VOLUME 24, ISSUE 1, PAGES 1–18 (2023)

Criminology, Criminal Justice, Law & Society

CRIMINOLOGY, CRIMINAL JUSTICE, LAW & SOCIETY

E-ISSN 2332-886X
Available online at
https://scholasticahq.com/criminology-criminal-justice-law-society/

Perceived Parental Competence, Moral Neutralization, and Cognitive Impulsivity in Relation to Future Delinquency: Understanding the Socialization Process

Glenn D. Walters,[a] Jonathan Kremser, [a] Lindsey Runell [a]

[a] *Kutztown University*

ABSTRACT AND ARTICLE INFORMATION

The purpose of this study was to ascertain whether perception preceded belief when it came to predicting delinquency. Perceived parental competence served as the first stage of a socialization process designed to reduce delinquency. The second stage of this process entailed obstructing antisocial belief in the form of moral neutralization or cognitive impulsivity. We hypothesized that moral neutralization and cognitive impulsivity would mediate the relationship between perceived parental competence and delinquency in a model where perception preceded belief but that perceived parental competence would not mediate the relationship between neutralization/impulsivity and delinquency in a model where belief preceded perception. This hypothesis was tested in a group of 845 (406 boys, 439 girls) middle school (Grades 6-8) youth. Results from a three-wave prospective study revealed that moral neutralization and cognitive impulsivity both mediated the perceived parental competence-delinquency relationship, whereas parental competence did not mediate the neutralization/impulsivity-delinquency relationship. When the two components of perceived parental competence—parental support and parental monitoring/control—were analyzed separately, only the monitoring-to-neutralization-to-delinquency path achieved significance.

Article History:

Received November 30, 2022
Received in revised form March 1, 2023
Accepted March 4, 2023

Keywords:

perceived parental competence, moral neutralization, cognitive impulsivity, delinquency

https://doi.org/10.54555/ccjls.7115.73896

Corresponding author: Glenn D. Walters, Kutztown University, Department of Criminal Justice, 15200 Kutztown Rd., Kutztown, PA, 19530, USA.
Email: walters@kutztown.edu

Effective parenting and family support have long been considered deterrents to crime and criminality, a sentiment supported by a large and expanding literature showing that parental support and control are capable of protecting youth against future delinquency (Hoeve et al., 2009). The purpose of the current investigation was to explore the process by which an external social factor like parenting impacts on future delinquency. Walters (2022), in constructing a social-cognitive-development theory of crime that can be used to integrate disparate concepts in criminology, traces the social variable-delinquency relationship to a socialization process. A social variable, whether it is peer delinquency, neighborhood disorder, or poor parenting, may initiate this process, but the effect is not believed to be direct. Instead, certain cognitive (e.g., antisocial thinking) and cognitive-affective (e.g., hostility) variables mediate the nexus between crime-initiating social variables and offending behavior. The research question posed by the current investigation was whether parenting (social variable) impacts on future delinquency via its effect on child antisocial cognition (mediating variable). In other words, do parents impact on their children's tendency to engage in delinquency by influencing the development of certain antisocial thoughts and attitudes in their children.

Parenting as a Criminological Concept

Parenting is addressed in a number of sociological theories of crime and assumes a prominent position in three of them: social/self-control, social learning, and general strain. Social (Hirschi, 1969) and self (Gottfredson & Hirschi, 1990) control theories of crime emphasize parenting as a way by which children learn good behavior (i.e., self-discipline). According to this perspective, self-serving, impulsive, and antisocial behavior are an inherent part of the human condition, such that children must learn to control these tendencies with help from their parents. Social learning theory (Akers, 1998), by contrast, cogitates on how bad parenting leads to bad behavior on the part of the child (e.g., aggression). Although social learning theory focuses on a child's tendency to model the negative actions of peers and older siblings, parental behavior is also a source of imitation and modeling for many children. General strain theory (Agnew, 1992), in contrast to the two previously mentioned theories, illustrates how parenting can become a source of stress, strain, or anomie to the child. Some children will then respond to the strain by engaging in antisocial, aggressive, or delinquent behavior. The field could accordingly benefit from a comparative analysis of these different theories.

Meta-analyses provide support for the role of parents in social control, social learning, and strain theories. Social bonds in the form of attachment to parents successfully predicted delinquency in a meta-analysis by Hoeve and colleagues (2012). And while low self-control achieved a moderately strong effect in a meta-analysis of delinquent outcomes (Vazsonyi et al., 2017), the supposition that parental discipline is the sole cause of low self-control remains unverified (Pratt et al., 2004). Small-to-modest mean parental effect sizes were, in fact, obtained in a meta-analysis of social learning variables and crime (Pratt et al., 2010). On the other hand, two social variables that are known to be capable of stimulating general strain—parental rejection and hostility—achieved effect sizes of .26 and .28, respectively, when correlated with delinquency in a meta-analysis by Hoeve and colleagues (2009). Understanding the full range of parenting behaviors that both support and impede child delinquency would be of great benefit to affected children and their parents. Specifically, parents could learn more effective ways to manage their children and children could get a greater appreciation for the difficulties parents face when trying to manage the behavior of their children.

The three previously mentioned models (social control theory, social learning theory, and social strain theory) assume that non-social variables mediate the relationship between parental support/control and delinquency. Social bonding theory, for instance, maintains that attachments, commitments, involvements, and beliefs mediate the parenting-delinquency association (Hirschi, 1969). The general theory of crime, by comparison, postulates that low self-control mediates the parenting-delinquency nexus (Gottfredson & Hirschi, 1990). Social learning theory, on the other hand, holds that definitions favorable and unfavorable to violations of the law frequently serve as mediating variables (Akers, 1998). Finally, general strain theory proposes that certain emotions, such as anger and depression, are the kinds of variables that link early parental strain to later delinquency (Agnew, 1992). Understanding the variables and factors that mediate the parenting-delinquency relationship could go a long way towards clarifying what it is about specific parenting styles and practices that makes their offspring more or less likely to engage in delinquency. It could also provide information useful to parents about what does and does not work in managing the antisocial thinking and behavior of their children.

Several studies have investigated parenting-delinquency connections and uncovered confirmatory results. Unnever and colleagues (2006), for instance, compared social learning and self-control interpretations of the parenting-delinquency

association and discovered that low self-control and aggressive attitudes mediated the parenting-delinquency nexus. Low self-control also mediated the relationship between child-parent attachment and delinquency in a study by Fix and colleagues (2021). In a study testing a social learning interpretation of the parental inconsistency-delinquency relationship, Halgunseth and colleagues (2013) determined that pro-delinquency attitudes/definitions mediated the larger social variable-delinquency relationship. And Steketee and colleagues (2021) ascertained that parental moral authority, but not parental attachment, mediated the general strain of child maltreatment and interpersonal violence on violent delinquency. Contrary results, on the other hand, surfaced in a study by Wright and Beaver (2005) in which the parenting-low self-control relationship grew weak and inconsistent once genetic influences like attention deficit hyperactivity disorder were controlled. In point of fact, a recent meta-analysis of 31 studies published between 1997 and 2018 estimated the heritability of self-control at 60% (Willems et al., 2019).

Moral Neutralization and Cognitive Impulsivity

Neutralization techniques designed to alleviate the guilt some youth experience after breaking rules and violating laws was first introduced into the criminal justice literature by Sykes and Matza (1957). These techniques, along with the related concepts of moral disengagement (Bandura, 2002) and self- serving cognitive distortions (Barriga & Gibbs, 1996), were subject to a series of analyses by Ribeaud and Eisner (2010), which showed that these three concepts appeared to be measuring the same general construct, a construct they labeled moral neutralization. This is the term used in the current investigation for one of the two mediators used to link parenting to child delinquency. The other mediator included in this study was cognitive impulsivity, a construct characterized by a preference for excitement, the pursuit of immediate gratification, and weak cognitive control. Cognitive impulsivity is viewed by Walters (2022) as distinct from the related construct of behavioral impulsivity or low self-control (Gottfredson & Hirschi, 1990). The effect these two variables have on the parenting-delinquency relationship as mediators was consequently tested in the present study.

Selection and Sequencing

In constructing a social-cognitive-developmental theory of crime and criminality, Walters (2022) asserts that the effect of social variables on behavior is largely indirect, operating through the intervening influence of perception, emotion, and various cognitive processes. Hence, a social variable like parenting, peers, or the neighborhood in which one lives does not, except under extreme circumstances, impact directly on delinquent behavior. Instead, it influences delinquent behavior indirectly by altering or failing to alter certain cognitive and emotional processes. Consequently, weak parental control is unlikely to alter the cognitive impulsivity that is an inherent part of the human condition and which children must learn to control. High levels of cognitive impulsivity, particularly in a developmental context, the third component of social-cognitive-developmental theory, where the individual is starting to associate more with peers, leaves the child more vulnerable to negative peer influences than would have been the case had they learned better self-control through effective parental modeling of personal control and self-discipline.

According to the S-O-R (stimulus-organism-response) model of learned behavior (Bandura, 1986), upon which social-cognitive-developmental theory is based, the organism actively operates on information from the social environment instead of passively responding to external stimuli. Two parental social variables with moderately strong connections to delinquency (i.e., parental support and parental monitoring/control; Hoeve et al., 2009) were consequently selected as socialization agents for the purposes of this study. Because these social variables were based on youth perceptions rather than on actual parental behavior, they were treated as indicators of perceived parental competence and merged into a single latent variable. Cognitive impulsivity and moral neutralization were selected as the cognitive variables for this study because they appear to capture the reactive and proactive features of criminal cognition, respectively (Walters, 2022). These cognitive variables were inserted after the social-perceptual variables in the perception before belief model and before the social-perceptual variables in the belief before perception model.

Sequencing variables can be just as important as selecting them. Investigating the reflected appraisals of parents and friends and a respondent's own self-appraisal as a delinquent, Walters (2016) determined that reflected appraisals preceded self-appraisals in predicting future delinquency, but not vice versa. This makes sense from a socialization standpoint in that perceptions of the social environment should ordinarily precede belief, given that beliefs are generally more fully processed and therefore more deeply encoded than the perceptions upon which they are based (Pfeifer & Peake, 2012). That said, studies also indicate that reflected appraisals are more complex and complicated than traditionally assumed and that a fair amount of processing goes into

them as well (Hergovich et al., 2002; Yue et al., 2020). These relationships require further examination and were organized into two sequences or models for the purposes of the current study: one in which perceived parental competence precedes neutralization/impulsivity and the other in which neutralization/impulsivity precedes perceived parental competence.

Present Study

Analyzing prospective data provided by early adolescent youth and controlling for basic demographic characteristics like age, sex, race, and family structure as well as prior levels of each predicted variable, the current study tested two models: a perception before belief model and a belief before perception model. It was hypothesized that the perception before belief model (perceived parental competence → neutralization/impulsivity → delinquency) would achieve significant indirect effects for each of the two mediators in the model (i.e., moral neutralization and cognitive impulsivity), whereas the belief before perception model (neutralization/impulsivity → perceived parental competence → delinquency) would not achieve significance when either moral neutralization or cognitive impulsivity served as the mediator.

Method

Participants

The sample for this study consisted of 845 (406 boys, 439 girls) early adolescents from the Pocono Bullying Study (PBS; Walters et al., 2017), a three-wave longitudinal investigation of sixth through eighth grade students enrolled in a single middle school located in an urban-rural school district in the northeastern United States. The PBS is comprised of five cohorts of students, all of whom participated in at least two of the three PBS waves. Participants ranged in age from 10 to 13 (M = 11.2, SD = 0.49) at Wave 1, 11 to 14 (M =12.2, SD = 0.48) at Wave 2, and 12 to 15 (M = 13.2, SD = 0.46) at Wave 3. Approximately half the students listed their race/ethnicity as White (47.7%), while another 17.9% indicated that they were Black, 17.6% stated that they were Hispanic, and 16.8% reported that they were of mixed or other race/ethnicity. The majority of participants lived with both biological or adoptive parents (61.7%), 22.2% lived with a biological/adoptive parent and a stepparent or with both grandparents, and 16.1% lived in a single parent home.

Pocono Bullying Study

The PBS began collecting data in November 2016 and every year thereafter up through November 2021. Three-hundred and twenty of the 845 youth in the longitudinal PBS (37.9%) participated in all three waves of data collection (Grades 6-8), 267 (31.6%) participated in Waves 1 and 2 (Grades 6 and 7), 130 (15.4%) participated in Waves 1 and 3 (Grades 6 and 8), and 128 (15.1%) participated in Waves 2 and 3 (Grades 7 and 8). There were four principal reasons why a participant did not complete a wave of the PBS: voluntary attrition, involuntary attrition, program termination, and the COVID-19 pandemic. Voluntary attrition occurred when a student failed to complete the survey during one of the three years or failed to include their student ID number on the survey, thereby making it impossible to match their results from one year to the next. Involuntary attrition (≈ 5% a year) occurred when students either joined or departed the school district after November of the sixth-grade year or before November of the eighth-grade year. A third reason for missing an evaluation wave was that some students were not yet done with middle school when the study ended in 2021. The fifth cohort, for instance, could not complete the Grade 8 evaluation because the study ended before they entered Grade 8. Finally, there was a significant drop in participation beginning in November 2020 because of the COVID-19 pandemic.

The PBS consists of five cohorts of participants. Students in Cohort 1 were in the sixth grade in 2016, students in Cohort 2 were in the sixth grade in 2017, students in Cohort 3 were in the sixth grade in 2018, students in Cohort 4 were in the sixth grade in 2019, and students in Cohort 5 were in the sixth grade in 2020. Assessed at each age were the following variables: demographic characteristics, family structure and living situation, parental support, parental monitoring, perceived peer delinquency, moral neutralization, cognitive impulsivity, depression, own delinquency, bullying victimization, bullying perpetration, and questions pertaining to travel to and from school each day. Comparing students who participated in all three waves with students who participated in just two waves revealed no significant Bonferroni-corrected differences (32 individual comparisons, p = .0016) between the groups for each of the first four cohorts (participants in the fifth cohort did not have an opportunity to participant in a third wave because the study ended before they entered eighth grade). These results suggest that students who completed two waves of surveys were comparable to students who completed all three waves of surveys on the variables included in the PBS. Passive parental consent and active child assent were obtained for all participants. The Kutztown University

Institutional Review Board (IRB) approved the PBS each year it was in operation (i.e., from 2016 to 2021). Surveys were administered during November of each year.

Measures

Perceived Parental Competence

Two measures were combined to create a latent variable designed to assess perceived parental competence. Items for this variable came from the 7-item Support scale of the Quality of Relationships Inventory (QRI; Pierce et al., 1991), which served as a measure of parental support, and from the 8-item Parental Management Scale (PMS; Gibbs et al., 1998), which served as a measure of parental monitoring and control. All 15 items are rated on a four-point Likert type scale, which while not anchored by identical terms, were anchored by similar terms that were ordered from low to high: for the QRI (1 = *not at all*, 2 = *a little*, 3 = *some*, 4 = *very much*) and for the PMS (1 = *not true at all*, 2 = *sometimes true*, 3 = *often true*, 4 = *always true*).

A confirmatory factor analysis was performed by loading all 15 items onto a single factor (see Table 1) in an effort to merge the two scales into one. Two items (PMS-2 and PMS-4) failed to achieve a satisfactory factor score (loading < .400) and were removed from the latent factor. Moderation indices were then reviewed, the results of which indicated that model fit improved significantly when six covariances were added to the latent factor: QRI-1 with QRI-2, QRI-6 with QRI-7, PMS-1 with PMS-6, PMS-1 with PMS-7, PMS-5 with PMS-8, and PMS-6 with PMS-7. Removing the two items and including the covariances raised model fit from borderline (RMSEA = 0.088)/poor (CFI = .83) to good (RMSEA = 0.057, CFI = .95).

The QRI and PMS were also examined separately and included in several supplemental analyses (negative binomial regression). The QRI summed score displayed Cronbach alpha internal consistency coefficients of .81 and .82 during Waves 1 and 2 of the PBS, respectively. The PMS also achieved a reasonable degree of internal consistency as represented by a Cronbach alpha coefficient of .77 at Wave 1 and a Cronbach alpha coefficient of .76 one year later at Wave 2.

Table 1: Content, Descriptive Statistics, and Factor Loadings for the 15 Original Perceived Parental Competence Items from the QRI and PMS

Item	Content	M	SD	Fac
QRI-1	"Turn to parents for advice about a problem"	3.14	0.89	1.000
QRI-2	"Count on parents for help with a problem"	3.62	0.65	0.692
QRI-3	"Count on parents for honest feedback"	3.51	0.77	0.724
QRI-4	"Count on parents to help you if close family member died"	3.78	0.61	0.507
QRI-5	"Confident parents willing to do something with you"	2.99	0.86	0.637
QRI-6	"Count on parents to listen when you are very angry"	3.34	0.92	0.915
QRI-7	"Count on parents to distract you from your worries"	3.33	0.90	0.991
PMS-1	"Adult in house knows where I am when school is out"	3.80	0.54	0.452
PMS-2	"Important that I complete my homework each day"	3.84	0.44	0.270
PMS-3	"Parents know my close friends"	3.30	0.88	0.735
PMS-4	"I have to tell adult in house where I am going"	3.83	0.50	0.316
PMS-5	"Talk about what I do each day with adult in house"	2.89	0.95	0.940
PMS-6	"Adult in house knows who I am out with"	3.74	0.63	0.508
PMS-7	"Adult in house knows what time I get home weekends"	3.75	0.62	0.417
PMS-8	"One adult in house knows what's happening in my life"	3.46	0.80	0.886
QRI-1	"Turn to parents for advice about a problem"	3.14	0.89	1.000
QRI-2	"Count on parents for help with a problem"	3.62	0.65	0.692
QRI-3	"Count on parents for honest feedback"	3.51	0.77	0.724
QRI-4	"Count on parents to help you if close family member died"	3.78	0.61	0.507
QRI-5	"Confident parents willing to do something with you"	2.99	0.86	0.637
QRI-6	"Count on parents to listen when you are very angry"	3.34	0.92	0.915
QRI-7	"Count on parents to distract you from your worries"	3.33	0.90	0.991
PMS-1	"Adult in house knows where I am when school is out"	3.80	0.54	0.452
PMS-2	"Important that I complete my homework each day"	3.84	0.44	0.270

Note. QRI = Quality of Relationships Inventory, PMS = Parental Management Scale, Content = item content, M = mean, SD = standard deviation, Fac = factor loading in initial confirmatory factor analysis.

Cognitive Impulsivity

The current investigation contained two cognitive variables central to social-cognitive-developmental theory. The first centered on the reactive, impulsive, and irresponsible aspects of antisocial cognition, whereas the other centered on the proactive, planned, and calculated aspects. The reactive measure is similar to Gottfredson and Hirschi's (1990) low self-control factor. Hay (2001) tested the ability of a low self-control measure to mediate the connection between competent parenting and child delinquency. Basing his conclusions on the

results of several regression analyses, Hay uncovered evidence of a relationship between all three variables. There are at least two problems with this study, however. First, Gottfredson and Hirschi argued that low self-control should be assessed with behavioral indicators, not the self-report attitudinal scale that Hay employed. In fact, Walters (2017) observed that self-report and behavioral measures of "low self-control" appear to be assessing different constructs and that the self-report indicator is probably measuring reactive criminal thinking or cognitive impulsivity. Second, the data used in this study were cross-sectional, so the design lacked proper temporal order between variables, thus precluding the drawing of even preliminary causal inferences.

The Weinberger Adjustment Inventory-Impulse Control scale (WAI-IC; Weinberger & Schwartz, 1990) was reverse-coded and served as a measure of cognitive impulsivity in the current study. Although the items on the WAI-IC are similar to those found on self-report measures of low self-control like the Grasmick scale (Grasmick et al., 1993), the WAI-IC is more accurately classified as a cognitive impulsivity measure given that Gottfredson and Hirschi (1990) maintain that low self-control should only be assessed with behavioral indicators. The WAI-IC encompasses 8 items (e.g., "I do things without giving them enough thought;" "I say the first thing that comes into my mind without thinking enough about it"), each of which is rated on a five-point Likert-type scale (1 = *false or mostly false for you*, 2 = *somewhat false and more false than true*, 3 = *not sure*, 4 = *somewhat true or more true than false,* 5 = *true or mostly true for you*). Summing the eight items yields a total score that can range from 8 to 40 and which achieved good internal consistency in the current sample of participants (α = .81-.82).

Moral Neutralization

The proactive measure included in the present study was a scale designed to assess neutralization beliefs. Moral neutralization can be defined as a series of cognitive techniques designed to reduce guilt stemming from one's involvement in antisocial behavior (Sykes & Matza, 1957). In contrast to the emotional, impetuous, and erratic nature of cognitive impulsivity, neutralization is cold, calculating, and immoral. The literature identifies moral neutralization as a meaningful predictor of delinquency in early to mid-adolescent youth (Agnew, 1994; Siebert & Stewart, 2019; Topalli et al., 2014; Wu & Pyrooz, 2015). Moral neutralization has its theoretical roots in definitions favorable to violation of the law, a concept central to social learning theories of crime (Akers, 1998). It should also be noted that an early adolescent sample was selected for this study because this is the age at which offending frequently begins, with its attendant rise in risk-taking (Murray et al., 2021). In the current investigation, moral neutralization was paired up with cognitive impulsivity to form parallel mediators in one model (perception before belief) and parallel independent variables in a second model (belief before perception). These two models were the principal focus of the current investigation.

Items from the Denver Youth Survey (DYS) Neutralization scale (Huizinga & Jakob-Chien, 1998) served as indicators of moral neutralization. The DYS Neutralization scale is composed of 11 items designed to assess weak moral engagement and unwillingness to accept responsibility for one's actions (e.g., "it's okay to tell a small lie if it doesn't hurt anyone"; "it's okay to tell a lie if it will keep your friends from getting in trouble with parents, teachers, or police"; "it's okay to lie to someone if it will keep you out of trouble with them"; "people who leave things lying around outside their house should expect that some of their things might be taken or stolen"; "its okay to steal something from someone who is rich and can easily replace it"; "it's okay to take little things from a store without paying for them since stores make so much money that it won't hurt them"; "it's okay to steal something if that's the only way you could ever get it"; "it's okay to hurt someone if you didn't mean to or if it was an accident"; "it's okay to get into a physical fight with someone if they hit you first;" "it's okay to get in a physical fight with someone if you have to stand up for or protect your rights"; "it's okay to beat up someone [and really hurt them] if they are threatening to hurt your friends or family"). Each item on the DYS Neutralization scale is rated on a 5-point Likert-type scale (1 = *strongly disagree*, 2 = dis*agree*, 3 = *neither agree nor disagree*, 4 = agree, 5 = *strongly agree*). Summing the 11 items produced a total score that could range from 11 to 55 (α = .78-.82).

Delinquency

A 14-item measure of past-year antisocial behavior modeled after Huizinga et al.'s (1991) Self-Reported Offending (SRO) scale was used to assess delinquency in the PBS. Each item ("ran away from home and stayed out overnight"; "skipped school"; "drank alcohol"; "used marijuana"; "stole something worth less than $5"; "stole something worth more than $5"; "broke into a house or business"; "sold illegal drugs"; "stole a motor vehicle"; "destroyed property belonging to another person"; "participated in a physical fight"; "hurt someone so badly that they needed medical treatment"; "took something by force or intimidation without a weapon"; "took something by force or intimidation with a weapon") was rated on a 5-point frequency scale (0 = *no times*, 1 = *one to two*

times, 2 = *three to five times*, 3 = *six to nine times*, 4 = *ten or more times*). Because of the superior psychometric properties of variety scores (Sweeten, 2012), the 14 delinquency items were scaled to produce a variety score that ranged from 0 to 1.00. This score was calculated by dividing the number of delinquency categories endorsed by the participant by the total number of categories (i.e., 14). The one-year test-retest reliability for this scale was moderate (r = .47-.49).

Control Variables

Five control variables were included in this study. Three of the control variables were demographic in nature: age (in years) at time of the Wave 1 assessment, sex (1 = *male*, 2 = *female*), and race/ethnicity (1 = *White*, 2 = *non-White*). The fourth control variable was family structure, which was measured as a three-level variable: 1 = *live with both biological or adoptive parents*, 2 = *live with one biological/adoptive parents and one step-parent or with grandparents*, 3 = *live with a single parent or other relative*. Family structure was treated as a set of two dummy variables in the regression analyses: Level 1 vs. Levels 2/3 and Level 2 versus Levels 1/3. The five student cohorts (2016, 2017, 2018, 2019, 2020) were also treated as dummy variables, with four in all and the 2019 cohort serving as the reference group (determined randomly). Family structure was selected as a control variable because of its potential impact on parenting competence (i.e., one-parent homes will likely have more difficulty demonstrating competence than two-parent homes), and cohort was included as a control variable in order to rule out a cohort effect for parental competence.

Research Design

The research plan for this study called for a fixed-sample panel design with longitudinal data. Before the design could be tested, however, the components and covariances of the perceived parental competence latent variable had to be determined. Two of the 15 QRI and PMS items failed to load onto the general factor .400 or higher and were removed as indicators, and six covariances (the specifics can be found in the Perceived Parental Competence subsection) were then added to the model to further improve model fit. The rationale for merging the QRI and PMS scales is that research indicates that parental support and monitoring/control are two of the more important aspects of parenting when it comes to delinquency, and their effects can be difficult to disentangle (Hoeve et al., 2009). It was, therefore, reasoned that parental competence is a function of both parental support and monitoring/control and that both should be included in a latent measure of this construct. Because it could also be argued that parental support and monitoring/control represent distinct constructs, a supplemental analysis was performed in which these two elements were treated separately.

In the main analysis, perceived parental competence served as the independent variable and was assessed at baseline (Wave 1), whereas the two parallel mediators—moral neutralization and cognitive impulsivity—were assessed at Wave 2. Delinquency, which served as the dependent variable in this study, was assessed at Wave 3. The control variables (age, sex, race, family structure) were assessed at Wave 1 along with the three precursor measures (Moral Neutralization-1, Cognitive Impulsivity-1, Delinquency-1). The reason for including precursor measures in the analyses was to control for prior levels of each predicted variable and help establish the temporal direction of the different variables in the study (Cole & Maxwell, 2003). As such, Moral Neutralization-1 served as a covariate in the equation predicting Moral Neutralization-2, Cognitive Impulsivity-1 served as a covariate in the equation predicting Cognitive Impulsivity-2, and Delinquency-1 served as a covariate in the equation predicting Delinquency-3. The precursor for Delinquency-3 was set at baseline instead of Wave 2 because measuring precursors after other measures to where they intersect paths in the model can create statistical biases that we wished to avoid in conducting this study (Greenland, 2003).

Data Analytic Plan

A multiple mediation model (perception before belief) with two parallel mediators was evaluated in a regression analysis using a maximum likelihood (ML) estimator. The indirect effect of each mediated pathway (perceived parental competence → moral neutralization → delinquency and perceived parental competence → cognitive impulsivity → delinquency) was tested against bias-corrected 95% confidence intervals (5,000 repetitions). This procedure was then repeated with the belief before perception model in which the summed score moral neutralization and cognitive impulsivity scales served as independent variables, and the perceived parental competence latent variable served as the mediator variable. Supplemental analyses were also performed on both models, in which the two parenting scales were treated separately, and summed category scores (range = 0-42) were analyzed as count variables and subjected to negative binomial regression analysis (maximum likelihood with robust standard errors [MLR] estimator and Monte Carlo integration). For the purposes of all analyses, a 95% confidence interval that did not include zero was considered statistically significant.

Two sensitivity tests were conducted. One sensitivity test was designed to rule out omitted variable bias, whereas the other sensitivity test was designed to rule out endogenous selection bias. Omitted variable bias was assessed using Kenny's (2013) "failsafe ef" procedure, $(r_{my.x})$ x $(sd_{m.x})$ x $(sd_{y.x})$ / (sd_m) x (sd_y). The "failsafe ef" coefficient indicates how strongly an unobserved covariate confounder would need to correlate with both the mediator and dependent variables, controlling for the independent and mediator variables in the case of the latter, to bring the coefficient along the *b* path of the significant indirect effect down to zero. Endogenous selection bias or a collider effect was tested by removing all precursor measures from the regression equations and redoing the analyses. If the path coefficients for the *a* and *b* paths of the indirect effect either increased or remained the same with removal of the precursor measures, this was seen as evidence that endogenous selection bias did not play a significant role in the results (Elwert & Winship, 2014). Descriptive statistics and correlations were calculated with SPSS Version 26 (IBM, 2019), and the regression analyses were performed with MPlus 8.3 (Muthén & Muthén, 2017).

Missing Data

There was a moderate amount of missing data in this study. Slightly more than one-third of the sample (35.9%) had complete data on all 25 study variables and slightly less than one-third (30.4%) had missing data on one variable. Additionally, 16.2% of the sample had missing data on two variables, 1.9% on three to five variables, and 15.5% on 8 to 20 variables. Overall, 13.9% of the data for this study were missing. The following variables had more than 10% of their data missing: QRI and PMS items that were used to create the perceived parental competence latent factor (15.4-15.9%), the moral neutralization and cognitive impulsivity scales at Waves 1 and 2 (16.0-16.7%), Delinquency-1 (17.9%), and Delinquency-3 (32.4%). Missing data were handled with full information maximum likelihood (FIML), which estimates the parameters and standard errors for the sample based on calculations performed on all non-missing data.

FIML rests on two assumptions. The first assumption is that the data are missing at random (MAR). In this study, as in most studies, there was no way to know if the data were missing at random because this information was unavailable, although there was nothing to indicate that these data were not MAR. The second assumption, multivariate normality, was tested by comparing standard errors obtained from the ML regression with standard errors obtained from an MLR regression (Muthén, 2010). The absence of meaningful differences between the two sets of standard errors (mean difference = 1.4%, range = 0%–4.6%) supports the multivariate normality assumption. Research indicates that FIML is less biased and more accurate than traditional missing value procedures like listwise deletion and simple imputation (Allison, 2002).

Results

Preliminary Analysis

Descriptive statistics and inter-variable correlations for the 14 summed and discrete variables included in this study are listed in Table 2. As evidenced by the inter-variable correlational matrix in Table 2, where over half the correlations were significant using a Bonferroni-corrected alpha level, the variables included in this study displayed a moderate degree of association. The dependent variable, Delinquency-3, was moderately to highly skewed and leptokurtotic (skew = 3.22, kurtosis = 12.77), so emphasis was placed on the bootstrapped confidence intervals rather than the normal theory Z scores (DiCiccio & Efron, 1996) in the main analysis with variety scores, whereas a supplemental analysis was conducted on the summed categorical scores using a negative binomial approach. Prior to staging the regression analyses, collinearity diagnostics were performed, the results of which showed no evidence of mullicollinearity between predictors in any of the three regression equations employed in this study (tolerance = .501-.961, variance inflation factor = 1.041-1.995).

Perception Before Belief Model

The regression results in which Delinquency-3 was regressed onto Moral Neutralization-2 and Cognitive Impulsivity-2, and Moral Neutralization-2 and Cognitive Impulsivity-2 were regressed onto a perceived parental competence latent variable are summarized in Table 3 and Figure 1. Model fit ranged from adequate (CFI = .91) to good (RMSEA = 0.039 [0.035, 0.043]). Whereas the *a* path (from the independent variable to the mediator) of the neutralization-mediated pathway and the *b* path (from the mediator to the dependent variable) of the impulsivity-mediated pathway were significant ($p < .05$), the *b* path of the neutralization-mediated pathway and *a* path of the impulsivity-mediated pathway were not ($p = .07$). Instead of examining the individual path coefficients for the *a* and *b* paths, however, it is generally recommended that the total indirect effect (*ab*) be examined using biased-corrected or percentile bootstrapped confidence intervals (Hayes, 2009).

Table 2: Descriptive Statistics and Correlations for the 14 Summed and Discrete Variables Included in the Main and Supplemental Analysis

Variable	*n*	M	SD	Range	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Age	845	11.21	0.49	10–13	-.10	-.10	.08	.02	.06	-.02	00	.00	-.05	-.03	-.09	.05	.09
2. Sex	845	1.52	-	1–2		.04	-.02	-.22†	-.11	-.16†	-.13	.04	.15†	-.06	.08	-.15†	-.10
3. Race	845	1.52	-	1–2			.10	.14†	.15†	.05	.12	-.09	-.10	-.08	-.08	.10	.10
4. Family Structure	845	1.54	0.76	1–3				.09	.19†	.07	.20†	-.11	-.15†	-.16†	-.21†	.12†	.15†
5. Moral Neutralization-1	709	40.28	7.15	18–55					.54†	.48†	.32†	-.29†	-.32†	-.18†	-.21†	.42†	.31†
6. Moral Neutralization-2	710	38.68	7.22	17–55						.37†	.51†	-.26†	-.35†	-.32†	-.40†	.34†	.30†
7. Cognitive Impulsivity-1	704	28.93	6.92	9–40							.56†	-.34†	-.39†	-.26†	-.29†	.43†	-.30†
8. Cognitive Impulsivity-2	708	28.14	7.15	8–40								-.26†	-.28†	-.33†	-.38†	.30†	.33†
9. Parental Support-1	716	23.71	3.86	7–28									.61†	.58†	.42†	-.29†	-.21†
10. Parental Support-2	715	22.88	4.08	7–28										.45†	.58†	-.44†	-.35†
11. Parental Monitoring-1	714	28.62	3,41	8–32											.59†	-.21†	-.26†
12. Parental Monitoring-2	714	27.97	3.60	12–32												-.27†	-.34†
13. Delinquency-1	694	0.06	0.11	0–.93													.41†
14. Delinquency-3	571	0.07	0.14	0–.93													

Note. Variable = variable name, Age = chronological age (in years) at Wave 1, Sex = male (1) vs. female (2), Race = White (1) vs. non-White (2), Family Structure = three-level family structure measure (1 = lives with both biological or adoptive parents, 2 = lives with one biological/adoptive parent and one step-parent or with both grandparents, 3 = lives with single parent or other relative), Moral Neutralization-1 = Denver Youth Survey (DYS) Neutralization scale at Wave 1, Moral Neutralization-2 = DYS Neutralization scale at Wave 2, Cognitive Impulsivity-1 = reverse-coded Weinberger Adjustment Inventory-Impulse Control (WAI-IC) scale at Wave 1, Cognitive Impulsivity-2 = reverse-coded WAI-IC scale at Wave 2, Parental Support-1 = Quality of Relationships Inventory (QRI) score at Wave 1, Parental Support-2 = QRI score at Wave 2, Parental Monitoring-1 = Parental Management Scale (PMS) score at Wave 1, Parental Monitoring-2 = PMS score at Wave 2, Delinquency-1 = delinquency variety score at Wave 1, Delinquency-3 = delinquency variety score at Wave 3, *M* = mean, *SD* = standard deviation, Range = range of scores in current sample.

†$p < .00055$ (Bonferroni-corrected alpha: .05 / 91 correlations).

The results, as outlined in Table 4, indicate that both indirect effects were significant (i.e., bias-corrected 95% confidence intervals did not include zero) and did not differ significantly from one another.

Sensitivity testing designed to estimate the likelihood of omitted variable bias was conducted using Kenny's (2013) "failsafe ef" procedure. The results of this analysis disclosed that an unobserved covariate confounder would need to correlate -.15 with Moral Neutralization-2 and -.15 with Delinquency-3, controlling for Perceived Parental Competence-1 and Moral Neutralization-2 in the case of Delinquency-3, to bring the *b* path coefficient of the significant neutralization-mediated pathway down to zero. The correlation between an unobserved covariate confounder and Cognitive Impulsivity-2 and Delinquency-3 would need to be slightly higher (-.17) to lower the *b* path of the significant cognitive impulsivity-mediated pathway down to zero. When precursor measures were removed from their respective regression equations in order to test for endogenous selection bias, the coefficients increased rather than decreased, a finding inconsistent with endogenous selection bias or a collider effect.

Replacing variety scores with summed category scores and the perceived parental competence latent score with the parental support and monitoring summed scores, a supplemental analysis was performed. Although the summed category scores were not true counts they were believed to be sufficiently dispersed to support a negative binomial regression analysis: dispersion statistic (Z) = 7.51, $p < .001$. Significant path coefficients were obtained for the *a* path running from parental monitoring to moral neutralization (Estimate = -0.273, SE = 0.112, Z = -2.43, $p < .05$) and on the *b* paths running from moral neutralization to summed category delinquency (Estimate = 0.066, SE = 0.017, Z = 3.93, $p < .001$) and from cognitive impulsivity to summed category delinquency (Estimate = 0.057, SE = 0.022, Z = 2.63, $p < .01$). Of the four possible pathways, only the total indirect effect for the parental monitoring → moral neutralization → delinquency pathway was significant according to results from Preacher and Selig's (2012) Monte Carlo Method of Assessing Mediation (MCMAM) procedure (Estimate = -0.01802, 95% bias-corrected bootstrapped confidence interval [BCBCI] = -0.03778, -0.00297).

Belief Before Perception Model

The overall fit of the belief before perception model ranged from poor (CFI = .84) to good (RMSEA = 0.045 [0.042, 0.047]). In constructing this model, the independent variable from the perception before belief model (i.e., perceived parental competence latent score) became the mediator, and the two mediators from the previous model (i.e., moral neutralization and cognitive impulsivity summed scores) became the independent variables. Results showed that while the *b* path running from perceived parental competence to delinquency was significant (Z = -2.33, $p < .05$, β = -.18), neither *a* path, either the one running from moral

Table 3: Three-Equation Path Analysis of Moral Neutralization and Cognitive Impulsivity as Mediators of the Perceived Parental Competence–Delinquency Relationship

Variables	*b (95% CI)*	β	Z	*p*
Outcome = Moral Neutralization-2				
Cohort 1	-0.367 [-1.964, 1.175]	-0.023	-0.45	.652
Cohort 2	-0.059 [-1.748, 1.533]	-0.004	-0.07	.944
Cohort 3	-0.117 [-1.841, 1.470]	-0.007	-0.14	.890
Cohort 5	2.339 [-0.217, 5.073]	0.070	1.73	.084
Age	0.561 [-0.518, 1.526]	0.038	1.09	.276
Sex	-0.218 [-1.132, 0.704]	-0.015	-0.45	.650
Race	0.745 [-0.192, 1.640]	0.052	1.59	.112
Family Struct (1 v 2&3)	-1.675 [-3.029, -0.383]	-0.113	-2.50	.013
Family Struct (2 v 1&3)	-0.735 [-2.329, 0.712]	-0.043	-0.95	.344
Parental Competence	-2.123 [-3.404, -1.009]	-0.183	-3.47	<.001
Moral Neutralization-1	0.449 [0.368, 0.526]	0.446	11.09	<.001
Outcome = Cognitive Impulsivity-2				
Cohort 1	-2.327 [-3.877, -0.822]	-0.146	-3.02	.003
Cohort 2	-1.543 [-3.188, 0.045]	-0.098	-1.88	.061
Cohort 3	-1.518 [-3.047, -0.002]	-0.094	-1.94	.052
Cohort 5	0.398 [-1.948, 2.847]	0.012	0.33	.745
Age	-0.011 [-1.016, 0.940]	-0.001	-0.02	.983
Sex	-0.903 [-1.817, 0.018]	-0.064	-1.99	.047
Race	0.710 [-0.188, 1.653]	0.050	1.54	.125
Family Struct (1 v 2&3)	-2.216 [-3.597, -0.952]	-0.152	-3.25	.001
Family Struct (2 v 1&3)	0.093 [-1.490, 1.509]	0.005	0.12	.903
Parental Competence	-0.946 [-1.997, 0.079]	-0.083	-1.80	.071
Cognitive Impulsivity-1	0.488 [0.411, 0.558]	0.475	13.04	<.001

Table 3 (*continued*)

Variables	*b (95% CI)*	β	Z	*p*
Outcome = Delinquency-3				
Cohort 1	-0.014 [-0.055, 0.022]	-0.041	-0.74	.462
Cohort 2	-0.032 [-0.070, -0.001]	-0.093	-1.84	.065
Cohort 3	-0.040 [-0.081, -0.003]	-0.112	-2.02	.043
Cohort 5	0.029 [-0.003, 0.054]	0.431	1.97	.047
Age	0.018 [-0.002, 0.040]	0.058	1.72	.085
Sex	0.003 [-0.015, 0.023]	0.010	0.34	.735
Race	0.012 [-0.007, 0.032]	0.037	1.17	.240
Family Struct (1 v 2&3)	-0.013 [-0.046, 0.017]	-0.041	-0.84	.401
Family Struct (2 v 1&3)	0.006 [-0.037, 0.047]	0.016	0.27	.785
Moral Neutralization-2	0.002 [0.000, 0.004]	-0.086	1.79	.074
Cognitive Impulsivity-2	0.003 [0.001, 0.005]	-0.118	2.53	.011
Parental Competence	-0.016 [-0.046, 0.011]	-0.062	-1.06	.288
Delinquency-1	0.399 [0.198, 0.582]	0.282	4.00	<.001
Neutralization-2 with Impulse-2	13.302 [10.562, 16.626]	0.396	8.67	<.001

Note. Outcome = outcome measure, Cohort 1 = cohort that began in 2016, Cohort 2 = cohort that began in 2017, Cohort 3 = cohort that began in 2018, Cohort 5 = cohort that began in 2020, Age = chronological age (in years) at Wave 1, Sex = male (1) vs. female (2), Race = White (1) vs. non-White (2), Family Struct (1 v 2&3) = family structure dummy coded variable contrasting Level 1 (both biological/adoptive parents) with Levels 2 and 3; Family Struct (2 v 1&3) = family structure dummy coded variable contrasting Level 2 (one biological parent and one step-parent or both grandparents) with Levels 1 and 3, Parental Competence = perceived parental competence latent variable, Moral Neutralization-1/Neutralization = Denver Youth Survey (DYS) Neutralization scale at Wave 1, Moral Neutralization-2 = DYS Neutralization scale at Wave 2, Cognitive Impulsivity-1 = reverse-coded Weinberger Adjustment Inventory-Impulse Control (WAI-IC) scale at Wave 1, Cognitive Impulsivity-2 = reverse-coded WAI-IC scale at Wave 2, Delinquency-1 = delinquency variety score measured at Wave 1, Delinquency-3 = delinquency variety score measured at Wave 3, with = covariance, *b*(95% CI) = unstandardized coefficient and 95% bias-corrected bootstrapped confidence interval (in parentheses), β = standardized coefficient, Z = Wald Z test statistic, *p* = significance level of the Wald Z test statistic, *N* = 845.

neutralization to perceived parental competence (Z = 0.28, p = .78, β = .01) or the one running from cognitive impulsivity to parental competence (Z = 0.07, p = .94, β = .00), achieved significance. The total indirect effects were also non-significant: neutralization-initiated pathway (Estimate = 0.0000, 95% BCBCI = -0.0005, 0.0003) and impulsivity-initiated pathway (Estimate = 0.0000, 95% BCBCI = -0.0004, 0.0003). Performing a negative binomial regression analysis of summed category scores for Delinquency-3 failed to generate a single significant MCMAM indirect effect for any of the reverse pathways (i.e., moral neutralization → monitoring; moral neutralization → support; cognitive impulsivity → monitoring; cognitive impulsivity → support).

Discussion

The purpose of this study was to investigate the socialization process believed to link a social-perceptual factor, perceived parental competence, to a behavioral outcome, delinquency. Consistent with social/self-control (Gottfredson & Hirschi, 1990; Hirschi, 1969), social learning (Akers, 1998), and social strain (Agnew, 1992) theories of crime, the social variables of parental support and monitoring/control, both alone and in combination, were tethered to delinquency by intervening or mediating variables, which in the current study took the form of moral neutralization and cognitive impulsivity beliefs. Congruent with Walters's (2022) social-cognitive-developmental theory, a social-perceptual variable (perceived parental competence) preceded belief (moral neutralization and cognitive impulsivity) in predicting delinquency, whereas belief did not precede perceived parental competence. Data provided by a moderately sized sample of middle school students generated support for this hypothesis, with both indirect effects in the perception before belief ML regression and the neutralization-mediated indirect effect in the perception before belief negative binomial regression achieving significance. By contrast, none of the indirect effects in the belief before perception model was significant. Hence, both teaching parents how to be more effective disciplinarians and children how to challenge their nascent antisocial beliefs could be of some assistance in reducing the likelihood of future criminality. We should note, however, that in the perception before belief model, several of the paths were non-significant, all of the effects were small, and the results were only modestly robust to the effects of unobserved covariate confounders.

The current results support a small but growing body of research showing that the sequential order of variables is important in explaining the connection between certain criminal risk factors and specific criminal behavioral outcomes. In a previously reviewed study by Walters (2016), retrospective

Table 4: Total, Direct, and Indirect Effects for the Main Path Analysis

	Estimate	BCBCI Lower	Upper
Effect from Parental Competence to Delinquency			
Total Effect	-0.0220	-0.0514	0.0035
Direct Effect	-0.0156	-0.0459	0.0113
Total Indirect Effect	-0.0064	-0.0147	-0.0017
Specific Indirect Effects			
Par Comp-1 → Neutral-2 → Delinquency-3	-0.0040	-0.0108	-0.0002
Par Comp-1 → Impulse-2 → Delinquency-3	-0.0025	-0.0076	-0.0001
Preacher-Hayes Contrast Test	-0.0015	-0.0078	0.0045

Note. Par Comp-1 = perceived parental competence at Wave 1, Neutral-2 = Denver Youth Survey (DYS) Neutralization scale at Wave 2, Impulse-2 = reverse-coded Weinberger Adjustment Inventory-Impulse Control (WAI-IC) scale at Wave 2, Delinquency-3 = delinquency variety score at Wave 3, Preacher-Hayes Contrast Test = comparison between the two indirect effects using a test developed by Preacher and Hayes (2008), BCBCI = bias-corrected bootstrapped 95% confidence interval (b = 5000), Estimate = point estimate, Lower = lower boundary of the 95% confidence interval, Upper = upper boundary of the 95% confidence interval, N = 845.

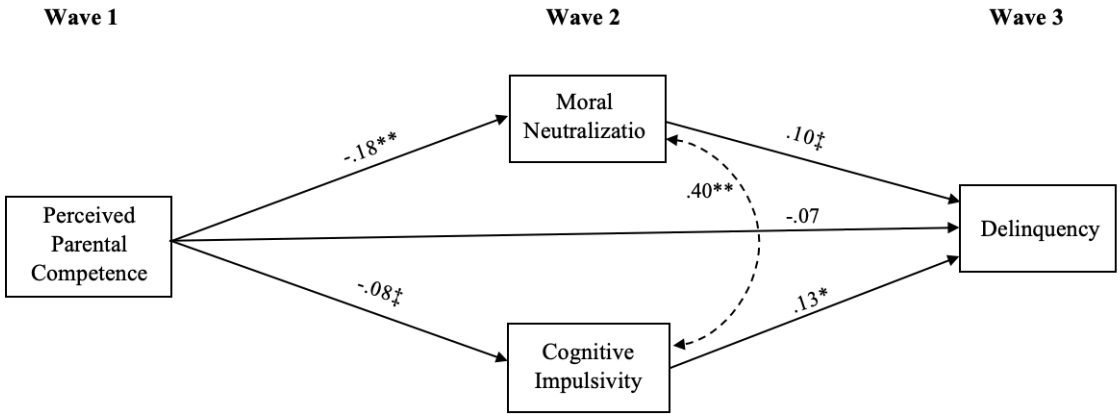

Figure 1. Results of a path analysis of the perception before belief model using a maximum likelihood (ML) estimator with bias-corrected bootstrapped standard errors and a latent perceived parental competence variable

Note. Standardized beta coefficients are reported; dashed curved line = endogenous (residual) covariance; control variables not shown; $N = 845$.

‡$p = .07$, *$p < .05$, **$p < .001$.

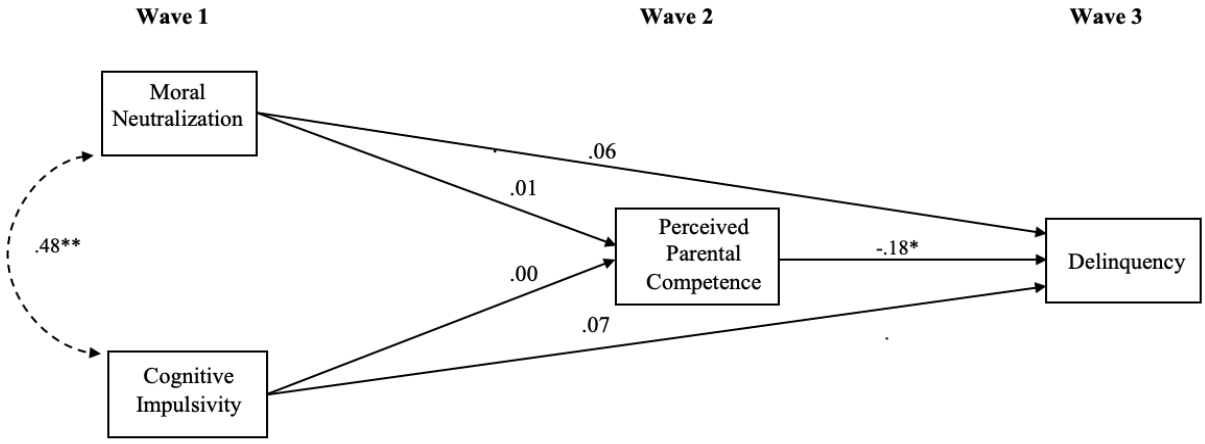

Figure 2. Results of a path analysis of the belief before perception model using a maximum likelihood (ML) estimator with bias-corrected bootstrapped standard errors and a latent perceived parental competence variable

Note. Standardized beta coefficients are reported; dashed curved line = endogenous (residual) covariance; control variables not shown; $N = 845$.

†$p = .07$, *$p < .05$, **$p < .001$.

accounts of a young adult's reflected appraisals as a delinquent at age 14-17 preceded retrospective accounts of a delinquent self-view at age 18-20, which then led to increased levels of early adult offending at age 21. A year prior, Walters (2015) examined the relationship between actual parental attitude toward deviance, a child's perception of their parents' attitude toward deviance, the child's own attitude toward deviance, and child delinquency and discovered that the pathway that ran from actual parental attitude, to child perception of the parental attitude, to the child's own attitude, to delinquency was significantly stronger than the reverse pathway in which child attitude preceded perceived parental attitude. What these three

sets of findings (Walters, 2015; Walters, 2016; current study) indicate is that while social factors may initiate a reaction that will eventually lead to delinquency, perceptual and cognitive factors play a major mediating or linking role in this relationship. As such, sequential order of variables should be taken into account when attempting to understand how social variables like parenting and peer deviance impact on behaviors like delinquency and crime. Moreover, the degree to which a child perceives their parents as competent monitors helps shape their own moral belief system, which then has important implications for future delinquency.

Theoretical Implications

The main goal of this study was to shed light on the socialization process by which social factors influence and shape behavior. As previously noted, Walters (2022) maintains that social stimuli normally influence behavioral outcomes indirectly by way of a person's perceptions, emotions, and thinking. In the current study, it was the youth's perception of parental competence in providing adequate support and control (monitoring) that served as one of two intervening variables, the other being the child's beliefs about morality (moral neutralization) and responsibility (cognitive impulsivity). Because there was no external measure of parental competence and only three waves of data, perceived parental competence served as the independent variable in the perception before belief model. As such, perceived parental competence served as a link between a social variable (actual parental competence) and the child's own belief systems. This provides further clarification on the difference between perception and belief and explains why perception more often precedes belief. That is because perceptions are more specifically tied to social-environmental events like parenting than the more general attitudes that give rise to beliefs. This study also illustrates how theoretical integration can be accomplished with the aid of a multiple mediation design.

Research Implications

In the present study, a measure of perceived parental competence was formed using items from two different scales: one designed to assess parental support (PMS) and the other designed to assess parental monitoring/control (QRI). Given that items from both measures were evaluated with rating scales composed of four ordered categories, it was possible to fold the two measures into a single scale for the purpose of constructing a perceived parental competence latent variable. After removing two items that loaded poorly onto the general factor and adding six covariances, the fit of this latent variable improved to the point where it could be classified as good. Latent variables, while not uncommon in the social and behavioral sciences, are usually composed of items from the same scale or item pool. Combining items from divergent scales designed to measure different aspects of a broader construct would seem to be a unique feature of this study that could perhaps be applied to other compound constructs in the social sciences.

Practical and Policy Implications

Walters (2022) asserts that the best way to control, manage, and prevent crime and delinquency is to build competencies and change environments. Parent training has been found to be effective in reducing future offending in the children of parents who have been trained in these techniques (Piquero et al., 2016). Yet, there is a need to supplement and enrich this training, which focuses almost exclusively on parental control, with information and techniques designed to increase parental support given that it may be just as important as parental control in preventing future delinquency (Hoeve et al., 2009). The interesting thing about parenting programs that potentially improve parental control and support is that by building parent competencies, the child's environment is, in fact, changed in positive ways. From a policy standpoint, it may be helpful to find ways to increase parent-school partnerships in that school and home is where school-age children spend most of their time, and research indicates that delinquency is lower in situations where parents, teachers, and school officials work together for the benefit of the child (Keyes, 2000; Pritchard, 2001).

Limitations

The current study is not without limitations. First, the effects obtained in this study were small. Unfortunately, this is often the case with mediation studies in that mediation effects are often modest due to power anomalies and other issues (Kenny & Judd, 2014). Low power is a particular concern when controlling for prior levels of predicted variables (i.e., mediators and the dependent variable) as was the case in the current investigation. Mono-operational bias is a second potential limitation given that all of the variables were based on the self-reports of the middle school students who served as participants in this study. Consequently, some of the path coefficients could have been artificially inflated by shared method variance (Podsakoff et al., 2003). In addition, because none of the parents of these middle school students provided information to the study, the first part of the cognitive integration model (i.e., actual parental competence) was unamenable to evaluation. Future research in this area should include either an objective

performance-based measure of parental competence or a subjective estimate obtained from an outside observer or the parents themselves.

Conclusions

Outcomes obtained in the current study suggest that socialization is a factor in reducing, if not preventing, future delinquency, although as Walters (2016) observed with reflected appraisals and self-appraisals, for there to be an effect, perception should precede belief. As previously stated, researchers could replicate and extend these results by finding a mixed data source in which both parent and child responses are assessed across four waves of data so that a parent-rated estimate of authoritative parenting can serve as the independent variable. Another possibility would be to perform an experiment or quasi-experiment in which some parents receive training in support and monitoring techniques and other parents serve as controls. The two groups could then be compared on subsequent measures of perceived parental competence, child moral neutralization, child cognitive impulsivity, and child delinquency. In closing, we should mention that socialization can serve as an accelerant as well as deterrent to crime, such as when a child learns antisocial beliefs and techniques from delinquent friends and peers (Akers, 1998). Hence, socialization is not only the process by which attitudes and definitions incongruent with crime are learned; it is also the process by which attitudes and definitions congruent with crime are learned.

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About the Authors

Glenn D. Walters, Ph.D., is a professor in the Department of Criminal Justice at Kutztown University in Kutztown, Pennsylvania where he teaches classes in criminology, corrections, and drugs and crime. Prior to this, he worked 27 years as a clinical psychologist in the Federal Bureau of Prisons. His current research interests include criminal thinking, mediation analysis, and the development of an integrated theory of offending behavior. Dr. Walters' research has appeared in Criminology, Journal of Consulting and Clinical Psychology, Journal of Quantitative Criminology, Justice Quarterly, and Law and Human Behavior.

Jonathan Kremser,Ph.D., is professor and chair of criminal justice at Kutztown University. His research interests include school safety, school crime, and security. He teaches courses in security management, loss prevention & asset protection, and criminology. He received his Ph.D. from Rutgers University and publishes widely in the area of school violence and security.

Lindsey L. Runell, J.D., Ph.D., is an associate professor of criminal justice at Kutztown University, where she teaches courses in criminal justice, criminal law, evidence, and policy, punishment, and society. She holds a Ph.D. in criminal justice from Rutgers University and a J.D. from The George Washington University Law School. Dr. Runell's scholarly research has appeared in the International Journal of Bullying Prevention, Journal of Aggressive Behavior, Journal of Social Work, and The Prison Journal, among others.

Acknowledgments

Research for this study was supported by grants from the Kutztown University Foundation and Kutztown University Research Committee to Glenn Walters (PI). The authors would like to thank the staff and students of J. T. Lambert Middle School in East Stroudsburg, Pennsylvania, without whom this study would not have been possible. The authors report no conflicts of interest with respect to this study. Address all correspondence concerning this paper to Glenn D. Walters, Department of Criminal Justice, Kutztown University, Kutztown, Pennsylvania 19530-0730; walters@kutztown.edu.