudes toward police based on their own experiences (Carr, Napolitano, & Keating, 2007; Gau & Brunson, 2010; Schuck, 2013), as well as vicarious experiences (Cavanagh & Cauffman, 2015; Fine et al., 2016). Youth who have been treated poorly by police or who have heard of others being treated poorly (Fagan & Tyler, 2005; Piquero, Fagan, Mulvey, Steinberg, & Odgers, 2005) report more

negative perceptions of the police. Further, those who have been exposed to violence often report poor perceptions of the police (Anderson, 1999; Kubrin & Weitzer, 2003; Zahnow, Mazerolle, Wickes, & Corcoran, 2017). Indeed, relationships between police and individuals living in violent communities are often fraught with mistrust, as individuals tend to perceive the police as biased (Carr et al., 2007; Corsaro, Frank, & Ozer, 2015; Kwak, Dierenfeldt, & McNeeley, 2019; Sargeant, Wickes, Murphy, & Mazerolle, 2018).

Problematically, individuals who view the police negatively are more likely to engage in crime (Fagan & Tyler, 2005; Murphy, 2015; Piquero et al., 2005; Reisig, Wolfe, & Holtfreter, 2011; Tyler, 1997, 2017). To help explain why this may be the case especially in response to ETV, the CoS framework suggests that when youth perceive police poorly, they may adapt to the threat of violence by developing the CoS (Anderson, 1999). As Anderson (1999, p. 34) argued, “The code of the street thus emerges where the influence of the police ends.” It is intuitive that youth who have been exposed to violence may be receptive to the CoS in place of relying on the police whom they mistrust and perceive to be biased. Research indicates that adolescents in more violent communities do rely less on the police to solve disputes (Gau & Brunson, 2015). However, this core component of the CoS framework—that youth who have been exposed to violence consequently perceive police poorly, develop the CoS, and are then at heightened risk for engaging in violence—has not been adequately tested quantitatively in longitudinal studies.

Current Study

The present study builds on existing research in several important ways. First, considering the growing interest in the field in understanding the etiology of the CoS (Erickson, Hochstetler, & Dorius, 2019; Moule, Burruss, Gifford, Parry, & Fox, 2019), a multiple regression model was estimated to determine what factors predict the CoS. We hypothesize that youth who report higher levels of ETV, who report more perceptions of police bias, and who live in neighborhoods with higher levels of disorder and in counties with more poverty would report higher levels of CoS.

Second, some studies link ETV with the tenets of the CoS (Anderson, 1999; Brezina, Agnew, Cullen, & Wright, 2004), whereas others link the CoS with violent offending (Stewart, Simons, & Conger, 2002). Although the mediating mechanism has been hypothesized by ethnographic work, limited quantitative research has tested this mediating effect, and virtually none has been able to account for youths’ previous violent behavior (Brezina et al., 2004). For instance, Matsuda, Melde, Taylor, Freng, and Esbensen (2013) used a school-based sample of 51 gang-involved youth to examine violent offending among gang members. The authors found that joining a gang facilitates greater ascription to CoS attitudes, which themselves partially mediate the relation between joining a gang and violent offending. Although important, the study was limited by two critically important factors: First, street code and violent offending were measured at the same time point, meaning the authors were unable to account for previous violent offending. Further, the results may not be generalizable to justice-involved youth, the majority of whom are not involved in gangs. Second, Baron (2017) used a sample of homeless young adults in Canada to examine the association between the CoS and violence. Although the study is critically important for understand-

ing the CoS, the sampling choice of homeless young adults limited its generalizability and the cross-sectional design inherently limited its ability to account for previous behavior or to differentiate the effect of the CoS on predicting future behavior rather than justifying previous behavior (Baron, 2017).

The present study empirically tests whether perceptions of the police and the CoS mediate the association between ETV and violent offending. Uniquely, as described in the following text, the study uses a large, longitudinal sample of policy-relevant adolescents who have just come to the attention of the justice system for the first time, who are serving their sanctions in the community, who are nearing the peak of the age-crime curve (Hirschi & Gottfredson, 1983; Piquero, Farrington, & Blumstein, 2003), and who are more likely to be exposed to violence (Cuevas et al., 2007; Odgers et al., 2007). Specifically, our goals were to examine: (a) *whether the association between ETV and violent offending operates directly*, (b) *whether the association between ETV and violent offending operates indirectly through their perceptions of police*, (c) *whether the association between ETV and violent offending operates indirectly through the CoS*, or (d) *whether the association between ETV and violent offending operates indirectly through both perceptions of police and through the CoS* as Anderson (1999) predicted. In line with the theoretical model (Anderson, 1999), we hypothesize that ETV influences violent offending through both perceptions of the police and the CoS, such that youth who are exposed to more violence may develop poorer perceptions of the police and a mindset consistent with the CoS, which may in turn be associated with more violent offending.

Method

Participants

The sample included 1,216 male juvenile offenders from the Crossroads Study, which follows adolescent offenders after their first official arrest. Participating youth had each been arrested for nonfelony offenses, with the most frequent charges including vandalism (17.5%) and theft (16.7%). To ensure that findings would be more generalizable to the population of justice system-involved youth in the United States, participants were sampled from three sites: Philadelphia, Pennsylvania ($N = 533$); Jefferson Parish, Louisiana ($N = 151$); and Orange County, California ($N = 532$). At the baseline interview, youth were between the ages of 13 and 17 years ($M = 15.31$, $SD = 1.29$). Consistent with the demographic composition of justice system-involved youth, the sample was racially and ethnically diverse: Latino/Hispanic (46%), Black/African American (37%), White (15%), and self-identified other (2%). Over the 6-month follow-up period, the Crossroads study maintained a very high retention rate. Of the initial 1,216 youth enrolled in the study, 96% completed the 6-month follow-up interview, 94% completed the 12-month follow-up interview, and 87% of the sample had complete data for all study measures ($n = 1,058$).

Procedure

Signed parental consent and youth assent were obtained for all participants before interviews were conducted. Participants were informed of the nature of the study and told there was no penalty for not

participating. Youth completed an interview after the disposition hearing for their first arrest, as well as follow-up interviews approximately 6 and 12 months after their initial interview. Face-to-face interviews with the youth ranged from 2–3 hr in length and were documented using a secure, computer-administered program. Based on the sensitive nature of the sample, a Privacy Certificate was obtained from the Department of Justice. The Privacy Certificate protects participants' privacy by exempting their identity and responses from subpoenas, court orders, or other types of involuntary disclosures. Participants were given a detailed explanation of the Certificate before beginning each interview and were reminded before sensitive questions, such as those about self-reported offending, were asked.

Measures

Perceptions of police bias. At baseline, youths' perceptions of police bias were assessed by asking each youth to rate the extent to which they agreed from 1 (*strongly disagree*) to 5 (*strongly agree*) with four items ("Police treat males and females differently," "Police treat people differently depending on their race/ethnic group," "Police treat people differently depending on their age," and "Police treat people differently depending on the neighborhoods they are from."). The items were drawn from the Pathways to Desistance Study (McLean, Wolfe, & Pratt, 2019; Schubert et al., 2004) that designed the items based on previous research (Casper, Tyler, & Fisher, 1988; Tyler, 1997). Confirmatory factor analysis (see online supplemental materials) indicated an adequate fit, $\chi^2(1, N = 1,212) = .75$, $p = .39$, comparative fit index (CFI) = 1.00, root mean square error of approximation (RMSEA) = .00. Higher values indicate worse perceptions of police (i.e., perceive police as *more* biased; $M = .00$, $SD = .66$).

Exposure to violence. At baseline, ETV was assessed using a modified version of the self-reported Exposure to Violence Inventory (Selner-O'Hagan, Kindlon, Buka, Raudenbush, & Earls, 1998). The measure assesses both experiencing violence (six items; e.g., "Have you ever been chased where you thought you might be seriously hurt?", "Have you ever been shot at?") and witnessing violence (seven items; e.g., "Have you ever seen someone else get chased where you thought they could be seriously hurt?", "Have you ever seen someone else get shot at?"). Youth indicated whether they had been exposed to each type of violence in their lifetime (*yes* or *no*). Both personal and vicarious ETV are associated with violent offending (Hartinger-Saunders et al., 2011; Patchin, Huebner, McCluskey, Varano, & Bynum, 2006), and exposure to various types of violence may have a cumulative negative effect (Baskin & Sommers, 2014; Fox, Perez, Cass, Baglivio, & Epps, 2015; Haynie et al., 2009). For this reason, the present study conceptualizes ETV as both the violence that a youth has experienced and the violence that a youth has witnessed. A composite index was created by sum scoring the 13 dichotomous items, such that higher scores indicated exposure to a larger variety of violent acts ($M = 2.83$, $SD = 2.68$; $\alpha = .797$). ETV was highly skewed; therefore, to ensure findings were not caused by the values at the high end of the spectrum, the variable was truncated at 0 (22.96%), 1 (17.04%), 2 (16.50%), 3 (8.79%), 4 (9.51%), 5 (7.98%), and 6 or more (17.22%) types of violence based on the distribution of the data ($M = 2.58$, $SD = 2.17$). However, the results were consistent

when we used a variety of alternative truncation points or when analyses were run without truncating the variable.

Code of the street. The CoS was assessed at the 6-month interview. Grounded in how extant research has operationalized the CoS (Matsuda et al., 2013; McNeeley & Hoeben, 2017; Moule, Burt, Stewart, & Simons, 2015; Wolff, Intravia, Baglivio, & Piquero, 2019), we selected four items from the Weinberger Adjustment Inventory (Weinberger & Schwartz, 1990) and four items from the Peer Conflict Scale (Marsee et al., 2011) that map onto similar items in other CoS indexes (e.g., “I threaten others when they do something wrong to me.”, “If someone tries to hurt me, I make sure I get even with them.”, and “When someone threatens me, I end up getting into a fight.”). Regarding content validity, although this longitudinal study did not include the Stewart and Simons’s (2010) CoS measure, our items mapped onto theirs. For instance, our items pertaining to “getting even” and “escalation in response to *disrespect*” align quite well with theirs (see online supplemental materials). Confirmatory factor analysis indicated an adequate fit, $\chi^2(17, N = 1,165) = 162.71, p < .001, CFI = .95, RMSEA = .09$. Higher values indicate more endorsement of the CoS ($M = .00, SD = .71$).

Violent offending. An index of violent offending was created from the 12-month interview with a revised version of the Self-Report of Offending scale (Huizinga, Esbensen, & Weiher, 1991). Participants reported if they had been involved in any of 10 different violent acts (e.g., “Taken something from another person by force, using a weapon,” “Beaten up or physically attacked someone so badly that they probably needed a doctor”). At the baseline interview, these questions were asked with the qualifying phrase, “Have you ever . . .,” to indicate whether the youth had ever committed that behavior in his life. At the 12-month interview, these questions were asked with the qualifying phrase, “In the past 6 months, have you . . .” to indicate whether the youth engaged in that behavior over the 6-month recall period.

Variety scores, which count the different types of violent acts the respondent endorsed, were calculated for each interval. Variety scores are widely used because they are highly correlated with the seriousness and frequency of antisocial behavior (Monahan & Piquero, 2009) and are less subject to recall bias than frequency scores (Osgood, McMorris, & Potenza, 2002). We created one variety score for baseline, indicating the variety of violent acts the youth had ever committed before his first arrest ($M = 1.39, SD = 1.09$), and a second variety score indicating the variety of violent offenses the youth had been involved in during the 6–12 months following the baseline interview ($M = .49, SD = .88$).

Covariates.

Demographics. At baseline, youth self-reported demographic information, including their age ($M = 15.31, SD = 1.29$) and race/ethnicity. Youth also reported the level of education that each of their parents had received. We calculated the highest level of education achieved by either parent as a proxy for socioeconomic status (Galobardes, Lynch, & Smith, 2007), a well-supported valid means of assessing socioeconomic status in adolescents (Lien, Friestad, & Klepp, 2001). Approximately 29.06% of the participants had parents who had not graduated from high school, 32.38% had at least one parent who had graduated from high school, and 38.57% had at least one parent who had more than a high school diploma (business or trade school, completed some college courses, college graduate, etc.).

Neighborhood conditions. Although the Anderson’s theory originated from observing African American residents of Philadelphia, as other researchers have noted over the years (Taylor, Esbensen, Brick, & Freng, 2010), studies suggest that the CoS may be applicable in other contexts and may extend beyond African American individuals in “inner cities” (Brezina et al., 2004; Stewart, Schreck, & Brunson, 2008; Stewart & Simons, 2006; Taylor et al., 2010) including to college samples (Intravia, Wolff, Gibbs, & Piquero, 2017) and even to online cybercrime (Henson, Swartz, & Reyns, 2017). In fact, as reviewed by McNeeley, Meldrum, and Hoskin (2018, p. 119), research does not generally support the notion that race plays a significant role in the development of the CoS as compared with other factors. Instead, considering including covariates often reduces or eliminates the association between race and the code (Piquero et al., 2012), many researchers focus on other aspects of the original theory that might promote the CoS, particularly the neighborhood context. Considering that the CoS is argued to be an extension of the street culture produced by neighborhood disadvantage (Baskin & Sommers, 2014; Cuevas et al., 2007), the present study considered neighborhood conditions as a covariate. We use two proxies: a self-report of disorder (see Johnson & Kane, 2018) and county poverty (see Berg, Stewart, Intravia, Warren, & Simons, 2016). At baseline, youth self-reported on their neighborhood conditions using an adapted version of the Neighborhood Conditions Measure (Sampson & Raudenbush, 1999). The measure’s 21 items assess the frequency with which youth see physical disorder (e.g., “cigarettes on the street or in the gutters,” “graffiti or tags”) as well as social disorder (e.g., “adults fighting or arguing loudly,” “people using needles or syringes to take drugs”) in their neighborhoods. Responses ranged from 1 (*never*) to 4 (*often*). A composite index of self-reported neighborhood disorder was calculated by averaging youths’ reports such that higher scores indicated more disorder ($M = 2.06, SD = .68; \alpha = .944$).

County poverty rate. County poverty was determined using data drawn from the 2010 U.S. Census. Using the home addresses youth provided during the baseline interview, Federal Information Processing Standard codes were collected for each participant. Federal Information Processing Standard codes identify a specific geographic location (i.e., state, county, tract, and block) and can be matched with U.S. Census data. The U.S. Census estimates poverty rates by looking at a family’s or an individual’s cash income (DeNavas-Walt, Proctor, & Smith, 2011). The county poverty rate is calculated by dividing the number of individuals living in poverty by the total number of individuals living in the county.

Analytic plan. First, a multiple regression model was estimated to determine what factors predict the CoS. Specifically, we tested whether race, parent education, county poverty, neighborhood disorder, ETV, or perceptions of police bias were significantly associated with the CoS. Next, a structural equation model was estimated in Mplus 8 to test whether the CoS and perceptions of the police mediated the association between ETV and violent offending (see Figure 1). Specifically, a serial multiple mediation analysis was conducted to examine the extent to which ETV (X) influences youths’ violent offending (Y) through their perceptions of the police (M_1) and subsequent adherence to the CoS (M_2). The specific indirect effects in this model were (a) through perceptions of police (a_1b_1), (b) through the CoS (a_2b_2), and (c) through both perceptions of police and the CoS ($a_1a_3b_2$). If significant, the third

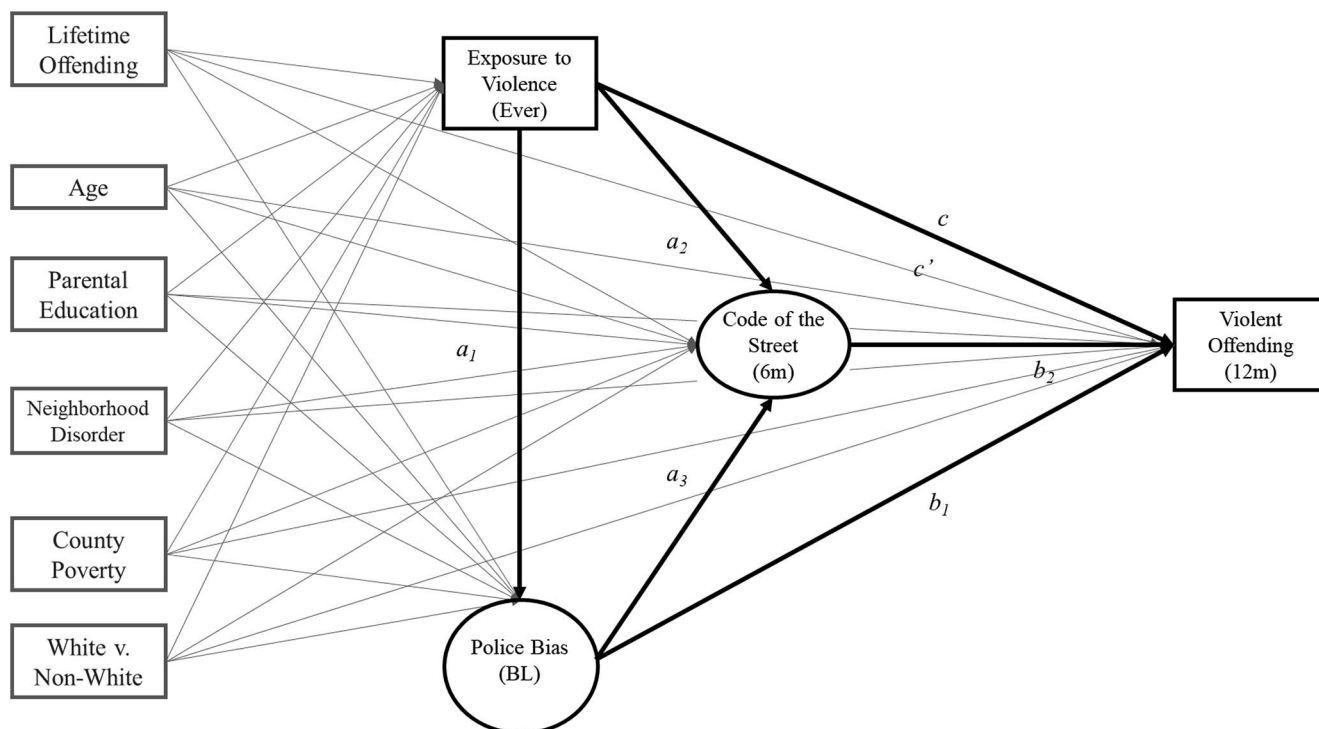


Figure 1. Theoretical serial multiple mediation model with control variables. BL = baseline; 6m = 6 months later; 12m = 12 months later.

indirect effect supports serial multiple mediation (Hayes, 2013). To assess the significance of the indirect effects, percentile bootstrapping was conducted by taking 10,000 samples to construct 95% bias-corrected confidence intervals (Hayes & Scharkow, 2013; Preacher & Hayes, 2008). A post hoc Monte Carlo power analysis simulation (Muthén & Muthén, 2002; Thoemmes, MacKinnon, & Reiser, 2010) was conducted in Mplus 8 using the parameters obtained from the serial multiple mediation model (see online supplemental materials).

In the model, both the CoS and perceptions of police bias were treated as latent variables and the violent offending variety score was log-transformed to reduce the skewed distribution. Baseline parental education (coded categorically with less than a high school diploma as the comparison group), youth age, race (categorical with White youth as the comparison group), county poverty, neighborhood disorder, and lifetime self-reported violent offending were accounted for in the model. The χ^2 value, CFI, and RMSEA were used to assess overall fit of both the multiple regression and serial mediation models (Hu & Bentler, 1999). A significant χ^2 suggests a lack of fit. For the CFI, values above .95 are generally considered a good fit. For RMSEA, values less than .06 indicate good fit.

Although 87% of the sample had complete data for all study measures across the three waves ($n = 1,058$), to examine the effects of attrition, we tested differences in outcomes, predictors, and covariates between youth who had complete data at all three time points and youths with missing data at one or more time points. Youth with complete data ($n = 1,058$) were more likely to be white ($d = .17$) and older at baseline ($d = .21$). There were no

significant differences on any other variables. Maximum likelihood was used to incorporate cases with missing data on the dependent variables (Schafer & Graham, 2002). There was 4.7% of the sample ($n = 57$) who were missing values for the covariates; therefore, the variances of those variables were included in the model to avoid excluding those cases.

Results

Multiple Regression Model

A multiple regression model determined what factors were associated with the CoS (see Table 1). The model χ^2 was signif-

Table 1
Regression Results for Code of the Street

Variable	β	b	SE	p value
Age	-.137	-.120	.028	.000
Parent education ^a				
HS diploma	.027	.067	.079	.395
Race ^b	.034	.108	.098	.271
Neighborhood disorder	.077	.128	.059	.031
County poverty	.075	.012	.006	.028
Exposure to violence	.358	.187	.018	.000
Perceptions of police	.135	.152	.047	.001

Note. HS = high school.

^a HS diploma or more = 1, less than HS diploma = 0. ^b White = 1, Non-White = 0.

icant, $\chi^2(109, N = 1,216) = 372.80, p < .001$, suggesting a lack of model fit. However, the other measures of fit suggest that the estimated regression model was an adequate fit to the data ($CFI = .94, RMSEA = .05$). The results indicated that although older youth scored lower in CoS than younger youth, race was not associated with the CoS. As expected, youth who reported higher levels of ETV and more perceptions of police bias also reported higher levels of CoS. In addition, youth who lived in neighborhoods with higher levels of disorder and in counties with more poverty reported higher CoS.

Serial Multiple Mediation Model

A serial multiple mediation model tested whether the association between ETV and violent offending was mediated by youths' perceptions of the police and the CoS. The bootstrapped standardized coefficients for the serial mediation model are presented in Figure 2. Although the χ^2 was significant, $\chi^2(129, N = 1,216) = 406.82, p < .001$, the other model fit indices indicated the estimated serial mediation model was a good fit to the data ($CFI = .95, RMSEA = .04$). The results indicated that the total effect of ETV on violent offending was significant after accounting for the host of covariates including previous violent crime involvement and neighborhood conditions ($\beta = .200, p < .001, 95\%$ confidence interval [CI; .136, .265]). The direct effect of ETV was significant ($\beta = .131, p < .001, 95\%$ CI [.065, .196]), such that a 1 *SD* increase in baseline ETV was associated with a .131 *SD* increase in violent offending at 12 months. The indirect effect of ETV was also significant ($\beta = .069, p < .001, 95\%$ CI [.040, .101]). Altogether, these indicate that ETV is directly associated

with violent offending but also operates indirectly through perceptions of police bias and the CoS.

The hypothesized serial mediation model was partially supported (see Figure 2). The indirect effect of ETV on violent offending through the CoS was significant ($a_2b_2 = .065, p < .001, 95\%$ CI [.038, .096]) and accounted for 32.5% of the total effect. The indirect effect through perceptions of police bias was not significant ($a_1b_1 = -.003, p = .65$). Finally, and importantly, the indirect effect ETV on violent offending through perceptions of police bias and the CoS was significant ($a_1a_3b_2 = .007, p = .04, 95\%$ CI [.001, .014]). However, this indirect effect only accounted for 3.5% of the total effect. In totality, these results indicate that the effect of ETV on violent offending operates primarily directly and secondarily through the CoS.

Discussion

Anderson's (1999) CoS posits that the development of the CoS is often a response to both ETV and distrust in police. Nonetheless, despite the prominence of perceptions of police within the burgeoning procedural justice literature (see Trinkner, Jackson, & Tyler, 2018; Tyler, 2017), its effect on the salience of the CoS in explaining the cycle of violence has been largely ignored. The present study leverages both the CoS and procedural justice frameworks to empirically test a nuanced model of factors involved in the cycle of violence.

When youth are exposed to violence and also perceive police negatively, the CoS framework suggests that they should be more likely to adopt the CoS and engage in violence. Among this sample of male juvenile offenders, the indirect effect of ETV on violent

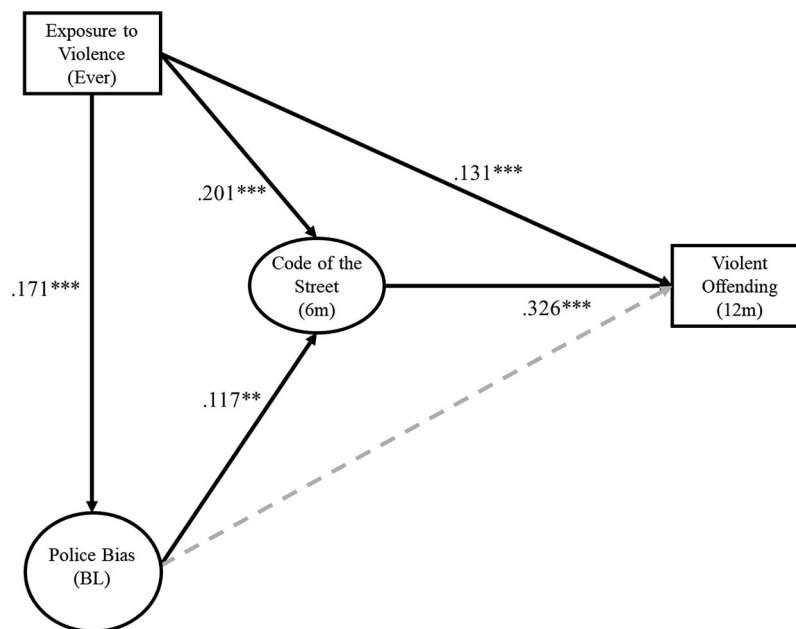


Figure 2. Estimated serial multiple mediation model with standardized coefficients. Standardized path coefficients are included in the figure. Dashed lines designate nonsignificant pathways. Baseline parental education, youth age, race, county poverty, neighborhood disorder, and lifetime self-reported violent offending were included as covariates but are not depicted in the figure. BL = baseline; 6m = 6 months later; 12m = 12 months later. * $p < .05$; ** $p < .01$; *** $p < .001$.

offending through both perceptions of police bias and the CoS was significant. However, the results of these complex, nuanced models indicated that the indirect effect accounted for a mere 3.5% of the total effect of ETV. Consequently, while affirming the Anderson's theory to some extent and resonating with findings from Matsuda and colleagues (2013), it appears as though the indirect pathway is much weaker and perhaps less influential than would be anticipated.

Perhaps the more impactful finding pertains to the nexus of ETV, adherence to the CoS, and violent offending. The results indicated quite clearly that the indirect effect of ETV through the CoS was significant and accounted for ~32.5% of the total effect. This suggests that as expected, youth who are exposed to more violence may develop a mindset consistent with the CoS, which may in turn predict more violent offending. However, although the CoS emerges in this study as a more impactful mediator than perceptions of police bias, it still does not account for two thirds of the total effect. Consequently, consistent with literature on the cycle of violence, the results indicate that the mechanisms explaining why ETV may lead to violence perpetration appear to be wide-ranging and not uniformly explained by a single characteristic, construct, or domain such as perceptions of the police or the CoS.

The study's strengths included its approaches to design, methodology, and analyses. First, all participants had been arrested for the first time. This is a particularly policy-relevant group of adolescents considering that they are more likely to be exposed to violence than community youth (Cuevas et al., 2007; Odgers et al., 2007). Further, it is critical to identify the processes that might reduce youth crime early in their justice system experience (see Tyler & Trinkner, 2017). Second, youth were followed longitudinally, enabling us to account for previous offending. Considering past behavior is one of the strongest predictors of future behavior, this provides a stringent test of the potential mediating effects. Third, we assessed both self-reports of neighborhood disorder as well as county poverty derived from the U.S. Census. Though distinct constructs, in this study, both subjective perceptions of disorder and objective indicators of county poverty were associated with the development of the CoS among youthful offenders. Fourth, this study uniquely operationalized violence exposure on the individual level and tested these processes even after accounting for neighborhood characteristics. Operationalizing these key independent and dependent variables at the individual level adds a substantial complement to the literature that has largely focused on neighborhood-level characteristics, and the operationalization of the violent offending variables means that the results can be considered changes in violent offending. Finally, this study makes a critical contribution to the literature by simultaneously considering perceptions of police bias, providing a direct and stringent quantitative test of the original theory.

Limitations

Despite the study's strengths, several important limitations must be acknowledged. First, the ETV measure is inherently unable to distinguish between violence experienced by the respondent (i.e., a youth was part of a fight because he was attacked) from violence caused by the respondent (i.e., a youth was part of a fight because he attacked someone else; see Wall Myers et al., 2018). Future research should differentiate violence inadvertently experienced

by the respondent (see Sharkey, 2018). Second, the study uses a self-report measure of offending, which introduces the possibility of shared method variance. However, self-reported offending may tap into undetected illegal behavior, as not all youth crime leads to an arrest (Cavanagh & Cauffman, 2017). Third, although the sample consisted of male adolescents who had been arrested and were nearing the peak of the age-crime curve (Hirschi & Gottfredson, 1983; Piquero et al., 2003), findings may not generalize to female or non-justice-involved youth (Cauffman, Fine, Thomas, & Monahan, 2017), particularly considering males may be more likely to adhere to the CoS (Moule et al., 2019). Finally, despite having temporal ordering in our variables, we were unable to account for previous levels of perceptions of police, thus we were unable to examine how changes in that mediator would be associated with changes in the serial mediator and eventual outcomes. As is a limitation with most correlational analyses and observational studies, we cannot establish causality.

Research and Policy Implications

This study has several implications for research and policy. In examining the joint contribution of ETV and perceptions of police bias in explaining violent offending, the study quantitatively tested an important theoretical dimension of Anderson's (1999) subcultural explanation of violence. Though the effect was small, the present study provided evidence that whatever role youths' perceptions of police bias has in perpetuating the cycle of violence, it likely operates in part through generating the CoS. Despite the small effect size, there are still clear implications for police. Law enforcement agencies are encouraged to create partnerships with communities that engage them in solution-focused discussions about how the police can better serve citizens and support safe communities (Brunson & Pegram, 2018; O'Brien & Tyler, 2020). These efforts could reduce the public's perceptions of police bias. However, in an age where confrontations between police and young people are at the fore of the national conversation (Fine, Donley, Cavanagh, & Cauffman, 2020; Fine, Rowan, & Simmons, 2019; Friedman, 2017), police are encouraged to eliminate bias in their interactions with the community in the first place and to build relationships with youth in nonenforcement contexts (Fine, Padilla, & Tapp, 2019). These actions may reduce youths' reliance on behavioral and attitudinal repertoires that promote violence as well as improve crime reporting (Kwak, Dierenfeldt, & McNeeley, 2019).

At the same time, the findings indicated that as Anderson expected, ETV can promote a mindset consistent with the CoS, which may in turn lead to more violent offending. Practitioners are strongly encouraged to provide treatment and support to youth who have been exposed to violence because they may be more at risk of developing a CoS mindset and in engaging in violence themselves. As such, trauma-informed interventions and services that may mitigate the ETV-CoS association are a prime target for violence prevention (Baetz et al., 2019; Bell, 2019; Malti & Averdijk, 2017; Purtle, 2018). Promising programs such as *Becoming a Man* (Heller et al., 2017) help youth find ways to maintain their status, reputation, and peer respect without resorting to violence. Certainly, intervention is not enough. This notion clearly indicates that focus must be paid to preventing violence and disorder in our communities in the first place.

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