

Legal Socialization and the Reciprocity Assumption:

An Empirical Examination

by

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ABSTRACT

Legal socialization is the process through which individuals develop their attitudes and relationships with the law. Although different types of socialization have been identified, four primary assumptions drive the perspective. These include ubiquity (process occurs in multiple contexts), continuity (process occurs across the lifetime), foundationality (law is an important regulatory institution), and reciprocity (law and citizens are influencing each other). The procedural justice model of legal socialization proposes that direct and vicarious police interactions judged to be procedurally unjust lead to lower levels of police legitimacy, higher levels of legal cynicism, and ultimately, lower compliance with the law. Recent scholarship has extended this model to non-legal authorities, finding that procedurally just interactions with parents and teachers improve child outcomes. Given its novelty, models assessing parental effects on legal attitudes have yet to consider how problematic child behaviors, including delinquency, contribute to the legal socialization process. Using 8 waves of data from a community sample of Swiss children (N = 1360), the primary goal of this study is to identify the potential direct, indirect, and reciprocal effects of child externalizing problem behaviors (as measured by aggression and hyperactive/impulsive/inattention) and parenting behaviors (as measured as prosocial and aversive) on legal cynicism. In addition, this study seeks to identify reciprocity within concepts from the procedural justice model, namely between legal cynicism and delinquency. Multivariate Latent Curve models with Structured Residuals (LCM-SR) were used to assess these relationships while also distinguishing “between-person” and “within-person” changes in these constructs over time. Results demonstrated that the relationship between child behaviors and parenting behaviors was not reciprocal, but

aversive parenting did have a direct relationship with legal cynicism and delinquency over time. An unconditional LCM-SR model demonstrated that legal cynicism and delinquency were related both between-person and within-person over time. However, the reciprocal effects were inconclusive. While this study did not identify conclusive evidence of reciprocity, the results do provide more support for the ubiquity assumption, i.e., legal socialization occurs in nonlegal contexts. Parenting behaviors during childhood do influence legal cynicism and delinquency from adolescence to early adulthood.

DEDICATION

This dissertation is dedicated to the Gifford clan: Kett, Debra, Kate, Steven, Noah, Oakley, and Rocky.

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CHAPTER ONE

INTRODUCTION

Legal socialization is a term used to explain the process of internalizing legal norms and attitudes (Kohlberg, 1963; Tapp, 1976, 1991; Tapp & Kohlberg, 1971; Tapp & Levine, 1974; Tyler & Trinkner, 2018). Historically, the approach focused on the development of legal and moral reasoning to explain how people navigate the legal world (Kohlberg, 1963; Tapp & Kohlberg, 1971; Tapp & Levine, 1974). As people mature, they develop more complex reasoning abilities, with higher levels of reasoning being believed to yield more multifaceted decisions (Tapp & Levine, 1974). Individuals in the highest stage may even evaluate accepted laws as unjust if they do not align with personal moral beliefs or standards of justice.

Over the last few decades, another approach to legal socialization has garnered a great deal of empirical support. This approach, often referred to as the procedural justice model, emphasizes the role of fair treatment, decision making, and recognition of appropriate boundaries in the development of legal attitudes (Fagan & Piquero, 2007; Fagan & Tyler, 2005; Kaiser & Reisig, 2019; Piquero et al., 2005; Trinkner & Cohen, 2014; Tyler & Trinkner, 2018). Broadly, this approach places procedurally just interactions with authority figures and institutions as the primary impetus for internalizing legal attitudes, values, and norms. Legal attitudes in this model primarily consist of police legitimacy (i.e., the perception that police are within their right to exercise power to maintain social order; Tyler, 1990) and legal cynicism (i.e., negative orientation toward rules and the law; see Sampson & Bartusch, 1998). The model proposes that direct and vicarious police interactions judged to be procedurally unjust

lead to lower levels of police legitimacy and higher levels of legal cynicism. As a result, engaging in criminal behavior is more likely to occur (Fine et al., 2018; Gifford & Reisig, 2019; Kaiser & Reisig, 2019; Reisig et al., 2011).

There are several factors to consider when judging whether interactions are procedurally just (see Tyler, 2006). Generally these factors fall into two categories: quality of decision making and quality of treatment (Tyler & Blader, 2003). More specifically, when encountering legal authorities, people value having a voice in the process, expect impartial and unbiased decisions, and appreciate receiving an explanation for how a decision was reached. Additionally, people want to be treated with respect, care, concern, and honesty (Bradford et al., 2014; Tyler & Blader, 2003). When authorities exhibit these characteristics, people generally express more favorable legal attitudes—view the police as more legitimate and the law less cynically (Bradford et al., 2014; Jackson et al., 2014; Murphy et al., 2016; Sunshine & Tyler, 2003; Tyler, 2006, 2009; Meares, 2017).

In addition to fair and just treatment, it is important to note that there are limits to what people deem appropriate regarding authority control (Trinkner et al., 2017; Trinkner & Tyler, 2016; Tyler & Trinkner, 2018). There is a recognition that people consider the degree to which authorities are allowed to regulate behavior (Smetana, 2002). In other words, citizens often scrutinize whether the police or other legal authorities are exercising their power appropriately. The positive influence of respectful treatment is negated when individuals feel that legal authorities are overstepping their bounds (Trinkner et al., 2017; Trinkner & Tyler, 2016). This has important implications for perceptions of police and legal legitimacy (see Trinkner et al., 2017).

One criticism of the procedural justice model is that most children rarely have interactions with the police, and yet, have already formed perceptions of them before having any direct experience. Although some argue these perceptions are formed via vicarious experiences, a more recent focus on the role of parents as socializing agents for legal attitudes provides a deeper understanding of the development of attitudes (Trinkner & Cohn, 2014; Tyler & Trinkner, 2018). This branch of research suggests that parenting styles that emphasize communication, warmth, and other prosocial values instill positive attitudes toward authorities in children (see Tyler & Trinkner, 2018 for a review). In other words, these children are more likely to view authorities (legal or otherwise) as more legitimate. They are also more likely to trust and obey their commands (Trinkner & Cohn, 2014). This suggests that nonlegal actors also help shape legal attitudes.

Parenting Style, Behaviors, and Child Outcomes

Research has demonstrated that fairness judgments occur in a variety of situations throughout the life course, even in early childhood (see, e.g., Gold et al., 1984; Shaw & Olson, 2014; Thorkildsen & White-McNulty, 2002; Weisz et al., 2007, 2008). Additionally, the processes used to evaluate both legal and nonlegal authorities with regard to procedural justice are largely the same (Jackson & Fondacaro, 1999). When conflicts in the family are resolved in ways aligned with the principles of procedural fairness, children are more likely to adopt these same values and will be less likely to engage in delinquency (Brubacher et al., 2009; Jackson & Fondacaro, 1999). These parenting procedures are also important for building social bonds (e.g., emotional attachments), as weak parental bonds have been linked to criminal behavior (e.g., Benda & Whiteside, 1995; Farrington & Hawkins, 1991; Hirschi, 1969; Loeber et al., 1998;

Sokol-Katz et al., 1997; see Kemp, 1993 for a review). Even if children exhibit delinquent tendencies, they will be less likely to continue engaging in these behaviors in adulthood if they have strong familial attachments (Laub et al., 2008; Simons et al., 1998; Thompson, 2008).

Scholars have long suggested that a major risk factor for delinquency is poor parenting (e.g., Glueck & Glueck, 1950; Gottfredson & Hirschi, 1990; Hirschi, 1969; Loeber & Dishion, 1983; Patterson & Stouthamer-Loeber, 1984; Sampson & Laub, 1993). There is plenty of evidence to suggest that delinquent children have negative relationships with their parents when compared to their non-delinquent counterparts (e.g., Dishion & McMahon, 1998; Hoeve et al., 2009; Keijsers et al., 2009; Laird et al., 2003; Loeber & Stouthamer-Loeber, 1986; Patterson & Stouthamer-Loeber, 1984). However, parenting practices that foster strong social bonds can promote conformity among children (Simons et al., 1998). There are generally two approaches researchers take when investigating parenting effects. Some researchers choose to focus on certain behaviors (e.g., supervision, punishment, and involvement) while others choose to categorize parental behaviors into typologies (e.g., authoritative, authoritarian, and permissive) (Baumrind 1966, 1971; Maccoby & Martin, 1983). Put differently, parenting style is concerned with multiple dimensions of attributes that refer to the contexts in which children are raised. Parenting behaviors, on the other hand, are considered dimensions of parental practice (Barber, 1997; Darling & Steinberg, 1993; Maccoby & Martin, 1983; Peterson & Hann, 1999; Peterson & Rollins, 1987; Rollins & Thomas, 1979; Stewart & Bond, 2002). Regardless of the approach, these effects have been linked to the development of legal attitudes.

Parenting Style and Legal Socialization. Darling and Steinberg (1993) suggested that distinguishing between parenting style and parenting practices is important for understanding broader socialization experiences. They argue that *parenting practices* are specific behaviors (i.e., parental involvement and monitoring) that help socialize children through things, such as helping with homework, reading, and attending school activities. *Parenting styles* deal with the emotional climate, such as responsiveness, in the home. Darling and Steinberg's conceptual model suggests that parental socialization goals lead to their own involvement with children, which results in different outcomes for their children. For example, if parents do not have aspirations and goals for their children, they are less likely to monitor or be involved with their children, decreasing the likelihood that children will attain their goals.

Recent legal socialization research has drawn from empirical work on parenting style to explain why some children hold more positive views of the law (e.g., Trinkner et al., 2012). Much of this work stems from Baumrind's (1966) research on the three primary typologies of parenting style: authoritative, authoritarian, and permissive parenting (also see Baumrind, 1967, 1971, 1978, 1991). A fourth typology—neglectful parenting—was identified by Maccoby and Martin (1983). As implied in the name, neglectful parents are uncaring and uninvolved in parenting responsibilities. Permissive parents care about their children but do not typically impose and/or enforce rules and rarely try to regulate their child's behavior. Authoritarian parents show little warmth, tend to use harsh parenting techniques, and demand obedience without considering their child's requests. Lastly, authoritative parents explain rules, are warm and caring, and listen to their children when trying to get their cooperation. As will be described further,

parenting styles that emphasize authoritative values are more likely to result in the development of orientations favorable toward the law (see Tyler & Trinkner, 2018 for a review).

Baumrind's (1991) research revealed evidence of two dimensions of parental behaviors: demandingness and responsiveness. As noted by Tyler and Trinkner (2018), parents who strike a balance between being demanding and responsive (labeled authoritative parenting) yield the most positive orientations in terms of legal socialization. This is a result of parents explaining and communicating rules effectively to their children. In other words, successful parents exhibit behaviors similar to those described in the procedural justice literature. Authoritative parenting is also beneficial in that it provides children with emotional security, helps children understand their parents' values/morals, and even helps with their interpersonal skills (Durkin, 1995). Although findings differ based on SES, ethnicity, and culture (Baumrind, 1972; Kelly et al., 1992; Leung et al., 1998), if children view parental disciplinary behaviors as good parenting, positive child outcomes are more likely (Lansford et al., 2012).

Authoritative parenting has been considered synonymous with effective parenting (Baumrind, 1971). Research suggests that parents who display warmth, respect, care, and provide explanations for their own parenting techniques and rules are more likely to produce well-adjusted children (see, e.g., Baumrind, 1991; Mowen, 2010). When compared to other parenting styles, authoritative parenting has been associated with lower rates of delinquency (Ary et al., 1999; Peterson et al., 1994; Piko & Balazs, 2012; Simons et al., 2005; Steinberg et al., 1994; Trinkner et al., 2012; Trinkner, 2015). It is especially important for parents to demonstrate warmth and attempt to regulate their

behavior in effective ways (Maccoby & Martin, 1983; also see Baumrind & Black, 1967; Baumrind et al., 2010; Peterson & Hann, 1999; Peterson & Rollins, 1987; Rollins & Thomas, 1979).

As children develop, their socialization experiences are influenced by various adult individuals, both at school and in the home (Maccoby & Martin, 1983; Parke & Buriel, 1998; Wentzel, 1999). With regard to parenting style and legal socialization, studies have compared the effect of authoritative, authoritarian, and permissive parenting styles on perceptions of parental legitimacy and subsequent delinquency. Using three waves of data containing middle and high school aged students, Trinkner et al. (2012) found that the link between parenting style and delinquency was mediated by parental legitimacy. More specifically, the authors found that authoritative parenting was positively associated with parental legitimacy, which in turn was negatively related with delinquency. Furthermore, authoritarian style was negatively associated with parental legitimacy, highlighting the importance of displaying warmth and respect when interacting with children.

Parenting Behaviors and Legal Socialization. Critics argue that parenting style dimensions do not capture contextual variations or measure the same thing across different social groups. For instance, authoritative parenting is widely considered ideal, yet authoritarian parenting is more often practiced in non-Western cultures, among minorities, and in lower SES families (Lee et al., 2014). Authoritarian parenting may even have protective effects for children in poor communities (Lee et al., 2014). Aside from cultural concerns, it is harder to test on broad typologies as opposed to specific behaviors while also providing a more detailed understanding of parenting effects

(Herman et al., 1997; Linver & Silverberg, 1997). Therefore, several researchers moved beyond parenting style and have chosen to focus on specific parenting practices and behaviors to better understand which parenting behaviors have the most significant impact on child behaviors.

Two dimensions often addressed in the literature include psychological control and behavioral control. Psychological control stems from authoritarian parenting. Parents who try to use psychological control may exhibit a variety of behaviors, including intrusiveness, guilt induction, and love withdrawal (Barber et al., 2005; Lansford et al., 2014). Parental disrespect falls under this form and contributes to child maladaptive behaviors (Barber et al., 2012). Soenens and Vansteenkiste (2010) found that psychological control is associated with higher levels of oppositional defiance, frustration, internalizing problems (e.g., anxiety), and externalizing problems (e.g., aggression) when compared to more supportive forms of parenting (Van Petegem et al., 2015; Vansteenkiste et al., 2014). Parenting that attempts to regulate child behavior through clear and consistent expectations, supervision, and monitoring fall under behavioral control. This type of supportive parenting is associated with positive outcomes for children (Pastorelli et al., 2015), such as doing well in school (Spera, 2005) and reductions in antisocial behavior (Eddy & Chamberlain, 2000; Gault-Sherman, 2012; Knutson et al., 2014; Smith et al., 2014). Positive parenting, such as showing affection, warmth, and responsiveness, has been found to mitigate aggressive and disruptive behavior (Bolkan et al., 2010; McFadyen-Katchum et al., 1996; Querido et al., 2002).

Behavioral control techniques do not always promote positive outcomes and may lead to child maladaptive behaviors. For example, the use of physical discipline has been

linked to childhood and adolescent aggression, violence, delinquency, and even criminal behavior in adulthood (Earls, 1994; Fine et al., 2004; Fraser, 1996; Gershoff & Bitensky, 2007; Patterson & Yoerger, 1993; Simons et al., 2005; Strauss, 1991; Straus & Donnelly, 2001). Research has frequently found that physical discipline is also associated with many negative child mental health outcomes, including low school achievement, low self-esteem, and emotional problems (Avakame, 1998; Berger, 2005; Chang et al., 2003; Larzelere, 2000; Sidebotham & Golding, 2001; Taylor et al., 2010; Teicher et al., 2006). Longitudinal data has even linked harsh discipline to an increased risk of psychiatric disorders and behavioral problems in adolescence and adulthood (Larzelere, 2000; Mackenbach et al., 2014; Taylor et al., 2010). Indeed, these negative socialization experiences can give rise to perceptions that disobedience and apathy toward authority and rules are acceptable.

In addition to the deleterious effects of harsh discipline, many studies have shown that poor parental monitoring can also contribute to delinquency, associating with delinquent peers, and being influenced by peer pressure (for a review, see Patterson & Stouthamer-Loeber, 1984; also see Cernkovich & Giordano, 1987; Crouter et al., 1990; Dishion et al., 1995; Fridrich & Flannery, 1995; McCord, 1986, Sampson & Laub, 1994; Weintraub & Gold, 1991). That being said, it has been noted that adolescents vary in how legitimate they view their parents' authority to limit and monitor their leisure activities (Kuhn & Laird, 2011; Smetana, 2011). Similar to boundaries (see Trinkner et al., 2016), Dishion et al. (2004) found that children need to accept supervision by their parents in order to be effectively monitored. As such, children are more likely to comply with monitoring efforts if they view their parents as legitimate (Cumsille et al., 2010). When

children do not hold these views, parents are less able to monitor them effectively. In addition, these children tend to be more secretive and believe their parents are invading their privacy (Hawk et al., 2008; Hawk et al., 2013). Children are also less likely to view their parents as legitimate authority figures when parents try to control things such as personal preferences (Smetana, 2011; see also Kobak et al., 2017), although there are cultural differences due to variations in boundaries (Smetana, 2011). It should be noted, however, children are less likely to disclose their activities and become more secretive when they are worried about receiving negative reactions from parents, and these negative reactions are stronger when parental legitimacy is low (LaFleur et al., 2016; Tilton-Weaver et al., 2010).

When parents provide adequate supervision, they foster a stronger sense of legitimacy toward the police (Fagan & Tyler, 2005). In addition, for confrontational and frequently unsupervised children, proactive monitoring is effective in reducing antisocial behavior (Laird et al., 2010). In the socialization framework, it is important for parents to be viewed as legitimate and fair for children to internalize positive values and for discipline to be effective (Darling & Steinberg, 1993; Keijsers & Laird, 2014; Piquero, Gomez-Smith & Langton, 2004; Trinkner et al., 2012). Using both children and mothers as informants, Keijsers and Laird (2014) conducted a longitudinal study to assess the impact of parental legitimacy on children's voluntary disclosure of leisure activities (i.e., parental monitoring). Specifically, they assessed mothers' monitoring behaviors and the level of disclosure and secrecy by adolescents. Youths with stronger legitimacy beliefs were less secretive and were more likely to voluntarily disclose their locations (also see Darling et al., 2006; Laird & Marrero, 2010). Furthermore, the authors found a reciprocal

relationship between monitoring and disclosure, which varied by the level of parental legitimacy. Keijsers and Laird (2014) suggest that the relationship between legitimacy and disclosure is cyclical for children with higher levels of legitimacy. They did not find evidence that monitoring increased secrecy (also see Hawk et al., 2008; Hawk et al., 2009). The observed reciprocal relationship indicates that parenting and children's behavior may be indirectly related to legal attitudes. This espoused link requires further scholarly attention.

Legal Attitudes

What has been highlighted thus far is the strong association between parenting and child outcomes. Indeed, positive interactions with parents have important implications for strengthening social bonds and improving child perceptions of legal actors and the legal system more generally. As noted, two legal attitudes, police legitimacy and legal cynicism, are an integral part of the procedural justice model of legal socialization. The conceptualization of police legitimacy has been somewhat variable across studies, sometimes capturing police trust, police effectiveness, normative alignment, and obligation to obey among others (Bottoms & Tankebe, 2012; Mazerolle et al., 2013; Tankebe, 2013; Tankebe et al., 2016; Tyler, 2006; Tyler & Jackson, 2014). It has been argued that obligation to obey is an outcome of police legitimacy as opposed to a dimension of it (Tankebe, 2013). Regardless of the operationalization, police legitimacy broadly captures the belief that police have the right to exercise power and maintain social order (Tyler & Jackson, 2014). Legal cynicism has also been operationalized in various ways across studies (see Gifford & Reisig, 2019 for a review). However, it is broadly defined as a negative orientation toward laws and those who follow them (Fine &

Cauffman, 2015; Gifford & Reisig, 2019; Sampson & Bartusch, 1998). Although very similar, the key distinction between police legitimacy and legal cynicism is that the former is an orientation toward authorities while the latter is an internalization of social norms regarding the laws. Research has shown that these two constructs are empirically distinct (Gau, 2015; Moule et al., 2019; Reisig et al., 2011).

Given that legal socialization is a developmental perspective, considerations have been given to the way legal attitudes change over time (e.g., Fagan & Tyler, 2005; Kaiser & Reisig, 2019; Piquero et al., 2005). Specifically, researchers have assessed longitudinally how factors such as procedural justice (Fagan & Piquero, 2007; Kaiser & Reisig, 2019), various types of police interactions (Fine & Cauffman, 2015; Nivette et al., 2015; Piccirillo et al., 2021; Schuck, 2013), arrests (Fine & Cauffman, 2015; Piquero et al., 2005), participation in delinquent subcultures (Nivette et al., 2015; Schuck, 2013), intimate relationships (Forrest, 2021), and personal characteristics such as emotion, gender, age, and race/ethnicity (Cole et al., 2021; Fine & Cauffman, 2015; Piquero et al., 2005; Schuck, 2013; Stewart et al., 2014) shape legal attitudes. As such, it has often been assumed that positive and negative interactions with authority figures function the same for both police legitimacy and legal cynicism.

Cross-sectional studies typically find that negative interactions with legal authorities decrease police legitimacy and increase legal cynicism (e.g., Gau, 2015). However, longitudinal assessments find a more varied relationship. Police legitimacy changes somewhat over time in response to different social situations and contexts (Jackson & Gau, 2016; Nivette et al., 2019). Legal cynicism, on the other hand, has been relatively more stable, although not unchangeable (Fine & Cauffman, 2015; Nivette et al.,

2015; Schuck, 2013; Stewart et al., 2014). It should be noted that although there are between-group racial differences in legal cynicism (see, e.g., Fine & Cauffman, 2015), legal cynicism remains relative stable across groups over time (Kaiser & Reisig, 2019; Piquero et al., 2016; Piquero et al., 2005).

In addition to varying trajectories, legal cynicism and police legitimacy potentially differ in their sources and antecedents. Prior work has hypothesized that legal cynicism and police legitimacy derive from the same social experiences, such as interactions with legal authorities, arrest, and criminal environments (Kirk & Papachristos, 2011; Kirk, Papachristos, Fagan, & Tyler, 2012; Nivette et al., 2015; Sampson & Bartusch, 1998). However, recent scholarship has found that legal cynicism is influenced more by individual characteristics (e.g., low self-control and morality) (Nivette et al., 2015; Nivette et al., 2019), whereas police legitimacy is shaped more by socialization variables (e.g., social bonds and police contacts) (Nivette et al., 2019; also see Fine & Cauffman, 2015).

One study that assessed the antecedents of legal cynicism found that the strongest predictor of legal cynicism was self-reported delinquency (Nivette et al., 2015). In addition, they found that low self-control only indirectly contributed to legal cynicism once delinquency was included in the model. As the authors explained, legal cynicism may be a neutralization technique used to justify criminal offending. Likewise, Shuck (2013) found that continued engagement in offending was associated with continued negative attitudes (see also Brick et al., 2009). Given that the procedural justice model argues that legal attitudes influence offending behaviors, the finding that offending contributes to legal attitudes may indicate a reciprocal relationship. However, this has

rarely been considered empirically (see Pina-Sánchez & Brunton-Smith, 2020; Trinkner et al., 2019).

Although parents are an integral part of child development, another area the procedural justice model of legal socialization has yet to consider is the potential role parents play in the varying trajectories of legal attitudes over time. It is important to note that Trinkner and Cohn's (2014) study assessed perceptions of parental procedural justice on parental legitimacy. However, their model included a general (as opposed to parent specific) measure of legal cynicism. Their results demonstrated that parental procedural justice was inversely related to legal cynicism. Although it was not assessed over time, it has important implications for the role parents play in the development of legal attitudes.

To date, the procedural justice model of legal socialization has largely ignored reciprocity in human interactions. Legal socialization scholars have argued that reciprocal processes between law and citizens are occurring (see, e.g., Barak-Corren & Perry-Hazan, 2021; Tapp & Levine, 1974). Individuals develop attitudes regarding both how laws should function and how people should behave in relation to the law. Reciprocity also exists in the notion that people shape laws but laws also shape behavior. There is also evidence of reciprocity in parenting research. Developmental psychologists have long observed that child problem behaviors influence parenting behaviors (see, e.g., Bush & Peterson, 2013; Pardini, 2008; Pettit & Lollis, 1996) and the nature of the relationship changes as children age (Scarr & McCartney, 1983). For example, children with externalizing behavioral issues, such as Oppositional Defiant Disorder (ODD), Conduct Disorder (CD), or depression, have been assessed extensively with regard to bidirectional influences. Burke et al. (2008) examined the reciprocal relationship between child

externalizing behaviors (Attention Deficit Hyperactivity Disorder [ADHD], ODD, and CD) and parenting behaviors. Although the authors found support for a reciprocal relationship, there was a much stronger relationship from child behaviors influencing parenting behaviors. Accordingly, this supports the notion that children are not passive actors in their social environments. Their behavior influences the environment and the people around them (Bell, 1968; Belsky, 1984; Crouter & Booth, 2003; Lytton, 1990; Patterson, 1982; Scarr & McCartney, 1983; see also Tapp & Levine, 1974; Tyler & Trinkner, 2018). This is especially the case for children suffering from externalizing behavioral issues.

Child externalizing behavior problems have a detrimental impact on both children and parents. However, given that parents have only recently been added to the procedural justice model, legal socialization scholars have yet to consider how externalizing problems impact the way non-legal authorities interact and discipline children. Nor is it known whether child externalizing behaviors have a direct impact on legal attitudes, or an indirect effect on crime through legal attitudes. It could be that children with externalizing behavior issues may be more prone to develop negative legal attitudes through their strained relationship with parents and authorities. For example, children with specific externalizing problems, such as ADHD, may elicit more punitive as opposed to supportive responses (i.e., they are less likely to receive treatment aligned with procedurally just treatment). As a result, children may view their parents as more disrespectful and less fair, and thus, increases their negative perceptions while also increasing their engagement in problematic behaviors.

Purpose of Study

The primary goal of this dissertation is to assess the reciprocal relationships between childhood externalizing problems and parental behaviors as well as legal cynicism and delinquency to determine what impact they have on the development of legal cynicism over time. Two categories of child externalizing problem behaviors will be assessed: ADHD and aggression. To provide a foundation from which to bridge the gap between developmental psychology and legal socialization, this dissertation will assess the following: Are parenting behaviors and child externalizing problem behaviors related over time? It is hypothesized that the relationship between parenting behaviors and child externalizing problem behaviors is reciprocal in nature (H1a). However, given prior empirical work, it is hypothesized the effect of child behaviors on parenting behaviors will be stronger than the reverse (H1b). It is also hypothesized that children with higher levels of externalizing problems will have parents that engage in more punitive styles of discipline (H1c). This is an important relationship to assess given the significance of parents in the socialization process. It could be that increasingly punitive discipline in response to externalizing behavior increases legal cynicism, or externalizing behavior could have a direct impact on legal cynicism.

Given the recent literature finding delinquency a strong predictor of legal cynicism, a second general question will also be considered. Is the relationship between legal cynicism and delinquency reciprocal? If legal cynicism is a technique of neutralization, children may be reinforcing their delinquency by trying to justify their behavior. This could potentially increase offending behaviors. Therefore, it is hypothesized that a reciprocal relationship exists (H2a). In other words, higher levels of

legal cynicism will be associated with higher levels of delinquency and higher levels of delinquency will be associated with higher levels of cynicism over time.

The final question builds on the first two questions, with the goal of understanding how both parental and child problematic behaviors influence the legal socialization process: What is the relationship between parenting behavior, externalizing problem behavior, legal cynicism, and delinquency over time? It is hypothesized that children with higher levels of externalizing behavior will exhibit higher levels of legal cynicism (H3a) and will also self-report engaging in higher levels of delinquency (H3b). Additionally, given that legal cynicism is more likely to be influenced by internal characteristics as opposed to social factors, it is hypothesized that negative parenting behaviors will yield only minor effects on legal cynicism (H3c). However, externalizing behavior problems will yield more significant direct effects (H3d).

The goal of this project is to empirically assess a different form of reciprocity in legal socialization research by incorporating findings from developmental psychology research. The aim is to highlight the way “problem” children impact their own attitudes and behavior via their negative effect on authority figures. Indeed, parents and legal authorities may not be able to change structural issues (e.g., poverty and joblessness) that contribute to crime. However, understanding how children—especially those with externalizing problems—interact with authority may aid in fostering emotional environments that make compliance a more appealing option.

Organization of Dissertation

The remaining chapters of this dissertation will proceed as follows: Chapter two provides a comprehensive review of relevant work in the field of legal socialization.

More specifically, it reviews research on the influence of individuals' hostile demeanor on police behavior. This literature demonstrates that hostile and difficult behavior elicits negative responses from authorities, suggesting citizens are active participants in their own socialization experiences. Additionally, this chapter discusses other antecedents of police legitimacy and legal cynicism. Moving beyond legal socialization, this chapter also reviews research in developmental psychology that models the reciprocal effect of externalizing problems on parenting behaviors as well as its relation to criminal offending. The chapter pays particular attention to ADHD and aggressive behaviors and their relation to parenting. Lastly, it discusses how parenting changes over time and highlights key issues that influence this relationship. Chapter three provides an overview of the methods, data collection procedures, variables, and analytic strategy that are used. Chapter four presents the results of the statistical analysis for each research question. Chapter five discusses the implications of the results and considers how they are relevant to the broader legal socialization literature. Finally, the limitations of the study and directions for future research are also discussed in the final chapter.

CHAPTER TWO

LITERATURE REVIEW

The procedural justice model of legal socialization places a strong emphasis on the nature of authority interactions as the primary driver of the development of legal attitudes. However, the model neglects to consider how one's own behavior influences the behaviors of others. After discussing the legal socialization model and legal attitudes in various contexts, this chapter explores the literature in both criminology and developmental psychology that focuses on how difficult temperament and/or hostile behavior toward others elicits hostile responses. Special attention is directed toward child problem behavior and parental reactions. The hypotheses tested in this study are also discussed.

Legal Socialization

As noted at the outset, legal socialization is the process through which people understand and internalize their relationship with the law. This perspective argues that law is an essential function in society and serves to regulate and guide individual behavior (Ewick & Silbey, 1998; Tapp & Levine, 1974). As such, legal institutions maintain laws and reinforce the accepted societal norms. The primary goal of this field is to understand how people form their beliefs about the function of law and those who enforce them. In addition, it encourages a feeling of obligation to obey authorities and laws as a way to gain greater compliance (Tyler & Trinkner, 2018).

Initially, legal socialization was conceived of primarily a cognitive developmental model where children were considered active participants in the legal socialization process (Cohn & White, 1990; Tapp & Levine, 1974). This approach was based on works

from Piaget (1932) and Kohlberg (1963) whereby natural maturation, reasoning capabilities, and environmental exposure to the law was espoused to shape legal attitudes (Tapp, 1976; Tapp & Kohlberg, 1971). The model provided the idea that views of law and authorities develop early in life, which in turn directed behavior over the life course. The procedural justice model of legal socialization shifted the focus—away from the internal to the idea that attitudinal development occurs more through authority interaction (Fagan & Tyler, 2005; Piquero et al., 2005). Put simply, the procedural justice model posits that direct and vicarious interactions with members of the criminal justice system shape views of legitimacy toward authorities and cynicism about the law.

The current field of legal socialization operates under four primary assumptions: foundationality, ubiquity, continuity, and reciprocity (Trinkner & Reisig, 2021). Legal socialization is “foundational” because it recognizes that law itself is an important socializing agent for people to understand their role in society and serves to maintain order. It is also “ubiquitous” in that the process through which people develop and internalize legal values occurs in both legal and non-legal contexts (Trinkner & Cohn, 2014; Tyler & Trinkner, 2018). Non-legal authorities, such as parents and teachers, act as socializing agents, shaping child behavior and attitudes through interactions and discipline (Trinkner & Cohn, 2014). Expectations for how authorities should operate are formed in these contexts. In addition to ubiquity, legal socialization is considered “continuous” because it occurs over the life course, with roles shifting at different stages in life (Tapp, 1976; Tyler & Trinkner, 2018) and it is “reciprocal” because the process explains both the role of law and the role of citizens (Tapp & Levine, 1974; Trinkner & Tyler, 2016).

In addition to these assumptions, there are three main elements of the socialization process: the development of legal reasoning, the internalization of legal values, and the development of legal attitudes (Trinkner & Tyler, 2016; Tyler & Trinkner, 2018). The first element, legal reasoning, is an important step for understanding social and legal environments (Cohn & White, 1990; Tapp & Levine, 1974). Essentially, as people mature they are better able to think critically about the appropriateness of law and how it fits in their own world (Tapp, 1991; Tapp & Levine, 1974). This provides meaning to their “socio-legal environment” (Cohn & White, 1992; White, 2001) and is another example of individuals being active members of the process. Legal reasoning helps people comprehend their own legal contexts. As such, people can understand why law and authorities are important while also disagreeing with their behavior when they do not align with their own expectations.

While children develop their reasoning capacities, they are also internalizing the norms and values of their society (i.e., legal values) (Fagan & Tyler, 2005; Tapp & Levine, 1974; Tyler & Trinkner, 2018). Legal values reflect a belief of what the law should be, and these values become part of a person’s identity. It is during this process that people develop an obligation to obey the law and cooperate with authorities. This process involves three components—authority decision-making (neutrality in decisions and having a voice), quality of treatment (being treated with respect, compassion, clear/clarity), and boundaries (authorities only legitimate when acting within the realm of the accepted norms) (Trinkner et al., 2018; Tyler & Blader, 2003; Tyler & Trinkner, 2018).

Lastly, legal socialization involves the formation of legal attitudes (Cohn & White, 1990; Tyler & Trinkner, 2018). Legal attitudes reflect experiences with law and legal authorities (Piquero et al., 2005). During this process people evaluate the behavior of law and its actors, and attitudes can change through experiences with legal authorities (e.g., Kaiser & Reisig, 2019; Tapp, 1991). If people hold more positive views of authorities and feel a sense of obligation to obey rules, people are more likely to comply with the law (Sherman, 1993; Tyler, 2006; Tyler & Huo, 2002).

Recent work has also identified two styles of legal socialization authorities use to encourage compliance behaviors—the coercive model and the consensual model (Trinkner & Tyler, 2016; Tyler & Trinkner, 2018). The goal of the coercive model is to try and gain compliance through sanctions and control. Under this model, authorities demand obedience rather than encourage it. Inconsistent and authoritarian parenting would fall under the coercive model. Children whose parents that demand obedience instead of using procedurally just behaviors are less likely to have positive orientations toward authorities and law (Trinkner & Cohn, 2014; Tyler & Trinkner, 2018). These coercive styles of parenting are also associated with increased delinquency (Straus & Donnelly, 2001). This approach is rooted in rational choice (see Tyler & Trinkner, 2018) – rewards outweigh punishments and relationship with law becomes about rewards, risks, and punishments.

The goal of the consensual model is to gain voluntary compliance through procedurally just behaviors (e.g., fairness in decisions, treating with respect, and giving voice). Procedural justice is defined as a judgement that authorities enforce rules in a

respectful and fair manner (Lind & Tyler, 1988; Thibaut & Walker, 1975). This process is essential for gaining voluntary compliance with the law (Tyler, 2003, 2006).

To understand compliance behaviors, three relational models of procedural justice have been identified. These include the group value, relational authority, and group engagement (Lind & Tyler, 1988; Tyler & Blader, 2000; Tyler & Lind, 1992; see also Blader & Tyler, 2015). The overarching theme of these models is to understand the underlying processes of justice evaluations through assessments of interactions with authority. The group value model outlined by Lind and Tyler (1988) was built on Thibaut and Walker's (1975) notion that procedural justice is rooted in the desire for people to receive fair treatment and have a voice or some other form of control in interactions with the legal system (termed the process control effect) (see also Lind et al., 1990). Although Thibaut and Walker were primarily focused on one's own level of control in how authorities make decisions, Lind and Tyler (1988) focused more on how an individual is treated relative to someone else (i.e., neutrality). Their assessments are based on how much procedures convey group values. In other words, people will see procedures as fair if the group values align with their own individual and internalized group values. Furthermore, people are more receptive to procedural justice from members of their group as opposed to someone outside their group (Smith et al., 1998).

Tyler and Lind (1992) built on the group value model to develop their relational model of authority. Their goal was to understand what contributes to the way people react to authorities. The relational model discusses evaluations of legitimacy and whether people voluntarily comply with authority. Here the focus is on how neutrality, trust,

respect, and status within the group impact procedural justice (Tyler, 1989, 1994; Tyler et al., 1996).

The third relational model, which was built on the previous two models, is the group engagement model (Tyler & Blader, 2000). This model encompasses the most with regard to understanding group attitudes and cooperative behaviors (Tyler & Blader, 2003). As such, this model discusses the impact procedural justice has on self-identity within a group. Procedural justice promotes a positive self-identity within their in-group and thus encourages cooperation. The common theme among these models is that procedural justice communicates how the person being treated is perceived by authority and it shapes how they see themselves and others. Overall there are four primary concerns with how people make judgments regarding procedural fairness. These include voice, respect, impartiality, and care (Tyler, 2000). In other words, people will more likely judge interactions to be procedurally fair if they can share their concerns and feel they are treated with care, civility, and without bias.

Another concern among procedural justice researchers is whether procedural justice evaluations are rooted in instrumental or noninstrumental concerns. Instrumental concerns occur when individuals feel like they have some form control over the outcome. For example, they feel having a voice in the decision making process increases the likelihood of a more positive or impartial decision (Leventhal, 1980; Thibaut & Walker, 1978). Lind and Tyler's (1988) group value model suggested a more noninstrumental approach whereby justice concerns were more rooted in feeling like a valued member of a group. Additionally, having a voice in the process represented their status in the group. People are more likely to comply if the procedures are in line with what they believe to

be consistent with how they should be treated and legal actors act in a way that influences the their best interests.

In the consensual model, legal attitudes (e.g., legal cynicism) are hypothesized to mediate the link between procedural justice and compliance. Put simply, if police are procedurally fair and respectful in their interactions with members of the general public, the model holds that legal cynicism will be lower. In addition, individuals consider and evaluate whether authorities are legitimate, and have a sense of obligation to obey. This style is considered to yield more supportive and positive values. Teachers and parents can also encourage these felt obligation to obey and promote legitimacy through procedurally just behavior (Trinkner & Cohn, 2014). The consensual approach is concerned with the decisions, treatment, and boundaries exerted by authorities.

As mentioned, essential to this approach is the idea that law-related beliefs begin in childhood, with parents being considered the first socializing agent (Trinkner & Cohn, 2014; Wolfe et al., 2016). Initially, the procedural justice model focused on direct and vicarious experiences with the police to explain the internalization of attitudes (e.g., Fagan & Tyler, 2005). However, Trinkner and Cohn (2014) argued that parents and teachers should also be considered socializing agents (see also Tapp & Levine, 1974). In childhood, direct contact (and vicarious experiences) with adults in the home and school exert the most influence in facilitating the acquisition of attitudes (Trinkner et al., 2018). As children grow older, they are more likely to have interactions with legal authorities (Ulmer & Steffensmeier, 2014), and parents become less influential (Wolfe et al., 2016). Additionally, vicarious experiences, especially with regard to the treatment received by peers, play an important role (Cavanagh & Cauffman, 2015). Given these patterns,

knowing how these attitudes form and develop over time would provide a better understanding of the legal socialization process. The following section highlights the different social avenues that contribute to attitudes about the law and the internalization of norms.

The Antecedents of Legal Attitudes

Legal attitudes are theorized to develop through different neighborhood- and individual-level processes (see, e.g., Sampson & Bartusch, 1998). Although most often theorized separately, these two avenues broadly define the acquisition of attitudes through feelings of injustice either from societal conditions and/or individual experiences with agents of the law (Fagan & Tyler, 2005; Kirk & Papachristos, 2011; McLean et al., 2018; Sampson & Bartusch, 1998). There are many different social antecedents to legal attitudes. Many of these include the criminal justice system, families, schools, teachers, and peers. One additional antecedent, individual characteristics, was recently introduced by Nivette et al. (2019) (see also Ameri et al., 2019; Augustyn & Ray, 2016; Reisig et al., 2011).

Criminal Justice System. The most commonly recognized social antecedent for legal attitudes in the legal socialization literature is the criminal justice system. This line of research suggests that direct and vicarious experiences with the criminal justice system and its actors are driving the development of attitudes (Jonathan-Zamir & Harpaz, 2014; Reisig & Parks, 2000; Rosenbaum et al., 2005; Skogan, 2005; Tyler & Huo, 2002). When people experience disrespectful treatment by the police (either directly or vicariously), they are more likely to internalize negative feelings toward legal authority and law (Fagan & Tyler, 2005; Gau, 2015; Hough et al., 2010; Reisig et al., 2011; Trinkner &

Cohn, 2014). Although debated, it has also been suggested that negative encounters are more influential than positive encounters (Skogan, 2006). In other words, a negative experience will have a more enduring impact on perceptions of the legal system.

Recent scholarship suggests that the criminal justice system may impact legal cynicism and police legitimacy differently. Several studies have found differential effects for legal cynicism and police legitimacy when assessing various criminal justice related antecedents such as procedural justice, rearrest, and police contact (e.g., Fine & Cauffman, 2015; Kaiser & Reisig, 2019; Mclean et al., 2019; Piquero et al., 2005; Trinkner et al., 2019). In a longitudinal assessment, Fine and Cauffman (2015) found that rearrests did not impact legal cynicism over time but did impact legitimacy. On the contrary, Ameri et al. (2019) found that arrest history was associated with increased legal cynicism. In Brazil, Trinkner et al. (2019) found that police contact significantly influenced police legitimacy but not legal cynicism. Similarly, Kaiser and Reisig (2019) found that the relationship between procedural justice and legal attitudes was weaker for legal cynicism relative to legitimacy (see also Piquero et al., 2005). Nivette et al. (2019) found that legal cynicism was more influenced by individual characteristics while police legitimacy was more influenced by social antecedents. These studies suggest that interactions with authorities and perceptions of justice may be influencing police legitimacy more than legal cynicism.

Another potential concern with existing research is that many community members rarely have direct encounters with the legal system (aside from minor traffic stops) and develop attitudes well before being introduced to these legal contexts (see Trinkner & Cohn, 2014). What occurs early in life is extremely important for later

attitudes and experiences. Therefore, there is a strong case for why interactions with parents and school authorities are another important antecedent to legal attitudes.

Family Context. It is well known that parenting practices play an influential role in the formation of child attitudes and schemas (Harris et al., 2015; Simons et al., 2006; Steinberg, 2001). These attitudes include things such as gender roles (Cunningham, 2001), antisocial behaviors and beliefs (Simons et al., 1995; Simons & Burt, 2011), and legal attitudes (Cavanaugh & Cauffman, 2015; Ferdik et al., 2014; Nivette et al., 2015; Sargeant & Bond, 2015; Wolfe et al., 2017; Wu et al., 2015).

There are two potential ways parental legal attitudes may potentially influence child attitudes. One argument is through direct transmission. According to this view, children learn their parents' attitudes and behaviors through direct observation, modeling, communication, and reinforcement of parenting behaviors (Madsen et al., 2009; McCord & McCord, 1958; see also Akers, 2009; Burt et al., 2012; Patterson & Stouthamer-Loeber, 1984; Thornton et al., 1990; Webber & Loescher, 2013). Under this conceptualization, parental attitudes and relationships greatly influence and predict child attitudes (Cavanaugh & Cauffman, 2015; Degner & Dalege, 2013; Ferdik et al., 2014; McLean et al., 2018; Sindall et al., 2017; Nivette et al., 2015; Sargeant & Bond, 2015; Wolfe et al., 2017; Wu et al., 2015).

Meta-analytic studies demonstrates that intergenerational transmissions of attitudes are strong and consistent (Degner & Dalege, 2013), and can transmit indirectly and directly (Lindstrom et al., 2011). For example, research has found that moral values are socialized from parents' values (Smetana, 1988, 1995, 1999; Smetana & Asquith, 1994; Smetana et al., 2005; White & Matawie, 2004). There is also high degree of

congruence between youth attitudes and the attitudes of their mothers about violence, risk-taking, and criminal behaviors (Copeland-Linder et al., 2007; Orpinas et al., 2003; Orpinas et al., 1999). Solomon et al. (2008) found that parental beliefs about aggression predicted their child's levels of aggression net of child's own aggressive beliefs.

With regard to legal attitudes, strong bonds have been linked to more positive perceptions of the police (Ferdik et al., 2014; Mclean et al., 2019). However, research that considers a connection between parental bonds and legal attitudes has either been mixed (Fagan & Tyler, 2005; Wolfe et al., 2017) or has only observed small positive relationships (Ferdik et al., 2014; Nivette et al., 2015; Sargeant & Bond, 2015; Wolfe et al., 2017) that may vary by ethnicity (Nivette et al., 2015; Wu et al., 2015). Parental perceptions of legitimacy may also have positive relationship with child perceptions of police legitimacy (Cavanagh & Cauffman, 2015; Mclean et al., 2019; Wolfe et al., 2017). Using a sample of male first time offenders and their mothers/guardians, Cavanagh and Cauffman (2015) found that mothers' low perceptions of legitimacy was indirectly associated with an increase in their sons' criminal offending. There could be some racial differences, however. African-American families may be more likely than White families to have direct discussions about how to interact with the police (Anderson, 1999; Sampson & Bartusch, 1998; Wilson, 1987).

Wolfe et al. (2017) assessed if parents' perceptions of court and police legitimacy predicted child perceptions of court and police legitimacy. They found that parent attitudes regarding legitimacy were positively associated with adolescent attitudes even after controlling for known predictors, such as direct police contact. This finding suggests

that parental attitudes may be directly influencing child attitudes (Cavanagh & Cauffman, 2015; Ferdik et al. 2014; Mclean et al., 2019; Sargeant & Bond, 2013).

The second way attitudes are transmitted is rooted in the ubiquity assumption of legal socialization. This assumption argues that the method of parenting (either coercive or consensual) is what shapes child attitudes. Coercive parenting is characterized by things such as inconsistent discipline, physical discipline, and other aversive behaviors, and are associated with less positive attitudes toward authorities (Trinkner et al., 2012; Trinkner & Cohn, 2014). Consensual parenting, however, includes behaviors more in line with procedurally just behaviors. Children experiencing such parenting tend to hold more positive attitudes toward authority and feel more compelled to obey rules (Jackson & Fondacaro, 1999; Trinkner et al., 2012; Tyler & Trinkner, 2018). As such, rather than a direct transmission (i.e., internalizing parental attitudes), children form their own beliefs toward authorities through evaluations of parental behaviors. Although few in number, legal socialization scholars have assessed the effect of specific parenting behaviors, such as supervision, monitoring, and parental warmth on legal attitudes (e.g., Fagan & Tyler, 2005; Mulvey et al., 2010). These studies have found important associations between prosocial parenting behaviors and positive attitudes, with positive parenting promoting more positive attitudes toward authority (e.g., Trinkner et al., 2012).

School Context. Teachers are also theorized to influence legal attitudes because they hold positions of authority, punish, and enforce rules (Flexon et al., 2009; Nihart et al., 2005; Piquero et al., 2005; Trinkner & Cohn, 2014). The variables typically used to assess the connection between the school context and legal attitudes include bonds to school, teachers, and school commitment (Ferdik et al., 2014; Nivette et al., 2015; Wu et

al., 2015). However, the connection between these variables and legal attitudes have been mixed. Some have found no influence (Ferdik et al., 2014; Nivette et al., 2015; see also Little & Steinberg, 2006), direct associations depending on race (Lurigio et al., 2009; Wu et al., 2015), or support across racial groups (Flexon et al., 2009).

For attitudinal development, the school context can also be viewed through a coercive versus consensual approach. Trinkner and Cohn (2014) found that teacher procedural justice equated to higher levels of teacher legitimacy and lower levels of legal cynicism. This positive approach is more likely to encourage obedience from students and feelings of trust toward school authorities (Arum, 2003). It has even been found to reduce aggressive behaviors in the school environment (Chory-Assad, 2002). However, coercive control strategies, such as strict rules, have been associated with more disruptive behaviors (Way, 2011). This research suggests that the consensual approach is more likely to produce positive perceptions of teachers and is beneficial for school related outcomes (see also Tyler & Trinkner, 2018).

Peers. With regard to peers, it is not a far stretch to say that they also play a part in the legal socialization process (McLean et al., 2018; Sampson & Laub, 1997).

Although it is likely children associate with peers of similar values and that their beliefs coincide more over time (Brechwald & Prinstein, 2011), having delinquent peers has shown to influence individual attitudes in a negative manner (McGloin, 2009; McGloin & Shermer, 2009; McLean et al., 2018; Megens & Weerman, 2012; Nivette et al., 2015; Paternoster et al., 2013; Pratt et al., 2010; Wolfe et al., 2017). When children associate with these kinds of individuals, they are more likely to internalize their worldview (Brechwald & Prinstein, 2011; Weerman, 2011), be more cynical and perceive the police

as less legitimate (Cavanagh & Cauffman, 2015; Ferdik et al., 2019; Fine et al., 2016; Kaiser & Reisig, 2019; Nivette et al., 2015; Wolfe et al., 2017; see also Mulvey et al., 2010, for correlational evidence), and adopt more antisocial attitudes and behavior (Decker et al., 2013; Melde & Esbensen, 2014; Shulman et al., 2011; Sweeten et al., 2013). It should be noted, however, that some studies report insignificant findings with regard to deviant peers and legal attitudes (Fagan & Tyler, 2005; Fagan & Piquero, 2007). For instance, Mclean et al. (2019) found that the number of delinquent friends did not impact legitimacy (see Fine et al., 2017 for evidence on the contrary). It could be that the quality of the relationship between an individual and delinquent friends is more important when considering their impact on legal attitudes.

Individual Characteristics. Another mechanism to consider is how individual characteristics and propensities influence legal socialization. It is likely that certain characteristics—such as low self-control and psychopathy—shape how people interact with and interpret the laws and behaviors of others. As such, beliefs about the law and legal system have been linked to psychosocial maturity, negative emotions, impulsivity, and callous-unemotional traits (Ameri et al., 2019; Augustyn & Ray, 2016; Fine et al., 2018; Kaiser & Reisig, 2019; Lee et al., 2011; Reisig et al., 2011; Scheuerman & Matthews, 2014; Woolard et al., 2008). Not surprisingly, individuals with higher levels of antisocial traits are more likely to behave with hostility toward authorities which may in turn elicit hostile reactions from them (Augustyn & Ray, 2016; Mastrofski et al., 2002; Scheuerman & Matthews, 2014). Ameri et al. (2019) found that psychopathy and temperament weakened the relationship between legal cynicism and offending and argued that legal cynicism should be considered in the context of antisocial behavior and

criminal propensities (see also Nivette et al., 2015). Others suggest that self-centered and impulsive individuals tend to be more cynical about complying with rules (Gottfredson & Hirschi, 1990; Mclean et al., 2019; Piquero et al., 2004; Reisig et al., 2011; Wolfe, 2011; Wolfe et al., 2017).

Nivette and colleagues (2019) found that legal cynicism is more influenced by individual characteristics (such as low self-control) and less so by socialization experiences (although significant but weaker and inconsistent). Police legitimacy was more strongly influenced by socialization experiences such as school, teacher bonds, and contacts with the police. Interestingly, low self-control did not directly impact police legitimacy. This suggests that legal cynicism and legitimacy may have more varied antecedents than previously thought. In addition, parental involvement, supervision, teacher-child bonds, and police contact had little to no effect on legal cynicism but did have a much stronger effect on police legitimacy. Nivette et al. (2019) argue that their findings complement the literature that views legal cynicism as a mechanism of low self-control. As such, the connection between individual characteristics and legal cynicism should be explored further (see also Ameri et al., 2019).

Although there are other potential antecedents (e.g., news and social media), four of the antecedents discussed above (i.e., criminal justice system, family context, school context, and peers) highlight a strong connection between interactions with others and the socialization process. Individuals are highly influenced by their environments, and having innate antisocial characteristics contributes to these effects. Individual characteristics are especially interesting because they allude to the consideration that one's own beliefs and

behaviors influences their environments and the people around them. Moving forward, this dynamic needs to be empirically evaluated longitudinally.

Legal Attitudes over Time

Given that legal socialization is a developmental perspective, how attitudes develop and change (or not) over time is of interest. Although prior research has found that legitimacy and legal cynicism are relatively stable (e.g., over a two year study period, see Piquero et al., 2005), more recent research reports patterns that differ. For example, adult attitudes seem to be more stable than juvenile attitudes (Gau, 2010). Nivette et al. (2019) found that legal cynicism increased in adolescence but started declining in early adulthood (see also Fine & Cauffman, 2015). Nivette and colleagues also found legal cynicism to be rank stable. In other words, people maintain their level of legal cynicism relative to others when legal cynicism increases or declines overall (Fine & Cauffman, 2015; Piquero et al., 2005; Stewart et al., 2014).

The finding that legal cynicism increases in adolescence is especially interesting given that delinquency is also increasing in adolescence (e.g., Laub & Sampson, 2003; Hirschi & Gottfredson, 1983). Indeed, legal socialization research typically finds that increased legal cynicism is associated with higher involvement in offending (Fagan & Piquero, 2007; Gifford & Reisig, 2019; Kaiser & Reisig, 2019; Lee et al., 2011; Reisig et al., 2011). The procedural justice model holds that legal cynicism is an antecedent to delinquency rather than the reverse. However, given recent evidence for reciprocity among another known correlate of crime, such as low self-control (see, e.g., Vazsonyi & Jiskrova, 2018), it could be argued that legal cynicism may also be reciprocal with criminal offending. Increased delinquency may increase the likelihood adolescents will

encounter legal authorities, but engaging in delinquency may also erode perceptions that the law is binding. If these criminal acts are not punished, Fagan and Piquero (2007) suggest that risks for engaging in future delinquency may be reduced. As mentioned, Nivette et al. (2015) argued that legal cynicism could be a neutralization technique, thus encouraging increased delinquency over time. Their finding that criminal offending is a strong predictor of legal cynicism suggests that the two concepts are interrelated.

Researchers typically find that perceptions of police legitimacy increase over time (see McLean et al., 2018; Piquero et al., 2016). Contrary to prior research, Nivette et al. (2019) found that legitimacy decreased in adolescence to early adulthood. They speculate their disparate findings may be due to differences in operationalization of their variables. Mclean et al. (2019) assessed longitudinal patterns of police legitimacy to determine how it related to criminal offending over time. They found that legitimacy increased during adolescence and became relatively stable in (emerging) adulthood. Schubert et al. (2016) found that for people whose offending patterns remained stable, legitimacy also remained stable. For those who did not continue to offend, legitimacy improved. These findings demonstrate that legal attitudes can change over time but tend to be more stable in adulthood (see also Tyler & Trinkner; 2018). In addition, there are different contexts (e.g., criminal justice, school, and family) through which these attitudes develop and stabilize. The common thread among these contexts is the individual experience. What is less well known in the procedural justice model is how one's own behavior influences reactions from others.

Authority Reaction to Citizen Behaviors

As noted by developmental psychologists, problem child behaviors elicit negative reactions from authorities, which increase problem behaviors (e.g., Keijsers et al., 2011; Laird et al., 2003; Pardini et al., 2008). It is likely that authorities may be less inclined to respond with procedurally just behaviors when interacting with combative citizens (e.g., Mastrofski et al., 2016). As such, it may be that nonlegal authorities, such as parents and teachers, will react similarly when dealing with problem children. Although police encounters are rare, researchers have found that citizen demeanor influences police responses (e.g., Alpert & Dunham, 2004; Engel et al., 2012; Mastrofski et al., 2002). Additionally, mental illness may also exacerbate punitive responses from police (Reiss, 1971; Worden & Pollitz, 1984). Therefore, before addressing parental reaction to child behavior and reciprocal effects, it is important to address the research in criminal justice that assesses the relationship between antagonistic citizen behaviors and police reaction.

Citizen Demeanor and Police Behavior

Demeanor is widely considered the most common predictor for punitive responses from police (Reiss, 1971; Riksheim & Chermak, 1993; Worden, 1995; Worden et al., 1996). As such, research on police procedural justice is typically concerned with how police officers are treating the citizens with whom they interact. Although few studies have assessed how citizen procedural justice influences police behavior (see Pickett & Nix, 2017), many have assessed how citizen demeanor influences police behavior, such as use of force and disrespect. If citizens are disrespectful or noncompliant, officers are more likely to respond punitively (Reiss, 1971; Worden & Shepard, 1996). Garner et al. (2002) found that suspect resistance increases the likelihood of some uses of force (e.g.,

pressure holding, grabbing, and shoving) (see also Engel et al., 2012). As Garner et al. note, individual encounter-level studies typically find that suspect disrespect is the most common factor associated with increased use of force by the police. Using 7,512 arrests from every precinct in six urban police jurisdictions, Garner and colleagues found that an “antagonistic” demeanor increased the odds of police using physical force by 163%. Physical resistance increased the odds of physical force to 1800%. This finding demonstrates that behaving in aggressive ways influences how legal authorities react.

The finding that citizen demeanor is a primary predictor of police behavior is very common across studies (Alpert & Dunham, 2004; Black, 1971; Brown, 1981; Engel et al., 2012; Garner et al., 2002; Klinger, 1996; Lundman, 1979, 1996; Mastrofski et al., 2002; Sykes & Clark, 1975; Warden & Shepard, 1996). It should be noted, however, it is not common for police to escalate conflict in response to these uncooperative people (Reiss, 1971; Sykes & Brent, 1983). In fact, citizen disrespect toward the police is much more common than the reverse (Mastrofski et al., 2002; Reisig et al., 2004; Worden & McLean, 2014).

In a notable study of police encounters, Mastrofski et al. (2002) assessed reasons police may disrespect citizens in their encounters. Using Black’s (1976) theory of law, they assessed citizen behavior, characteristics, and encounter location to determine factors that escalated police response. More specifically, they were concerned with demeanor, level of emotion, culpability, gender, race, financial status, age, and neighborhood context. Although these factors were significant, the strongest predictor was citizen behavior. As a follow up, Reisig et al. (2004) note that suspect behavior influences police officer behaviors such that if they are disrespectful, police are more

likely to be disrespectful back to them (Mastrofski et al., 2002). Therefore, Reisig et al. (2004) identified factors that contribute to how people act toward the police. Reisig and colleagues found that disrespectful police behavior is not reciprocated by citizens, and less severe police uses of force mitigates suspect disrespect. Additionally, the number of people viewing the encounter, being mentally impaired, intoxicated, and in a heightened state of emotion increases the likelihood the suspect will behave disrespectfully. African-American suspects were also more likely to be disrespectful, however, only in public disorder encounters (see footnote 5, p. 257).

Similar to the intergenerational transmission of attitudes discussed previously, Brunson and Weitzer (2011) noted that suspect demeanor affects police treatment but questioned whether codes of conduct are passed down from older generations and occur prior to police contact. They were particularly concerned with whether people learn how to prepare for potential police encounters from parents and families, noting that vicarious police encounters can be as powerful as direct experiences when forming attitudes about how to act around the police (Jacob, 1971; Son et al., 1997; Weitzer & Tuch, 2006). Indirect encounters may even be greater for African Americans (relative to White and Hispanics) for shaping these behaviors (Rosenbaum et al., 2005). In general, people who defer to and respect police authority are less likely to receive harsh treatment from police (Black, 1971). Brunson and Weitzer (2011) found that intergenerational transfer of attitudes was highly prevalent for African Americans but not for Whites (see also Brown, 2009; Kennedy, 1997). In other words, members of these households actively share strategies on how to interact with officers because they expect that their child's minority status will make them more likely to encounter the police.

It should be mentioned, however, that minorities are treated more harshly by the police compared to Whites (see, e.g., Brunson & Pegram, 2018). As such, it is plausible that different groups of people will perceive the criminal justice system and its actors differently. For example, given their differential treatment by the legal system and its actors, African Americans have more cynical views of the police and experience more bias in the criminal justice system (Drakulich & Crutchfield, 2013; Schuck, 2013; Unnever et al., 2011; Weitzer & Tuch, 2005). That being said, some studies have found that these differences in perceptions weaken once neighborhood-level characteristics are added to the model (Dunham & Alpert, 1988; see, e.g., Reisig & Parks, 2000; Sampson & Bartusch, 1998; Wu et al., 2009).

Pickett and Nix (2017) found that police officers use procedural justice to make judgments about citizens. Although many studies have found that citizens are often disrespectful toward officers (Alpert & Dunham, 2004; Mastrofski et al., 2002; Miller, 2004; Reisig et al., 2004), if citizens are fair toward police, police are less likely to see them as culpable and dangerous, and more likely to see them as trustworthy (Pickett & Nix, 2017). Pickett and Nix re-conceptualized citizen demeanor to include elements of procedural justice—specifically cooperation with the police (see also Pickett & Ryon, 2017). They considered injustice to be legally permissible behavior, including interrupting police, swearing, name-calling, and prejudice, used to disrespect and treat officers unfairly. Pickett and Nix found when citizens exhibit procedurally just cooperation, officers feel less in danger and are more likely to support cooperative and less aggressive policing styles. However, a more negative demeanor can be stressful and put strains on the officer (Bishopp et al., 2018; Paoline & Gau, 2018). When officers

have had recent negative experiences with citizens, they were more likely to report feeling more callous toward others (Morin et al., 2017). Police officers have also reported that they are more likely to arrest citizens with bad attitudes (Weisburd et al., 2000). Therefore, it is likely there are some reciprocal effects occurring that may inhibit police officers behaving in procedurally just ways.

These studies demonstrate that legal authorities are indeed influenced by antagonistic behaviors of citizens. Although it is likely these individuals already have negative attitudes toward police before engaging in these interactions, it could be that a punitive police response may further reinforce negative perceptions. One may wonder where individuals develop these antagonistic behaviors if they have had no prior contact with the police. One explanation may lie within the family context.

Child Demeanor and Parental Behavior

Children often do not have direct contact with the criminal justice system. In the previous section it was demonstrated that difficult behavior can elicit negative and hostile responses from the police. If children rarely have contact with the police, a logical question would then be, do parents react with hostility to difficult children? A sizable number of studies in the field of psychology tests the link between parenting and the behavior of children. Several notable studies have found that parents (and other adults) react to children behaviors and change in response to them (e.g., Anderson et al., 1986; Bell & Chapman, 1986; Dix et al., 1986; Mulhern & Passman, 1981; Passman & Blackwelder, 1981). Many of these studies conclude that the relationship between the temperament and behavior of children and parental reaction is likely transactive (or

reciprocal) in nature (Cole, 2003; Crockenberg, 1986; Crockenberg & Leerkes, 2003; Kerr & Stattin, 2000).

Before reviewing the research assessing reciprocal relationships, studies addressing child-only and parent-only effects will first be outlined. In the studies suggesting parent-only effects, children were hypothesized to develop disruptive behaviors if they were exposed to poor parenting behaviors (e.g., Bates et al., 1998; Stoolmiller, 2001). In studies finding only child effects on parental behaviors, some researchers were indeed assessing a reciprocal relationship. They posited that child behaviors influenced the type of parenting behavior, and a punitive parental reaction contributed to later disruptive behaviors (e.g., Dodge, 2002; Patterson et al., 2000); however, results only showed evidence for a unidirectional relationship from child delinquency impacting parental behaviors (e.g., Huh et al., 2006; Stice & Barrera, 1995).

Parent-Only Effects. Developmental research that links parenting behaviors to childhood behavioral issues and subsequent delinquency rests on the premise that inadequate parenting is the primary reason children become delinquent. There have been several studies over the years that have assessed the relationship between parenting and delinquency. Many of these found that lack of supervision (Loeber & Dishion, 1983; Loeber & Stouthamer-Loeber, 1986; Simourd & Andrews, 1994), lack of or inconsistent discipline (Loeber & Dishion, 1983), low involvement (Loeber & Stouthamer-Loeber, 1986), poor monitoring (Hoeve et al., 2009), parental rejection (Hoeve et al., 2009; Loeber & Stouthamer-Loeber, 1986), poor attachment (Kempf, 1993; Simourd & Andrews, 1994), extensive parental offense history (Cottle et al., 2001), psychological

control (Hoeve et al., 2009), and hostility (Hoeve et al., 2009) were all strong predictors of delinquency.

Much of the research on parenting assumes that parental behavior drives child behavior. As such, many parenting behaviors and practices have been linked to childhood outcomes. For example, aggressive parenting practices have been shown to increase negative childhood behaviors (e.g., aggression and rule violation) (Earls, 1994; Fine et al., 2004; Fraser, 1996; Lansford et al., 2005; Morris & Gibson, 2011; Simons et al., 2005; Straus, 1991; Straus & Donnelly, 2001). Some studies have also found a link between parental psychological control (e.g., parental intrusiveness, guilt induction, love withdrawal) and increased childhood fearfulness. In other words, attempts by parents to control children through things such as shaming and guilt will increase negative outcomes such as anxiety and fear (Bugental & Grusec, 2006; Caron et al., 2006).

Parental conflict has also been found to decrease children's social competence (Brennan et al., 2003; Ingoldsby et al., 2006; Loeber et al., 1998). Indeed, several parenting behaviors have been linked to antisocial behavior among children, including poor parental supervision, overly harsh/punitive discipline, cold/unresponsive attitude, and erratic/inconsistent punishment (Farrington, 2005; Loeber & Loeber-Stouthamer, 1986; Rothbaum & Weisz, 1994; Shaw & Scott, 1991; Simons et al., 2005; Trinkner et al., 2012; Trinkner & Cohn, 2014; West & Farrington, 1973). In contrast, positive parenting techniques, such as providing parental support, have been linked to more secure attachment and less childhood anxiety, depression, and antisocial behaviors (Atzaba-Poria et al., 2004; Caron et al., 2006; Hill & Bush, 2001; Hill et al., 2003; Karavasilis et

al., 2003; Kerns et al., 2000). What is more, Coley et al. (2008) found that positive parenting lowered the risk of substance use, but substance use did not impact parenting.

Child-Only Effects. Kerr and Stattin (2003) argue that the relationship between parenting behavior and child behavior is more likely unidirectional, with child behavior predicting parental outcomes. Indeed, child problem behaviors can result in inadequate parenting (Kuczynski & Parkin, 2007; Maccoby, 2007). Using a cross-lagged panel design, Kerr and Stattin (2003) found that parenting behavior did not predict delinquency. Instead, early delinquency predicted less controlling and less supportive parenting over time. As the authors explain, “parenting behaviors seem to be reactions to youth’s delinquency, but they do not seem to produce it” (p. 129). Other studies assessing the effect of child characteristics on parental behaviors have addressed early child characteristics such as difficult temperament (Bates et al., 1998; Brody, 2003; Kochanska, 1998), impulsivity-inattention (Moffitt et al., 2001), temper tantrums (Stoolmiller, 2001), delinquency (e.g., Anderson et al., 1986; Kerr & Stattin, 2003), and gender (Crick, 2003; Maccoby, 2003). These studies typically argue that early antagonistic behaviors shape how parents respond to children. Although research has been mixed, the studies finding a positive association between problematic child characteristics and ineffective parental response suggesting that “difficult” babies produce ineffectual parents.

Looking to the developmental research, similar findings can be found linking difficult child behaviors and harsh responses from parents. Huh et al. (2006) conducted a longitudinal study of 496 adolescent girls assessing a relationship between problem behavior and parenting. Although they hypothesized a reciprocal relationship, they found

that child problem behavior was a more consistent predictor of parenting than the reverse (see also Kerr et al., 2012). In other words, problem behavior had a stronger effect on parenting behavior. Although they did not find evidence for a strong reciprocal relationship, research suggesting only child behavior influence parenting behavior, rather than parenting influencing child behavior or a reciprocal relationship, suggests that children are shaping their own developmental trajectories.

Reciprocal Effects. The reciprocal link between parent-child relationships has been examined in developmental psychology for over 45 years. Several studies support the hypothesis that parenting and child behaviors are reciprocal (e.g., Branje et al., 2008; Keijsers et al., 2010; Keijsers et al., 2011; Pardini et al., 2008; Patterson et al., 1990; Stewart et al., 2002; Stice & Barrera, 1995; Willoughby & Hamza, 2010). Although much of the research in psychology still treats children as passive in the socialization process (see Pardini, 2008), many researchers agree that child behavior should be included in parental behavior models. As Agnew (1991) stated “the failure to consider [reciprocal] effects means that one’s model is misspecified” (p. 131). Prior research may have overestimated the effect of parental behaviors. Therefore, the most accurate model may be one that includes both parent and child effects. However, this has yet to be fully considered empirically in the realm of legal socialization.

Bell (1968) was one of the first to argue for a bidirectional parent-child relationship in developmental psychology. Based on his review of socialization studies, he suggested that maternal behavior varied depending on child characteristics. Instead of assuming parents were consistent in responses to child behaviors, Bell argued that parents changed their behaviors in response to unexpected or undesirable child behaviors (Bell

1968, 1980; Bell & Harper, 1977). Depending on the child behavior, parents may be more demanding of their child or resort to physical punishment in order to try and elicit the desired behaviors. Subsequent studies during the 1970s also argued that children were more involved in the process of socialization (Mischel, 1973; Sameroff, 1975). In addition to finding a reciprocal relationship, Mischel found the link between parenting practices and child behavior is mediated by the child's regulatory and planning abilities, as well as their values and expectations among others. In other words, their cognitive perceptions and behaviors shaped how others behaved towards them.

During the 1980s, bidirectional studies were used to explain how and why parenting behaviors change over time (Abidin, 1986; Belsky, 1984; Belsky & Vondra, 1989). These researchers often proposed that direct effects of child behavior on parenting behaviors were minimal. Instead, researchers argued that parenting behaviors had an indirect influence through such variables as parental stress, depression, and dissatisfaction (see, e.g., Abidin, 1990). Patterson (1982) found that parents with antisocial and/or aggressive children were inconsistent and ineffective in their parenting practices. Patterson observed that parents of difficult children often did not follow through with punishments which reinforced and escalated the negative behavior. Patterson also found that these aggressive children were more difficult to socialize, were a higher source of stress for parents, and required a higher level of parenting in order to deal with them. In subsequent studies, Patterson and colleagues (1992, 1995) found harsh parenting techniques escalated in response to negative child behaviors and these children sometimes withdrew completely in response. Children learn they can get what they want if they act out more, thus promoting further problem behaviors. Patterson (1986) calls

this a coercive cycle perspective. Caregivers inadvertently strengthen negative behaviors when they withdraw and/or give in (Patterson & Cobb, 1971; Patterson & Reid, 1970). This pattern has been supported in subsequent research (Crouter & Booth, 2003; Eddy et al., 2001; Pardini et al., 2008; Patterson, 2002; Snyder & Stoolmiller, 2002).

Research on child temperament has also shown that parents and families are indeed affected by difficult children, even as infants (Crockenberg, 1986; Crockenberg & Leerkes, 2003). Crockenberg and Leerkes (2003) discuss how infants influence caregivers and vice versa to produce developmental outcomes. A persistently angry baby can (but not always) produce negative outcomes on parenting behaviors and relationships with their families. The authors term the process transactive because babies and parents influence each other, with different variations across families attributed to environmental and other parent specific risk factors (e.g., SES, parental depression, and stress) (see also Bell, 1968; Cole, 2003; Lytton, 1990; Scarr, 1992).

With regard to parenting behavior and child antisocial behaviors, studies have observed a reciprocal relationship between child delinquent behavior and poor supervision (Jang & Smith, 1997; Kerr et al., 2010; Laired et al., 2003), low parental support/control and adolescent substance use (Huh et al., 2006; Stice & Barrera, 1995; Stewart et al., 2002), and ineffective discipline and conduct problems (Snyder et al., 2005). Cavanagh and Cauffman (2017) assessed the reciprocal relationship between youth offending and parental warmth and found that youth with a quality relationship with their mothers were less likely to reoffend over time. However, parents with higher perceptions of child offending reduced the amount of warmth they had for their children.

Snyder et al. (2005) suggest that children are active participants in their own socialization (see also Bush & Peterson, 2013; Cole, 2003). Snyder and colleagues found evidence for a reciprocal relationship between hostile attributions, ineffective discipline, and child conduct problems. Specifically, they found that ineffective discipline and hostile attribution contributed to an increase in conduct problems over time. In addition, ineffective discipline directly contributed to conduct problems at school because, as they explain, children were not properly prepared for dealing with social behaviors at school (see also Dishion et al., 1995). Their findings supplement previous research demonstrating a degradation of effective parenting techniques in response to child aggression and disruptive behavior problems (Barkley, 1988; Dodge, 2002; Dumas et al., 1995; Scaramella & Leve, 2004; Smith et al., 2014). In summary, these models suggest parent and child behavior reinforces each other, leading to more harmful outcomes when children are difficult and parents are ineffective in response.

Parenting over Time

It is important to examine how parenting behaviors change in the context of child development. As noted, parental behaviors change in response to difficult child behaviors (e.g., Hartup, 1978; Jang & Smith, 1997; Scarr & McCartney, 1983); however, parental relationships also change naturally over time (Koepke & Denissn, 2012). As children age, parents have less of a direct influence on their behavior (Kerr & Stattin, 2003) and are less likely to feel responsible for the actions of their children (Collins & Laursen, 2004). When children become more independent and autonomous, the level of involvement and supervision also changes (Burke et al., 2008; Epstein & Dauber, 1991; Kerr & Stattin, 2003; Milgram & Toubiana, 1999; Muller, 1998; Snyder et al., 1986). Parents are less

likely to monitor or supervise their children as they get older (Frick et al., 1999). During adolescence, parent-child communication decreases and parents have less information regarding the whereabouts of their children (Keijsers et al., 2010; Keijsers et al., 2009; Laird et al., 2003; Loeber et al., 2000; Masche, 2010; Smetana et al., 2002). Additionally, the influence of parental attitudes on child attitudes dissipates as children age (e.g., Chaffee et al., 1971; Hoge et al., 1982; Sampson & Laub, 1993; Schroeder et al., 2010; Tedin, 1974). Parental authority and legitimacy also decrease during this time (Smetana, 1988). These are all important things to consider when examining reciprocal relationships over time. Parenting behavior is likely to have a stronger influence on younger children, and it is unclear how much these reciprocal effects in childhood influence adolescent and adulthood attitudes and behavior.

Current Directions

The current state of developmental theories incorporates bidirectional effects. For example, Liska and Reed (1985) introduced the reciprocal nature of parenting and delinquency to the field of criminology by assessing the nature of attachment and delinquency in social bond theory. They found that low attachment increased delinquency and delinquency contributed to low attachment. Gault-Sherman (2012) examined the bidirectional effect of three types of child delinquency (i.e., general, property, and violent) on three types of parenting behaviors (i.e., attachment, monitoring, and involvement) using the Add Health data. Gault-Sherman found that certain child offending behaviors lower parental attachment, which in turn predicted childhood delinquency. Although these reciprocal effects further promote a connection between

parenting behaviors and child outcomes, they also demonstrate the importance for applying this framework to other criminological theories.

Moving beyond social bond theory, Keijsers et al. (2011) posit that socialization is better understood as a bidirectional phenomenon. The authors assessed whether poor parent-child relationships occur prior to child delinquency or if child delinquency changes parent-child relationships over time. They found evidence for both: poor relationships did occur before delinquency with delinquency further degrading the relationship over childhood, early, and middle adolescence. Although this focus was more on general socialization experiences, applying this to a legal socialization framework may yield similar effects. Reciprocity is a fundamental assumption in the legal socialization approach; however, there is a dearth of research assessing it empirically. In addition to delinquency, it is likely poor child relationships increase negative legal attitudes. Given this consideration, one potential reason children and parents may have a strained relationship is through child externalizing problem behaviors. The following section discusses some of these behaviors, their relation to parenting, and how they may impact legal attitudes.

Child Externalizing Behaviors

Externalizing problems describe child behaviors that manifest as outward actions on the external environment (Campbell et al., 2000; Eisenberg et al., 2001). These include disruptive, hyperactive, and aggressive behaviors (Hinshaw, 1987). With regard to more covert child issues, behaviors that are more psychological in nature are labeled as internalizing problems, which include depression, anxiety, withdrawal, and other neurotic concerns (Campbell et al., 2000; Eisenberg et al., 2001; Hinshaw, 1987). Not

surprisingly, parenting behaviors have been linked to the development of both internalizing and externalizing behaviors (e.g., Bandura, 1977; Reid et al., 2002; Rothbaum & Weisz, 1994). Indeed, negative parenting behaviors—physical punishment, child neglect, and maltreatment—increases the likelihood of children developing externalizing problems (Manly et al., 2012; Rothbaum & Weisz, 1994; see also Ferguson, 2013).

Three disorders commonly classified under externalizing behavioral issues, Attention deficit hyperactivity disorder (ADHD), conduct disorder (CD), and oppositional defiant disorder (ODD), account for at least three fourths of all psychopathological disorders in children and adolescents (Mash & Barkley, 2003). Research supports the notion that having these issues increases the likelihood that children will have a strained relationship with their parents, their parents will respond ineffectively to their behaviors, and these children will experience a host of other negative outcomes through their lives (see, e.g., Savolainen et al., 2010). For example, children with ADHD, CD, and ODD receive more correction, punishment, criticism, and suspensions by their teachers compared to their classmates (Barkley et al., 1990; Whalen et al., 1980). It is likely that having certain behavioral problems like ADHD, ODD, and CD increases the likelihood of negative police encounters.

Pinquart's (2017) meta-analysis of 1,435 studies on the link between parenting and externalizing symptoms found that parents exhibiting behaviors aligned with Maccoby and Martin's (1983) authoritative parenting style had a small negative effect on child externalizing problems. However, neglectful, permissive, and authoritarian parenting had a strong positive effect on externalizing problems, and this link was

reciprocal. In other words, poor parenting styles contributed to externalizing problems and externalizing problems contributed to worse parenting behaviors. As such, kids who are mistreated are more likely to display externalizing problem behaviors both at home and school (Cicchetti & Valentino, 2006; Hildyard & Wolfe, 2002; Scannapieco, 2008; Oshri et al., 2011). Furthermore, externalizing behavior in itself is a major risk factor for violence, juvenile delinquency, and crime later in life (Betz, 1995; Farrington, 1989; 1997; Mannuzza et al., 1989; Moffitt, 1993).

Two highly prevalent externalizing behaviors, ADHD and aggression, have a significant impact on the lives of children and their parents. Given that these have not been assessed within a legal socialization framework, it is important to consider how these behaviors contribute to the family dynamic and what influence they have on parental response. Negative interactions foster legal cynicism and low legal legitimacy. Therefore, it is reasonable to believe these externalizing behaviors contribute to negative attitudes.

Attention Deficit Hyperactivity Disorder. Attention deficit hyperactivity disorder (ADHD) is one of the most common mental health and behavioral issues among younger children (Ogundele, 2018). It is often defined as a neuropsychiatric condition concerned with inattention, impulsivity, and hyperactivity exceeding what is considered normal development (Nyman et al., 2007; Siegel, 2007). The DSM-5 lists three subtypes, including predominantly hyperactive/impulsive, predominantly inattentive, and combined (American Psychiatric Association, 2013). Studies have estimated that the prevalence of ADHD among younger, school aged children ranges from 4% to 12% (Cornish et al., 2005; Gershon, 2002) with 70% to 80% of those individuals exhibiting ADHD behaviors

well into adolescence (Hurtig et al., 2007). In adulthood, this range has been estimated 2% to 5% (Rösler et al., 2004). A child may be diagnosed with ADHD if he or she meets the criteria for having either symptoms of inattention (e.g., easily distracted) or hyperactivity-impulsivity (e.g., often interrupts others). Although symptoms can appear during young childhood, it is most often diagnosed when the child is in adolescence. It is usually stable in adolescence but tends to reduce in severity for some by late adolescence/early adulthood (Mash & Barkley, 2003).

The three subtypes of ADHD are based on two distinct behavioral dimensions, inattention and hyperactivity-impulsivity (Burns et al., 2001; DuPaul et al., 1997; Lahey et al., 1994; Pillow et al., 1998). Inattention is the inability to sustain attention or keep at tasks, remembering or following through with instructions, and finding it difficult to resist distractions. Parents and teachers often cite issues in listening, being easily distracted, failing to finish tasks, and having difficulty concentrating (DuPaul et al., 1998). Hyperactive-impulsive behavior includes behaviors such as fidgeting, difficulty staying seated, constantly touching things, moving around, talking excessively, interrupting people, and having difficulty taking turns (American Psychiatric Association, 2013; Barkley et al., 1983; Malone & Swanson, 1993). Parents and teachers often describe them as being always on the go, unable to wait for things, and have difficulty stopping behaviors (Schachar et al., 1993; Milich et al., 1994; Nigg, 1999, 2001; Oosterlaan et al., 1998).

ADHD is frequently comorbid with other risk factors for crime, such as learning disabilities, family conflict, and other cognitive issues (August & Garfinkel, 1990; Barkley, 1990; Cantwell & Baker, 1992; Casey et al., 1996; Frick et al., 1991; Gross-Tsur

et al., 1991; Lambert & Sandoval, 1980; Semrud-Clikeman et al., 1992; Tannock & Brown, 2000; Eaves et al., 2000; Lahey & Waldman, 2003; Hurtig et al., 2005; Lahey & Waldman, 2003; Morgan & Lilienfeld, 2000). Indeed, the most common diagnosable disorders that coincide with ADHD are Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD) (Barkley, 2003). Angold et al. (1999) found that people with ADHD in the general population have a 10.7 increased odds of having ODD and/or CD. In studies assessing children referred to clinics, 54% to 67% of ADHD children meet the criteria for ODD by age 7, 20% to 50% met the criteria for CD in childhood, and 44% to 55% displayed CD behaviors by adolescence (Barkley, 1998; Barkley et al., 1990; Biederman et al., 1992; Lahey et al., 2000). It should also be noted that these symptoms are more prevalent among men than women (Boylan et al., 2007; Eme, 2007; Gaub & Carlson, 1997; Hudziak et al., 2007; Moffitt et al., 2001; Stefanatos & Baron, 2007; Stern, 2001; Zoccolillo, 1992).

Studies have found that 60% to 90% of ADHD can be attributed to genetic factors (Cornish et al., 2005; Faraone et al., 2005; Rowe, 2002; Thapar et al., 2006; also see Pratt et al., 2002; Unnever et al., 2003). However, environmental factors can exacerbate the manifestation of ADHD. It is often found that children with ADHD are more likely to have criminal parents and be from homes characterized as stressful, low SES (e.g., low income, single parent household, and/or divorce), and high marital discord (Beardslee et al., 2011; Brown et al., 2001; Campbell et al., 1996; Farrington et al., 1990; Foley et al., 1996; Harvey et al., 2011; Hurtig et al., 2005; Johnston, 1996; McFadyen-Ketchum et al., 1996; Pineda et al., 1999). Moffitt (1990) conducted a longitudinal analysis of four groups: ADD and delinquency, ADD-only, delinquent-only, and non-disordered. Of these

four groups, the ADD and delinquent group had the most detrimental environmental outcomes (e.g., worst family adversity, verbal intelligence, reading difficulty, and family adversity compared to the remaining three groups) and had the highest level of aggression (also see Moffitt & Henry, 1989; Moffitt & Silva, 1988a). Their antisocial behavior started before school age, escalated at school entry, and these individuals were more likely to persist beyond adolescence in criminal offending. Barkley (2003) notes that there are many impairments associated with ADHD which include cognitive deficits (e.g., lower IQ, academic skills, learning disabilities, and poor sense of time), language deficits (e.g., delayed onset, speech impediment, poor organization and inefficient expression of ideas, and diminished development of moral reasoning), school and task performance, as well as health risks.

Children with ADHD are often more demanding of their mothers (Barkley, 1985; Danforth et al., 1991; Gomez & Sanson, 1994; Johnston, 1996; Johnston & Mash, 2001). Their mothers tend to be less responsive to questions, more negative, and less rewarding (Danforth et al., 1991; Johnston & Mash, 2001). When parents are ineffective when responding to these behaviors, children respond with even more antisocial behaviors. This negativity may even spill into the school setting, with maternal negativity predicting greater noncompliance of boys in the classroom (Anderson et al., 1994). Negative parent-child interactions is at its highest when ADHD is comorbid with other disorders, such as ODD (Barkley et al., 1992; Barkley et al., 1991; Edwards et al., 2001; Johnston, 1996). In the family context, ADHD increases parenting stress, marital conflict, separation, divorce, maternal depression, and decreases parents' sense of parenting competence (Barkley et al., 1990; Befera & Barkley, 1985; Cunningham et al., 1988; Fischer, 1990;

Johnston & Mash, 2001; Mash & Johnston, 1990; Pelham & Lang, 1993; Taylor et al., 1991). Comorbidity with other disorders increases the prevalence of some of these conflicts (Barkley et al., 1990, 1991; Lahey et al., 1988; Taylor et al., 1991).

Several researchers have assessed the relationship between parenting, ADHD, and antisocial outcomes (e.g., Thapar et al., 2006). Research has found a direct link between ADHD and crime (e.g., Savolainen et al., 2010). However, given that ADHD is associated with many variables that are also risk factors for offending (e.g., low academics, cognitive and neurological deficits, and aggression) (Barkley, 1998; Brown et al., 2001; Loeber et al., 1991; Nadder et al., 2001), it is likely that the link between ADHD and crime may be moderated or mediated by other factors (Moffitt, 1990; Rösler et al., 2004; Satterfield & Schell, 1997; Thapar et al., 2006; Unnever et al., 2003). Boden et al. (2010) found that ADHD alone (meaning no comorbid disorder with CD/ODD) did not increase the risk of crime or substance use.

ADHD has also been linked to other predictors of (adult) criminal behavior. These included low educational achievement (Farrington et al., 1990), weak family bonds/attachment (Rösler et al., 2004; Thapar et al., 2006), and substance use (Molina et al., 2007). Some have suggested that there is an association between ADHD and crime because it is comorbid with other factors related to criminal behavior (see, e.g., Lahey & Waldman, 2003; Moffitt, 1990; Morgan & Lilienfeld, 2000; Obel et al., 2009). Pratt et al. (2002) conducted a meta-analysis to analyze the effect of ADHD on criminal offending. Pratt and colleagues found that ADHD had a meaningful effect on criminal behavior. Although differences occurred across methodological characteristics, ADHD was associated with an increase in the likelihood of criminal offending. Pratt et al. suggest

that ADHD could be an origin of low self-control. Unnever et al. (2003) assessed whether ADHD and low self-control were conceptually distinct. Although Gottfredson and Hirschi (1990) argue that low self-control is caused by ineffective parenting, Unnever and colleagues found that ADHD was a strong predictor of low self-control. They also found a direct link of parenting on crime and an indirect link through low self-control. Although they were unable to assess reciprocity given the cross-sectional nature of their sample, they speculate that higher levels of ineffective parenting may be the result of child ADHD. Unnever et al. also suggest a genetic element to ADHD and low self-control, supporting the idea that there is an internal child component to antisocial outcomes above and beyond parental practices.

Following Pratt et al.'s (2002) lead, additional attempts have been made to apply ADHD to criminological theory (Johnson & Kercher, 2007; Unnever et al., 2003; Unnever & Cornell, 2003). Savolainen et al. (2010) tested the link between ADHD and criminal behavior using Moffitt's (1993) dual taxonomy theory and Sampson and Laub's (1993) age-graded social control theory. Supporting Moffitt's (1990) finding that verbal intelligence and supportive family members weaken the effect of ADHD and crime, Savolainen and colleagues found a positive link between ADHD and crime net of other strong correlates of crime (e.g., low verbal ability, conduct disorder, and family adversity). Social bonds did not mediate the relationship between ADHD and crime, although low verbal ability moderated the relationship. With regard to general strain theory (Agnew, 1992), some have suggested that ADHD increases the prevalence of delinquent coping (Johnson & Kercher, 2007). As such, children with ADHD have a more difficult time in school.

Looking at the reciprocal relationship between child ADHD and parenting, Burke et al. (2008) found that child behaviors were more likely to influence parenting behaviors than the reverse relationship (also see Edwards et al., 2001; Huh et al., 2006). In other words, parenting behaviors did not predict ADHD, but rather ADHD influenced parenting behaviors. Regarding ADHD and parent-child behaviors, Lifford et al. (2008) found a difference in the gender of the parent. Mothers were more likely to be affected by child ADHD symptoms, while fathers were more likely to affect the child ADHD symptoms. As Savolanien et al. (2010) note, "...the fact that ADHD often manifests in poor interpersonal skills...is likely to have consequences for the style of parenting and the socialization process" (p. 445). Given that children influence parenting behaviors, an argument can be made that children are active participants in the socialization process. If poor child behaviors increases ineffective parenting, and these parenting techniques are shaping child attitudes and behaviors, under the ubiquity assumption it is likely ADHD impacts the legal socialization process as well.

Aggression. In the DSM-5, aggressive behavior falls under Intermittent Explosive Disorder. It is defined as "recurrent behavioral outbursts representing a failure to control aggressive impulses" (p. 312.34, American Psychiatric Association, 2013). These behaviors may include verbal aggression, physical aggression, and destruction of property that can be described as disproportionate in response to the provocation and impulsiveness. The minimum age for diagnosis is six years old, but the onset of aggression differs by severity (APA, 2013; Bolhuis et al., 2017). Although aggression is considered one of the most common forms of child behavioral issues (Campbell et al., 2000), only about 2% to 16% of children in the US meet the clinical criteria for the

disorder (American Psychiatric Association, 2013; McLaughlin et al., 2012; Polanczyk et al., 2015).

Aggression comes in many forms, such as overt/covert (Crick et al., 1997), destructive/nondestructive (Frick et al., 1993), direct/indirect (Card et al., 2008; Feshbach, 1969), and reactive/proactive (Raine et al., 2006). As such, it is considered common and highly related to other childhood disruptive disorders such as ADHD (e.g., Saylor & Amann, 2016; Granic, 2014; King & Waschbusch, 2010) and psychosocial problems that develop later in life (e.g., Baker, 2009; Bartels et al., 2018; Coie et al., 1993; Comer et al., 2013; Connor et al., 2006; Frick & Dickens, 2006; Johnson et al., 2014). The type and prevalence of aggression typically changes as children age, with young children engaging in physical aggression but switching to more verbal forms of aggression as they age (Coie & Dodge, 1998; Tremblay et al., 1999). Although associated with delinquency, childhood aggression does not always lead to crime in adolescence or adulthood (Hay et al., 2017; Jennings et al., 2015). Hay et al. (2017) found that aggressive children receive lower quality parenting overall compared to nonaggressive children. However, not all aggressive children have low quality parenting. Their finding that good parenting (e.g., attachment, consistent monitoring, and avoidance of harshness and hostility) in response to aggression can reduce later delinquency gives credence to the idea that parental behavior can curb negative child behaviors. What effect this has on child attitudes is unknown.

Similar to ADHD, the development of aggression can be linked to both genetic and environmental factors (Sattler et al., 2019). Aside from parenting behaviors, these environmental factors include marital discord and conflict (Amato & Keith, 1991; Hart et

al., 1998), low neighborhood social control (Sattler et al., 2019), peer rejection (Coie et al., 1995; also see Coie & Dodge, 1998; Hinshaw & Melnick, 1995), and vicarious and direct exposure to violence (Jaffee et al., 2004; Lynch & Cicchetti, 1998; Miller et al., 1999; Schwab-Stone et al., 1995; Stein et al., 2003). Parental stressors, such as tension, conflict, single parenthood, poverty, increase the risk of developing disruptive behavior disorders and aggressive tendencies (Campbell et al., 1996; Cmic et al., 2005; Cmie & Greenberg, 1990; Lieberman et al., 2005; McFadyen-Ketchum et al., 1996; Wadsworth et al., 2005).

Very few studies have assessed the developmental trends of aggression (Baillargeon et al., 2007; Björkqvist, 1994; Tremblay, 2000). Loeber and Hay (1997) attempted to identify the trajectories of overt aggression, covert aggression, and authority conflict. Overt aggression consists of children who bully and pester other children that progresses into physical fights in adolescence and violent crimes in adulthood. Covert aggression involves lying and stealing in childhood, vandalism/arson in adolescence, and manifests in things such as theft and fraud in adulthood. Authority conflict entails stubborn behaviors in childhood, and status offenses in adolescence, such as truancy, running away, and staying out past curfew. Although belonging in one of these pathways depends on whether a child is an experimenter or persister (see Loeber et al., 1997), Loeber and Hay found that aggression in childhood can lead to serious problems in adulthood. In a follow up study, Broidy et al. (2003) found that although persistent physical aggression across time is rare, it is seemingly stable in the minority of cases where it does occur. When children engage in physical aggression in childhood, they are more likely to engage in disruptive behaviors in adolescence.

One thing that is important to note, however, is that aggressive and other disruptive behaviors typically decline in preschool/early elementary school (Patterson et al., 2005) potentially due to psychological maturation (Nigg & Huang-Pollock, 2003) and socialization experiences (Snyder et al., 2003). Some children, however, do not improve (Tremblay, 2000) and may continue on to engage in antisocial behaviors in adolescence and adulthood (Moffitt, 1993). When children exhibit aggressive behaviors, it is likely that entering school and being exposed to things such as peer rejection and coercion exacerbate these behaviors (Snyder et al., 2004; Snyder et al., 2003). Some researchers have even found that once children are in school, direct parent effects are not as significant as peer effects on child behaviors (Patterson et al., 2000; Patterson & Yoerger, 2002) although the effect may still be strong in early elementary school (Nix et al., 1999).

Important to the present study is the research linking parental behaviors to the development of aggression. It is frequently found that punitive and harsh discipline contributes to child aggression (Gershoff, 2002, Gershoff & Grogan-Kaylor, 2016; Knutson et al., 2004; Knutson et al., 2005; Stormshak et al., 2000). Straus and Field (2003) conducted a 12-month study to determine the prevalence of harsh parenting techniques. They observed attempts to inflict psychological pain, yelling or screaming, spanking, cursing, calling names, and threatening to remove child from the home. Given the high frequency of parents reporting engaging in these various behaviors, Straus and Field conclude that harsh discipline is “an almost universal” type of parenting practiced in the US (p. 795). This is concerning given its impact on the development of aggression and other disruptive behaviors (Chang et al., 2003).

It is not surprising that exposure to violence (Coie & Dodge, 1998; Dodge et al., 1990) and physical abuse (Jaffee et al., 2004) are linked to the development of aggression. However, other less severe parenting behaviors, such as low parental involvement, low parental warmth, low emotional support, coercion, poor supervision, criticism, hostility, and psychological control, have also been linked to aggression (e.g., Bank & Burraston, 2001; Coie & Dodge, 1998; Dishion et al., 1994; Dishion et al., 1996; Loeber & Stouthamer-Loeber, 1986; McFadyen-Ketchum et al., 1996; Michiels et al., 2008; Patterson, 1982; Patterson et al., 1992; Pettit et al., 1999; Soenens et al., 2008; Stormshak et al., 2000). Although there is likely a genetic component to aggressive tendencies, these findings demonstrate that being in an environment characterized as hostile and unsupportive is likely to exacerbate aggressive behaviors.

Similar to ADHD, aggressive behavior has also been assessed for bidirectionality (see, e.g., Lytton, 1990). Scholars have argued that negative parenting is a reaction to oppositional behaviors exhibited by the child. Chen et al. (2000) found a reciprocal relationship between parental control and aggressive behaviors. In their study, higher levels of control predicted an increase in aggressive behavior. Likewise, aggressive behavior predicted an increase in control at a two year interval. In contrast, the authors found that parental warmth predicted lower levels of aggression, indicating positive parenting techniques can have a prosocial impact on child behavior. Again, not surprisingly these aggressive tendencies have been linked to a higher prevalence of engaging in delinquency (e.g., Wright et al., 2008). What is not clear is how these disciplinary techniques and aggressive reactions contribute to child attitudes toward the law and legal attitudes, and what implications they have for delinquency involvement.

Given what has been highlighted so far, it may be that child aggressive behaviors decrease the likelihood parents will engage in procedurally just behaviors, opting instead for a more coercive approach to gain control. As such, this coercive approach will likely yield little in gaining voluntary compliance but serve only to delegitimize the parent as an authority.

Current Study

Child externalizing behaviors (ADHD and aggression) have demonstrated a substantial impact on authority behavior. Put simply, children with these issues may be more likely to elicit punitive responses from authorities. However, it is not known if child behavior directly influences legal cynicism or indirectly influences cynicism through punitive parental responses. As such, the goal of this project is to empirically assess two core tenants of the legal socialization perspective: ubiquity and reciprocity. With regard to ubiquity, this study seeks to further highlight the role of parental authorities in the legal socialization process. Although the legal socialization perspective specifies reciprocity on a broader scale, this study not only explores bi-directionality at a more interactional level (e.g., the bidirectional impact of ADHD and aggression on punitive and positive parenting, and its relation to legal cynicism), it also seeks to address a different type of reciprocity at the conceptual level (e.g., legal cynicism and delinquency). The first set of hypotheses involve the relationship between parenting behaviors and child problem behaviors over time.

H1a) The relationship between parenting behaviors and child externalizing problem behaviors is reciprocal in nature.

H1b) Child externalizing problem behaviors will have a stronger effect on parenting behaviors than the reverse.

H1c) Children with higher levels of externalizing problem behaviors will have parents that engage in more punitive styles of discipline.

The second hypothesis assesses whether a reciprocal relationship between legal attitudes and delinquency over time.

H2a) A weak but significant reciprocal relationship exists between legal cynicism and delinquency.

The final set of hypotheses test direct, indirect, and reciprocal relationships between parenting behaviors, externalizing behaviors, legal cynicism, and criminal offending.

H3a) Children with higher levels of externalizing problem behavior will exhibit higher levels of legal cynicism.

H3b) Children with higher levels of externalizing problem behavior will self-report engaging in higher levels of delinquency.

H3c) Negative parenting behaviors will yield only minor effects on legal cynicism compared to externalizing problem behaviors.

H3d) Externalizing problem behaviors will yield more significant direct effects on legal cynicism compared to negative parenting behaviors..

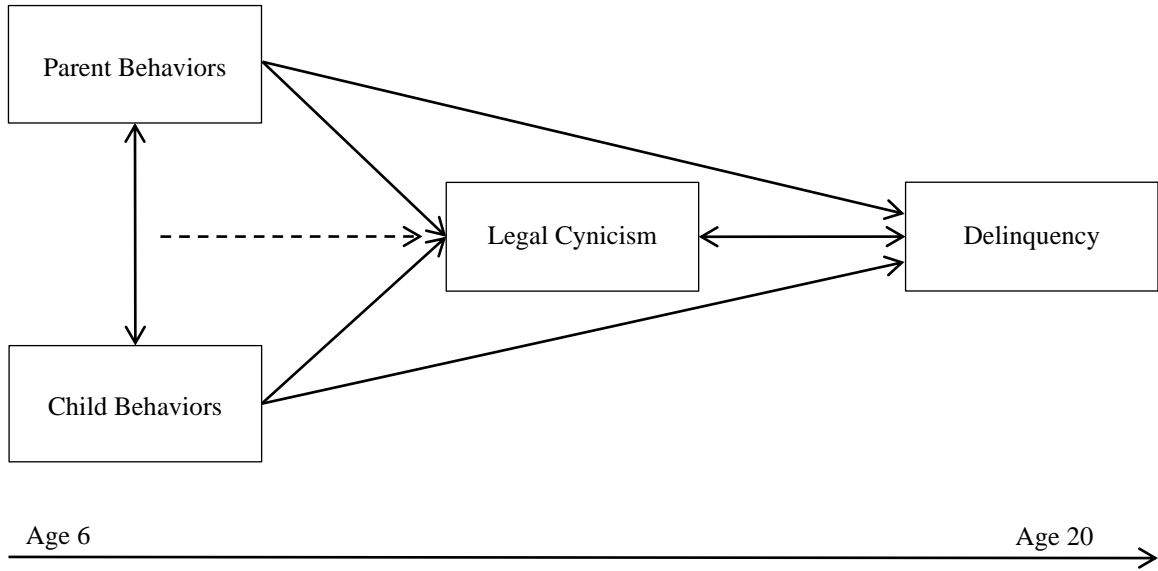


Figure 1. Theoretical model

Note: The model accounts for all control variables (SES, gender, procedural justice, police effectiveness, police contact, peer delinquency, morality, and general trust).

CHAPTER 3

DATA AND METHODS

Overview

This chapter describes the sample and methodology used to test the theoretical hypotheses. First, it outlines the participants, procedures, and sample. Next, the chapter provides an overview of the scaled variables, including example items, wave administration, and scale properties at each wave. Lastly, it explains the plan of the analysis for each research question.

Participants

This study uses eight waves of data from the Zurich Project on the Social Development from Childhood to Adulthood (z-proso). The project is an ongoing longitudinal multi-informant study of child development. Researchers approached 1,675 children, their teachers, and parents, from 56 randomly selected schools in Zurich, Switzerland beginning in 2004. The overall sample that was initially approached was 48.1% female ($n = 805$) and 51.9% male ($n = 870$). The average age (in years) at each wave of those who participated is as follows: 7 (wave 1), 8, 9, 11, 13, 15, 17, and 20 (wave 8). Table 1 provides the breakdowns for age and gender across each wave. Researchers used stratified sampling procedures based on school size and socioeconomic status of the school districts, with disadvantaged districts being slightly oversampled (Eisner et al., 2019). In wave 1, approximately 81% of the children approached participated ($n = 1360$). With regard to family origin via mother's country of birth, 42.6% were from Switzerland, 14.5% Former Yugoslavia, 5.8% Germany, 4.9% Portugal, 3.9%

Sri Lanka, 2.4% Turkey, 2.4% Italy, 1.6% Spain, and 20.5% were from other countries.

The resulting sample was representative of the city but not of the entire country.

Table 1. Sample Size and Summary Statistics of Sex and Age Across Wave								
	Wave							
	1	2	3	4	5	6	7	8
Total <i>n</i>	1360	1334	1321	1147	1365	1446	1305	1180
Male <i>n</i>	695	678	669	584	702	749	658	581
(%)	51.1	50.8	50.6	50.9	51.4	51.8	50.4	49.2
Age Mean	7.5	8.1	9.1	11.3	13.7	15.4	17.4	20.6
Age Min	6.1	6.7	7.8	10.0	12.3	14.1	16.1	19.2
Age Max	8.9	9.5	10.5	12.8	15.1	16.9	18.8	22.2
Total Participation % Across Waves by Informant								
Child	81.2%	79.6%	78.9%	68.5%	81.5%	86.3%	77.9%	70.4%
Parent	74.0%	71.1%	70.4%	64.2%	--	--	--	--
Teacher	80.5%	79.1%	77.2%	63.5%	--	--	--	--
Final Participation <i>n</i> Across Wave								
Child	--	--	--	--	1055	1132	1034	952
Parent	1148	1114	1107	1028	--	--	--	--
Teacher	1141	1137	1104	946	--	--	--	--
Note: Parents were only interviewed in waves 1-4 when children were 7, 8, 9, and 10. Teachers were interviewed at ages 7-15 (through wave 6). However, this study will only be using teacher report of child behaviors in waves 1 through 4. Final participation <i>n</i> is the sample <i>n</i> after teachers and parents who did not participate in waves 1 through 4 at least once and children who did not participate in waves 5 through 8 at least once were dropped.								

A detailed description of the attrition rates across the first seven waves for parents and children is provided in Eisner, Murray, Eisner, and Ribeaud (2019). In waves 1 through 4, parental consent was required. When parental consent was required, socially disadvantaged minorities were less likely to participate. However, in wave 5 when children could be re-approached without parental consent, minority status had less of an effect. Eisner and colleagues also found that parents of and children with higher levels of psychopathology were more likely to drop-out of the study. As noted in Nivette et al. (2019), from wave 7 to wave 8, men, immigrants, lower educated, and individuals with

lower SES parents were more likely to drop out of the study. They also note that individuals in wave 7 who dropped out in wave 8 were slightly more aggressive but did not differ with regard to delinquency, legal cynicism, or police legitimacy.

Multiple informants are extremely beneficial for ensuring a more accurate representation of the data. As such, multiple informants (i.e., parents, children, and teachers) are used in this study. Teacher reports of child problem behavior and parent report of parenting behaviors will be used in waves 1 through 4 to predict child self-report of attitudes and criminal offending in waves 5 through 8. Children, parents, and teachers that did not participate in at least one wave were removed from the sample ($n = 520$). The resulting sample n was 1155 (which is roughly 85% of the sample that participated in wave 1 and 69% of total target sample).

Procedures

When the study started in 2004, Zurich's population was around 365,000 people with a large proportion of immigrant residents. The average GDP was \$106k (USD). The unemployment rate was around 4%. To obtain the sample, researchers initially offered children \$30(USD) to complete self-report questionnaires and obtained consent from parents. After age 13, children were legally allowed to consent themselves, although parents were mailed a letter that allowed them to opt out of participating. As such, at wave 5, the researchers re-contacted the entire baseline target sample. From age 13 (wave 5) and beyond, children were administered questionnaires in classrooms outside of school hours. In addition to children, researchers collected data from parents four times when the children were 7, 8, 9, and 10 as well as from teachers when children were 7, 8, 9, 10, 11, 13, and 15. Parents participated in computer assisted home-based interviews. The

interviews were provided in 10 different languages including German, English, and Spanish. When children were 7 to 15 years old, teachers provided information via postal surveys. Parent and teacher participation rates are included in Table 1.

Several steps were taken to obtain and maintain a high participation rate. The contact letters that were sent out were written in the 10 most common languages (i.e., Albanian, Croatian, English, German, Italian, Portuguese, Serbian/Bosnian, Spanish, Tamil, and Turkish). Native speakers were used to recruit and interview participants in each of these languages. In addition to monetary incentives, the researchers obtained letters of support from school authorities and community stakeholders. Information packets containing the study information and consent forms were mailed to caregivers. If they did not respond, researchers made numerous phone calls to nonrespondents. For those who did not respond via mail or phone, a male and female interviewer visited their homes and explained the study in person. To obtain parental participation, the research team also offered shopping vouchers worth 20 Swiss francs (~20\$US) to parents. Parents that agreed signed an informed consent form. As the study progressed, the monetary incentives also increased.

Measures

Table 2 provides the scale properties, reporting informant, and waves used in the study.

Legal Socialization Outcomes and Predictors.

Legal Cynicism. Adapted from Karstedt and Farrall (2006) and Sampson and Bartusch (1998), this six item scale includes items such as “Laws were made to be broken” and “It’s a great feeling when you break the rules and don’t get caught.” The

items were scored on a four-point Likert scale ranging from *fully untrue* to *fully true*. The scale was created by taking an average of the six items, with higher scores indicating less support and commitment to rules. Legal cynicism was first measured in wave 5 when children were 13 years old and was reassessed in waves 6 through 8 when children were 15, 17, and 20. This study uses child self-reports of legal cynicism.

Two variables associated with legal attitudes, procedural justice and police effectiveness, are also included in the model. *Procedural Justice* is a two item scale capturing perceptions of police neutrality and respect. The scale includes “police apply the rules consistently to different people,” and “police treat people with dignity and respect.” *Police Effectiveness* is a single item scale capturing the respondents’ confidence in the police. The item specifically states “I’m confident that the police can do their job well.” Both scales were rated on four-point Likert scales, ranging from *fully untrue* to *fully true*. Additionally, both scales were averaged, with higher scores indicating higher perceptions of procedural justice and police effectiveness. The scales were first measured in wave 6 when children were 15 and reassessed when children were 17 and 20. This study uses child self-reports of police effectiveness and procedural justice.

Child Behavior.

Delinquency. This scale was developed by the z-proso project team. It captures engagement in various forms of delinquency (e.g., shoplifting, drug dealing, and vandalism) using a 16-item scale. Respondents were asked if they participated in various illicit activities within the past 12 months. Some examples include “stolen something at school,” “sold drugs (e.g. hashish, cocaine, ecstasy),” “carried a weapon or other dangerous object to protect yourself, or to threaten others or attack them,” and “sprayed

graffiti on buildings or on public transport, or made tags.” Responses were measured as 0 = no, 1 = yes. This scale is presented as a variety score, with higher scores indicating more engagement in delinquency. This study uses child self-reports in waves 5 through 8.

Externalizing Problem Behaviors. To obtain information on various child behavior predictors, the research team administered an adaptation of the Social Behavior Questionnaire (SBQ; Tremblay et al., 1991). This study focuses on two domains from the SBQ: ADHD and aggression. Although the SBQ specifically labels the measure of hyperactive, impulsive, and inattentive behaviors as ADHD, it should be noted that the measure is not a clinical diagnosis of ADHD. Therefore, the scale name Hyperactivity/Impulsivity/Inattention (HII) is used to acknowledge this distinction. HII is an 8-item single factor scale measuring child impulsive and inattentive behaviors. Items included in the SBQ are similar to its diagnostic criteria. These items include things such as “child is impulsive, acts without thinking,” “child can't concentrate, can't pay attention for long,” and “child has difficulty awaiting turn in games or groups.” Responses for the items were averaged, with higher scores indicating a higher prevalence of these behaviors. *Aggression* is an 11-item scale measuring engagement in physical, proactive, and reactive aggression. Some of the items included: “child kicks, bites, hits other children,” “child threatens people,” and “child reacts in an aggressive manner when teased.” Scores for these items were averaged, with higher scores indicating a higher prevalence of aggressive behaviors. Both scales are a 5-point Likert response set from *never* to *very often*. This study uses teacher reports of child problem behavior from waves 1 through 4. Teacher reports in z-proso are unique as children had the same teachers in waves 1 through 4.

Parental Behavior.

Parenting behaviors were adapted from the Alabama Parenting Questionnaire (APQ) and the Parenting Scale from the Criminological Research Institute of Lower Saxony (Kriminologisches Forschungsinstitut Niedersachsen [KFN]) (Shelton et al., 1996; Wetzels et al., 2001; Wilmers et al., 2002). This study will focus on two dimensions of the APQ: aversive parenting and prosocial parenting. *Aversive parenting* includes 9 items measuring parental use of physical, harsh, and inconsistent discipline. Examples include: “you threaten to punish child and then do not actually punish him/her,” “you give child a more severe punishment than usual because you are in a bad mood,” and “you slap child when she/he has done something wrong.” The scores for the scale items were averaged, with higher scores indicating a higher prevalence of aversive parenting techniques. *Prosocial parenting* is a 15-item composite scale of positive parenting and positive involvement. Items include: “you have a talk to child about his/her friends,” “you play games or do other fun things with child,” “you let child know when he/she is doing a good job with something,” and “you compliment when he/she does something well.” The scores for the items comprising the scale were averaged, with higher scores indicating a higher use of prosocial techniques. The response options ranged from *never* to *often/always* along a closed-ended 5-point scale. This study uses parental reports of these behaviors in waves 1 through 4.

Control Variables.

Demographic Information. Socio-economic status (SES) has been found to influence parenting beliefs, values, and behaviors (see Conger, Conger, & Martin, 2010 for a review). For example, lower SES creates greater conflict, which can lead to more

punitive parenting behaviors, less involvement, and or inconsistent parenting (Conger & Conger, 2002; Conger et al., 2002). In addition to beliefs, immigrants are also more likely to be in lower SES, come into contact with the police, and experience discrimination (Piquero et al., 2016; Röder & Mühlau, 2012; Sampson & Bartusch, 1998; van Craen, 2013; van Craen & Skogan, 2015). Therefore, *SES* which encompasses the highest household income across both mothers and fathers is included. *Gender*, a dichotomous measure, is also included as a control, with 0 = female and 1 = male.

Police Contact. This single item measure captures whether the respondent had contact with the police since the previous study period (2 year time frame; 1 = yes). This study uses child reports from waves 5 through 7.

Peer Delinquency. Children were asked to identify their two best friends and respond to six delinquency items for each friend. These items, adapted from the KFN studies (Wetzels et al., 2001; Wilmers et al., 2002), include items such as: “In the last year, has [your friend] stolen something from a shop/kiosk,” “In the last year, has [your friend] drunk alcohol,” and “In the last year, has [your friend] smoked cigarettes?” Children were asked to respond either *yes* (coded 1) or *no* (coded 0) for each item. The items for both friends were averaged, with higher scores indicating higher levels of peer delinquency. This study uses child reports in waves 5-8.

Morality. This 5-item scale captures a respondent’s moral beliefs about breaking rules. Each item began “How bad is it when someone of your age ...” and included things like “lies to his/her parents, teachers, or other adults,” “plays truant on purpose,” and “hits someone because he/she was insulted.” The items were based on a 7-point scale

from not bad at all to very bad. Items were averaged, with higher scores indicating higher levels of morality. This study uses child reports in waves 5-8.

General Trust is a 3-item scale adapted from the World Values Survey Questionnaires (http://www.worldvaluessurvey.org/index_html) designed to capture a respondents overall sense of trust. Items include “most people can be trusted,” “people usually try to help one another,” and “most people try to be fair.” Responses ranged from *fully untrue* to *fully true*. The items that comprised the scale were averaged and summed such that higher scores indicate higher levels of trust. This study uses child reports in waves 5 through 8.

Table 2. Cronbach's Alpha, Means, and SDs across Waves								
Waves	1	2	3	4	5	6	7	8
Parent Report								
Aversive Parenting ($\alpha =$) (M; SD)	.647 1.07; .41	.688 1.02; .42	.712 1.03; .42	.723 1.00; .42				
Prosocial Parenting ($\alpha =$) (M; SD)	.693 3.21; .51	.754 3.16; .52	.764 3.15; .53	.793 3.08; .57				
Teacher Report								
HII ($\alpha =$) (M; SD)	.939 1.23; .99	.946 1.10; .99	.945 1.07; .96	.947 1.06; .99				
Aggression ($\alpha =$) (M; SD)	.934 .57; .68	.934 .53; .62	.933 .56; .63	.940 .48; .62				
Child Report								
Legal Cynicism ($\alpha =$) (M; SD)					.701 2.18; .59	.723 2.20; .56	.762 2.24; .57	.774 2.08; .56
Police Effectiveness (M; SD)						* 2.81; .79	* 2.70; .83	* 2.75; .80
Procedural Justice ($\alpha =$) (M; SD)						.712 2.67; .78	.808 2.49; .81	.734 2.49; .74
Delinquency (M; SD)					* 1.90; 2.11	* 2.23; 2.16	* 1.92; 1.91	* 1.53; 1.60
Police Contact (1 = yes) % yes					* 7.33%	* 10.43%	* 9.29%	
Peer Delinquency ($\alpha =$) (M; SD)					.831 .15; .21	.796 .34; .25	.759 .45; .22	.707 .45; .20
Morality ($\alpha =$) (M; SD)					.806 4.61; 1.26	.772 4.22; 1.19	.762 4.36; 1.16	.730 4.78; 1.09
General Trust ($\alpha =$) (M; SD)					.737 2.61; .57	.776 2.42; .57	.827 2.34; .63	.843 2.37; .66
Note: An asterisk indicates reliability coefficients are not applicable.								

Plan of Analysis

This study uses one data-analytic procedure to accomplish the research objectives. First, to assess whether a reciprocal relationship between parenting behaviors (aversive and prosocial) and child behaviors (HII and aggression) exists, multivariate Latent Curve Models with Structured Residuals (LCM-SR) using Mplus statistical software (Muthén & Muthén, 2019) will be employed (see Curran et al., 2014; Hawes et al., 2015). Although it is similar to general latent curve models, it differs in that it “structures” the residuals between the repeated measures and latent growth curve as time-specific (Curran et al., 2014). This type of analysis is ideal for these purposes because it allows for testing a reciprocal relationship between child behaviors and parental response while also differentiating between-person and within-person effects. In other words, the analysis will demonstrate, for example, how externalizing behavior and parenting behaviors are developing over time, the variability in their rates of development, and whether changes in externalizing behavior across time are related to changes in parenting. In addition, the model will estimate whether higher than expected values of parenting and externalizing behavior at one time point are related to higher than expected values of externalizing and parenting behaviors at a subsequent time point, essentially measuring stability within and across these constructs. The within-person effects are measured by the structured residuals while the between individual effects are identified in the slope and intercept. More specifically, between-person differences are captured in the variance of the intercepts and the means and variances of the slopes. The within-person effects are measured by the autoregressive and cross-lagged structured residuals. The autoregressive component measures the within-person residuals for one variable at multiple time points

while the cross-lagged parameters measure whether the residuals of one variable at one time are related to the residuals of a different variable at the subsequent time. These within-person parameters can be added to the model without affecting the between-person effects.

Missing Data

As mentioned previously, in zproso, the participation rates and retention were very high across all waves. From wave 1 to wave 4, the average retention rate was roughly 94% for parents and 93% for teachers. From wave 5 to wave 8, the average retention rate for children was approximately 96%. Full-information maximum likelihood (FIML) is used to account for missing values (Allison, 2003; Enders & Bandalos, 2001; Ferro, 2013). FIML provides unbiased parameter estimates under the assumption that the data is missing at random and is superior to other missing data techniques (Enders & Bandalos, 2001).

Modeling Process

To run LCM-SR, several steps will be taken. As described in Hawes et al. (2015), LCM-SR requires a model building strategy whereby the best fitting model for each growth curve will need to be assessed in order to combine trajectories of child and parental behaviors. Goodness of fit will be assessed using model fit indices such as the Root Mean Square Error of Approximation (RMSEA) and Comparative Fit Index (CFI). Acceptable fit is measured as an $RMSEA < 0.08$ and a $CFI > 0.95$ when chi-square is significant (Hu & Bentler, 1999). Nested model comparisons will be conducted to determine if more complex models provide a statistically significant improvement in model fit relative to a simpler (nested) model (Satorra & Bentler, 2001).

To build each LCM-SR model, the model fitting process begins by assessing an unconditional univariate model for each child behavior (HII and aggression). First, an intercept only growth curve for child behavior waves 1 through 4 is estimated with residual variances of the repeated measures allowed to vary over time. If the model does not provide adequate model fit to the observed data, a linear slope factor $\lambda t = 0, 0.5, 1, 2$ (time intervals are wave 1 (baseline), wave 2 (6 months), wave 3 (1 year), and wave 4 (1 year)) is added to the model. This model includes the following identifications: means, variances, and covariances for the slope and intercept and time-specific residual variances which were allowed to vary over time. If model fit does not yield ideal results, two models are assessed and compared. The first model frees the middle time points in the slope factor as a way to accommodate non-linear changes in the model (see McNeish & Matta, 2018). The second model adds a quadratic factor and its covariances to allow for growth that follows an exponential pattern. Because these models are not nested, the Satorra and Bentler chi-square difference test cannot be used. Therefore, decisions for which model is used and why are provided for each univariate model. These models are then compared to the linear slope model with the best fitting model being retained. Lastly, an autoregressive element among the time specific residuals is added to the best fitting model and compared to determine if autoregressive components significantly improve model fit. The process is then repeated for the parenting behaviors.

The next step for building LCM-SR is to combine the univariate unconditional child model (HII or aggression) and the univariate unconditional parenting model (prosocial or aversive) into a bivariate LCM. In this model, the intercept and growth factors for each variable are allowed to covary. The time-specific residuals between child

behavior and parenting are also allowed to covary and their covariances set to be equal across time 2, 3, and 4 (similar to Curran et al., 2014). The model includes autoregressive components. After assessing this model, cross-lagged parameters are added to the model and constrained to equality across time. Next, if model fit improves with the inclusion of cross-lagged parameters, two additional models will be estimated. First, the autoregressive parameters will be freed and compared to the fully constrained model to determine if freeing the parameters significantly improves the model. Second, the cross-lagged parameters are freed and compared to the fully constrained model. The best fitting model of this process is identified as the final unconditional bivariate LCM-SR.

To determine if the relationship between legal cynicism and delinquency is reciprocal, another LCM-SR model is evaluated. It follows the same process outlined above by first defining the best fitting univariate models for legal cynicism and delinquency. Next, the two models are combined and assessed for autoregressive and cross-lagged parameters. Based on the results of the unconditional LCM-SR modeling processes from both the parenting/child and legal cynicism/delinquency models, a final conditional LCM-SR that includes the control variables noted previously is analyzed. This will allow for identifying the between-person relationship among parenting behaviors and externalizing behaviors on legal attitudes and delinquency. In other words, the final model will address research aim 2 (whether a direct relationship exists between parenting and legal cynicism and externalizing behavior and legal cynicism). All of the models are specified using maximum likelihood parameter estimation “with standard errors and a chi-square test statistic...that are robust to non-normality” (MLR; p. 668; Muthén & Muthén, 1998–2012).

CHAPTER 4

RESULTS

This chapter discusses the results from the Latent Curve Models with Structured Residuals. First, the chapter provides a discussion of the process through which each LCM-SR model was developed. Next, the results of the final unconditional LCM-SR for aversive parenting and HII, aversive parenting and aggression, prosocial parenting and HII, prosocial parenting and aggression, and legal cynicism and child delinquency is discussed with regard to both between- and within-person effects. Finally, chapter 4 provides and discusses a final conditional model encompassing all eight waves of data (Table 10).

Modeling Process for Child-Parent Behavior

Univariate Child Behavior Models.

HII. Table 3 provides the results of the model fitting process for the univariate LCM-SR growth curves for HII and aggression. As described in chapter 3, the process began by fitting an intercept only model. The univariate intercept only model for HII did not provide a good fit to the observed data. Per the chi-square difference test, the addition of a linear slope factor significantly improved model fit. Although the CFI was in an acceptable range, the RMSEA was not. Next, the model where the change in time was freed to allow for nonlinear changes in HII would not converge, so the model was not compared to the intercept and slope model. The addition of the quadratic factor did significantly improve model fit and the model fit statistics were within the acceptable ranges. As such, the autoregressive parameters were added to the quadratic model. When the autoregressive parameters were added, the residual variance for time 4 yielded small

negative value causing a not positive definite error in the model. As such, because the residual variance was not significant and small, it was fixed to 0 and the time for residual variance was removed from the autoregressive parameters. Given that the model with the autoregressive parameters had the same degrees of freedom as the model without, the chi-square comparison test could not be computed. Therefore, because it makes theoretical sense for HII values at one time point to be related to a subsequent time point, the HII autoregressive model was included in the bivariate models.

Table 3: Results from the Multivariate Model Fitting Process: Univariate Child Behavior Models

Variables	χ^2	df	Scaling		CM	CD	$\Delta\chi^2$	df	CFI	RMSEA	Adj. BIC
			Corr. F								
HII											
1 Intercept Only	148.65*	8	1.11	-	-	-	-	0.91	0.12	10007.22	
2 Intercept and Linear Slope	77.25*	5	1.12	1	1.10	71.73*	3	0.95	0.11	9940.17	
3 Intercept and Slope – Time Change Freed – would not converge	-	-	-	-	-	-	-	-	-	-	
4 Intercept, Linear Slope, and Quadratic	4.38 ^{ns}	1	1.06	2	1.13	72.17*	4	1.00	0.05	9873.80	
5 Intercept, Linear Slope, and Quadratic with Autoregressive – residual4@0	4.61*	1	1.01	4	-	-	-	1.00	0.06	9873.80	
Aggression											
1 Intercept Only	105.48*	8	1.58	-	-	-	-	0.88	0.10	7063.51	
2 Intercept and Linear Slope	27.73*	5	1.52	1	1.67	74.10*	3	0.97	0.06	6951.02	
3 Intercept and Slope – Time Change Freed	30.09*	3	0.77	2	2.63	7.14*	2	0.97	0.09	6940.00	
4 Intercept, Linear Slope, and Quadratic	10.72*	1	1.05	2	1.63	18.87*	4	0.99	0.09	6935.73	
5 Intercept, Linear Slope, and Quadratic with Autoregressive	10.72*	1	1.05	4	-	-	-	0.99	0.09	6935.73	

$\Delta\chi^2$ column * = better fitting model/retained; * = $p < .05$

Notes. χ^2 = chi-square test of model fit; df = degrees of freedom; $\Delta\chi^2$ = chi square difference test (* = $\Delta\chi^2$ is significant at $p < .05$); CD = Difference Test Scaling Correction; @0 denotes variances held to 0 to fix not positive definite errors, etc.

CM = comparison model; CFI = comparative fit index; RMSEA = root mean square error of approximation; Adj. BIC = Sample Size Adjusted Bayesian Information Criteria; LGCM = Latent Growth Curve Model, LCM-SR = Latent Curve Model with Structured Residuals, I = Intercept, S = Slope, Q = Quadratic

Aggression. Table 3 also provides the model fitting process for aggression. The aggression intercept only model also had poor model fit, and the addition of a slope factor significantly improved the model. Next, both the time change freed model and the

quadratic model were estimated and significantly improved model fit. However, because the chi-square difference test for the quadratic model yielded a larger change, the autoregressive parameters were added to the quadratic model. Similar to the HII model, when the autoregressive parameters were added, the residual for time 4 yielded a small negative value. To correct the error, the time 4 residual was fixed to 0 and the time 4 residual variance was removed from the autoregressive parameters. And again, similar to HII the degrees of freedom were the same for model 4 and model 5, so the chi-square difference test could not be computed. As such, the autoregressive parameters were retained given theoretical consideration.

Univariate Parent Behavior Models.

Aversive Parenting. Table 4 provides the results of the model fitting process for the univariate unconditional LCM-SR growth curves for aversive and prosocial parenting. The aversive parenting intercept only model had a CFI and RMSEA that was in the low end of the acceptable range. The addition of the linear slope factor significantly improved model fit. However, when estimating the time change freed model, the standard errors could not be computed without fixing the variance of the slope factor @0. As such, the degrees of freedom for model 2 and model 3 are the same and the chi-square difference test cannot be computed. In model 4, when the quadratic factor was added, the slope factor was causing a not positive definite error and could also not be computed without fixing the slope variance to 0. When compared to model 2, adding the quadratic did not significantly improve model fit. As such, the autoregressive parameters were added to the intercept/linear slope model. The autoregressive components nearly

reached statistical significance at the .05 level. Therefore, the autoregressive model was retained for the bivariate models.

Table 4: Results from the Multivariate Model Fitting Process: Univariate Parent Behavior Models

Variables	χ^2	df	Scaling Corr. F	CM	CD	$\Delta\chi^2$	df	CFI	RMSEA	Adj. BIC
Aversive Parenting										
1 Intercept Only	74.30*	8	1.16	-	-	-	-	0.95	0.09	3498.83
2 Intercept and Linear Slope	24.63*	5	1.17	1	1.14	50.43*	3	0.99	0.06	3453.21
3 Intercept and Slope – Time Change Freed – slope @0	29.01*	5	1.25	2	-	-	-	0.98	0.07	3460.40
4 Intercept, Linear Slope, and Quadratic – slope@0	20.73*	4	1.19	2	1.11	3.82 ^{ns}	1	0.99	0.06	3458.07
5 Intercept and Linear Slope with Autoregressive	22.60*	4	1.08	2	1.55	2.91 ⁺	4	0.99	0.06	3452.56
Prosocial Parenting										
1 Intercept Only	225.42*	8	1.10	-	-	-	-	0.86	0.15	2190.12
2 Intercept and Linear Slope	30.85*	5	1.07	1	1.15	187.47*	3	0.98	0.07	1986.44
3 Intercept and Slope – Time Change Freed	6.78	3	1.04	2	1.13	23.07*	2	0.99	0.03	1968.06
4 Intercept, Linear Slope, and Quadratic – Quadratic@0	20.33*	4	1.07	2	1.09	10.44*	1	0.99	0.06	1978.92
5 Intercept and Slope – Time Change Freed with Autoregressive	2.98	2	1.00	3	1.11	3.63 ⁺	1	1.00	0.02	1585.72

$\Delta\chi^2$ column * = better fitting model/retained; * = $p < .05$

Notes. χ^2 = chi-square test of model fit; df = degrees of freedom; $\Delta\chi^2$ = chi square difference test (* = $\Delta\chi^2$ is significant at $p < .05$); CD = Difference Test Scaling Correction; @0 denotes variances held to 0 to fix not positive definite errors, etc.

CM = comparison model; CFI = comparative fit index; RMSEA = root mean square error of approximation; Adj. BIC = Sample Size Adjusted Bayesian Information Criteria; LGCM = Latent Growth Curve Model, LCM-SR = Latent Curve Model with Structured Residuals, I = Intercept, S = Slope, Q = Quadratic

Prosocial Parenting. Table 4 also provides the model fitting process for prosocial parenting. The prosocial parenting intercept only model did not meet the standard for acceptable model fit. However, the addition of the linear slope model significantly improved the model and the RMSEA and CFI were both in an acceptable range. Next, when compared to the intercept/linear slope model, both the time changed freed and quadratic models significantly improved model fit. It should be noted, however, that when the quadratic was added to the model, the quadratic factor caused a not positive definite error and the variance needed to be fixed to 0. As such, given this error and the better model fit statistics for the time freed model, the autoregressive parameters were

added to this time change freed model. The chi-square difference test for the autoregressive parameter model nearly reached statistical significance at the .05 level, so the parameters were retained for the bivariate models.

Bivariate Unconditional LCM-SR: Child-Parent Models

HII and Aversive Parenting. Table 5 provides the results of the bivariate model fitting process for HII, aversive, and prosocial parenting. As mentioned, the bivariate unconditional LCM-SR model combines the best fitting models from the univariate growth curve modeling process. For the bivariate HII and aversive parenting LCM-SR, model 6 contained the following specifications: 1) a growth curve model for HII with an intercept, slope, and quadratic factor; the time 4 residual variance was fixed to 0 and the autoregressive components constrained to equal were estimated (without the time 4 residual variance), 2) a growth curve model for aversive parenting with an intercept and slope factor; and 3) the autoregressive components constrained to equal were estimated. Lastly, this initial model did not include cross-lagged parameters. The model fit the data well, with the RMSEA and CFI falling in good ranges. Next, cross-lagged parameters constrained to equal (without the time 4 residual variances for HII and aversive parenting) were added to the model. This model did not significantly improve model fit, although the RMSEA and CFI were still within acceptable ranges. Since the inclusion of cross-lagged parameters decreased the RMSEA and CFI, models freeing the autoregressive and cross-lagged parameters of this model were not estimated. Given that the goal of this study is to identify reciprocal effects, the findings for the constrained model with cross-lagged parameters is provided in Table 6.

Between-Person effects.

In an LCM-SR, between-person differences are indicated by the random intercepts and slopes. The covariance between the intercepts was significant and positive, indicating that individuals with higher levels of HII at the first time period were more likely to have parents who engaged in aversive parenting behaviors ($r = .18, p < .001$). The covariance between the slope factors was not significant, which meant that between-individual differences in changes in HII across time were unrelated to changes in aversive parenting ($r = 0.02, p > 0.5$).

Within-Person effects.

Autoregressive Paths. Positive and significant autoregressive coefficients indicate that youth who experienced increases in levels of one behavior at one time point were more likely to experience increases in their scores at the subsequent time point. Given that the autoregressive parameters were constrained in this model, the autoregressive paths were set to equal over time. For HII, the autoregressive paths from time 1 to time 4 approached significance ($p < .10$). Therefore, it is likely a higher than expected value of HII at time 1 may lead to a higher than expected value of HII at a subsequent time point. The autoregressive parameters for aversive parenting were not significant. This indicates that a higher than expected value of aversive parenting at one time point did not lead to a higher than expected value at a subsequent time point.

Cross-lagged Paths. In this model, the cross-lagged paths between HII-aversive parenting were also constrained to equal across time. As Table 7 and Figure 2 demonstrate, neither cross-lagged path was significant. This means HII did not predict any changes in aversive parenting and aversive parenting did not predict any changes in

HII. In addition, none of the covariances between the structured residuals were significant. Therefore, no reciprocal effects were found.

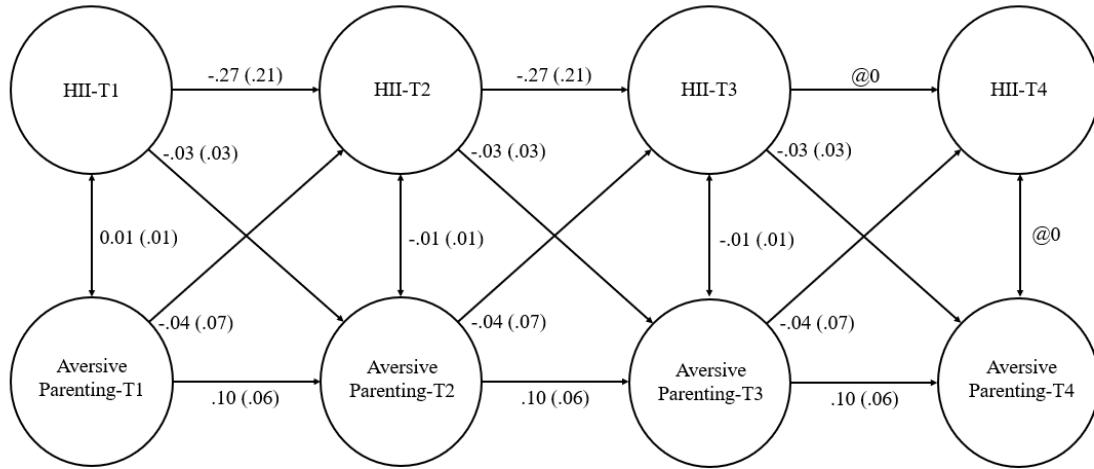


Figure 2. Within-Person portion of the HII-Aversive Parenting Latent Curve Model with Structured Residuals (LCM-SR)
 Note: Unstandardized coefficients are displayed; none of the estimates are significant at $p \leq 0.05$;

Table 5: Results from the Multivariate Model Fitting Process: Bivariate HII-Aversive and Prosocial Parenting

Variables	χ^2	df	Scaling Corr. F	CM	CD	$\Delta\chi^2$	df	CFI	RMSEA	Adj. BIC
Aversive Parenting										
6 Bivariate unconditional LCM-SR without Cross-lagged parameters	31.47*	12	1.04	-	-	-	-	1.00	0.04	13297.82
7 Bivariate unconditional LCM-SR with ARCL constrained to equal	38.83*	11	1.12	6	0.25	-42.31 ^{ns}	1	0.99	0.05	13312.18
Prosocial Parenting										
6 Bivariate unconditional LCM-SR without Cross-lagged parameters	16.29	10	0.80	-	-	-	-	1.00	0.02	11864.02
7 Bivariate unconditional LCM-SR with ARCL constrained to equal – HIIS@0; HIIQ@0;	59.09*	17	1.08	-	-	-	-	0.99	0.05	11887.61

$\Delta\chi^2$ column * = better fitting model/retained; * = $p < .05$

Notes. χ^2 = chi-square test of model fit; df = degrees of freedom; $\Delta\chi^2$ = chi square difference test (* = $\Delta\chi^2$ is significant at $p < .05$); CD = Difference Test Scaling Correction; @0 denotes variances held to 0 to fix not positive definite errors, etc.

CM = comparison model; CFI = comparative fit index; RMSEA = root mean square error of approximation; Adj. BIC = Sample Size Adjusted Bayesian Information Criteria; LGCM = Latent Growth Curve Model, LCM-SR = Latent Curve Model with Structured Residuals, I = Intercept, S = Slope, Q = Quadratic

HII and Prosocial Parenting. Table 5 also provides the model fitting process for HII with prosocial parenting. For the bivariate HII and prosocial parenting LCM-SR, model 6 initially contained the same specifications for the HII growth curve noted previously. Prosocial parenting contained an intercept and slope with the change in time freed, with autoregressive parameters constrained to equality, and no cross-lagged parameters. The model fit the data very well, with the RMSEA and CFI falling in good ranges. In model 7, the cross-lagged parameters constrained to equal were added to the model. When the cross-lagged parameters were added, the variances for the HII slope and quadratic factor were negative, causing a not positive definite error. To fix the error, the linear slope and quadratic factors of HII were fixed to 0 and the specification to fix the variance of the time 4 residual to 0 was removed. Given that fixing the HII slope and quadratic factor variances to 0 increases the degrees of freedom, the chi-square difference test could not be computed. As such, models freeing the autoregressive and cross-lagged parameters of this model were not estimated. However, similar to the HII-aversive parenting model, because the goal is to identify reciprocal effects, the results of the model with cross-lagged parameters are provided in Table 6.

Between-Person effects. The covariance between the HII and prosocial parenting intercepts was not significant, indicating that individuals with higher levels of HII at the first time period were not more likely to have parents who engaged in prosocial parenting behaviors. Given that the variances of the slopes were constrained to 0, a simpler model that did not contain the autoregressive and cross-lagged components was estimated in order to identify the relationships between the slope factors. In the simple model, the covariance between the slope factors was not significant, which meant that between-

individual differences in changes in HII across time were unrelated to changes in prosocial parenting.

Within-Person effects.

Autoregressive Paths. In this model, the autoregressive parameters were constrained to equal. The autoregressive paths for prosocial parenting approached significance ($p = .055$) indicating that individuals with a higher than expected level of prosocial parenting at one time point were likely to have a higher than expected level of prosocial parenting at a subsequent time point. The autoregressive paths for HII did reach statistical significance in this model, indicating that individuals with a higher than expected value of HII at one time point were likely to have a higher than expected value of HII at a subsequent time point.

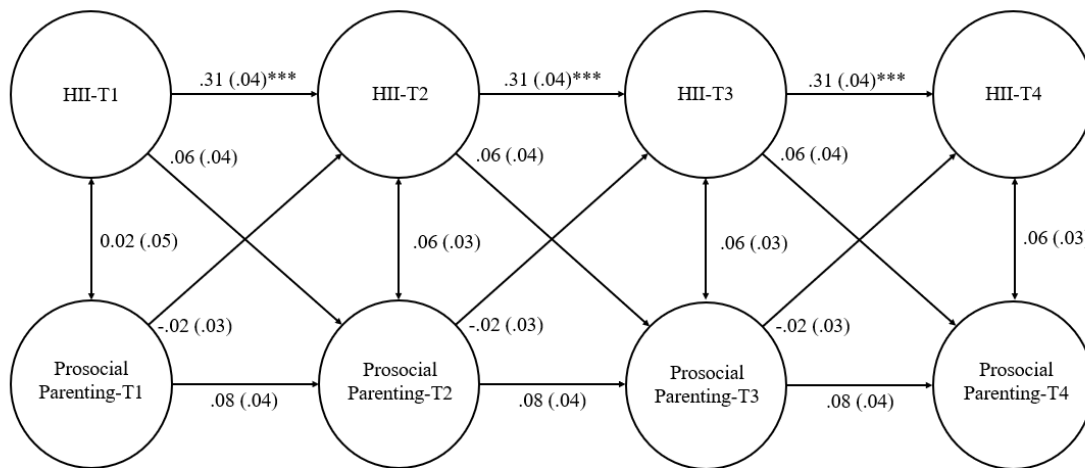


Figure 3. Within-Person portion of the HII-Prosocial Parenting Latent Curve Model with Structured Residuals (LCM-SR)
 Note: Unstandardized coefficients are displayed; *** = $p \leq 0.001$;

Cross-lagged Paths. The cross-lagged paths between HII and prosocial parenting were constrained to equal. None of the cross-lagged paths were significant. In other words, individuals with higher than expected levels of prosocial parenting did not predict

changes in HII. Likewise individuals with higher than expected levels of HII did not predict changes in prosocial parenting. In addition, none of the covariances between the structured residuals were significant. Therefore, no reciprocal effects were found.

Table 6: Final Unconditional LCM-SR Parenting-Child Models

Parenting Behavior:	HII				Aggression			
	Aversive		Prosocial		Aversive		Prosocial	
	b	se	b	se	b	se	b	se
Between-person effects								
Parenting Intercept Mean	1.00***	0.01	3.20***	0.01	1.00***	0.01	3.19***	0.01
Parenting Intercept Variance	0.12***	0.01	0.09***	0.01	0.14***	0.01	0.10***	0.01
Parenting Slope Mean	-0.04***	0.01	-0.16***	0.01	-0.04***	0.01	-0.16***	0.01
Parenting Slope Variance	0.01	0.01	0.03+	0.01	0.01	0.01	0.04*	0.02
Child Intercept Mean	1.23***	0.03	1.23***	0.03	0.57***	0.02	0.57***	0.02
Child Intercept Variance	0.93***	0.05	0.57***	0.03	0.17***	0.02	0.17	0.02
Child Slope Mean	-0.26***	0.04	-0.26***	0.04	-0.02	0.03	-0.02	0.03
Child Slope Variance	1.40***	0.28	@0		@0		@0	
Covariances								
Parent-Child Intercept	0.18***	0.04	0.01	0.05	0.21***	0.04	0.02	0.74
Parent-Child Slope	0.02	0.12	@0		@0		@0	
Parent Intercept-Parent Slope	0.03	0.17	0.04	0.20	-0.32*	0.13	-0.11	0.17
Child Intercept-Child Slope	-0.36***	0.04	@0		@0		@0	
Within-person effects								
Autoregressions								
Parent T1 → T2					-0.26	0.16	0.04	0.11
Parent T2 → T3	0.10+	0.06	0.08+	0.04	0.14**	0.06	0.15*	0.06
Parent T3 → T4					0.23+	0.13	0.04	0.12
Child T1 → T2					0.48***	0.04	0.48***	0.05
Child T2 → T3	-0.27	0.21	0.31***	0.04	0.35***	0.06	0.36***	0.06
Child T3 → T4					-0.09	0.08	-0.08	0.08
Crosslagged Paths								
Parent → Child	-0.04	0.07	-0.02	0.03	-0.04+	0.02	0.01	0.03
Child → Parent	-0.03	0.03	0.06	0.04	0.01	0.05	0.02	0.04
LCM-SR Model:	Constrained		Constrained		Autoregressive Freed		Autoregressive Freed	
Model Fit								
χ ² (df)	38.83(11)*		59.09(17)*		38.91(15)*		32.66(13)*	
BIC	13312.18		11887.61		10365.80		8934.24	
CFI	0.99		0.99		.99		.99	
RMSEA	0.05		0.05		0.04		0.04	

b = unstandardized effects; * p < .05, ** p < .01, *** p < .001, + p < .10; (two-tailed test)

Aggression and Aversive Parenting. Table 7 provides the model fitting process for the aggression, aversive, and prosocial parenting models. The bivariate aggression and aversive parenting LCM-SR model 6 contained the following specifications: 1) a

growth curve model for aggression with an intercept, slope, and quadratic factor; the autoregressive components constrained to equal were estimated (without the time 4 residual variance), 2) a growth curve model for aversive parenting with the same specifications noted previously. The model fit the data well, with the RMSEA and CFI falling in good ranges. Next, cross-lagged parameters constrained to equal (without the time 4 residual variances for aggression and aversive parenting) were added to the model. The RMSEA and CFI improved with the inclusion of cross-lagged parameters, although the chi-square difference test did not reach statistical significance. Next, a model where the autoregressive parameters were freed and a model where the cross-lagged parameters were freed were estimated and compared to the constrained model. Freeing the autoregressive parameters significantly improved model fit but freeing the cross-lagged parameters did not. Furthermore, freeing the cross-lagged parameters resulted in a negative variance for the aggression intercept and required the variance to be fixed to 0 in order for the model to be estimated. As such, the results of the autoregressive freed model are provided in Table 6.

Between-Person effects. Table 6 demonstrates that the covariance between the aggression and aversive parenting intercepts was significant and positive, indicating that individuals with higher levels of aggression at the first time period were more likely to have parents who engaged in aversive parenting behaviors ($r = .04, p < .001$). Similar to the HII-prosocial parenting model, in order to identify the relationships between the slope factors, a simpler model that did not contain the autoregressive and cross-lagged components was estimated. In the simple model, the covariance between the slope factors was not significant, which meant that between-individual differences in changes in

aggression across time were unrelated to changes in aversive parenting ($r = -0.01 (0.01) p = 0.440$).

Within-Person effects.

Autoregressive Paths. In this model, the autoregressive parameters were freed which allowed the autoregressive paths to change over time. From time 1 to 2 and 2 to 3, individuals with a higher than expected level of aggression were likely to have a higher than expected level of aggression on the subsequent time points. However, the autoregressive path from wave 3 to 4 was not significant, indicating that a higher than expected level of aggression at wave 3 did not lead to higher than expected level of aggression at wave 4. For aversive parenting, a higher than expected value of aversive parenting at time 1 did not lead to a higher than expected value at time 2, nor did time 3 to time 4. However, from time 2 to 3, the autoregressive coefficients were significant and positive indicating that a higher than expected value of aversive parenting at time 2 was likely to have a higher than expected value of aversive parenting at time 3.

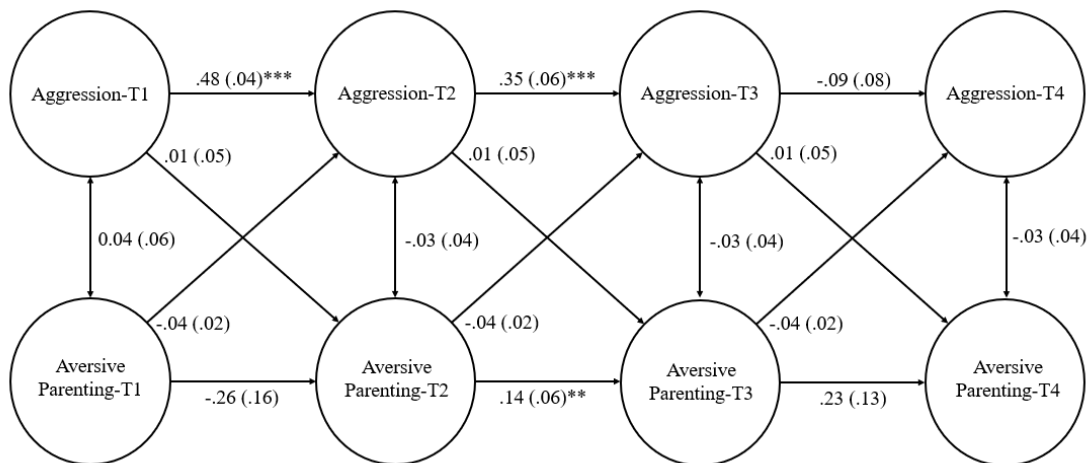


Figure 4. Within-Person portion of the Aggression-Aversive Parenting Latent Curve Model with Structured Residuals (LCM-SR)
 Note: Unstandardized coefficients are displayed; *** = $p \leq 0.001$; ** = $p \leq 0.01$;

Cross-lagged Paths. In this model, the cross-lagged paths between aggression and aversive parenting were constrained to equal. Doing so allows for an overall cross-lagged score. The cross-lagged paths from aversive parenting predicting aggression (T+1) were approaching significance ($\beta = -.04$; $p = .055$). The negative parameter indicates that individuals with higher than expected levels of aversive parenting at time 1 were less likely to show higher than expected levels of aggression at time 2. Aggression did not predict any changes in aversive parenting at any waves. In addition, none of the covariances between the structured residuals were significant. No reciprocal effects were found.

Table 7: Results from the Multivariate Model Fitting Process: Bivariate Aggression-Aversive and Prosocial Parenting

Variables	χ^2	df	Scaling		CM	CD	$\Delta\chi^2$	df	CFI	RMSEA	Adj. BIC
			Corr. F								
Aversive Parenting											
6 Bivariate unconditional LCM-SR without Cross-lagged parameters	109.21*	21	1.26	-	-	-	-	0.97	0.06	10433.65	
7 Bivariate unconditional LCM-SR with ARCL constrained to equal	105.48*	19	1.26	6	1.19	3.31 ^{ns}	2	0.97	0.06	10437.47	
8 Only Autoregressive Freed	38.91*	15	1.18	7	1.56	55.81*	4	0.99	0.04	10365.80	
9 Only Cross-lagged Freed – AggressionI@0;	436.66*	14	0.47	7	3.48	-20.87 ^{ns}	5	0.84	0.16	10529.45	
Prosocial Parenting											
6 Bivariate unconditional LCM-SR without Cross-lagged parameters	90.91*	19	1.25	-	-	-	-	0.97	0.06	8986.58	
7 Bivariate unconditional LCM-SR with ARCL constrained to equal	89.42*	17	1.27	6	1.11	0.32 ^{ns}	2	0.97	0.06	8993.98	
8 Only Autoregressive Freed	32.66*	13	1.17	7	1.58	47.57*	4	0.99	0.04	8934.24	
9 Only Cross-lagged Freed	95.69*	13	1.21	7	1.46	-1.74 ^{ns}	1	0.97	0.07	9012.00	

Every model had the following specification: – AggressionS@0; AggressionQ@0;

$\Delta\chi^2$ column * = better fitting model/retained; * = $p < .05$

Notes. χ^2 = chi-square test of model fit; df = degrees of freedom; $\Delta\chi^2$ = chi square difference test (* = $\Delta\chi^2$ is significant at $p < .05$); CD = Difference Test Scaling Correction; @0 denotes variances held to 0 to fix not positive definite errors, etc.

CM = comparison model; CFI = comparative fit index; RMSEA = root mean square error of approximation; Adj. BIC = Sample Size Adjusted Bayesian Information Criteria; LGCM = Latent Growth Curve Model, LCM-SR = Latent Curve Model with Structured Residuals, I = Intercept, S = Slope, Q = Quadratic

Aggression and Prosocial Parenting. Table 7 provides the bivariate modeling process for aggression and prosocial parenting. The bivariate aggression and prosocial parenting LCM-SR model 6 contained the same specifications noted above for the aggression growth curve model. The growth curve model for prosocial parenting contained the same specifications as noted in the HII-prosocial parenting bivariate model (e.g., intercept, slope, time change freed with autoregressive parameters constrained to equality and no cross-lagged parameters). This initial model had acceptable model fit. With the inclusion of the cross-lagged parameters constrained to equality, model fit did not improve significantly. However, when the autoregressive components were freed, the model did improve. Freeing cross-lagged parameters fit the data worse. Therefore, the model with the autoregressive components freed are provided in Table 6.

Between-Person effects.

The covariance between the intercepts for aggression and prosocial parenting was not significant, which indicates that individuals with higher levels of aggression at the first time period were not more likely to have parents who engaged in prosocial parenting behaviors. Similar to the HII-prosocial parenting and aggression-aversive parenting models, in order to identify the relationships between the slope factors, a simpler model that did not contain the autoregressive and cross-lagged components was estimated. In the simple model, the covariance between the slope factors was not significant, which meant that between-individual differences in changes in aggression across time were unrelated to changes in prosocial parenting ($r = -0.004$ (0.01) $p = 0.694$).

Within-Person effects.

Autoregressive Paths. In this model, the autoregressive parameters were freely estimated over time. As such, for aggression, from time 1 to 2 and 2 to 3, individuals with a higher than expected level of aggression at one time point were likely to have a higher than expected level of aggression on the subsequent time points. However, the autoregressive path from wave 3 to 4 was not significant, indicating that a higher than expected level of aggression at wave 3 did not lead to higher than expected level of aggression at wave 4. For prosocial parenting, a higher than expected value of prosocial parenting at time 1 did not lead to a higher than expected value at time 2, nor did time 3 to time 4. However, from time 2 to 3, the autoregressive coefficients were significant and positive indicating that a higher than expected value of prosocial parenting at time 2 was likely to have a higher than expected value of prosocial parenting at waves 3.

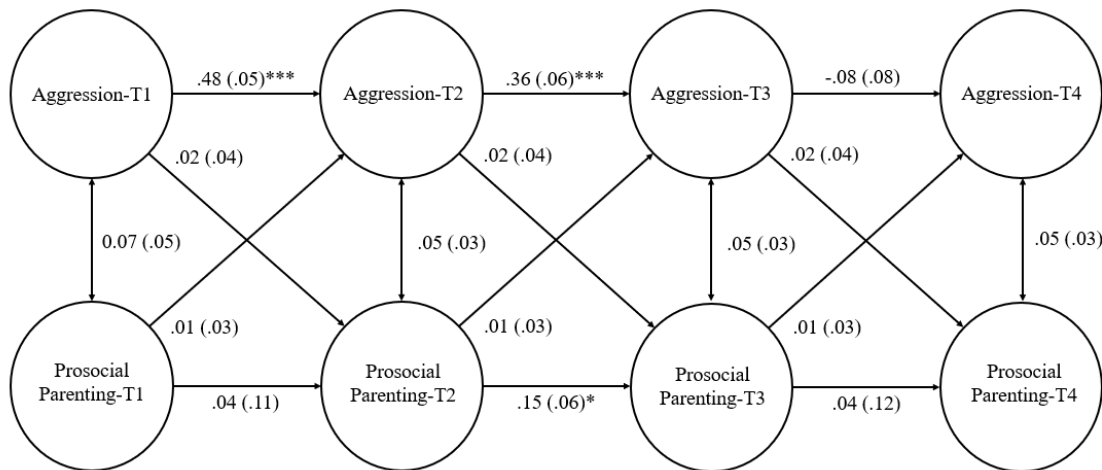


Figure 5. Within-Person portion of the Aggression-Prosocial Parenting Latent Curve Model with Structured Residuals (LCM-SR)
 Note: Unstandardized coefficients are displayed; *** = $p \leq 0.001$; * = $p \leq 0.05$;

Cross-lagged Paths. For this model, the cross-lagged paths were constrained to equal over time. Neither of the cross-lagged paths were significant which means that

individuals with higher than expected levels of prosocial parenting did not predict changes in aggression. Likewise individuals with higher than expected levels of aggression did not predict changes in prosocial parenting. In addition, none of the covariances between the structured residuals were significant. Therefore, no reciprocal effects were found.

Modeling Process for Legal Cynicism-Delinquency

Table 8 provides the model fitting process for both the univariate and bivariate LCM-SR models for legal cynicism and delinquency. For legal cynicism, the intercept only model did not have acceptable model fit. The addition of the linear slope factor significantly improved model fit, but still did not yield fit statistics in an acceptable range. Next the time change freed and quadratic models were estimated. When compared to the intercept/linear slope model, both of these models significantly improved model fit. However, both models required adjustments. In the time change freed model, the residual for time 4 had a negative variance that was fixed to 0 to adjust for the not positive definite error caused by the negative variance. When estimating the quadratic model, the variance for the quadratic factor was negative and was fixed to 0. Although both models significantly improved model fit, the RMSEA in the quadratic model was not in an acceptable range. As such, the autoregressive parameters (without the time 4 residual) were added to the time change freed model. The model fit significantly improved with the inclusion of the autoregressive element among the time specific residuals, meaning there was a significant within-construct autoregressive effect. Therefore, this model was retained for the bivariate model.

The delinquency model fit process followed a very similar pattern to legal cynicism. The intercept only model and linear slope model did not yield fit statistics in an acceptable range. Both the time change freed and quadratic model significantly improved model fit. Neither model required adjustments. Because the RMSEA and CFI were in more ideal ranges for the time change freed model (compared to the quadratic model), the autoregressive parameters were added to the time change freed model. The inclusion of autoregressive parameters significantly improved model fit and was therefore added to the bivariate model.

As a reminder, the first bivariate model contained both the time change freed model with autoregressive parameters for legal cynicism and delinquency. The autoregressive parameters in each model were constrained to equal and the cross-lagged parameters were not estimated. This initial model fit the data well. The inclusion of cross-lagged parameters did not significantly improve model fit. However, the ranges for RMSEA and CFI were still acceptable. In model 8, the autoregressive parameters were freed. Freeing these parameters yielded poor model fit. In model 9, the cross-lagged parameters were freed and when compared to the model where the parameters were constrained to equal, freeing the parameters significantly improved model fit. The final estimates for the cross-lagged freed model are provided in Table 9.

Table 8: Results from the Multivariate Model Fitting Process: LCM-SR for Legal Cynicism and Delinquency

Variables	χ^2	df	Scaling		CM	CD	$\Delta\chi^2$	df	CFI	RMSEA	Adj. BIC
			Corr. F								
Legal Cynicism											
1 Intercept Only	118.54*	8	1.08	-	-	-	-	0.85	0.11	6315.88	
2 Intercept and Linear Slope	74.21*	5	1.08	1	1.07	44.33*	3	0.91	0.11	6280.14	
3 Intercept and Slope – Time Change Freed – residual4@0	38.92*	4	1.07	2	1.15	33.87*	1	0.95	0.09	6245.12	
4 Intercept, Linear Slope, and Quadratic – Q@0	17.22*	1	1.01	2	1.10	57.19*	4	0.98	0.12	6232.54	
5 Intercept and Slope – Time Change Freed with Autoregressive – residual4@0	22.22*	3	1.04	3	1.16	15.99*	1	0.98	0.07	6230.50	
Delinquency											
1 Intercept Only	157.86*	8	1.81	-	-	-	-	0.65	0.13	16343.20	
2 Intercept and Linear Slope	95.46*	5	1.70	1	2.00	61.93*	3	0.79	0.13	16231.14	
3 Intercept and Slope – Time Change Freed	12.96*	3	1.26	2	2.36	61.86*	2	0.98	0.05	16092.65	
4 Intercept, Linear Slope, and Quadratic	11.74*	1	0.99	2	1.88	80.22*	4	0.98	0.10	16095.62	
5 Intercept and Slope – Time Change Freed with Autoregressive	7.50*	2	0.56	3	2.68	4.56*	1	0.99	0.05	16084.33	
Bivariate Models											
6 Bivariate unconditional LCM-SR without Cross-lagged parameters	77.06*	16	1.07	-	-	-	-	0.97	0.06	21777.71	
7 Bivariate unconditional LCM-SR with ARCL constrained to equal	80.69*	14	1.02	6	1.41	0.02 ^{ns}	2	0.96	0.06	21816.53	
8 Only Autoregressive Freed	174.97*	10	0.67	7	1.90	-	4	0.91	0.12	21890.34	
9 Only Cross-lagged Freed	70.88*	10	1.00	7	1.08	18.08 ^{ns}	4	0.97	0.07	21844.27	

$\Delta\chi^2$ column * = better fitting model/retained; * = $p < .05$

Notes. χ^2 = chi-square test of model fit; df = degrees of freedom; $\Delta\chi^2$ = chi square difference test (* = $\Delta\chi^2$ is significant at $p < .05$); CD = Difference Test Scaling Correction

CM = comparison model; CFI = comparative fit index; RMSEA = root mean square error of approximation; Adj. BIC = Sample Size Adjusted Bayesian Information Criteria; LGCM = Latent Growth Curve Model, LCM-SR = Latent Curve Model with Structured Residuals, I = Intercept, S = Slope, Q = Quadratic

Between-Person effects.

As Table 9 demonstrates, the covariance between the intercepts was positive and significant, indicating that individuals with higher levels of legal cynicism at time 5 were more likely to self-report engaging in delinquency at time 5 ($r = .26, p < .001$). The covariance between the slope factors was not significant, which means that between-individual differences in changes in legal cynicism across time were unrelated to changes in delinquency.

Within-Person effects.

Autoregressive Paths. In the legal cynicism–delinquency model, the autoregressive paths were constrained to equal across time. The autoregressive paths for legal cynicism were not significant, meaning individuals with a higher than expected level of legal cynicism at time 5 were not more likely to have a higher than expected level of legal cynicism at subsequent time points. The autoregressive parameters for delinquency were positive and significant, indicating they were consistent across time. In other words, individuals with a higher than expected level of delinquency at time 5 were more likely to have a higher than expected level of delinquency at subsequent time points (see Table 9).

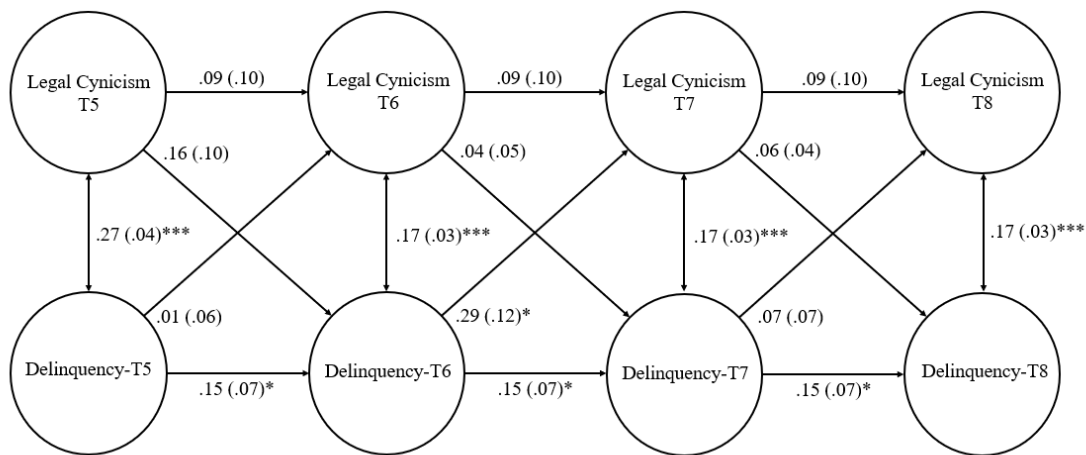


Figure 6. Within-Person portion of the Legal Cynicism-Delinquency Latent Curve Model with Structured Residuals (LCM-SR)
 Note: Unstandardized coefficients are displayed; *** = $p \leq 0.001$; * = $p \leq 0.05$;

Cross-lagged Paths. In this model, the cross-lagged paths between legal cynicism and delinquency were freed, which allowed the values to change over time. As demonstrated in Table 9, only the cross-lagged path from delinquency at time 6

predicting legal cynicism at time 7 was significant. The sign was positive indicating that individuals with a higher than expected level of delinquency at time 6 had a higher than expected score of legal cynicism at time 7. The within-time covariances of the residuals were positive and significant, indicating that the within-individual effects of legal cynicism and delinquency were related. In other words, an individual deviation above the mean level of legal cynicism was associated with the same directional deviation in delinquency. However, the temporal order could not be determined likely due to the 2-year gap in between the waves. Therefore, there could be potential reciprocal effects masked by the effect if time between the waves.

Table 9: Final Unconditional LCM-SR Legal Cynicism-Delinquency Model

	Legal Cynicism		Delinquency	
	b	se	b	se
Between-person effects				
Intercept Mean	2.20***	0.02	1.85	0.06
Intercept Variance	0.14***	0.03	1.72***	0.24
Slope Mean	-0.02**	0.01	-0.23**	0.07
Slope Variance	0.01*	0.01	0.32*	0.15
Covariances				
	b (se)			
LC Intercept-Del Intercept	0.48 (0.06)***			
LC Slope-Del Slope	-0.07 (0.17)			
LC Intercept-Del Slope	-0.11 (0.11)			
Del Intercept-LC Slope	0.11 (0.09)			
Within-person effects				
Autoregressions				
T5 → T8	0.09	0.10	0.15*	0.07
Crosslagged Paths				
XT5 → YT6; YT5 → XT6	0.16	0.10	0.01	0.06
XT6 → YT7; YT6 → XT7	0.04	0.05	0.29*	0.12
XT7 → YT8; YT7 → XT8	0.06	0.04	0.07	0.07
Model Fit				
	LCM-SR Model:		Cross-lagged freed	
χ^2 (df)			70.88(10)*	
BIC			21844.27	
CFI			0.97	
RMSEA			.07	

b = unstandardized effects; * p < .05, ** p < .01, *** p < .001, + p < .10; (two-tailed test)

Final Conditional Model

In order to assess the between-person effects of parenting and child behavior on legal cynicism and delinquency over time, all of the variables were added to the bivariate LCM-SR for legal cynicism and delinquency (see Table 10). Given that there were no reciprocal effects in the parenting-child models, the variables were all loaded onto their own respective latent variable in the final model. In other words, HII at time 1, time 2, time 3, and time 4 were all entered onto one latent variable “HII” and treated as a time stable predictor. Likewise, aggression, prosocial parenting, and aversive parenting at times 1, 2, 3, and 4 were also entered onto their own latent variables “aggression,” “prosocial parenting,” and “aversive parenting” and also treated as time stable predictors. In addition to these latent variables, SES and gender were also added as time stable controls.

Peer delinquency, morality, general trust, police contact, and procedural justice (waves 5-8) were added as time varying covariates for legal cynicism and delinquency. Police effectiveness at waves 6 to 8 was also added as a time varying covariate for delinquency. The results of the final model are presented in Table 10.

Regarding time invariant controls, gender was positive and significantly related to the intercept for delinquency but not for legal cynicism. In other words, males were more likely to self-report engaging in delinquent behaviors than females, but there were no gender differences in the initial levels of legal cynicism. Gender was also significantly related to the slope for delinquency but not for legal cynicism. However, the effect was negative. This means that delinquency scores decreased more slowly for females compared to males. With regard to parental and child effects, only aversive parenting was

significantly related to the intercepts for legal cynicism and delinquency. The effect was positive, indicating that higher levels of aversive parenting were associated with higher levels of both legal cynicism and delinquency. However, aversive parenting was only significantly related to the slope for delinquency and not for legal cynicism. The coefficient was negative, indicating that higher levels of aversive parenting were associated with a slower decline in delinquency compared to individuals with lower levels of aversive parenting.

Addressing the time varying covariates, they were all in the expected directions. Higher levels of procedural justice were associated with lower levels of legal cynicism and delinquency. Peer delinquency was also significantly related such that higher levels of peer delinquency were associated with higher levels of legal cynicism and delinquency. Morality had a strong negative relationship with legal cynicism and delinquency. A higher level of morality was associated with lower levels of legal cynicism and delinquency. Lastly, police contact was associated with a higher level of legal cynicism and a higher level of delinquency. Although higher levels of procedural justice was positively associated with police effectiveness over time (not pictured), police effectiveness did not have a significant effect on delinquency.

Table 10: Final Conditional LCM-SR Legal Cynicism-Delinquency Model with Child and Parenting Effects

		Legal Cynicism	Delinquency		
		β (se)	β (se)		
T5	←				
	Peer Delinquency	0.17 (0.03)***	0.40 (0.05)***		
	Morality	-0.36 (0.03)***	-0.27 (0.03)***		
	General Trust	-0.07 (0.03)**	-0.07 (0.02)**		
	Police Contact	0.07 (0.03)*	0.12 (0.03)***		
T6	←				
	Procedural Justice	-0.12 (0.03)***	-0.07 (0.04)+		
	Police Effectiveness	--	-0.03 (0.04)		
	Peer Delinquency	0.14 (0.03)***	0.31 (0.03)***		
	Morality	-0.33 (0.03)***	-0.21 (0.03)***		
	General Trust	-0.07 (0.03)**	-0.05 (0.03)*		
	Police Contact	0.10 (0.03)***	0.10 (0.03)***		
T7	←			Parent-Child Effects	
	Procedural Justice	-0.16 (0.03)***	-0.05 (0.04)	Intercept	
	Police Effectiveness	--	-0.13 (0.04)***	Gender	0.05 (0.06)
	Peer Delinquency	0.16 (0.03)***	0.23 (0.03)***	SES	-0.04 (0.06)
	Morality	-0.33 (0.03)***	-0.17 (0.03)***	HII	0.04 (0.10)
	General Trust	-0.06 (0.03)**	-0.06 (0.03)+	Aggression	-0.04 (0.10)
	Police Contact	0.06 (0.03)*	0.20 (0.03)***	Avers. Par.	0.13 (0.07)*
				Proso. Par.	0.08 (0.06)
				Slope	
				Gender	-0.00 (0.03)
				SES	-0.00 (0.00)
				HII	0.14 (0.21)
				Aggression	0.01 (0.20)
				Avers. Par.	-0.05 (0.13)
				Proso. Par.	-0.11 (0.14)
T8	←				
	Procedural Justice	-0.12 (0.03)***	-0.13 (0.04)**		
	Police Effectiveness	--	-0.01 (0.05)		
	Peer Delinquency	0.19 (0.03)***	0.23 (0.03)***		
	Morality	-0.40 (0.03)***	-0.28 (0.03)***		
	General Trust	-0.06 (0.03)*	0.00 (0.03)		

LCM-SR: Cross-lagged effects freed; β = standardized effects; * $p < .05$, ** $p < .01$, *** $p < .001$, + $p < .10$; (two-tailed test)

CHAPTER 5

DISCUSSION

The purpose of this dissertation was to assess a different form of reciprocity in the legal socialization context. Namely, a potential reciprocal relationship between child behavior and parental behavior and a potential reciprocal relationship between two important concepts of the legal socialization process: legal cynicism and delinquency. Using literature from developmental psychology as a guiding principle, there were three main objectives. First, to examine how hyperactive/impulsive/inattentive (HII) behavior, aggression, aversive parenting, and prosocial parenting were related over time. Second, to determine if a reciprocal relationship exists between legal cynicism and delinquency. Lastly, to assess the direct, indirect, or potential reciprocal effects of child and parenting behavior on legal cynicism and delinquency.

Under the first aim, it was hypothesized that the relationship between parenting behaviors and child externalizing problems would be reciprocal over time. However, none of the cross-lagged paths nor covariances between prosocial parenting and aggression, prosocial parenting and HII, aversive parenting and aggression, and aversive parenting and HII showed evidence of within-person reciprocity. In other words, at the within-person level, having a parent who engaged in aversive or prosocial types of parenting did not predict changes in levels of HII or aggression over time. Likewise, levels of HII and aggression did not predict changes in the type of parenting the child received. Therefore, hypothesis H1a was not supported. Given prior empirical evidence suggesting child behavior is more likely to predict changes in parenting behaviors as opposed to parenting behaviors changing child behaviors (Huh et al., 2006; Kerr &

Stattin, 2003), the second hypothesis suggested child behaviors would have a stronger impact on parenting behaviors than the reverse. However, none of the paths from child behavior predicting parenting behaviors were significant. Only one relationship approached significance: aversive parenting predicting aggression. Again, this indicates that child behavior did not influence the type of parenting the child received. Therefore, hypothesis H1b was not supported.

It was also hypothesized that children with higher levels of externalizing problem behaviors would have parents who engaged in more aversive styles of discipline. The results supported this hypothesis (H1c). Children with higher levels of HII and/or aggression were more likely to have parents who engaged in aversive types of parenting behaviors. Prosocial parenting was not related to HII or aggression either within-person or between-person. So although increased engagement in aversive parenting did not increase the child's level of HII or aggression over time, there was a significant positive association between initial levels of HII, aggression, and aversive parenting.

The second aim of this dissertation was to identify potential reciprocal effects between legal cynicism and delinquency. It was hypothesized that a reciprocal relationship exists such that engaging in delinquency would increase an individual's level of legal cynicism, which would increase the individual's engagement in delinquency. The results of the unconditional LCM-SR did not support this hypothesis (H2a). Individual changes in delinquency did not predict changes in legal cynicism. Likewise, individual changes in legal cynicism did not predict changes in delinquency. However, the covariances of the residuals were significant, indicating potential reciprocal effects may

exist but the temporal ordering cannot be determined. It is possible the 2-year gap between waves is masking these reciprocal effects.

The third aim identifying the relationship among parenting behaviors, child behaviors, legal cynicism, and delinquency, hypothesized that children with higher levels of externalizing behavior would exhibit higher levels of legal cynicism (H3a) and delinquency (H3b). In the final model, neither aggression nor HII was significant, indicating that these child behaviors did not predict legal cynicism or delinquency over time. It was also hypothesized that negative parenting behaviors would yield only minor effects on legal cynicism (H3c) while externalizing behavior problems would yield more significant direct effects on legal cynicism (H3d). The results demonstrated that aversive parenting had a direct effect on both legal cynicism and delinquency such that higher levels of aversive parenting was associated with higher levels of legal cynicism and delinquency.

Implications

As previously noted, legal socialization is largely driven by four main assumptions: foundationality, ubiquity, continuity, and reciprocity (Trinkner & Reisig, 2021). It is considered foundational because it argues that law provides order and is an important socializing agent for individuals to understand their role in society. Legal socialization is considered continuous because people are constantly developing, with their roles shifting at different stages over the life course. These shifting roles occur across different historical contexts as well. For example, accepted cultural norms from one hundred years ago are very different from today. Legal socialization is also ubiquitous because the process can occur in many different legal and non-legal contexts,

with non-legal authorities such as teachers and parents shaping attitudes through interactions and discipline. Lastly, it is considered reciprocal for two reasons: 1) the role of law in influencing citizens' behaviors, which in turn, influence the role of law; and 2) both legal authorities/institutions and citizens have views on how law should function in society and the role of society toward the law.

In the current study, it was argued that legal socialization might also be reciprocal for two additional reasons. First, it was argued that reciprocity may be occurring in interactions with authorities such that difficult behavior increases the likelihood of being treated disrespectfully and more harshly by authorities. As such, this treatment may be increase feelings of cynicism, which may increase the likelihood these individuals will be more hostile toward authorities in the future. Second, it was suggested that a different form of reciprocity may be occurring within the procedural justice model between legal cynicism and delinquency. The procedural justice model typically defines legal cynicism as a predictor of delinquency through its mediating relationship with procedural justice. However, recent scholarship has started to consider the role of delinquency on legal cynicism (see also Nivette et al., 2019; Trinkner et al., 2019). It could be that engaging in delinquent behaviors decreases the feeling that laws need to be obeyed. Engaging in delinquency also increases the likelihood of having direct encounters with the criminal justice system and its agents.

As previously mentioned, this study did not find support for the former of these considerations. Even though there were bivariate associations between aggression, HII, and legal cynicism (see Table 16 in Appendix A), neither aggression nor HII directly or indirectly predicted legal cynicism over time. It is not surprising that HII and aggression

did not have a direct effect. The HII variable includes both inattention (e.g., can't pay attention) and impulsivity (e.g., can't sit still). Interestingly, the impulsive dimension seems to overlap somewhat with items used to measure low self-control, another well-known correlate of crime that has also been identified as an antecedent to legal cynicism (e.g., Gifford & Reising, 2019). However, it could be that inattention is masking potential direct effects of the impulsive dimension. This should be considered in future research identifying the effects of child externalizing behavior on legal attitudes. With regard to aggression, this variable also contained multiple dimensions of behavior (e.g., reactive, proactive, physical, and direct aggression). Most of the items in the scale are measuring the aggressiveness of a child in a classroom setting, and aside from theorizing this type of behavior is frustrating for authority figures and may increase the likelihood the child will be reprimanded harshly, there is not a strong theoretical reason for these behaviors to have a direct effect on legal cynicism unless these aggressive behaviors are manifestations of a more overall negative worldview.

Although these externalizing behaviors yielded no reciprocal effects with parenting or direct effects on legal cynicism, it does not necessarily mean child behavior yields no effect. As noted by Pardini (2008), different aspects of child psychopathology have differential effects on parenting behaviors. For example, Burke et al. (2008) found that the relationship between ADHD, oppositional defiant disorder (ODD), and dysfunctional parenting was more unidirectional in nature, with child behaviors having more of an influence on parenting behaviors. However, when looking at more specific dimensions of parenting, they found evidence of bidirectionality between ODD and timid

discipline. As such, it may be helpful in the future to assess more specific types of discipline.

In addition to assessing more specific dimensions of parenting behaviors, there are other externalizing behaviors that may potentially have a direct effect on legal cynicism, such as psychopathy, or indirectly through authority reactions, such as ODD and conduct disorder (CD). ODD describes hostile and disobedient behaviors toward authority figures (APA, 2013). CD is similar but involves behaviors committed outside the home. With regard to conduct disorder on parenting, some have suggested more negative parent-child interactions and punitive discipline occur with conduct disorder compared to other problem behaviors such as ADHD (Edwards et al., 2001; Gomez & Sanson, 1994; Stormshak et al., 2000). As such, ODD and CD could potentially increase authority frustration through disobedience, increasing the likelihood the authorities will act punitively. Given that these are disorders, if engaging in disobedience/active defiance is part of an individual's personality, then it could be argued that he or she would not see the law as binding or something that should be obeyed, indicating a potential direct link to legal cynicism as well.

Psychopathy is considered a personality disorder that identifies antisocial behavioral patterns (Skeem et al., 2011). It consists of interpersonal, affective, and behavioral components (e.g., Cooke & Michie, 2001) that have been associated with negative emotionality such as anger (Hicks & Patrick, 2006). As noted by Augustyn and Ray (2016), people with psychopathic traits tend to engage in more serious types of offending more often than people who do not have these traits (Gretton et al., 2004). These tendencies increase the likelihood that individuals with psychopathic traits will

encounter legal authorities and the legal system more generally (Vaughn et al., 2008). In addition, people with psychopathic traits have been found to be more likely to perceive provocation in ambiguous situations (i.e., hostile attribution bias; Miller & Lynam, 2003; Serin, 1991; Vitale et al., 2005) and perceive demands by authority figures as threats or personal attacks to their ego (Cale & Lilienfeld, 2006). As such, they are already more negative as a result of their cynical nature (Hare, 1999). Given this research, psychopathy could have a potential direct link to legal cynicism. Individuals with these traits are often predisposed to perceive interactions with legal authorities as more negative compared to individuals without psychopathic traits (see Scheuerman & Matthews, 2014).

People with psychopathic traits are often characterized as untrustworthy, manipulative, controlling, and highly cynical (e.g., Hare, 1999; Cleckley, 1976; Porter & Woodworth, 2007). Children with psychopathic traits are even more likely to report conflict with peers even when their peers do not report conflict (Muñoz et al., 2008) and report more cognitive distortions such as blaming others and assuming the worst (Chabrol et al., 2011). Knowing this, it is not a surprise that psychopathic individuals are more likely to elicit negative responses/reactions from legal authorities. For example, authorities are more likely to use force and/or arrest/cite when a citizen is uncooperative, disrespectful, or hostile. As such, people with psychopathic traits often come across as antagonistic, arrogant, and exploitative (Hillege et al., 2010; Rauthmann, 2012; Salekin et al., 2005). Likewise, psychopathic people are more likely to respond with hostility even when the provocation in the situation is low (Blackburn & Lee-Evans, 1985; Miller & Lynam, 2003; Vitale et al., 2005). As such, there could be potential indirect and direct links to legal cynicism.

In addition to the four outlined assumptions, there have been two styles of legal socialization that have been identified – the coercive model and the consensual model (Trinkner & Tyler, 2016; Tyler & Trinkner, 2018). The coercive model operates through sanctions and control in order to gain compliance. For example, authoritarian parenting would fall under coercive control because parents who engage in this style demand obedience, give harsh punishments, and try to exert complete control over their children. The consensual model, on the other hand, tries to gain voluntary compliance from children and citizens through the use of procedurally just behaviors, such as enforcing rules fairly and treating individuals with respect.

In the current study, items in the aversive parenting scale would fall under the umbrella of the coercive model. Parents were asked whether they hit their child when he or she does something wrong, spanked, and/or slapped him or her. These, along with the other items capturing inconsistent/erratic discipline, had a direct effect on both legal cynicism and delinquency. Similar to prior research assessing the effects of parenting on legal attitudes and(/or) offending, aversive parenting was associated with increased feelings of legal cynicism and higher levels of delinquency (Hoeve et al., 2009; Loeber & Dishion, 1983; Straus & Donnelly, 2001; Trinkner & Cohn, 2014; Tyler & Trinkner, 2018). This supports the notion that parental behaviors in childhood are influencing child behaviors and attitudes later in life (Trinkner & Cohn, 2014; Wolfe et al., 2016).

Regarding the second form of reciprocity between legal cynicism and delinquency, the results demonstrated that potential reciprocal effects could be occurring. However, the exact nature and temporal ordering of the effects are inconclusive. Indeed, this consideration would benefit from future empirical research using data collection

points where less time has elapsed. As Nivette et al. (2015) found, delinquency was the strongest predictor of legal cynicism at the between-person level. As they discuss, legal cynicism may reflect a neutralization technique. The neutralization/drift perspective argues that most people understand and believe committing crime is wrong, yet some still engage in delinquency (Sykes & Matza, 1957). These individuals are able to rationalize or justify their delinquent behavior in order to alleviate negative feelings associated with committing crimes. As such, Nivette and colleagues argue legal cynicism may reflect an individual justification for prior delinquent behaviors. The scale in the current study uses the same scale that reflects some of these ideas of neutralization (e.g., “It’s okay to do anything you want as long as you don’t hurt anyway”) (see Sampson & Bartusch, 1998).

This study found evidence this rationalization is also occurring at the within-individual level. As Figure 6 in chapter 4 demonstrates, one path from delinquency at time 6 predicted a similar directional shift in legal cynicism at time 7. This shift in legal cynicism could reflect a rationalization for the individual’s prior rule-breaking. The within-individual effects of LCM-SR are not affected by the spurious variable problem (Curran et al., 2014). As such, this model represents a “pure” link between delinquency and legal cynicism within a single person. In wave 6 to wave 7, children were approximately 14 to 16 years old, which is a time they are more prone to engaging in delinquency. It could be that levels of legal cynicism increased in these individuals to account for or justify these prior behaviors. Given that the covariances of the within-individual effects are significant, it could also be that post hoc justifications of delinquency are indeed happening but perhaps occurring more closely together in time. If

this is indeed true, it could be that neutralizing values are also reducing the guilt these individuals feel about engaging in future delinquency, not just past behaviors.

Although this study did not find conclusive support for both novel reciprocity considerations, there was support for the ubiquity assumption (see also Trinkner & Cohn, 2014; Trinkner et al., 2018). Although prior research has found that parents are less influential once children have contact with legal authorities (Wolfe et al., 2016), the current study found that aversive parenting maintained a direct effect on legal cynicism even with police contact added to the model. It should be noted, however, that not all studies find an association between police contact and legal cynicism when it is included in the model (see Trinkner et al., 2019). So indeed, this study does provide more support for parents influencing legal cynicism given the lack of direct encounters with the legal system. Although prosocial parenting was not related to legal cynicism, it could be that negative encounters have a stronger impact on child attitudes although more research would be needed to parse these out.

Limitations and Future Directions

This study had several notable strengths. First, it uses eight waves of data focused on the same children from ages 6 to 20. Having longitudinal data focused on the same children provides valuable information on their development over time. The data also has a high participation and retention rate, which is important for internal validity and providing more accurate estimates.

There are some limitations that should be addressed. First, zproso is a multi-informant longitudinal data set of Swiss children. Although having multiple informants provides more accurate estimates of the data, assessing attitudinal data with multiple

informants could be masking some results. It could be that what matters more is the child's perception of parental behaviors rather than what the parent is actually reporting. For example, a parent might believe his or her own behavior is more positive in nature, whereas the child may have a different perception. Given that legal socialization is predicated on beliefs and the perception of fair treatment, identifying the child's perception of parental behavior may be more important than more accurately identifying behavior from the parents' perspective. As such, future research should consider modeling reciprocal effects from child report of parental behaviors.

Second, zproso only contains parental report of parenting behaviors from waves 1 to 4. Additionally, legal cynicism was not included until wave 5. As noted previously, behaviors such as parental involvement and supervision change as children age and become more autonomous in adolescence and young adulthood. Therefore, there were not enough parent informant waves in the data to model natural changes in patterns of parenting due to age, nor could these patterns be assessed concurrently with developmental patterns of legal cynicism. Future studies should investigate whether concurrent developmental patterns of parenting and legal cynicism are related over time.

Third, although the Swiss are similar to other western countries regarding crime and attitudes toward the police (Kutnjak Ivković, 2008), there are likely cultural differences regarding parental behaviors and the prevalence of externalizing behaviors. It could be that no reciprocal effects were found due to these cultural differences. As such, it may be beneficial to reassess reciprocity in a US sample. Furthermore, the current dataset is gleaned from a community sample. As such, there were a high degree of parents reporting using prosocial parenting practices, and low incidence rates for HII,

aggression, and delinquent behaviors reported by teachers. Given these lower rates of externalizing behaviors, it may also be beneficial to evaluate reciprocity as a function of overall externalizing behavior (as opposed to focusing on one specific behavior). HII and aggression are often comorbid with other behavioral issues, so what may be important is identifying how difficult the child is overall rather than focusing on how parents respond to one specific behavior.

Fourth, teacher report of child behavior was used given the young age of the sample at time 1. As such, it could be that because HII and aggression were not a diagnosis of a disorder, one could argue that the teacher report of the measures in the current study reflect child behavior in the classroom as opposed to an overall representation of how the child behaves across various contexts. It could be that the finding of null reciprocal effects is the result of this difference in child behavior in the home. Future research may benefit in using official diagnoses of disorders supplemented with parental report of problematic child behavior. This would better capture what parents are dealing with in the home and how they respond to problematic behaviors.

Conclusion

Although reciprocity was not identified, the findings of this study do demonstrate that negative parenting has a detrimental impact on child behavior, and it provides more support for the consensual model of legal socialization. In the current study, aversive parenting had a positive significant relationship with both delinquency and legal cynicism. Similar to prior work, using more coercive control tactics actually promoted delinquency (Hoeve et al. 2009; Huizinga et al. 2004; Trinkner et al. 2012) and this coincided with increased cynicism (Fagan & Tyler 2005). Understanding how aversive

parental behavior impacts youth behavior is especially important in young childhood, as parents are the primary socializing agent. These experiences in childhood are having an enduring impact on behavior in adolescence and young adulthood. As such, this dissertation provides further support for the ubiquity assumption and encourages future study on the nature of the relationship between parenting and child behaviors and their relation to the legal socialization process.

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APPENDIX A
BIVARIATE CORRELATIONS

Table 11: Bivariate Correlations for HII – Aversive Parenting (AP)

		1	2	3	4	5	6	7	8
1	T1 HII	1.00							
2	T2 HII	0.75	1.00						
3	T3 HII	0.65	0.75	1.00					
4	T4 HII	0.54	0.52	0.54	1.00				
5	T1 AP	0.15	0.12	0.14	0.14	1.00			
6	T2 AP	0.14	0.10	0.15	0.15	0.62	1.00		
7	T3 AP	0.14	0.11	0.13	0.14	0.63	0.68	1.00	
8	T4 AP	0.17	0.14	0.18	0.20	0.57	0.60	0.68	1.00

Note. Correlations in **bold** significant at $p \leq 0.05$;

Table 12: Bivariate Correlations for Aggression – Prosocial Parenting (PP)

		1	2	3	4	5	6	7	8
1	T1 Aggression	1.00							
2	T2 Aggression	0.68	1.00						
3	T3 Aggression	0.55	0.63	1.00					
4	T4 Aggression	0.38	0.33	0.37	1.00				
5	T1 PP	0.05	0.00	0.01	0.02	1.00			
6	T2 PP	0.06	0.03	0.03	0.02	0.65	1.00		
7	T3 PP	0.03	0.00	0.05	0.02	0.63	0.71	1.00	
8	T4 PP	0.01	0.00	-0.01	0.02	0.57	0.65	0.68	1.00

Note. Correlations in **bold** significant at $p \leq 0.05$;

Table 13: Bivariate Correlations for HII – Prosocial Parenting (PP)

		1	2	3	4	5	6	7	8
1	T1 HII	1.00							
2	T2 HII	0.75	1.00						
3	T3 HII	0.65	0.75	1.00					
4	T4 HII	0.54	0.52	0.54	1.00				
5	T1 PP	0.01	0.00	0.00	-0.03	1.00			
6	T2 PP	0.07	0.06	0.03	-0.01	0.65	1.00		
7	T3 PP	0.05	0.05	0.05	-0.02	0.63	0.71	1.00	
8	T4 PP	0.03	0.04	0.03	0.01	0.57	0.65	0.68	1.00

Note. Correlations in **bold** significant at $p \leq 0.05$;

Table 14: Bivariate Correlations for Aggression – Aversive Parenting (AP)

		1	2	3	4	5	6	7	8
1	T1 Aggression	1.00							
2	T2 Aggression	0.68	1.00						
3	T3 Aggression	0.55	0.63	1.00					
4	T4 Aggression	0.38	0.33	0.37	1.00				
5	T1 AP	0.13	0.11	0.14	0.09	1.00			
6	T2 AP	0.13	0.12	0.13	0.10	0.62	1.00		
7	T3 AP	0.12	0.13	0.14	0.07	0.63	0.68	1.00	
8	T4 AP	0.14	0.17	0.18	0.12	0.57	0.60	0.68	1.00

Note. Correlations in **bold** significant at $p \leq 0.05$;

Table 15: Bivariate Correlations for Legal Cynicism (LC) –Delinquency (D)

		1	2	3	4	5	6	7	8
1	T5 LC	1.00							
2	T6 LC	0.45	1.00						
3	T7 LC	0.39	0.53	1.00					
4	T8 LC	0.29	0.43	0.54	1.00				
5	T5 D	0.39	0.24	0.26	0.24	1.00			
6	T6 D	0.28	0.40	0.35	0.28	0.56	1.00		
7	T7 D	0.19	0.28	0.40	0.31	0.39	0.60	1.00	
8	T8 D	0.20	0.26	0.33	0.44	0.35	0.41	0.48	1.00

Note. Correlations in **bold** significant at $p \leq 0.05$;

Table 16: Bivariate Correlations: All Variables

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
1	T1 Aversive Parenting	1.00																	
2	T2 Aversive Parenting	0.62	1.00																
3	T3 Aversive Parenting	0.63	0.68	1.00															
4	T4 Aversive Parenting	0.57	0.60	0.68	1.00														
5	T1 Prosocial Parenting	-0.09	-0.08	-0.04	-0.06	1.00													
6	T2 Prosocial Parenting	-0.08	-0.08	-0.08	-0.06	0.65	1.00												
7	T3 Prosocial Parenting	0.00	-0.04	-0.03	-0.02	0.63	0.71	1.00											
8	T4 Prosocial Parenting	-0.03	-0.02	-0.03	-0.11	0.57	0.65	0.68	1.00										
9	T1 HII	0.15	0.14	0.14	0.17	0.01	0.07	0.05	0.03	1.00									
10	T2 HII	0.12	0.10	0.11	0.14	0.00	0.06	0.05	0.04	0.75	1.00								
11	T3 HII	0.14	0.15	0.13	0.18	0.00	0.03	0.05	0.03	0.65	0.75	1.00							
12	T4 HII	0.14	0.15	0.14	0.20	-0.03	-0.01	-0.02	0.01	0.54	0.52	0.54	1.00						
13	T1 Aggression	0.13	0.13	0.12	0.14	0.05	0.06	0.03	0.01	0.56	0.46	0.44	0.37	1.00					
14	T2 Aggression	0.11	0.12	0.13	0.17	0.00	0.03	0.00	0.00	0.48	0.59	0.49	0.35	0.68	1.00				
15	T3 Aggression	0.14	0.13	0.14	0.18	0.01	0.03	0.05	-0.01	0.40	0.46	0.62	0.37	0.55	0.63	1.00			
16	T4 Aggression	0.09	0.10	0.07	0.12	0.02	0.02	0.02	0.02	0.33	0.32	0.32	0.59	0.38	0.33	0.37	1.00		
17	T5 Legal Cynicism	0.06	0.04	0.08	0.10	-0.02	0.00	0.01	-0.04	0.08	0.06	0.04	0.16	0.06	0.06	0.06	0.14	1.00	
18	T6 Legal Cynicism	0.07	0.05	0.07	0.07	0.01	0.02	0.02	-0.01	0.08	0.06	0.07	0.11	0.06	0.02	0.07	0.12	0.45	
19	T7 Legal Cynicism	0.07	0.03	0.07	0.10	-0.05	0.03	0.00	-0.04	0.11	0.10	0.09	0.17	0.09	0.09	0.11	0.18	0.39	
20	T8 Legal Cynicism	0.08	0.02	0.04	0.08	0.00	0.04	0.04	0.00	0.12	0.11	0.12	0.14	0.08	0.08	0.08	0.07	0.29	
21	T5 Criminal Offending	0.08	0.09	0.09	0.08	0.00	-0.02	-0.04	-0.07	0.13	0.09	0.08	0.18	0.11	0.10	0.12	0.15	0.39	
22	T6 Criminal Offending	0.05	0.07	0.10	0.09	0.00	-0.02	-0.02	-0.04	0.14	0.12	0.14	0.24	0.08	0.08	0.13	0.18	0.28	
23	T7 Criminal Offending	0.05	0.04	0.05	0.06	-0.07	-0.07	-0.09	-0.09	0.11	0.10	0.12	0.19	0.06	0.07	0.12	0.14	0.19	
24	T8 Criminal Offending	0.00	0.02	0.00	0.03	-0.08	-0.05	-0.10	-0.10	0.09	0.06	0.07	0.18	0.05	0.08	0.03	0.15	0.20	
25	T6 Police Effectiveness	-0.05	0.00	-0.04	-0.05	0.02	-0.01	0.02	0.05	-0.09	-0.09	-0.12	-0.15	-0.09	-0.08	-0.11	-0.15	-0.19	

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
26	T7 Police Effectiveness	-0.07	-0.08	-0.10	-0.11	0.00	-0.02	0.00	0.02	-0.15	-0.14	-0.19	-0.18	-0.14	-0.12	-0.17	-0.21	-0.16
27	T8 Police Effectiveness	-0.01	0.00	-0.04	-0.06	-0.03	-0.05	-0.05	0.04	-0.11	-0.13	-0.15	-0.15	-0.09	-0.13	-0.14	-0.14	-0.13
28	T6 Procedural Justice	-0.04	-0.01	-0.01	-0.06	0.02	-0.02	0.01	0.03	-0.09	-0.09	-0.12	-0.15	-0.12	-0.12	-0.15	-0.18	-0.21
29	T7 Procedural Justice	-0.08	-0.08	-0.09	-0.08	0.01	0.02	-0.02	0.02	-0.14	-0.12	-0.17	-0.16	-0.12	-0.11	-0.17	-0.19	-0.19
30	T8 Procedural Justice	0.00	-0.01	-0.02	-0.04	0.00	-0.02	-0.01	0.05	-0.09	-0.10	-0.16	-0.16	-0.10	-0.11	-0.15	-0.17	-0.13
31	T5 Peer Delinquency	0.01	-0.01	0.01	0.03	-0.01	0.00	0.01	-0.06	0.07	0.07	0.10	0.15	0.09	0.11	0.09	0.16	0.35
32	T6 Peer Delinquency	0.02	0.04	-0.01	0.00	-0.02	-0.08	-0.04	-0.11	0.03	0.02	0.07	0.12	0.08	0.04	0.07	0.18	0.24
33	T7 Peer Delinquency	0.01	-0.04	-0.04	-0.01	-0.09	-0.06	-0.07	-0.11	0.01	-0.02	0.02	0.05	0.05	-0.01	0.03	0.13	0.21
34	T8 Peer Delinquency	-0.04	-0.06	-0.05	-0.05	0.03	0.04	0.04	0.00	0.04	0.01	0.00	0.09	0.04	0.02	0.01	0.09	0.12
35	T5 Morality	-0.03	-0.04	-0.04	-0.06	0.06	0.06	0.06	0.08	-0.08	-0.07	-0.03	-0.11	-0.09	-0.07	-0.05	-0.12	-0.46
36	T6 Morality	0.02	0.04	0.01	-0.04	0.00	0.00	0.03	0.07	-0.05	-0.04	-0.05	-0.08	-0.05	0.00	-0.05	-0.11	-0.36
37	T7 Morality	-0.02	-0.01	-0.02	-0.05	0.05	0.02	0.03	0.07	-0.04	-0.04	-0.05	-0.10	-0.05	0.00	-0.01	-0.13	-0.26
38	T8 Morality	0.02	0.03	0.03	-0.01	0.01	-0.02	-0.01	-0.01	-0.02	-0.05	-0.02	-0.06	-0.02	-0.03	0.00	-0.05	-0.20
39	T5 General Trust	0.00	0.02	0.02	0.01	0.03	0.02	0.02	-0.02	-0.01	-0.01	0.00	-0.05	-0.03	-0.04	0.00	-0.04	-0.17
40	T6 General Trust	-0.04	-0.05	-0.05	-0.08	-0.05	-0.04	-0.01	-0.02	-0.08	-0.09	-0.06	-0.13	-0.08	-0.10	-0.10	-0.13	-0.19
41	T7 General Trust	-0.04	-0.07	-0.05	-0.08	-0.04	-0.10	-0.05	0.01	-0.12	-0.10	-0.09	-0.14	-0.11	-0.09	-0.09	-0.07	-0.17
42	T8 General Trust	-0.05	-0.06	-0.07	-0.09	-0.14	-0.17	-0.13	-0.12	-0.16	-0.15	-0.14	-0.17	-0.12	-0.12	-0.12	-0.15	-0.11
43	T5 Police Contact	0.01	0.00	0.04	0.06	-0.01	-0.05	-0.07	-0.10	0.05	0.07	0.05	0.09	0.06	0.09	0.10	0.16	0.15
44	T6 Police Contact	0.04	0.04	0.02	0.04	-0.06	-0.04	-0.05	-0.10	0.01	0.05	0.01	0.09	0.03	0.04	0.02	0.09	0.14
45	T7 Police Contact	0.03	0.01	0.02	0.06	-0.07	-0.07	-0.10	-0.12	0.06	0.09	0.10	0.15	0.09	0.11	0.12	0.12	0.14
46	SES	-0.15	-0.12	-0.13	-0.12	-0.06	-0.11	-0.11	-0.14	-0.14	-0.15	-0.13	-0.13	-0.11	-0.12	-0.11	-0.06	0.00
47	Gender	0.11	0.10	0.08	0.12	-0.02	-0.01	-0.03	-0.03	0.22	0.17	0.21	0.30	0.18	0.14	0.17	0.21	0.14

		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
18	T6 Legal Cynicism	1.00																
19	T7 Legal Cynicism	0.53	1.00															
20	T8 Legal Cynicism	0.43	0.54	1.00														
21	T5 Criminal Offending	0.24	0.26	0.24	1.00													
22	T6 Criminal Offending	0.40	0.35	0.28	0.56	1.00												
23	T7 Criminal Offending	0.28	0.40	0.31	0.39	0.60	1.00											
24	T8 Criminal Offending	0.26	0.33	0.44	0.35	0.41	0.48	1.00										
25	T6 Police Effectiveness	-0.29	-0.32	-0.22	-0.22	-0.28	-0.29	-0.21	1.00									
26	T7 Police Effectiveness	-0.26	-0.34	-0.25	-0.19	-0.28	-0.34	-0.24	0.47	1.00								
27	T8 Police Effectiveness	-0.22	-0.24	-0.29	-0.13	-0.20	-0.20	-0.25	0.32	0.38	1.00							
28	T6 Procedural Justice	-0.30	-0.30	-0.24	-0.24	-0.30	-0.28	-0.26	0.70	0.42	0.31	1.00						
29	T7 Procedural Justice	-0.27	-0.36	-0.29	-0.23	-0.30	-0.34	-0.26	0.44	0.76	0.42	0.48	1.00					
30	T8 Procedural Justice	-0.23	-0.28	-0.35	-0.19	-0.23	-0.25	-0.32	0.35	0.44	0.73	0.38	0.51	1.00				
31	T5 Peer Delinquency	0.25	0.24	0.17	0.56	0.40	0.25	0.21	-0.25	-0.21	-0.13	-0.26	-0.22	-0.15	1.00			
32	T6 Peer Delinquency	0.34	0.28	0.22	0.38	0.47	0.36	0.28	-0.23	-0.23	-0.21	-0.25	-0.26	-0.26	0.46	1.00		
33	T7 Peer Delinquency	0.26	0.36	0.26	0.27	0.36	0.44	0.34	-0.22	-0.22	-0.19	-0.25	-0.26	-0.22	0.29	0.53	1.00	
34	T8 Peer Delinquency	0.20	0.26	0.34	0.28	0.32	0.34	0.39	-0.21	-0.19	-0.22	-0.23	-0.25	-0.27	0.26	0.39	0.50	1.00
35	T5 Morality	-0.28	-0.26	-0.21	-0.45	-0.30	-0.19	-0.23	0.21	0.16	0.11	0.22	0.20	0.15	-0.41	-0.36	-0.24	-0.26
36	T6 Morality	-0.46	-0.36	-0.33	-0.31	-0.39	-0.29	-0.32	0.32	0.24	0.18	0.30	0.24	0.23	-0.31	-0.40	-0.34	-0.29
37	T7 Morality	-0.33	-0.48	-0.38	-0.26	-0.34	-0.39	-0.36	0.27	0.31	0.21	0.26	0.33	0.25	-0.22	-0.31	-0.45	-0.31
38	T8 Morality	-0.29	-0.37	-0.52	-0.26	-0.28	-0.33	-0.48	0.22	0.20	0.28	0.23	0.27	0.32	-0.19	-0.26	-0.32	-0.36
39	T5 General Trust	-0.09	-0.10	-0.08	-0.16	-0.11	-0.10	-0.07	0.10	0.07	0.08	0.13	0.04	0.10	-0.14	-0.12	-0.08	-0.07
40	T6 General Trust	-0.18	-0.16	-0.12	-0.14	-0.15	-0.10	-0.05	0.24	0.19	0.08	0.26	0.17	0.13	-0.17	-0.14	-0.11	-0.10
41	T7 General Trust	-0.17	-0.21	-0.15	-0.14	-0.17	-0.15	-0.07	0.20	0.24	0.15	0.18	0.22	0.13	-0.11	-0.12	-0.07	-0.06
42	T8 General Trust	-0.15	-0.17	-0.21	-0.09	-0.10	-0.06	-0.08	0.17	0.21	0.27	0.17	0.21	0.29	-0.07	-0.05	-0.04	-0.05
43	T5 Police Contact	0.14	0.13	0.08	0.26	0.24	0.20	0.11	-0.16	-0.14	-0.12	-0.14	-0.18	-0.09	0.20	0.19	0.14	0.07

		18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
44	T6 Police Contact	0.23	0.13	0.10	0.22	0.27	0.20	0.13	-0.18	-0.20	-0.10	-0.19	-0.20	-0.12	0.18	0.30	0.19	0.16
45	T7 Police Contact	0.23	0.24	0.17	0.27	0.34	0.41	0.26	-0.21	-0.23	-0.10	-0.22	-0.26	-0.15	0.24	0.28	0.29	0.24
46	SES	-0.01	-0.03	-0.04	-0.01	0.01	0.09	0.09	-0.01	0.06	0.09	0.03	0.01	0.05	0.03	0.14	0.19	0.16
47	Gender	0.12	0.15	0.18	0.28	0.24	0.25	0.22	-0.13	-0.15	-0.08	-0.13	-0.17	-0.09	0.23	0.14	0.13	0.14

		35	36	37	38	39	40	41	42	43	44	45	46	47
35	T5 Morality	1.00												
36	T6 Morality	0.51	1.00											
37	T7 Morality	0.40	0.57	1.00										
38	T8 Morality	0.31	0.45	0.58	1.00									
39	T5 General Trust	0.18	0.11	0.08	0.10	1.00								
40	T6 General Trust	0.18	0.16	0.12	0.06	0.37	1.00							
41	T7 General Trust	0.11	0.15	0.18	0.07	0.29	0.52	1.00						
42	T8 General Trust	0.03	0.05	0.12	0.10	0.23	0.40	0.51	1.00					
43	T5 Police Contact	-0.12	-0.11	-0.11	-0.12	-0.05	-0.07	-0.08	0.00	1.00				
44	T6 Police Contact	-0.19	-0.19	-0.14	-0.07	-0.07	-0.12	-0.12	-0.03	0.22	1.00			
45	T7 Police Contact	-0.17	-0.27	-0.24	-0.16	-0.06	-0.10	-0.10	-0.02	0.21	0.30	1.00		
46	SES	-0.08	-0.08	-0.11	-0.14	-0.02	0.07	0.13	0.24	0.00	0.04	0.06	1.00	
47	Gender	-0.17	-0.19	-0.26	-0.28	0.01	0.03	0.03	0.00	0.09	0.04	0.17	0.03	1.00

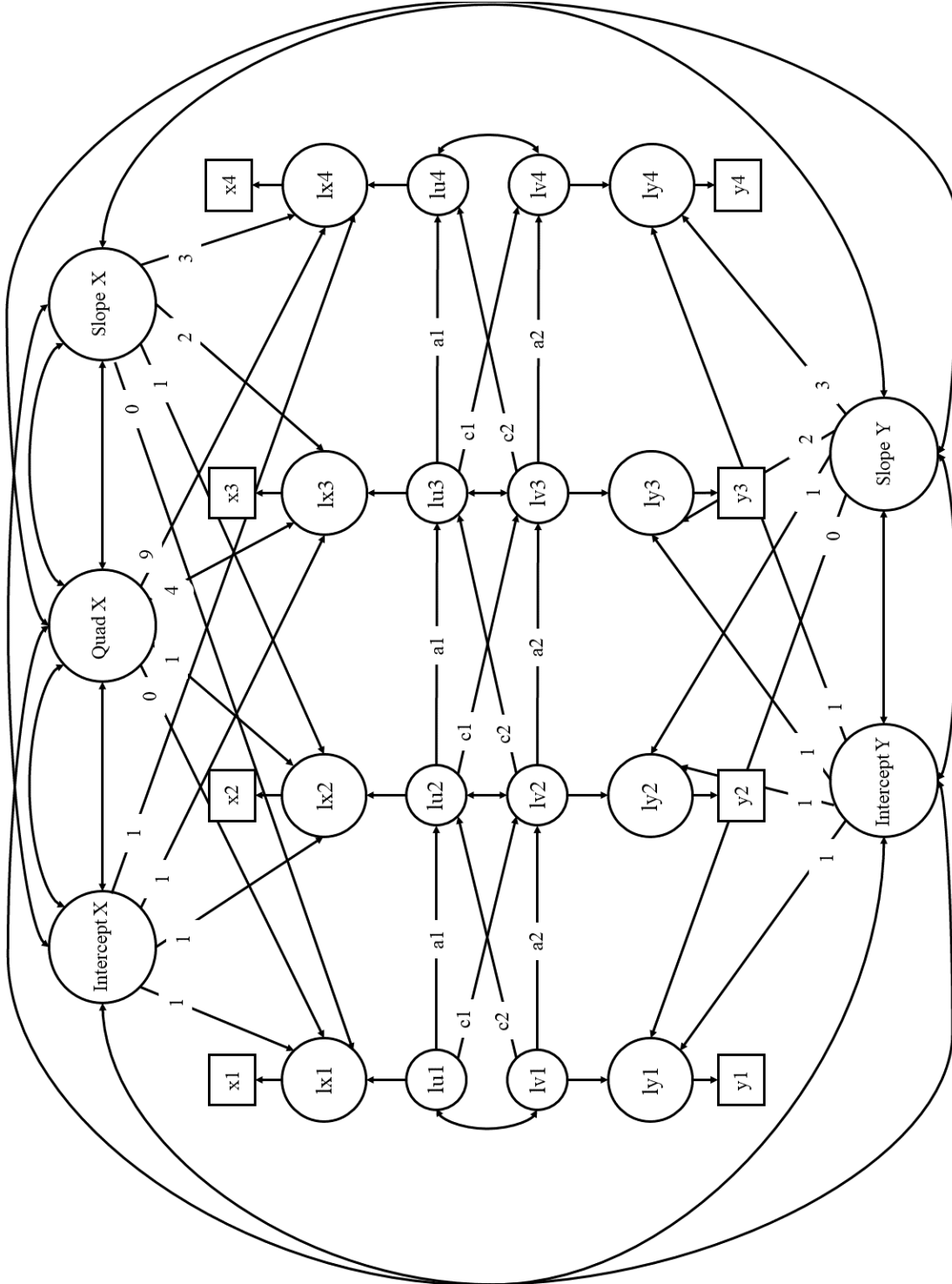
Note. Correlations in **bold** significant at $p \leq 0.05$;

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APPENDIX B

LCM-SR UNCONDITIONAL MODEL EXAMPLE

Figure 7. Unconditional LCM-SR Example



(See also Mund & Nestler, 2019).