



The Differential Effects of Parental Style on Parental Legitimacy and Domain Specific Adolescent Rule-Violating Behaviors

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Accepted: 20 February 2021 / Published online: 13 March 2021

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Abstract

This study examined whether parental legitimacy served as a mediator in the relation between parenting styles (authoritative, authoritarian, permissive) and adolescent engagement in four domain-specific rule-violating behaviors (RVB: relational aggression, assault, theft, substance use). A total of 708 middle school and high school students from the New Hampshire Youth Study were surveyed four times every six months for the current study. Using generalized structural equation modeling, results demonstrated that parental legitimacy was a mediator of authoritative parenting style, but was not a significant or consistent mediator for authoritarian and permissive parenting styles, with RVBs. Parental legitimacy fully mediated the relation between authoritative parenting and assault, theft, and relational aggression, but only partially mediated the relation with substance use. This finding suggests that parental legitimacy might be more important in certain domains of behavior than others. Moreover, this pattern mostly persisted when examining changes in RVB overtime and changes in parental legitimacy as a mediator. The implications of parental authority and why adolescents may engage in certain RVB over others, as well as how developmental factors are accounted for in legal socialization, are discussed.

Keywords Delinquency · Rule-violating Behavior · Parenting Styles · Parental Legitimacy · Social Domains of Behavior

Highlights

- Parental legitimacy serves as a mediator between parenting styles and rule-violating behavior, but only for amount of authoritative parenting.
- The degree to which parental legitimacy mediated the relation between authoritative parenting and behavior depended on the domain of the behavior.
- Parental legitimacy and change in parental legitimacy were both significant mediators of authoritative parenting and change in behavior over time.

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Rule violation and engagement in delinquent behaviors are concerns during adolescence. In trying to understand why adolescents commit rule-violating behavior (RVB), the public often questions parental factors, such as different approaches to parenting. Consequently, developmental researchers have focused on a variety of parental factors that predict RVB, including parenting styles (see Aunola & Nurmi, 2005; Smetana, 1994), parental rules (see Barnes et al., 2006), and attitudes towards parents (see Kuhn & Laird, 2011; Trinkner et al., 2012). Legal scholars have become increasingly interested in the developmental components that predict the progression of delinquent behavior from adolescence into adulthood, yet they have neglected to consider much of the

developmental field's contributions where parental influence is concerned.

Legal socialization researchers have begun to close this gap by integrating theories of parental styles into existing theoretical legal socialization frameworks stemming from procedural justice and legitimacy models (Trinkner & Cohn, 2014; Trinkner et al., 2012; Wolfe et al., 2017). Although research supports this integration, the work has largely been inconsistent with developmental researchers' approach by treating all adolescent misbehavior as unidimensional. The present research sought to address these issues and expand upon Trinkner and colleagues' (2012) work integrating parental factors into legal socialization theory by exploring the differential effects of parenting factors, specifically parenting styles and parental legitimacy, on adolescent engagement in different types of RVBs using theories of domain specific behavior. By incorporating developmental theories of domain-specificity, this research attempts to bridge the remaining gaps between psycho-developmental and psycho-legal research in examining adolescent delinquency.

Parental Factors in Legal Socialization

Legal socialization is the process of developing reasoning capacity for, attitudes toward, and relationship with the law and legal authorities (Trinkner & Tyler, 2016). Recently, research on legal socialization has predominantly focused on socialization through interactions—directly or vicariously—with the police resulting in attitudes towards the police that shape compliance (Fagan & Tyler, 2005; Tyler et al., 2014) and behavior (Piquero et al., 2005; Trinkner & Cohn, 2014). Legal socialization can be viewed as a dynamic process beginning in childhood and adolescence that continues into adulthood, yet many of the factors that likely affect the socialization of children and adolescents, who are less likely to have direct interactions with police at a young age, have been largely neglected in contemporary theories of legal socialization.

Within the field of developmental psychology, a robust literature highlighting the relationship between parental factors and adolescent behavior—particularly delinquency behaviors—exists (see Hoeve et al., 2009; Masud et al., 2019). Despite the potential impact of parental factors identified by psycho-developmental scholars on adolescent delinquent behaviors, few psycho-legal researchers—and specifically legal socialization researchers—have focused on the role of parental factors in understanding adolescent engagement in delinquent behavior (Trinkner & Cohn, 2014; Trinkner et al., 2012; Tyler & Trinkner, 2017). Parents can be viewed as one of the primary active agents in the socialization of children and adolescents and the style in

which parents engage with their children can impact their socialization (Chan et al., 2009; Chao, 2000). For example, parenting style is related to other types of socialization outcomes, such as cultural (Chao, 2000) and racial socialization (Pezzella et al., 2016).

One of the few studies examining the relationship of parenting factors, specifically parenting styles, with adolescent behavior in the legal socialization process was conducted by Trinkner et al., (2012). Trinkner and colleagues found that each parenting style was predictive of parental legitimacy—authoritative parenting was positively related while authoritarian and permissive parenting were negatively related to parental legitimacy—and parental legitimacy was negatively related to engagement in RVB. Furthermore, they found that parental legitimacy mediated the relation between parenting styles and RVB. This research represented an important step in advancing the legal socialization field and Trinkner and colleagues (2012) finding supports the inclusion of parenting style and parental legitimacy as important factors in legal socialization and understanding engagement in delinquency. In the next few sections we describe the underlying relationships between parenting styles, legitimacy, and RVB, and identify the remaining gaps in bridging parenting research with legal socialization.

Parenting Styles

According to Baumrind (1968, 1991), parents' approach to engaging with their children can be classified into four parenting styles—authoritative, authoritarian, permissive, and rejecting/neglectful—represented along two dimensions comprised of responsiveness or support and demandingness or control (Maccoby & Martin, 1983). Authoritative parents are compassionate and supportive, but also set clear rules and boundaries for their child, representing both demandingness of and responsiveness to their child. In contrast, authoritarian parents set strict rules and harsh punishments while also exercising little open dialogue with their child, representing the demandingness characteristic without responsiveness. Parents who practice the permissive style generally have few restrictions for their child and if rules are created, they are loosely enforced, but show great compassion and support, representing responsiveness to their children without demandingness (Newman et al., 2008). The fourth parenting style, rejecting/neglectful, was added as a revision to the original work conducted by Baumrind (1968) and represents parents' lack of either responsiveness to or demandingness of their child (Maccoby & Martin, 1983). Neglectful parents are generally disengaged in their parenting approach and neglectful parenting is often associated with the most negative and severe development

outcomes (Lamborn et al., 1991). Contemporary research on parenting styles has moved away from categorizing into discrete styles and instead focused on a dimensional approach (Smetana, 2017).

Parenting style has been linked to many adolescent developmental outcomes, including engagement in delinquency (Hoeve et al., 2008; Hoeve et al., 2009; Trinkner et al., 2012). Authoritarian, permissive, and neglectful parenting styles are often associated with increased engagement in delinquent and rule-violating behaviors compared to authoritative parenting style (Adalbjarnardottir & Hafsteinsson, 2001; Baumrind, 1991; Patock-Peckham et al., 2001; Radziszewska et al., 1996; Trinkner et al., 2012). Although there are numerous studies examining the link between parenting styles and delinquency, many do not focus on specific types of behaviors, but instead use a global measure of delinquency. Studies that have examined specific behaviors often focus only on one type of behavior.

Often, the association between delinquency and authoritative and neglectful parenting style is clear and consistent; authoritative tends to be associated with less delinquency and neglectful parenting tends to be associated with more and more serious forms of delinquency (see Hoeve et al., 2008; Hoeve et al., 2009). Yet, findings on the specific effects of the other parenting styles, authoritarian and permissive, on delinquent behaviors is mixed (Becofa et al., 2012). This might in part be due to the focus on either global or singularly specific behaviors in much of the existing research, making the patterns seem inconclusive as a whole when they might actually just look different for different types of behaviors. It might also be the case that there are other parental factors involved that could be contributing to the inconsistency in findings across different studies, such as parental legitimacy.

Parental Legitimacy

Legitimacy of authority is the perception of an authority as having the right to govern others' behaviors within the purview of that authority (Jackson et al., 2012; Tyler, 2006). Within a legal context, legitimacy has been regarded as an important precursor to conforming to laws or rules (Tyler, 2006; Tyler & Trinkner, 2017), complying with legal authorities (Fagan & Tyler, 2005; Tyler & Jackson, 2014; Hough et al., 2013), and refraining from illegal behavior (Cohn et al., 2012; Fagan & Piquero, 2007; Trinkner et al., 2012). Legal scholars have traditionally conceptualized legitimacy as comprised of perceived trustworthiness of the authority, having an obligation to obey the authority, and perceived shared values with the authority (Tyler & Jackson, 2014). Although, recent developments in legitimacy research, particularly around legitimacy of the police, has challenged the conceptualization of legitimacy in previous

research (Bottoms & Tankebe, 2012; Gau, 2011, 2014; Jackson, 2018; Jackson & Gau, 2016; Tankebe, 2013). Some researchers now contest whether obligation to obey (Posch et al., 2020) and trust (Jackson & Gau, 2016) are truly equivalent to legitimacy.

Developmental psychologists have conceptualized legitimacy differently in many ways from legal scholars, focusing on other aspects more specifically related to the role of a parent. Through a developmental lens, legitimacy of a parent involves a child's perceptions of the parent's right to make rules, trust in the parent, and obligation to obey the parent (Darling et al., 2005). To reconcile these differences in attempting to bridge the legitimacy work of legal and developmental scholars, Trinkner et al. (2012) conceptualized legitimacy as a combination of the overlapping components across theories, namely trust and obligation to obey. Although there is some disagreement among legal scholars on this conceptualization of legitimacy, we have chosen to apply this definition of legitimacy in connecting the overlapping definitions between legal and development fields, as well as extending Trinkner and collegeue's (2012) original work. In previous research, trust and obligation to obey have been consistently important predictors of compliance with authority and delinquent behavior, both in legal and developmental research (Darling et al., 2007; Sunshine & Tyler, 2003; Tyler, 2006; Trinkner et al., 2012). Children who trust their parents and feel a sense of obligation to obey parental authority—in other words, children who perceive their parents to have high levels of legitimacy—tend to engage in RVB less often (Thomas et al., 2018; Tisak, 1986; Trinkner & Cohn, 2014; Trinkner et al., 2012).

Adolescent perceptions of the legitimacy of parental authority may be the connection between parenting style and adolescent engagement in RVB (Darling et al., 2007; Kuhn & Laird, 2011). For example, Trinkner and colleagues (2012) found that compared to authoritarian and permissive parenting, authoritative parenting is a positive predictor of adolescents' perceptions of their parents' legitimacy, meaning that parents who practice authoritative parenting style tend to be perceived as more legitimate than parents who practice either authoritarian or permissive styles. In contrast, children who experienced too much or too little control, as with authoritarian and permissive parenting respectively, tended to view their parents as having less legitimate authority over them, and engaged in RVB more often.

However, previous research has shown that adolescents' perceptions of parental legitimacy is not a single overarching perception of parents' right to have authority across all situations (Darling et al., 2007; Darling et al., 2005; Tisak, 1986). Instead, parental authority is often dependent upon the particular issue or situation at hand and

adolescents' perceptions of parental legitimacy commonly vary across areas or *social domains* of their life (Milnitsky-Sapiro et al., 2006; Smetana & Daddis, 2002).

Social Domain Theory and RVB

Social domain theory explains how adolescents differentiate between moral, social, and psychological issues and situations as they grow older (Smetana, 1997, 1999, 2002, 2006; Turiel, 1983; Turiel & Davidson, 1986). Smetana (1997, 1999) explains the *moral* domain regards rules based on concepts of harm, trust, justice, and rights. Rules within the moral domain also regulate social interaction and relationships within society. Although the moral domain seems to coincide with the *social* domain due to its rules regarding social interaction, the *social* domain pertains more to rules and behaviors that are normative in society. These rules are subject to change because they are contingent on the rules of who has authority. The *psychological* domain differs from the *moral* and *social* domain as it revolves around self-identity, personality, and attributions to an individual's behaviors (Smetana, 1999). Two components make up the psychological domain: *prudential* issues and *personal* issues. *Prudential* issues appear similar to moral issues but differ in that prudential acts are based on immediate, negative consequences specific to a person (e.g., drinking alcohol). *Personal* issues involve a person's preferences and choices on situations with friends, activities, or privacy (e.g., music choice) (Smetana, 1999).

Over time, adolescents' perceptions about rules within certain domains can shift. Adolescents may become less likely to believe their parents have the right to make rules governing their activities and behavior. Furthermore, when adolescents' desire for autonomy increases over time, both psychologically and behaviorally, feelings of autonomy can conflict with the protection and regulation parents exercise over their children (Smetana, 2006; Smetana & Daddis, 2002; Turiel, 2002). Conflicts in desire for autonomy and perceptions of parental authority to govern specific realms of adolescents' life contribute to the division of social domains.

Engagement in RVB varies greatly in regard to the domain in which the behavior falls and the perceived severity of the offense (Cohn et al., 2010; Fagan & Tyler, 2005). Whether or not adolescents' behavior is influenced by parental factors, such as parental legitimacy, might depend on the perceived domain of the behavior. Domain theory may explain why parental factors could differentially predict specific types of RVB, as demonstrated by Tisak (1986) who found that adolescents tend to perceive parental rules regarding theft as more legitimate than rules concerning household chores or friendships. Additional research has found evidence that parental authority is

perceived differently by adolescents depending on the particular issue in question (Milnitsky-Sapiro et al., 2006; Smetana & Daddis, 2002; Trinkner et al., 2012). As a result, adolescents tend to obey parental authority for some rules and ignore parental authority for others (Smetana, 1994; Turiel, 1983).

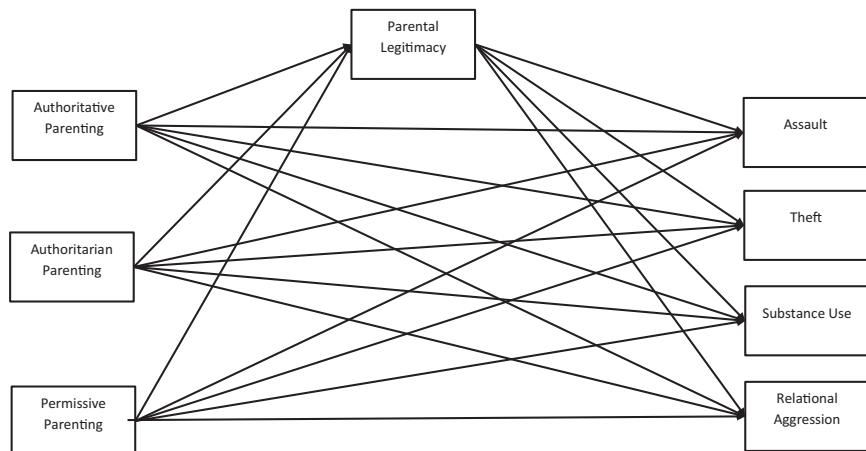
Behaviors that cause harm and break clear socially normative behavior, such as assault or theft, likely fall within the moral and social domains while behaviors like substance abuse may be viewed as more of a prudential issue because it is not harming anyone other than the individual. Adolescents regard behaviors that have the potential to hurt others, either physically or psychologically, as behaviors that warrant the highest levels of legitimacy of parental authority (Nucci, 1981; Smetana, 2006). In contrast, adolescents view behaviors that relate to their own personal choices, such as their choice in friends or social matters, as warranting the lowest levels of legitimacy of parental authority (Smetana, 2006; Tisak, 1986). Of all the areas in an adolescent's life, behaviors commonly seen as victimless or regarding adolescents' personal safety, such as substance use, have the greatest variation in parental legitimacy. Adolescents' views about these behaviors and perceptions of their parents' legitimate authority to make and enforce rules about them continually change over time as adolescents adopt behaviors within this domain and view it as their own personal choice.

Other behaviors may cross multiple domains, depending on how the behavior is viewed by the adolescent. For example, bullying can be both direct and indirect (Bagner et al., 2007; Grotjeter & Crick, 1996) and different types of bullying may be perceived as falling under different domains. Direct bullying includes physical and verbal attacks, which align with the moral and social domains, while indirect bullying includes actions such as purposefully excluding youth from participation in social groups or spreading rumors, which may be viewed as a part of the personal domain. Although bullying behavior has widely been studied in developmental research, legal scholars have rarely examined bullying as a type of RVB, despite its prevalence among adolescents and connection to other types of RVB, such as physical assault. If different types of RVBs are viewed by adolescents as falling under different domains or different combinations of domains as suggested, then the influence of parental factors, such as parenting style and parental legitimacy, might not consistently matter in adolescents' decisions to engage in those behaviors.

Current Study

As previously stated, prior research has neglected factoring in domain specificity, or has tended to focus on an

Fig. 1 Proposed Parental Legitimacy mediated model predicting RVBs from three parenting styles. Note. control variables omitted from figure for clarity



individual RVB or RVB as a general construct as an outcome (Baumrind, 1985; Coombs & Landsverk, 1988; Crick et al., 1999; Hoeve et al., 2008; Nelson et al., 2006; Simons & Conger, 2007; Trinkner et al., 2012). Trinkner et al. (2012)'s model assumed that parental style predicted parental legitimacy, and in turn, predicted engagement in general RVB. However, the model did not consider that legitimacy may not affect all behavior or may affect some behaviors differently. Therefore, there are several clear gaps that have been left in this research. First, adolescents follow some rules and break others; however, prior research on the impact of parental factors on RVB, such as the work conducted by Trinkner et al. (2012), has only examined RVB as a general construct or composite variable. These studies were unable to distinguish specific patterns in rule breaking due to the holistic nature of RVB conceptualization.

Second, psycho-developmental researchers have long shown that adolescents' perception of parental legitimacy is not a singular perception of a parents' right to have authority across all situations (Milnitsky-Sapiro et al., 2006; Tisak, 1986; Smetana & Daddis, 2002). Instead, adolescents' perceptions of parental legitimacy commonly vary across areas or domains of their life (Smetana & Daddis, 2002). Legal socialization researchers have yet to incorporate the contributions of developmental research on domains of adolescent behavior and examine the impact of parental factors on specific RVBs (Baumrind, 1985; Coombs & Landsverk, 1988; Crick et al., 1999; Hoeve et al., 2008; Nelson et al., 2006; Simons & Conger, 2007). Last, legal socialization researchers have neglected to include other types of RVB, such as bullying behavior, that are prevalent in adolescence and may be connected to other forms of delinquency.

The purpose of the current study is to address these gaps and determine if parenting style and parental legitimacy affects all RVB equally or if the nature of the relationship depends on the type of RVB. For the current study four types of RVB are examined: assault, theft, substance use,

and bullying. In order to clearly distinguish bullying behavior from other forms of RVB, such as physical assault, we have confined bullying behavior to indirect bullying or relational aggression. Relational aggression is indirect bullying or bullying that involves behaviors that are non-physical and emotionally distressing (Crick et al., 1996; Crick & Grotpeter, 1995). From here on, we will refer to the indirect bullying behaviors measured in the current study as relational aggression (RA).

In reference to the concepts illustrated in social domain theory, it is hypothesized that the relations, or patterns, between the three parenting styles (authoritative, authoritarian, and permissive), parental legitimacy, and adolescent behavior will differ across the four different types of RVB (assault, theft, substance use, and relational aggression). We predict that the current mediated model (see Fig. 1) proposed by Trinkner and colleagues (2012) will work for some RVB and not for others and that these associations will vary based on the type of RVB under examination. Given the different domains in which each group of RVBs is likely to fall, we specifically predict that parental legitimacy will mediate the relation between parental style and RVB for behaviors that fall into the moral domain (assault, theft) or social domain (RA), but may be less important for, and therefore, may not mediate this relation for behaviors that fall into the psychogocial domain (substance use).

Method

Participants

A total of 708 adolescents in five communities in New Hampshire participated in three waves of data collection at six month intervals in the present study. Of these 708 adolescents, 420 (59.32%) were middle school students and 288 (40.68%) were high school students. While data collection is ongoing, the data presented in this study include

participants from the third (T0), fourth (T1), fifth (T2) and sixth (T3) waves of data collection in the New Hampshire Youth Study (NHYS; Cohn et al., 2010; 2012). At T0, data from 7th graders and 10th graders were collected in fall 2007 and they had an average age of 13.49 ($SD = 1.57$) (middle school: $M = 12.28$, $SD = 0.51$; high school: $M = 15.32$, $SD = 0.55$). T1 and T2 data were collected in the spring and fall of 2008, respectively. T3 data were collected in Spring 2009, at which time the middle school cohort was in the 8th grade and high school cohort was in the 11th grade. A little more than half of the sample was female ($n = 415$; 58.62%) and most identified as white ($n = 564$; 79.66%), followed by Hispanic American ($n = 42$; 5.93%), Multiracial ($n = 40$; 5.65%), “Other” ($n = 27$; 3.82%), Asian American ($n = 18$; 2.54%), African American ($n = 16$; 2.26%), and Native American ($n = 1$; 0.14%).

Measures

Demographics

Participants were asked to report on various demographic variables, including sex (*male* coded 1; *female* coded 0), age, average grades (1 = *Mostly F's*; 9 = *Mostly A's*) ($M = 7.37$, $SD = 1.36$), and socioeconomic status (SES). SES was measured by two variables: a composite of mother's education level (1 = less than high school; 6 = graduate or professional degree) and father's education level (1 = less than high school; 6 = graduate or professional degree) (total $M = 7.18$, $SD = 2.57$), and a measure of family wealth (1 = very little money available; 5 = lots of money available) ($M = 3.24$, $SD = 0.77$). All demographic variables used in the analyses were collected at T1, except for mother's and father's education level, which was only available at T0.

Parenting styles

To assess parenting style, participants completed a modified version of the Parental Authority Questionnaire (PAQ; Buri, 1991) at T1. This was the same modified measure used in Trinkner and colleague's (2012) study and was based on Baumrind's (1991) conceptualization of parenting styles. Consistent with Trinkner et al.'s (2012) study, we focused only on amount of authoritative, authoritarian, and permissive parenting, as the field has moved away from discrete categories toward a more dimensional conceptualization of parenting styles (Smetana, 2017). For each of the three parenting styles, participants responded to four items reflecting characteristics of that style (Authoritative: “*My parents tell me how I should act and explain the reason why*”; Authoritarian: “*My parents do not allow me to ask them why they did this or why they did that*”; Permissive: “*My parents feel that parents should NOT stop*

children from doing what they want or like”). Participants rated their agreement for each question on a Likert scale with “1” being *Strongly Disagree* and “4” being *Strongly Agree*. Mean scores were then calculated for each parenting style to reflect the extent to which parents were characterized by the three styles. Because parents might engage in different styles to varying degrees across different domains of behavior, participants were not divided into specific parenting style categories, but rather retained representative scores for each of the three parenting style measures (i.e., Trinkner et al., 2012). Higher scores represented parents' greater characterization of the given parenting style (authoritative: $M = 2.87$, $SD = 0.69$, $\alpha = 0.87$; authoritarian: $M = 2.29$, $SD = 0.69$, $\alpha = 0.89$; permissive: $M = 2.14$, $SD = 0.62$, $\alpha = 0.90$).

Parental legitimacy

Perceptions of parental legitimacy were measured using the modified version of Sunshine and Tyler's (2003) police legitimacy scale, a scale created by Trinkner et al. (2012), regarding parents as authority figures rather than police. This measure was available at T0 and T2. There were 10 items for which participants rated their agreement about their parents' legitimacy on a Likert scale with “1” being *Strongly Disagree* to “4” being *Strongly Agree*. These items reflected two components of legitimacy, trust (e.g., “*My parents can be trusted to make decisions that are right for me*”) and obligation to obey (e.g., “*I should do what my parents tell me to do even if I disagree with their decisions*”). Higher scores indicated greater parental legitimacy (T0: $M = 2.94$, $SD = 0.55$, $\alpha = 0.91$; T2: $M = 2.87$, $SD = 0.40$, $\alpha = 0.79$).

Rule-violating behavior

Finally, to assess participants' engagement in RVB, participants responded to a 25-item delinquency component of the National Youth Longitudinal Survey (Wolpin, 1983). The RVB measure is collected in every wave of the NHYS and the current study utilized RVB measures from T1 and T3. This survey reflects several types of RVB, including assault, theft and substance use. For each item, participants were asked to report the number of times they had engaged in a given behavior during the past six months. Responses to each item were recoded into “1” (yes) or “0” (no) and the three overall most frequently occurring behaviors for each type of RVB (assault: gotten into a fight at school, hit or seriously threaten to hit someone, hurt someone badly enough to need bandages or a doctor; theft: taken something not belonging to you that was worth less than \$50, tried to get something by lying to someone about what you would do for him or her (tried to con someone), knowingly stole or

held stolen goods; substance use: had an alcoholic drink, used marijuana, used other illegal drugs) were used to create the outcome variables. For each participant, each of the three behaviors for assault, theft, and substance use were then summed to create a variety score for each type of behavior that reflected how many different assault, theft, or substance use behaviors participants engaged in within the previous six months (Cohn et al., 2010; Cohn et al., 2012; Cole et al., 2014). Higher scores indicated more engagement in that specific RVB (T1: assault: $M = 0.42$, $SD = 0.77$, $\alpha = 0.65$; theft: $M = 0.60$, $SD = 0.86$, $\alpha = 0.56$; substance use: $M = 0.39$, $SD = 0.78$, $\alpha = 0.73$; T3: assault: $M = 0.36$, $SD = 0.74$, $\alpha = 0.90$; theft: $M = 0.53$, $SD = 0.83$, $\alpha = 0.56$; substance use: $M = 0.55$, $SD = 0.91$, $\alpha = 0.73$).

For relational aggression, participants completed the 12-item reduced aggression/victimization scale by Orphinas and Horne (2006). Only the items related to indirect bullying/relational aggression were examined for the current study; items related to direct/physical bullying and victimization were excluded. The relational aggression measure was only available at T3 in the NHYS. Similar to assault, theft, and substance use, for each relational aggression item, participants were asked to report the number of times they had engaged in specific acts of relational aggression within the previous week (e.g., *"In the past 7 days...how many times did you: call a kid a bad name; tease a kid; leave out another kid on purpose?"*). These relational aggression items were also recoded into "1" (yes) or "0" (no). The relational aggression scale used in our model was created using the three overall most frequently occurring relational aggression behaviors (tease a kid from your school, call a kid from your school a bad name, leave out another kid on purpose). The three relational aggression behaviors were then summed to create a variety score that reflected how many different relational aggression behaviors participants had engaged in within the past seven days. Higher scores indicated more adolescent engagement in relational aggression behaviors ($M = 0.87$, $SD = 1.03$, $\alpha = 0.67$).

Procedure

The data for this study comes from eight middle schools and five high schools from the NHYS (Cohn et al., 2010, 2012). Surveys were conducted in mass collection sessions (i.e., all participants from a school surveyed at the same time and place) in school cafeterias, assembly halls, and libraries, depending on the school. Before participating in the first survey collection period, participants' parents completed a parental consent. Participants then completed participant assent forms prior to participating in each survey collection.

Collection sessions were scheduled with each school to be held approximately at six month intervals. On collection days, participants were instructed to assemble in the

designated collection location at the scheduled time. Participants received their assent documents, were verbally read the contents by a researcher as they read along, and instructed to sign the document if they agreed to participate in the specific survey for that collection. Participants who signed the assent form were then provided with a survey and instructed to raise their hand when finished. Participants who had finished the survey were instructed to "check out" with a researcher stationed at a table in the back of the collection room. Participants were tracked across collections by a unique identification number. The researcher recorded the participant ID number on the survey from a secure list. Participants were then presented with a fruit snack and a \$10 gift card to a national bookstore.

Analytic Strategy

The findings were analyzed using generalized structural equation modeling (GSEM). GSEM is a newly developed statistical technique and is preferable to structural equation modeling (SEM) or simple regression for non-normally distributed dependent measures, such as count data. More specifically, GSEM has the capability of incorporating binary logistic, Poisson, and negative binomial regression techniques into SEM analyses (StataCorp, 2013). Furthermore, GSEM takes a confirmatory approach, rather than an exploratory approach, in simultaneously examining the direct and indirect pathways and provides both statistical information as well as a visual representation of the hypothesized model. However, GSEM has several limitations to SEM analyses, including limited model fit indices that can be calculated and an inability to estimate indirect effects for mixed path types (e.g., *a* path is OLS and *b* path is negative binomial). Therefore, only AIC/BIC fit indices are reported, as other standard fit indices cannot be calculated for GSEM models, and an alternative method to estimate indirect effects was employed by examining the difference between the total and direct effect for the current analyses.

For the purposes of the current study, GSEM with negative binomial regression modeling was chosen for paths to the four dependent variables, because distributions for the RVB measures were all highly negatively skewed with over dispersion. Categorical variables with dichotomous scoring (i.e., sex and cohort) were identified as binary in the models. OLS paths were used for all other paths in the model. Participant sex, cohort, average grades in school, parents' education, and family wealth were included in the models as control variables. To account for missing data across time points, a missing values analysis was conducted and imputation of missing values was performed using the STATA 14 imputation function. Results were consistent for imputed and non-imputed models; therefore, the imputed model results are reported below.

Three separate GSEM analyses were conducted with RVBs assessed simultaneously. The first replicated the original model proposed by Trinkner and colleagues (2012) with parental legitimacy mediating the relation between parental styles (authoritative, authoritarian, permissive) and RVB, but extended their work by splitting RVB into four separate RVB dependent measures: assault, theft, substance use, and relational aggression. Relational aggression is only included in the first model because it was first measured in the NHYS at T3, and therefore, change in RA could be observed for subsequent analyses. The second analysis further replicated and extended Trinkner et al.'s (2012) work by controlling for RVB at T1 to observe how the model predicted changes in RVB over time. The final model incorporated a control of parental legitimacy at T0 to examine how changes in legitimacy predict changes in RVB in the model. Because of the use of mixed paths in the GSEM analyses, in this case some OLS and negative binomial, indirect effects could not be calculated as a product of a and b paths, as is commonly done in mediation analyses. In order to determine mediation, the direct and total effects were compared to assess the mediating effect of parental legitimacy on each parenting style. Paths that initially showed a significant relation with DVs, but were no longer significantly related following inclusion of the mediator were determined to be mediated paths.

Results

Preliminary Analyses

Given that data was collected from different communities and schools throughout New Hampshire, preliminary analyses were conducted to assess for potential differences on each of the RVB variables by school. Several differences emerged on the substance use and RA variables; however, these differences were primarily constrained to the type of school (middle school vs. high school) and not particular communities. Therefore, Analyses were conducted using cohort as a control variable. Bivariate correlations were conducted to examine initial relationships between model variables and were largely constituent with expectations (see Table 1). Moreover, the two measures of SES used in the current study were not highly correlated and therefore did not pose an issue of multicollinearity in the analyses.

Predicting Four RVBs

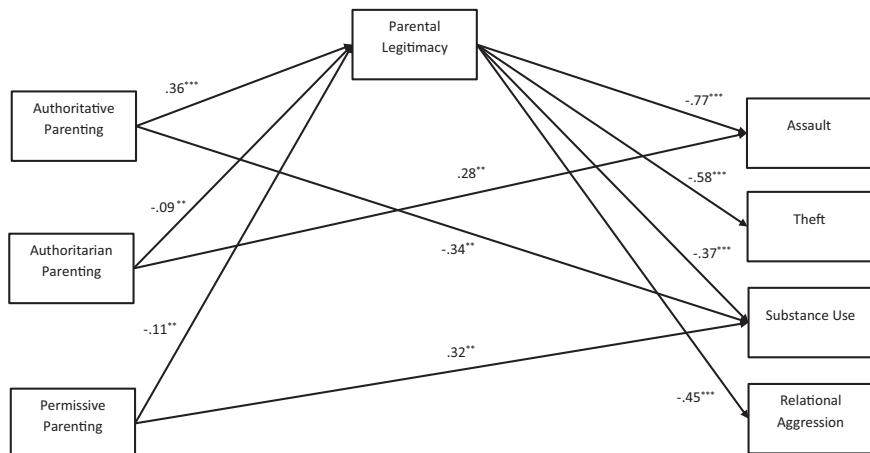
GSEM analysis was then employed to examine the hypothesized model. The overall model, $-2 \text{ LL} = -2933.40$, $\text{AIC} = 5974.80$, $\text{BIC} = 6221.17$, showed support for full or partial mediation for some paths, but not others (see Fig. 2).

Table 1 Bivariate correlations for model variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Authoritative Parenting	—												
2. Authoritarian Parenting	0.04	—											
3. Permissive Parenting	0.26***	0.22***	—										
4. Parental Legitimacy (T2)	0.45***	-0.12**	-0.03	—									
5. Assault (T3)	-0.17***	0.13***	0.04	-0.30***	—								
6. Theft (T3)	-0.20***	0.06	0.04	-0.31***	0.51***	—							
7. Substance Use (T3)	-0.20***	0.01	0.09*	-0.25***	0.40***	0.34***	—						
8. Relational Aggression	-0.12**	0.09*	0.01	-0.24***	0.36***	0.33***	0.19***	—					
9. Cohort	-0.09*	-0.02	0.07	-0.14***	-0.10*	0.02	0.31***	-0.18***	—				
10. Sex	-0.02	0.05	0.12**	<-0.01	0.21***	0.16***	0.03	0.11**	-0.05	—			
11. Average Grades	0.22***	-0.06	-0.09*	0.27***	-0.33***	-0.27***	-0.20***	-0.11**	0.01	-0.21***	—		
12. Parent Education	0.14***	-0.08*	-0.04	0.09*	-0.08	-0.05	-0.07	-0.06	-0.01	0.05	0.32***	—	
13. Family Wealth	0.14***	0.04	0.14***	0.12*	-0.10*	-0.09*	-0.10*	-0.11**	-0.04	0.03	0.14***	0.25***	—

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Fig. 2 GSEM path model predicting four RVBs. Note. Non-significant paths and control variables omitted from figure for clarity (see Table 2 for values). * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$



Results of individual paths in the model are broken down in the following sections by paths to the mediator (i.e., parental legitimacy) and the four dependent variables (i.e., assault, theft, substance use, and RA).

Parental legitimacy

In examining the relation between parenting styles and parental legitimacy in the GSEM models, results suggested that authoritative parenting measured at T1 was associated with greater parental legitimacy six months later at T2, $b = 0.36$, $SE_b = 0.03$, $p < 0.001$. Authoritarian parenting, $b = -0.09$, $SE_b = 0.03$, $p < 0.001$, and permissive parenting, $b = -0.11$, $SE_b = 0.03$, $p < 0.001$, at T1 were both significantly negatively associated with parental legitimacy at T2 (see Table 2).

Assault

Results for predicting assault revealed that authoritarian parenting was the only parenting style to have a significant direct association with assault behavior when parental legitimacy was in the model, $b = 0.28$, $SE_b = 0.10$, $p = 0.005$, and parental legitimacy was a significant negative predictor of assault behavior, $b = -0.77$, $SE_b = 0.14$, $p < 0.001$. In examining differences between the direct and total effects, parental legitimacy mediated the relation between authoritative parenting and engagement in assault. Permissive parenting was not significantly related to adolescent assault behavior in the model and there was little difference between the observed direct and total effect (see Table 3), suggesting that parental legitimacy did not function as a mediator for permissive parenting on assault behavior.

Theft

In predicting adolescent engagement in theft behavior, no parenting style was directly predictive of theft, while

parental legitimacy was a significant negative predictor, $b = -0.58$, $SE_b = 0.11$, $p < 0.001$. Examination of the direct and total effects suggested that parental legitimacy only mediated the relation between authoritative parenting style and theft behavior. Both authoritarian and permissive parenting were not significantly related to theft behavior in either model and there was little change observed between their direct and total effects (see Table 3).

Substance use

Both authoritative, $b = -0.34$, $SE_b = 0.11$, $p = 0.002$ and permissive, $b = 0.32$, $SE_b = 0.12$, $p = 0.005$, parenting styles were directly predictive of adolescent substance use in the mediated model. Parental legitimacy was a significant negative predictor of adolescent substance use, $b = -0.37$, $SE_b = 0.13$, $p = 0.004$ (see Table 2), but showed little evidence of mediating the relation between parenting styles and substance use. Upon inspection of the direct and total effects, there was some reduction in the path for authoritative parenting, suggesting a partial mediation; however, there was little difference between the paths for permissive parenting, suggesting that parental legitimacy did not serve a mediating role. Authoritarian parenting was not significantly related to substance use either before or after the inclusion of parental legitimacy in the model (see Table 3).

Relational aggression

No parenting styles were directly predictive of RA in the mediated model and parental legitimacy was negatively related to RA, $b = -0.45$, $SE_b = 0.09$, $p < 0.001$ (see Table 2). Furthermore, the results supported mediation between authoritative parenting and relational aggression by parental legitimacy (indirect effect: $b = -0.07$, $SE_b = 0.02$, $p = 0.001$, 95% CI [-0.12, -0.03]) (see Table 2). In examining the direct and total effects, parental legitimacy mediated the relation between authoritative parenting and RA. Although

Table 2 GSEM path model results for parenting styles and parental legitimacy predicting four RVBs

Variables	Parental Legitimacy <i>b</i> (<i>SE_b</i>)	Assault ^a <i>b</i> (<i>SE_b</i>)	Theft ^a <i>b</i> (<i>SE_b</i>)	Substance ^a <i>b</i> (<i>SE_b</i>)	Relational Aggression ^a <i>b</i> (<i>SE_b</i>)
Authoritative Parenting	0.36*** (0.03)	−0.10 (0.12)	−0.17 (0.09)	−0.34** (0.11)	−0.04 (0.08)
Authoritarian Parenting	−0.09*** (0.03)	0.28** (0.10)	0.05 (0.08)	−0.06 (0.09)	0.10 (0.07)
Permissive Parenting	−0.11*** (0.03)	0.04 (0.12)	0.12 (0.10)	0.32** (0.12)	0.02 (0.08)
Parental Legitimacy	−	−0.77*** (0.14)	−0.58*** (0.11)	−0.37** (0.13)	−0.45*** (0.09)
Cohort	−0.10** (0.04)	−0.48** (0.16)	0.01 (0.12)	0.99*** (0.13)	−0.53*** (0.10)
Sex	0.08 (0.04)	0.75*** (0.15)	0.39** (0.12)	−0.04 (0.14)	0.25** (0.10)
Average Grades	0.08*** (0.02)	−0.24*** (0.05)	−0.16*** (0.04)	−0.17** (0.05)	<0.01 (0.04)
Parents' Education	−0.01 (0.01)	−0.02 (0.03)	0.01 (0.02)	<−0.01 (0.03)	−0.01 (0.02)
Family Wealth	0.05* (0.03)	−0.07 (0.08)	−0.06 (0.07)	−0.10 (0.08)	−0.11 (0.06)

Note. −2 Log Likelihood = −2933.40, AIC = 5974.80, BIC = 6221.17, *N* = 708, *df* = 54

p* < 0.05; *p* < 0.01; ****p* < 0.001

^aNegative binomial regression paths

Table 3 Comparison of Direct (c') and Total (c) effects paths from parenting styles to four RVBs

Parenting Style Path	Total Effect (c)		Direct Effect (c')	
	<i>b</i> (<i>SE_b</i>)	IRR	<i>b</i> (<i>SE_b</i>)	IRR
Authoritative Parenting				
Assault	−0.39*** (0.11)	0.68	−0.11 (0.12)	0.90
Theft	−0.39*** (0.09)	0.68	−0.17 (0.09)	0.84
Substance	−0.47*** (0.10)	0.62	−0.34** (0.11)	0.71
RA	−0.21** (0.07)	0.81	−0.04 (0.08)	0.96
Authoritarian Parenting				
Assault	0.35** (0.11)	1.41	0.28** (0.10)	1.33
Theft	0.12 (0.08)	1.13	0.05 (0.08)	1.05
Substance	−0.02 (0.09)	0.98	−0.06 (0.09)	0.94
RA	0.14* (0.07)	1.15	0.10 (0.07)	1.10
Permissive Parenting				
Assault	0.11 (0.13)	1.11	0.04 (0.12)	1.04
Theft	0.17 (0.10)	1.19	0.12 (0.10)	1.13
Substance	0.36** (0.12)	1.43	0.32** (0.12)	1.38
RA	0.07 (0.08)	1.07	0.02 (0.08)	1.02

Note. *b* = natural log odds from negative binomial regression paths

IRR incidence rate ratio

p* < 0.05; *p* < 0.01; ****p* < 0.001

the relation between authoritarian parenting and RA became non-significant in the presence of parental legitimacy, which would suggest a mediation effect, it should be noted that the overall reduction in this path was very small. Furthermore, permissive parenting did not show a significant direct or total effect on RA and also changed very little in the presence of the mediator, suggesting no mediation effect of parental legitimacy on permissive parenting and RA (see Table 3).

Predicting Change in Three RVBs

A measure of three RVBs (assault, theft, substance use) was added to the GSEM model to predict change in RVBs from parenting styles and parental legitimacy. RA was excluded from the analysis, as there was no earlier measure of RA in the NHYS prior to T3. Results were largely consistent with the prior results; therefore, only differences will be detailed here (see Table 4 and Table 5 for complete results). In predicting changes in assault and theft, the results remained consistent with the first analysis (see Fig. 3). Primarily, differences emerged only in predicting changes in substance use, where authoritarian parenting was no longer a direct predictor in the mediated model, *b* = −0.14, *SE_b* = 0.10, *p* = 0.16 (see Table 4), and parental legitimacy mediated the relation between authoritarian parenting and substance use (see Table 5).

Predicting Change in Parental Legitimacy and Three RVBs

In the final analysis, a measure of parental legitimacy at T0 was added to the model to examine how changes in parental legitimacy mediate the relation between parenting styles and changes in RVB over time. Again, results were fairly consistent with the previous analyses, but there were some notable differences (see Table 6 and Table 7 for complete results). The first notable change was that only authoritative, *b* = 0.25, *SE_b* = 0.03, *p* < 0.001, and permissive, *b* = −0.09, *SE_b* = 0.03, *p* = 0.006, parenting were significant predictors of change in parental legitimacy, while authoritarian parenting was no longer significantly related, *b* = −0.03, *SE_b* = 0.03, *p* = 0.20. Furthermore, change in parental legitimacy was a significant predictor of assault, *b* = −0.58, *SE_b* = 0.15, *p* < 0.001, and theft, *b* = −0.40, *SE_b* = 0.12,

Table 4 GSEM path model results predicting change in three RVBs

Variables	Parental Legitimacy <i>b</i> (<i>SE_b</i>)	Assault ^a <i>b</i> (<i>SE_b</i>)	Theft ^a <i>b</i> (<i>SE_b</i>)	Substance ^a <i>b</i> (<i>SE_b</i>)
Authoritative Parenting	0.36*** (0.03)	0.05 (0.12)	-0.07 (0.09)	-0.14 (0.10)
Authoritarian Parenting	-0.09** (0.03)	0.20* (0.09)	-0.01 (0.08)	-0.15 (0.08)
Permissive Parenting	-0.11** (0.03)	-0.05 (0.11)	0.07 (0.10)	0.28** (0.10)
Parental Legitimacy	-	-0.50*** (0.13)	-0.38** (0.11)	-0.25* (0.12)
Cohort	-0.10** (0.04)	-0.29 (0.15)	-0.11 (0.11)	0.57*** (0.12)
Sex	0.08 (0.04)	0.41** (0.15)	0.24* (0.11)	-0.03 (0.12)
Average Grades	0.08*** (0.02)	-0.15** (0.05)	-0.10** (0.04)	-0.08 (0.04)
Parent Education	-0.01 (0.01)	-0.02 (0.03)	0.01 (0.02)	-0.01 (0.02)
Family Wealth	0.05* (0.02)	-0.05 (0.07)	-0.06 (0.06)	-0.08 (0.07)
Assault (T1)	-	0.55*** (0.07)	-	-
Theft (T1)	-	-	0.49*** (0.05)	-
Substance (T1)	-	-	-	0.58*** (0.05)

Note. -2 Log Likelihood = -2009.77, AIC = 4111.55, BIC = 4321.42, *N* = 708 *df* = 46

p* < 0.05; *p* < 0.01; ****p* < 0.001

^aNegative binomial regression paths

Table 5 Comparison of Direct (c') and Total (c) effects paths from parenting styles to change in three RVBs

Parenting Style Path	Total Effect (c)		Direct Effect (c')	
	<i>b</i> (<i>SE_b</i>)	IRR	<i>b</i> (<i>SE_b</i>)	IRR
Authoritative Parenting				
Assault	-0.12 (0.10)	0.89	0.05 (0.12)	1.05
Theft	-20* (0.08)	0.81	-0.07 (0.09)	0.94
Substance	-0.22* (0.09)	0.80	-0.14 (0.10)	0.87
Authoritarian Parenting				
Assault	0.24* (0.09)	1.27	0.20* (0.10)	1.21
Theft	0.03 (0.08)	1.03	-0.01 (0.08)	0.99
Substance	-0.13 (0.08)	0.88	-0.15 (0.08)	0.86
Permissive Parenting				
Assault	-0.03 (0.11)	0.97	-0.05 (0.11)	0.95
Theft	0.10 (0.10)	1.10	0.07 (0.10)	1.08
Substance	0.30** (0.10)	1.34	0.28** (0.10)	1.32

Note. *b* = natural log odds from negative binomial regression paths

IRR incidence rate ratio

p* < 0.05; *p* < 0.01; ****p* < 0.001

p = 0.001, but not substance use, *b* = -0.25, *SE_b* = 0.13, *p* = 0.06. Authoritarian parenting was a direct positive predictor of change in assault, *b* = 0.21, *SE_b* = 0.10, *p* = 0.03, which was consistent with prior findings, but was also found to be a negative predictor of change in substance use, *b* = -0.19, *SE_b* = 0.08, *p* = 0.02, in the mediated model (see Fig. 4).

Finally, in assessing change in parental legitimacy as a mediator, examination of the direct and total effects revealed support for mediation of the relation between authoritative parenting and theft and substance use (see Table 7).

The relation was more complicated for assault, where the presence of the mediator changed the relation with authoritative parenting from negative to positive, although it should be noted that neither were statistically significant. There was little evidence for the role of change in legitimacy as a mediator of permissive parenting with only slight differences in the direct and total effects and no evidence for authoritarian parenting, as it was not significantly associated with change in parental legitimacy.

Discussion

The present study examined whether parental legitimacy served as mediator between three different parenting styles (authoritative, authoritarian, and permissive) and adolescent engagement in four different RVB (relational aggression, assault, theft, and substance use). Overall, results supported our initial hypotheses and the separation of RVBs into distinct categories. Parental legitimacy was only a consistent mediator for authoritative parenting, while it did not play a consistent or substantial role as a mediator of authoritarian and permissive parenting and RVB. This was a departure from the Trinkner et al. (2012) model, which found that all three parenting styles were fully mediated by parental legitimacy in predicting engagement in overall RVB (a composite variable of assault, theft, and substance use). Furthermore, parental legitimacy and change in parental legitimacy continued to serve as a significant mediator of authoritative parenting in predicting change in RVBs overtime, with few exceptions.

While examining how both change in RVB and change legitimacy effected the model, results remained largely consistent for assault and theft behaviors. The biggest

Fig. 3 *GSEM path model predicting change in three RVBs. Note.* control variables omitted from figure for clarity (see Table 4 for values). * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

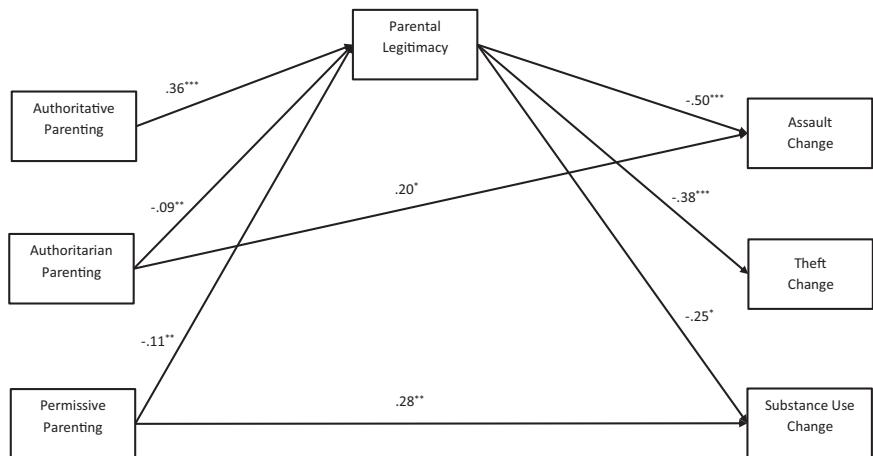


Table 6 GSEM path model results predicting change in parental legitimacy and three RVBs

Variables	Parental Legitimacy	Assault ^a	Theft ^a	Substance ^a
	<i>b</i> (<i>SE_b</i>)			
Authoritative Parenting	0.25*** (0.03)	0.13 (0.12)	0.03 (0.10)	-0.06 (0.10)
Authoritarian Parenting	-0.03 (0.03)	0.21* (0.10)	-0.04 (0.08)	-0.19* (0.08)
Permissive Parenting	-0.09** (0.03)	-0.06 (0.12)	0.04 (0.10)	0.28*** (0.10)
Parental Legitimacy	-	-0.58*** (0.15)	-0.40** (0.12)	-0.25 (0.13)
Cohort	-0.05 (0.04)	-0.27 (0.16)	-0.07 (0.12)	0.59*** (0.12)
Sex	0.07* (0.04)	0.45** (0.16)	0.26* (0.12)	-0.08 (0.12)
Average Grades	0.04** (0.01)	-0.18*** (0.05)	-0.11** (0.04)	-0.09* (0.04)
Parent Education	-0.01 (0.01)	-0.02 (0.03)	0.02 (0.02)	<0.01 (0.02)
Family Wealth	0.04 (0.02)	-0.07 (0.08)	-0.07 (0.07)	-0.10 (0.07)
Parental Legitimacy (T0)	0.38*** (0.04)	<-0.01 (0.15)	-0.12 (0.13)	-0.13 (0.14)
Assault (T1)	-	0.55*** (0.08)	-	-
Theft (T1)	-		0.47*** (0.06)	-
Substance (T1)	-			0.56*** (0.06)

Note. $-2 \log \text{Likelihood} = -1868.04$, AIC = 3836.07, BIC = 4062.10, $N = 708$, $df = 50$

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

^aNegative binomial regression paths

divergence was seen in predicting change in substance use and change in legitimacy attitudes predicting change in substance use. Compared to the base analysis examining substance use behavior without controlling for prior behavior, both parental legitimacy and change in parental legitimacy were much weaker predictors of change in substance use behavior from time one. This suggests that parental legitimacy seems to play less a role in changes in substance use behavior specifically during adolescence—a time when substance use behavior is particularly likely to initiate and increase (Chen & Jacobson, 2012)—compared to other types of behaviors. This finding in particular supports the decision to examine behaviors separately and consider the role of domain specific RVBs.

The differences found in the current study compared to previous research linking parenting styles and perceptions of parental legitimacy could, at least in part, be explained by

procedural justice theory (Lind & Tyler, 1988; Tyler, 1994). Previous literature has continually shown the link between authoritative parenting being the optimal parenting practice for adolescent compliance (Darling et al., 2007; Jackson, 2002; Simons et al., 2005; Tisak, 1986; Trinkner et al., 2012). Authoritative parenting style embodies characteristics of procedural justice (Jackson & Fondacaro, 1999), a precursor to the formation of perceptions of legitimacy (Tyler, 1994; Walters & Bolger, 2019). Procedurally just interactions include opportunities for open dialogue, respectfulness, neutrality in decision making, and a sense of benevolence on the part of the authority—all elements congruent with authoritative parenting.

This could potentially explain why only the relation between degree of engagement in authoritative parenting style and RVBs were consistently mediated by perception of parental legitimacy and not degree of engagement in the

other parenting styles. While both amount of authoritarian and permissive parenting style were significantly related to parental legitimacy, there was little evidence that parental legitimacy mediated the relation between these parenting styles and the separate domains of RVBs in the current study. Instead, the characteristics of authoritative parenting might directly contribute to perceptions of legitimacy and ultimately behavioral transgression (Jackson & Fondacaro, 1999), much in the way that procedural justice is directly involved in the formation of legitimacy attitudes and behavior. These findings suggest that although degree of engagement in each parenting style shows some relation to perceptions of parental legitimacy, only engagement in authoritative parenting style appears to be connected to delinquency as a means of the manifestation of legitimacy.

Table 7 Comparison of Direct (c') and Total (c) effects paths from parenting styles to change in legitimacy and three RVBs

Parenting Style Path	Total Effect (c)		Direct Effect (c')	
	b (SE_b)	IRR	b (SE_b)	IRR
Authoritative Parenting				
Assault	−0.12 (0.10)	0.89	0.13 (0.12)	1.14
Theft	−20* (0.08)	0.81	0.03 (0.10)	1.03
Substance	−0.22* (0.09)	0.80	−0.06 (0.10)	0.94
Authoritarian Parenting				
Assault	0.24* (0.09)	1.27	0.21* (0.10)	1.23
Theft	0.03 (0.08)	1.03	−0.04 (0.08)	0.96
Substance	−0.13 (0.08)	0.88	−0.19* (0.08)	0.83
Permissive Parenting				
Assault	−0.03 (0.11)	0.97	−0.06 (0.12)	0.94
Theft	0.10 (0.10)	1.10	0.04 (0.10)	1.04
Substance	0.30** (0.10)	1.34	0.28** (0.10)	1.32

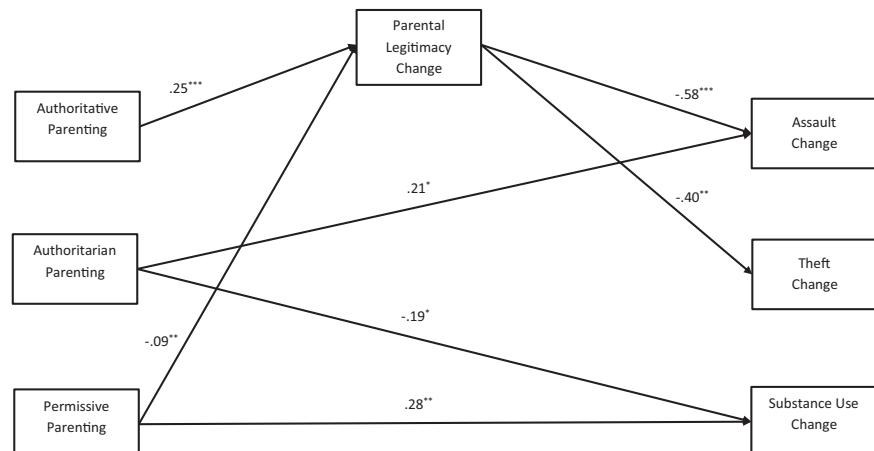
Note. b = natural log odds from negative binomial regression paths

IRR incidence rate ratio

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Fig. 4 CSEM path model predicting change in parental legitimacy and three RVBs.

Note. control variables omitted from figure for clarity (see Table 6 for values). * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$



The nature of parental legitimacy's role as mediator to authoritative parenting was dependent upon the type of RVB under examination. For example, parental legitimacy was found to be only a partial mediator of substance use, showing a much smaller impact than on other types of behaviors, and was not a significant mediator of substance use when examining change in legitimacy. This finding coupled with the different patterns of relationships between amount of each parenting styles and the different RVBs in particular highlights the need to examine the specific types of RVB in which youth are engaging—behaviors that might be linked to certain social domains—and not just the sheer volume of overall RVB variety when considering the role of parental factors play in youth behaviors. In other words, domain theory could explain why parental legitimacy fully mediated the relation between parental styles and RVB for only some of the four types of RVB examined. The relationship between authoritative parenting and relational aggression, assault, and theft were all fully mediated in the model by parental legitimacy—all of which involve violation of social contracts and social relationships—and can be considered behaviors that potentially cause harm to others. In a sense, these three types of RVBs all involve some sort of victimization of another individual, either through physical or psychological harm, or loss of personal property (Smetana, 2006).

Given the inherent victimizing nature of relational aggression, assault, and theft, these behaviors inherently fall under the *moral domain*, posing a moral dilemma to youth, “if you commit this behavior you do so at the expense of another.” Through experiences of moral conflicts (e.g., victimization, moral transgressions, distributive fairness) children build concepts of morality and perceptions of what is right and wrong (Smetana, 1999). Yet, it is parents’ ability to respond to misbehaviors and to explain rules and punishments to their children that facilitate and critically shape their moral development. Therefore, parents play an

integral role in developing a child's construct of morality. Typically, children view issues of morality as falling under parental purview (Smetana, 1999; Smetana & Daddis, 2002), which could explain why parental legitimacy, at least in part, plays a role in adherence to or violation of rules related to the social contract in the moral domain—behaviors that include relational aggression, assault, and theft.

In contrast to behaviors that cause victimization of others, substance use generally falls under the psychological domain and is considered to be a prudential issue, because it involves only potential self-harm with regards to adolescents' personal health and safety (Smetana, 2006). Because prudential issues do not involve social relationships like moral issues, adolescents are less likely to believe substance use behaviors are harmful (Nucci et al., 1991). Substance use in particular tends to increase as adolescents get older and begin to transition into young adulthood (Chen & Jacobson 2012). This coincides with the idea that adolescents' increasing desire for autonomy conflicts with parents' role to control the behavior of their children (Smetana, 2006; Smetana & Daddis, 2002; Turiel, 2002). When this social domain shift occurs in adolescence, children feel as though their parents do not have jurisdiction over these situations involving alcohol and drug use (Smetana et al., 2009). This simultaneous shift in substance use and desire for autonomy explains why perceptions of parental legitimacy does not appear to play as significant a role in adolescents' decisions to engage in substance use as the other behaviors.

It is clear from this study's findings and others that parenting style can account for behaviors in different ways, with those who engage in more authoritative parenting style having better behavioral outcomes for their children compared to either permissive or authoritarian style parents (Adalbjarnardottir & Hafsteinsson, 2001; Baumrind, 1991; Patock-Peckham et al., 2001; Radziszewska et al., 1996; Trinkner et al., 2012). Specifically, the mechanism behind these outcomes for children with who engage to a large degree in authoritative parenting style appear to be tied to their perceptions of parental legitimacy. Yet this relationship is inherently dependent upon the social domain of the behavior. Those behaviors that fall under the morality domain remain under parental purview while those in other domains, such as prudential concerns in the psychological domain, do not, and therefore become less relevant to the quality of the parent-child relationship. Overall, the results from this study highlight the need to view different types of adolescent misbehavior through a social domain-oriented lens when considering the role parental factors play in predicting adolescent behavioral engagement.

These findings also have important implications for clinical practice and interventions with parents of delinquent youth. Existing research suggests that parental

interventions aimed at increasing authoritative parenting practices can be effectively implemented, showing promise at both increasing authoritative behaviors in the parents and decreasing challenging behaviors in the children (Kauser & Pinquart, 2019). Although there is little research examining the effect of parenting style interventions on perceptions of parental legitimacy specifically, our findings would suggest that it could be that changes in parental legitimacy, as a result of the shift in parenting style, could account for the change in child behaviors, at least in part. Therefore, targeted parental interventions designed to increase authoritative parenting style behaviors and child perceptions of parental legitimacy could be implemented as a potential clinical approach to addressing adolescent delinquent behavior, particularly for those behaviors that fall into the moral domain, such as assault and theft. However, given the findings of the current study, such interventions might not be an effective approach for reducing engagement in other types of behaviors, such as substance use. As there is little extant research in this area, development of intervention models and studies examining the effect of parental interventions on changes in parenting style, perceptions of parental legitimacy, and engagement in different domains of behavior presents an important direction for future research.

Limitations and Future Directions

There were some limitations in the current study that should be noted. First, the study results differed from that of Trinkner et al.'s (2012) work using a global measure of RVB. Although the relationships between each of the three parenting styles and parental legitimacy was consistent with Trinkner and colleague's findings, our results suggested that parental legitimacy played little role in the relation between authoritarian and permissive parenting styles and RVBs. It might be the case that this discrepancy became apparent due to dividing behaviors into separate categories and predicting them differentially. It might also be the case that our examination of the mediation model was conducted using a mix of parametric and non-parametric paths, an approach that diverged from Trinkner's analysis. Future research should attempt to replicate this pattern of results to assess the nature of the disparity.

Second, unlike in much of the prior research on parenting styles, children were not categorized into specific styles, but rather adolescents reported the level to which their parents embodied each of the three parenting styles and maintained a score for each style. This approach is more consistent with contemporary conceptualizations of parenting styles as dimensional and not discrete categories (Smetana, 2017). It is also likely to be more representative of parenting styles over time and through different types of interactions, as other research has suggested that approach parents use

might vary depending on the nature of the issue at hand (Smetana, 1999, 2017). Because parental styles were not categorically compared, this study might not be directly congruent with many previous studies that utilized categorization and the results could have differed if both adolescents and parents were forced to choose a single style absolutely.

Third, parenting measures were worded to be overly inclusive, leaving the interpretation of 'parents' up to the youth completing the survey, regardless of whether parents were singular, plural, and/or non-traditional. Therefore, the current study did not distinguish between mothers and fathers specifically and it is unknown whether reports referenced a particularly parental authority or multiple. Future research should aim to specify which parental unit is being noted or should incorporate parenting measures that distinguish between multiple parents. Additionally, the present study only examined four key areas of RVB. The model could be further developed by using additional areas of RVB to further validate this study's findings and explore additional social domains of behavior.

Finally, this study employed adolescent self-report of both parenting style and behavior from a fairly small and non-diverse sample whose data is over ten years old. This made it difficult to assess if parents' actual parenting styles were consistent with adolescents' report of their perceptions of their parents' style, which may be different from how the parents view themselves. Future research should attempt to include both the adolescent perceptions of parenting style and the parents' report of their own style of parenting. Additionally, measures of behavior from peers, parents, and discipline reports from schools, could help to measure engagement in rule-violating behaviors more objectively and provide more defined results. Because the sample was drawn from an existing longitudinal study, we were also unable to assess whether the adolescents in the study actually placed the behaviors into specific domains and, if so, into which domains they would classify those behaviors. Instead, we were only able to infer domain specificity drawing from the nature of our findings and previous research in this area. Further study is needed with direct feedback from adolescents about the domain specificity of their behavior to replicate and extend these findings. Furthermore, future research may also want to replicate these findings in geographical locations where RVB rates are higher amongst adolescents with a larger, more diverse and contemporary sample.

Conclusion

It has long been found that parenting style matters in predicting youths' engagement in misbehavior, but the

inclusion of parental legitimacy adds to our understanding of why the authoritative parenting style in particular results in youth that may be less likely to misbehave. Parental legitimacy better allows for parents to exercise control over their children and parents are more likely to be viewed as legitimate authority figures if they utilize authoritative parenting practices. However, this study has identified that both authoritative parenting and parental legitimacy exert differential effects on youths' desire to engage in certain behaviors which likely stems from the social domain in which that behavior falls. Behaviors that lay in the moral domain might maintain important ties to parental style and perceptions of legitimacy, even as adolescents age, but behaviors in other domains likely become less relevant over time to parental factors. Authoritative parenting still seems to be the optimum parenting style to increase children's sense of trust in and obligation to obey parents and deter engagement in RVB, but the specific domain of behavior could help explain why adolescents engage in certain RVB and not others.

Acknowledgements This research was supported by grant SES-0550145 and SES-1026803 from the National Science Foundation Law and Social Sciences Program. Stacey A. Jeleniewski is currently a Research Psychologist in the Office of Behavioral Safety Research within the National Highway Traffic Safety Administration at the U.S. Department of Transportation (DOT). Cesar J. Rebellon is currently a Professor in the Criminology, Law and Society Department at George Mason University.

Conflict of Interest The authors declare no competing interests.

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