

The Effect of Parenting Styles on Substance Use and Academic Achievement
Among Delinquent Youth: Implications for Selective Intervention Practices

by

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ABSTRACT

Juvenile delinquency is a complex issue that effects youth, families, and society. Studies have found that parenting styles are a significant contributor to numerous behaviors that influence juvenile delinquency, specifically substance use and poor academic achievement. This literature has been used by to the juvenile justice system to develop family based interventions for delinquent youth in efforts to reduce recidivism. However, previous studies have primarily sampled from the general population, which has limited their usefulness in creating selective interventions for the delinquent population. This thesis offers Baumrind (1966) and Maccoby & Martin's (1983) theory of parenting style typologies as a framework for understanding the effects of parenting style on substance use and academic achievement among delinquent youth. Using juvenile court case files from Maricopa County collected from 2005-2010, ($N = 181$), logistic regression was performed to test the hypotheses that (1) delinquent youth with Authoritarian, Uninvolved, and Permissive parenting will be more likely to use substances than youth with Authoritative parenting and that (2) delinquent youth with Authoritarian, Uninvolved, and Permissive parenting will be more likely to have poor academic achievement than youth with Authoritative parenting. Using Authoritative parenting as the reference group, it was found that delinquent youth with Permissive and Uninvolved parenting had a higher likelihood of substance use than delinquent youth with Authoritative parenting, and that delinquent youth with Permissive parenting had a higher likelihood of poor academic achievement than youth with Authoritative parenting. These findings have important theoretical implications as well as practical implications for intervention strategies for delinquent youth, which are additionally discussed.

DEDICATION

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INTRODUCTION

Juvenile delinquency continues to be a serious problem plaguing American youth. In 2010, courts with juvenile jurisdictions disposed more than 1.3 million delinquency cases (Knoll & Sickmund, 2012). In efforts to reduce delinquency rates, the juvenile justice system and social scientists alike have sought to identify specific criminogenic risk factors correlated with delinquency. A criminogenic risk factor is any attribute or characteristic of an individual that increases the likelihood that they will participate in crime (Clayton 1992; Hawkins, Catalano, & Miller 1992; Mrazek & Haggerty, 1994, Rutter & Garmezy, 2000). Accordingly, the juvenile justice system has also spent a great deal of resources implementing intervention strategies that cater to the needs of delinquent youth. These interventions are designed to address a wide range of risk factors that contribute to delinquency. Further, these interventions play an essential role in recidivism reduction efforts (Hawkins & Weis, 1985; Loeber & Farrington, 2000; Wilson & Howell, 1993).

Substance use and education have been identified as influential factors in delinquency and recidivism. Juveniles who use drugs and alcohol, and perform below average academically are at notably higher than average risk for delinquency and recidivism (Cottle, Lee, & Heilbrun, 2001; Heilbrun et al., 2000; Jung & Rawana, 1999; Katsiyannis & Archwamety, 1997; Mulder et al., 2010). Previous studies show that a number of family factors, including parenting styles, are associated with substance use and poor academic performance (Katsiyannis & Archwamety, 1999; Katsiyannis et al., 2003; Maguin & Loeber 1996). While there are many family correlates of substance use and academic achievement, many studies have considered parenting styles to be the most

useful in predicting these behaviors (Baumrind, 1991a; Cohen & Rice; 1997; DeVore & Ginsburg, 2005; Newman et al., 2008). Additionally, as there are many different definitions of parenting styles, one of the most commonly used is Darling and Steinberg's definition. Darling & Steinberg (1993) explain that parenting styles are a psychological construct of strategies, characterized by patterns of warmth and control, which a parent(s) uses to rear their child.

While studies that have examined the relationship between parenting style and substance use and academic achievement have contributed to the recognition of the need for family-based interventions that consider parenting style within the juvenile justice system, these previous studies are limited in their usefulness. Most of these studies have generally sampled groups from the general population, limiting their usefulness to primarily universal interventions. This is a problem because universal interventions may not be the most appropriate for delinquent youth. There are three types of interventions: Universal, Indicated, and Selective. Universal interventions take the broadest approach, targeting the general public or whole population that has been identified on the basis of individual risk. In contrast, Indicated interventions target individuals who have minimal but detectable risk. Selective interventions target individuals from a population subgroup whose risk factors are more prominent than the risk factors of the wider population (O'Connell, Boat, & Warner, 2009). The different types of intervention philosophies, ideologies, and strategies vary widely.

Numerous intervention studies have expressed that selective intervention strategies are more appropriate for youth who are at high-risk and have known incidence of problematic behavior. Family interventions have been around for decades and many

have proven to be successful in reducing substance use and poor academic achievement. The Office of Juvenile Justice and Delinquency Prevention (OJJDP) explains that over the past 16 years, 35 effective family strengthening interventions have been identified. These programs are primarily universal in structure and while they did prove to be effective in reducing substance use and academic achievement, these effects were not consistent in all populations. Smit & colleagues (2008) found that model programs such as Positive Family Training (PFT) (Formally known as ATP), Multi-Systematic Training, and Guiding Good Choices were only effective for youth who posed low to moderate risk. Smit & colleagues (2008) explain that this is because programs such as these were designed to include a mix of prosocial and antisocial youth. This combination may be the desired strategy; however, the needs for the two groups are different, and therefore they may be in need of two different types of interventions. Additionally, Piquero et al., (2009) found that with the family interventions Family Matters and HOMEBUILDERS, there was a reduction in substance use and poor academic achievement among moderate and high-risk; however, for high-risk youth, these reductions were not long term. Therefore, it is concluded that while some universal and indicated interventions will assist delinquent youth, other delinquent youth may require a selective intervention.

Further, it is important to study parenting styles independently among delinquent youth because of population differences in the effectiveness of parenting styles. Parenting styles are distinguished by positive and negative parenting styles. Positive parenting styles influence the behavior and development of a child positively; while negative parenting styles, influence the behavior and development of a child negatively (Clark & Ladd, 2000; Kaiser, McBurnett, & Piffner, 2011). Research indicates that positive

parenting is beneficial, yet there are some contextual influences on “effective” parenting practices (effective in terms of reducing negative outcomes) (Deater-Deckard et al., 1996; Le et al., 2008). When considering contextual influences, it has been found that the effectiveness of a parenting style may be dependent upon the environment, cultural group, or population that a child is exposed to (Emery, Fincham, & Cummings, 1992; Ho, Bluestein, & Jenkins, 2008; Kotchick & Forehand, 2002). Therefore, there is a further need to explore how parenting styles influence substance use and academic achievement within a delinquent population.

The purpose of the present study is to assess the effects of parenting styles on substance use and poor academic achievement within the delinquent population. Further this study seeks to produce implications for selective family intervention practices that can be used to reduce the criminality of delinquent youth. Data from delinquent juvenile court records from Maricopa County are used to accomplish these objectives. By relying on a large sample of these records, this study is able to advance previous studies by examining the relationship between parenting styles, substance use, and academic achievement within a delinquent population. The results are provided, followed by a discussion with implications for interventions. Limitations and directions for future research are also included.

LITERATURE REVIEW

Theoretical Framework: Parenting Style

Parenting is a complicated occupation that requires many different skills to facilitate the rearing of the child. It is within the first year or two of the child's life that parents begin to attach to a parenting style (Darling & Steinberg, 1993). When researchers attempt to describe these patterns, most rely on Diana Baumrind's concept of parenting styles. In her view, "parenting style is used to capture normal variations in parents' attempts to control and socialize their children" (Baumrind, 1991a, p. 349). In 1966, Baumrind examined parental disciplinary patterns and social competence in children and created a theory that included three basic parenting styles: Authoritative, Authoritarian, and Permissive (sometimes referred to as Indulgent). Maccoby & Martin (1983) expanded this to four and added Uninvolved (sometimes referred to as Neglectful). The parenting styles were classified by the elements of warmth and control. Further, each parenting style is a combination of responsiveness on one end, and demandingness on the other (Avenevoli, Sessa, & Steinberg, 1999; Baumrind, 1966; Santrock, 2007).

According to Baumrind (1978), Authoritative parents are *demanding* and *responsive*. Authoritarian is considered to be the most ideal parenting style typology, associated with healthy child psycho-social development (Baumrind, 1966). This parenting style is characterized by high levels of warmth, control, and cohesiveness (Darling & Steinberg, 1993; Mandara, 2003). An Authoritative parent holds high expectations and encourages autonomy and maturity. Parents of this caliber demand independence, encourage problem solving, and teach their children how to appropriately

regulate their feelings (Baumrind, 1971, 2013; Baumrind, Larzelere, & Owens, 2010; Gray & Steinberg, 1999; Steinberg, 2001). Authoritative parents are nurturing, and they control the limits of their children (Hulbert, 2011). A punishment for inappropriate behavior is always consistent and never violent. Additionally, Authoritative parents will generally explain the motive for a punishment (Steinberg et al., 2013). These parents prefer to forgive and teach instead of punish (Baumrind 1978, 1991a).

Authoritarian parents are *demanding* and *nonresponsive* (Baumrind, 1978). Authoritarian parenting has also been called strict parenting or totalitarian parenting. This type of parenting is categorized by high expectations, lower warmth, and high control (Baumrind, 1968, 1971, 2005; Steinberg, Blatt-Eisenberg, & Cauffman, 2006). In Authoritarian parenting, there is generally little open dialogue between the parent and the child (Pelaez et al., 2008; Rudy & Grusec, 2006; Thompson, Hollis, & Richards 2003). Authoritarian parents demand much from their child, but rarely explain the reasoning behind the rules. Authoritarian parents rarely allow autonomy; are restrictive and intrusive; and enforce discipline that punitive and/or harsh discipline (Baumrind, 1978; Reitman et al., 2002; Simons et al., 2007). These parents tend to demand obedience and focus on social status (Lamborn et al., 1991).

The Permissive (Indulgent) parent is *responsive* but not *demanding*. This type of parenting style involves strong cohesion and placing very few demands and controls on the child. Permissive parenting is categorized by high levels of warmth and few behavioral expectations (Baumrind, 1971, 1991a; Johnson & Kelley, 2011). Permissive parents are very nurturing and respectful toward the child's physical and emotional needs (Clyde et al. 1995). These parents rarely require their children to self-regulate. Hay

(2001) also notes that these parents have low expectations for self-control and maturity of their child. Permissive parents are lenient toward discipline and prefer to avoid confrontation with the child (Baumrind, 1991a; Frick, 2006). Permissive parents have been described as nontraditional, dismissive, and lax (Aunola, Stattin, & Nurmi, 2000; Beck & Shaw, 2005).

The Uninvolved (Neglectful) parent is neither *demanding* nor *responsive*. An Uninvolved parent is distant, avoidant, and dismissive. Parents of this caliber do not set limits and are low on warmth and control (Shaffer, Yates, & Egeland, 2009; Shucksmith, Hendry, & Glendinning, 1995). There are two different types of Uninvolved parenting: physical and emotional. Physically Uninvolved parenting is described as instances in which the parent is physically absent from the child's life (Claussen & Crittenden, 1991; Glaser, 2002). Conversely, Emotionally Uninvolved parenting involves instances where the parent may be physically present; however, they are emotionally unavailable to the child (Cicchetti, & Carlson; 1989; Collins et al., 2000; Martin & Walters, 1982; Rothrauff, Cooney, & An, 2009; Schaffer, Clark, & Jeglic, 2009). Maccoby & Martin (1983) explain that these Uninvolved parents do not encourage appropriate behavior or place demands on the child. Punishments for children may range from harsh to nonexistent (Brenner & Fox, 1999; Zolotor & Runyan, 2006).

Supplementary literature on parenting styles includes different parenting typologies outside of the four theoretical styles presented above. Some studies have claimed that the four typologies are not mutually exclusive. In a study of mother-father differences in parenting style, Simons & Conger (2007) identified 16 different parenting styles that were combinations of the four typologies. In the same study it was concluded

that in two-parent households, sometimes individual parenting styles merge together or change over time and create family parenting styles. Other studies have explained that parenting style often evolves as the child ages. In a longitudinal study examining parenting style from early childhood to adolescence, Baumrind (1989) found that over half of the parents in the sample showed attributes from more than one parenting style as the child grew into adolescence. Other studies have created models of parenting styles that fall somewhere in between two or more styles of parenting (Kerig, Cowan, & Cowan, 1993; Darling, 1999; Hein & Lewko, 1994; Simons et al., 2006). However, less empirical evidence has been produced on the theoretical dimensions of these mixed parenting styles.

Parenting Styles and Substance Use

Criminologists have investigated various factors that contribute to adolescent substance use. Since parents have great potential for influencing the behavioral development of their children, parent-child relationships have offered a logical platform to investigate why some youth use drugs and alcohol, while others refrain. Numerous previous studies have attested to the impact that parenting styles has in shaping substance use behaviors among their children (Baumrind, 1991b; Cohen & Rice, 1997; DeVore & Ginsburg, 2005; Weiss & Schwarz, 1996).

Authoritarian parenting has been associated with low levels of substance use among children and adolescents. Baumrind (1991a) conducted a longitudinal study in which she examined parenting styles and substance use. She observed that children who abstained from substance use generally had parents who were warm, supportive, firm, and consistent with discipline (Baumrind, 1991a). In other words, children of

Authoritative parents demonstrated low levels of substance use. She also found that Authoritative parents generally disapprove of drug and alcohol use, which reduced the likelihood of their child using substances. Subsequent studies have produced similar findings (Cohen & Rice, 1997; Darling, 1999; Piko & Balázs, 2012; Weiss & Schwarz, 1996).

Similar results have been found for children of Authoritarian parents.

Authoritarian parenting has been correlated with low levels of substance use among children. Baumrind (1991a) found that children of parents who were controlling, firm, and traditional tended to have low levels of substance use; however, these levels were not as low as those of Authoritative parents. Weiss & Schwarz (1996), concluded that low levels of substance use among Authoritarian children may be related to the intrusive nature of the parenting style. Weiss & Schwarz (1996) further add that Authoritarian parent's high control practices may contribute to their children's low substance use.

Permissive parenting has been associated with high levels of substance use behaviors. Baumrind (1991b) observed that substance use was much higher in children from homes where parents are supportive, lax, and unconventional. Baumrind (1991b) also found that Permissive mothers were more likely to use illicit drugs and to not object to the child's use of drugs and/or alcohol. Other studies have found that children of Permissive parents are at risk for engaging in substance use in adolescence (Cohen & Rice, 1997; Montgomery, Fisk, & Craig, 2008; Patock-Peckham et al., 2001; Weiss & Schwarz, 1996). Additionally, children from Permissive homes are more likely to experiment with substances at a young age (Baumrind, 1991b). Researchers have

speculated that substance use among children from Permissive homes may be due to a lack of parental intervention, rule setting, and discipline.

Children of Uninvolved parents have been considered to be at high risk for engaging in substance use. Generally, Uninvolved parents do not supervise or monitor their children's activities, further increasing their risk for substance use (Darling, 1999). Knutson et al., (2005) explain that lack of parental encouragement and limit setting may be a contributing factor to high substance use among this group of children. Additionally, there is a high correlation between parental drug use and Uninvolved parenting. Because child expectations and punishment are absent, substance use among children of Uninvolved parents is often rampant (Adalbjarnardottir & Hafsteinsson; 2001; Aunola, Stattin, & Nurmi; 2000; Baumrind, 1991b; Lamborn et al., 1991; Weiss & Schwarz, 1996). Finally, Stice, Barrera, & Chassin (1993) conclude that low control and discipline, which is commonly found in both Permissive and Uninvolved parenting, can increase the risk for substance use.

To date, existing literature has examined the relationship between parenting style and substance use within the general population. These studies have explained that generally Authoritative and Authoritarian parenting reduces the likelihood of substance use and Permissive and Uninvolved parenting increases the likelihood of substance use. Although substance use is a form of delinquency (it is illegal for minors), studies show that rates of substance use are lower among the general population when compared to the delinquent population. (Chassin, 2008; McClelland et al., 2004; Mulvey, 2011). Therefore, many studies have suggested that the effectiveness of parenting styles may be different in populations where the risk for substance use is higher.

Parenting Styles and Academic Achievement

Recent literature has focused on how families influence academic achievement, specifically the parent- child academic socialization process. The ‘parent-child academic socialization process’ is a term used to describe the way in which parents influence their children’s academic achievement (Magnuson, 2007). This process explains the way in which parental processes and parenting style shape various skills and behaviors that influence academic achievement. This process also describes the way in which certain parenting styles may influence academic achievement while others may influence academic failure.

Authoritative parenting has been associated with the most positive outcomes in academic achievement. Children of Authoritative parents have generally been found to have high levels of student academic achievement (Pulkkinen, 1982; Grolnick & Ryan, 1989; Steinberg et al., 1992). Baumrind (1971, 1989, 1991b). Baumrind & Black (1967) conducted a series of studies of children, school achievement, and parenting style, and found that children parents who are warm and controlling are more successful in academics when compared with children from other parenting styles. Additionally, children of Authoritative parents have been found to have higher levels of academic proficiency in the subject areas of reading, spelling, and math than children of other parenting styles (Dornbusch et al., 1987; Lamborn et al., 1991; Steinberg et al., 1994; Weiss & Schwarz, 1996). The positive correlation between Authoritative parenting and academic achievement has been linked to the high levels of parental involvement, encouragement of independence, and the cultivation of problem solving and critical thinking (Hess & McDevitt, 1984).

The Authoritarian style of parenting has been found to be associated with poor academic achievement in children. It has been suggested that Authoritarian parent's lack of warmth and extreme demands detracts from learning by discouraging active exploration and problem solving, and encouraging dependence on adult control and guidance (Hess & McDevitt, 1984). Consequently, Authoritarian parenting styles have been associated with children's passivity toward school (Steinberg et al., 1994) (Barber, 1996) and low academic achievement (Pulkkinen, 1982). Poor academic achievement in children of Authoritarian parents has been attributed to the intrusive nature of the parenting style, as well. Pomerantz & Eaton (2001) found that Authoritarian mothers were more likely to be intrusive and unsupportive of their child's academic achievement. Further, they found that Authoritarian mothers were more likely to display harsh controlling behaviors such as repeatedly checking over children's homework to ensure it is correct when their child did not request such assistance. Pomerantz & Eaton (2001) concluded that these parent practices lower children's self-esteem and self-motivation, which contributed to their child's low academic achievement. Furthermore, Authoritarian parents' use of psychological control (love withdrawal, keeping the child dependent, and the use of guilt to control behavior) has been suggested to contribute to low academic achievement (Ginsburg & Bronstein, 1993; Grolnick & Ryan, 1989; Hess & McDevitt, 1984; Kurdek, Fine, & Sinclair, 1995).

Permissive parenting has been associated with poor academic achievement in children (Onatsu-Arivilomm & Nurmi, 1997). Permissive parenting has been linked with poor grades and low levels of motivation toward school work (Cohen & Rice, 1997; Dornbusch et al., 1987; Shumow, Vandell, & Posner, 1998). While examining the effect

of parenting styles on children's attitude towards school and academic achievement, Brown & Iyengar (2008) found that Permissive parent's lack of demand decreased academic achievement among adolescents. Brown & Iyengar (2008) further explained children of Permissive parents are less likely to be motivated to achieve in school, thus increasing the likelihood of poor academic achievement among this group. Additionally, parental monitoring has been found to be a factor in academic achievement. Ginsburg & Bronstein's (1993) found that Permissive parent's under-controlling nature and poor surveillance methods were found to be related to less autonomy, less intrinsic motivational orientation, and to lower academic performance.

Additionally, adolescents from homes in which parents are Uninvolved have been shown to be disadvantaged in terms of academic achievement. In a study of adolescents ages 14-18, Maccoby & Martin (1983) found that children of Uninvolved parents scored the lowest in psychosocial development and school achievement, and the highest in internalized distress and problem behavior. Finally, children of Uninvolved parents have been found to perform poorly in school and to exhibit disengaged behavior in the classroom (Dornbusch et al., 1987; Steinberg et al., 1994).

In sum, previous literature has high-lighted the effects that parenting styles have on substance use and academic achievement. This literature has explained that some parenting styles are effective in terms of reducing negative behavioral outcomes, while others are ineffective. However, these studies are limited in being generalizable to all populations, as most of these studies have sampled from the general population. Previous literature explains that the effectiveness of a parenting style, may be dependent upon the population or social group. Therefore, it is essential to understand the effect of parenting

styles on substance use and academic achievement within numerous populations, including delinquent populations.

Furthermore, literature on the effect of parenting styles on negative behavior has placed an emphasis on the need for family-based interventions within the juvenile justice system that involve both the parent and child. While many of the family based interventions that have been implemented have been found to be effective in reducing substance abuse and increasing academic achievement, because of the universal structure of these programs, their effectiveness has been limited to youth low and moderate risk offenders. However, previous studies have explained that because of the higher prevalence of substance use and poor academic achievement within the delinquent population, many of these youth are at a higher-risk. High-risk offenders are often vulnerable to the structure of universal interventions, and therefore many are in need of more selective interventions.¹

¹ It should be noted that this literature review is a general depiction of the relationship that parenting styles hold with substance use and academic achievement. There are high, moderate, and low extremes of each parenting style which further effect the strength of these relationships (Darling, 1999).

CURRENT STUDY

The key focus of this study is to better understand the influence of parenting styles on substance use and academic achievement within a delinquent population. In concordance with parenting style theory and previous literature, it is posited that certain parenting styles will be associated with a higher likelihood of substance use and poor academic achievement than others within the delinquent sample.

Hypothesis 1

Delinquent youth with Authoritarian, Uninvolved, and Permissive parenting will be more likely to use substances than youth with Authoritative parenting.

Hypothesis 2

Delinquent youth with Authoritarian, Uninvolved, and Permissive parenting will be more likely to have poor academic achievement than youth with Authoritative parenting.

By conducting these examinations, the current study not only contributes to the understanding of the effect of parenting styles on substance use and academic achievement, it provides valuable information for actors within the juvenile justice system. Actors within the juvenile justice system can use this information to better shape selective intervention strategies for juvenile offenders. Placing offenders and their families in selective interventions specific to their parent-child relationships will most likely maximize the effectiveness of the treatment.

DATA AND METHODS

Data

In order to gain further insight into the parenting styles of delinquent youth, we examined data from Arizona's DMC Assessment study, conducted by Drs. Rodriguez and Zatz (Rodriguez, Zatz, Beckman, 2014). For this study, 181 case files from Maricopa County were analyzed. The youth in the sample were referred to the court between the years of 2005-2010. Case file data include a rich historical account of the lives of youth and their families before and during the time they were under supervision. Juvenile court case files include content such as police reports, pre-disposition and disposition reports, contact logs, psychological evaluations, and court reports. Additionally, case files included social services and counseling documents, school records, and interviews with the family.

As part of the DMC Assessment, researchers read, reviewed, and coded information centered on internal and external attributes described in the youth case files. For the current study, measures on parenting styles, youth substance use and academic performance were examined. Additionally, various sociodemographic factors including gender, age, race, and economic strain/poverty status were also collected from the case files. ²

² Due to the small number of Native Americans and Asian Americans within the sample, these two racial groups were excluded from the analysis.

Dependent Variables

The first dependent variable is youth *Substance Use*. As the data source used in the study were social files, all of the variables were coded for a “mention” of a variable in the case files or “no mention”. Using a dichotomous measure, coding for youth substance use is (mention of substance use = 1; no mention of substance use = 0). This measure included mention of all substances.

The second dependent variable is *Poor Academic Achievement*. Poor academic achievement is measured by probation officer reports of school grades and academic transcripts. Coding for poor academic achievement is (mention of poor grades in school = 1; no mention of poor grades in school = 0). School grades were selected as a measure of poor academic achievement because previous studies have shown that, unlike scores on intelligence or standardized tests, reports of grades demonstrate the extent to which the student is responding to the school curriculum (Dornbusch et al., 1987).

Independent Variables

The independent variables for both models are *parenting styles*. The measures of parenting style were developed to conform with Baumrind’s three parenting styles (Authoritative, Authoritarian, and Permissive) and Maccoby’s additional style (Uninvolved) of parenting. To achieve this, researchers read official court case files for the presence of internal and external attributes described in youths’ case files. Then, a comprehensive coding scheme was comprised of theoretically relevant domains of each of the parenting styles characterized by warmth and control. Parenting style is coded *Authoritative* parenting (high control, high warmth) (yes = 1; no = 0); *Authoritarian* parenting (high control, low warmth) (yes = 1; no = 0); *Permissive* parenting (low control,

high warmth) (yes =1; no =0); and *Uninvolved* parenting (low warmth, low control) (yes =1; no =0).

Control Variables

In order to reduce the risk of spuriousness, various statistical controls were used in the analyses. These controls include *Gender* (boys =1; girls = 0) and *Age* at the time of court referral (measured continuously in years (13 – 16). The *Race* of the youth is broken down into three categories: (Black = 1; not Black = 0); (Latino =1; not Latino = 0); White =1; not White = 0). Additionally, *Poverty/Economic Strain* was included.

Poverty/Economic Strain was coded by mention of poverty or economic strain within the family (mention = 1; no mention = 0).

Methods of Analytical Strategy

The purpose of this study was to identify which parenting styles were associated with substance use and poor academic achievement within a delinquent population. During the first step of data analysis, descriptive statistics were gathered to provide general information about demographics and parenting styles. Then, to test the hypotheses, logistic regression models were applied performed. Parenting styles, age, gender, race, and poverty/economic strain were entered into the first model of a logistic regression equation as predictors of youth substance use. Parenting styles, age, gender, race, and poverty/economic strain were entered into the second model of a logistic regression equation as predictors of poor academic achievement. Logistic regression, rather than linear regression, was used for our analyses, because the dependent variables were measured on a dichotomous scale, and because the relationship between the

independent variables and dependent variables is assumed to be non-linear. Data review and analyses were performed using PASW Statistics 18 and Stata/IC 10.0 software.

RESULTS

Table 1 presents group comparisons and frequencies of variables within the sample. The sample was 70.7% male and 29.3% female. The ages of the youth ranged from 13-16 years, with an average age of 14.64 years. The racial composition of the sample was 15.5% Black, 32% White, and 59.5% Latino. The case files reported 59.9% of youth living in poverty or with economic strain. The breakdown of parenting styles within the sample was 35.9% (65) Authoritative parenting (high warmth, high control); 13.8% (25) Authoritarian parenting (low warmth, high control); 43.1% (78) Permissive parenting (high warmth, low control); and 19.3% (35) Uninvolved parenting (low warmth, low control). Additionally, 59.1% of the sample had documented substance use and 47.0% had reports of poor grades in school.

Bivariate Associations

Descriptive statistics and bivariate correlations among all variables used are presented in Table 2. As anticipated, key independent variables were associated with the dependent variables of interest. Concerning the first research hypothesis, Permissive parenting ($r = .22$) and Uninvolved parenting ($r = .30$) are each positively correlated with substance use, and each is significant at the 0.05 level. Authoritarian parenting ($r = -.03$) and Authoritative parenting ($r = -.13$) are each negatively associated with substance use. Pertaining to the second hypothesis, Permissive parenting ($r = .25$) is positively correlated with poor grades in school and is significant at the .05 level. Additionally, Authoritarian parenting ($r = .01$) and Uninvolved parenting ($r = .10$) are positively correlated with poor grades, while Authoritative parenting ($r = -.13$) is negatively correlated with poor grades.

Table 1: Group Comparisons and Frequencies

Variable	Frequency
Independent Variables	
Parenting Style	
Authoritative	35.9% (65)
Authoritarian	13.8% (25)
Permissive	43.1% (78)
Uninvolved	19.3% (35)
Age	
13-16	14.64
Gender	
Male	70.7% (128)
Female	29.3% (53)
Race	
Black	15.5% (28)
White	32.0% (58)
Latino	52.5% (95)
Poverty/Economic Strain	56.9% (103)
Dependent Variables	
Substance Use	59.1% (107)
Poor Grades in School	47.0% (85)

Table 2: Descriptive Statistics and Bivariate Correlations (N=181)

	Y1	Y2	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10
Y1 Substance Use	–											
Y2 Poor Grades	.310*	–										
X1 Authoritative	–	–	–									
X2 Authoritarian	.127	.127	–	–								
X3 Permissive	–	.008	–	–	–							
X4 Uninvolved	.025	.300*	–	–	–	–						
X5 Male	.224*	.254*	–	–	–	–	–					
X6 Age	.123*	.100	–	–	–	–	–	–				
X7 Black	.082	.216*	.051	.046	.045	–	–	–	–			
X8 White	.049	–	–	–	–	.023	.057	–	–	–		
X9 Latino	–	.059	.021	.074	.004	.030	.040	.067	–	–	–	
X10 Poverty/ Economic Strain	.079	.035	.030	–	–	–	.040	.067	–	–	–	–
Mean	.113	.042	.054	.103	–	.024	.052	–	–	–	–	–
SD	.049	.014	.072	.068	.048	.037	.294*	–	–	–	–	–
	.207*	.282*	–	–	.091	–	–	–	–	–	–	–
	.049	.014	.072	.068	.010	.077	.014	.450*	.622*	–	–	–
	.093	.137	–	–	.194*	.200*	.053	.014	.033	–	.043	–
	.59	.47	.36	.14	.43	.19	.71	14.64	.15	.32	.52	.57
	.493	.500	.481	.346	.497	.396	.456	1.12	.363	.468	.501	.497

NOTES: * $p < .05$, two-tailed test
Mean-centered.

Multivariate Regression Models

Tables 3 and 4 each contain two multivariate regression models, estimated using logistic regression analysis. All correlation coefficients between independent variables are below .70, which is low enough to suggest that collinearity is not a problem. Additionally, both tolerance estimates and variance inflation factors were assessed to more accurately rule out potential collinearity- related problems (see Appendix A). Tolerance factors among all variables included in the regression models exceeded .65, and variance inflation factors are below 1.5, the thresholds typically used to determine when collinearity may be problematic (O'brien, 2007). According to this evidence, observed correlations between the independent variables should not result in biased estimates, inefficient standard errors, or inaccurate significant effects from multicollinearity.

Taking substance use as the dependent variable, Model 1 tests Hypothesis 1. This model controlled for youth age, gender, race, and poverty/economic strain. A Wald Chi Square test was conducted to test model significance. Model 1 was statistically significant ($\chi^2 = 23.08$, d.f. = 8, $p < .001$). This result indicates that this model is a good fit for the data.

Model 2 tests Hypothesis 2 using poor academic achievement as the dependent variable. Similarly to Model 1, this model also controlled for youth age, gender, race, and poverty/economic strain. The Wald Chi Square test revealed that this model was statistically significant ($\chi^2 = 28.10$, d.f. = 8, $p < .001$). This result indicates that this model is also a good fit for the data.

Table 3: Logistic Regression Results: The Effect of Parenting Styles on Substance Use Among Delinquent Youth

Variables	β	SE	Odds
Permissive	1.060**	0.359	2.887
Uninvolved	1.492*	0.735	2.141
Authoritarian	0.467	0.474	1.596
Age	0.110	0.146	1.117
Male	0.274	0.363	1.315
Black	-0.813	0.507	0.443
Latino	-0.586	0.379	0.443
Poverty/Economic Strain	0.699*	0.336	1.993
-2 Log Likelihood	-110.887		
X^2	23.08**		
df	8		
N	181		

NOTE: Entries are unstandardized coefficients (*b*) and robust standard errors.

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

Reference Category. For *Permissive*, *Uninvolved*, and *Authoritarian* parenting, Authoritative is the reference category; for *Male*, Female is the reference category; for *Black* and *Latino*, White is the reference category; for *Poverty/Economic Strain*, youth who had no mention of poverty in their case file were the reference category.

The model in Table 3 shows the logistic regression results for the effect of parenting styles on substance use. Using Authoritative parenting as the reference group, this model demonstrates that youth with Permissive parents ($b = 1.160, p < .01$) and Uninvolved parents ($b = 1.492, p < .05$), had a higher likelihood of substance use. Consistent with Hypothesis 1 expectations, the odds of substance use for delinquent youth who have Permissive parents is 2.89 times higher than the odds for delinquent youth who have Authoritative parents.

Similarly, the odds of substance use for delinquent youth with Uninvolved parents is 2.14 times higher than the odds for delinquent youth who have Authoritative parents. When compared with Authoritative parenting, Authoritarian parenting alone does not independently affect the likelihood of substance use among delinquent youth ($b = .0467, p > .05$). Moreover, poverty/economic strain is a positive and significant predictor of substance use among delinquent youth.

The second regression model in Table 4 shows the logistic regression results for the effect of parenting styles on poor academic achievement. Using Authoritative parenting as the reference group, the key finding of this model is that delinquent youth with Permissive parents are significantly more likely than youth with Authoritative parents to have poor academic achievement in school ($b = 1.184, p > .01$). Also consistent with Hypothesis 2 expectations, when compared with Authoritative parents, youth with Permissive parents are 3.27 times more likely to have poor academic achievement in school. When compared with Authoritative parenting, delinquent youth with Authoritarian and Uninvolved parenting did have a higher likelihood of poor academic achievement, although these effects were not significant. Additionally,

consistent with the literature, males were significantly more likely than females to have poor academic achievement in school. Furthermore, poverty/economic strain also emerged as a significant and positive predictor of poor academic achievement.

Table 4: Logistic Regression Results: The Effect of Parenting Styles on Low Grades in School Among Delinquent Youth

Variables	β	SE	Odds
Permissive	1.184**	0.365	3.269
Uninvolved	0.707	0.435	2.028
Authoritarian	0.809	0.540	2.247
Age	-0.142	0.152	0.867
Male	1.037**	0.386	2.823
Black	-0.274	0.501	0.760
Latino	-0.173	0.388	0.841
Poverty/Economic Strain	1.041**	0.353	2.832
-2 Log Likelihood	-106.895		
X^2	28.10**		
<i>df</i>	8		
N	181		

NOTE: Entries are unstandardized coefficients (*b*) and robust standard errors.

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

Reference Category. For *Permissive*, *Uninvolved*, and *Authoritarian* parenting, Authoritative is the reference category; for *Male*, Female is the reference category; for *Black* and *Latino*, White is the reference category; for *Poverty/Economic Strain*, youth who had no mention of poverty in their case file were the reference category.

DISCUSSION

Summary of Findings

A theme throughout various studies on predictors of substance use and poor academic achievement is parenting styles. First, consistent with prior studies (Baumrind, 1991a; Cohen & Rice, 1997; Stice, Barrera, & Chassin, 1993), findings showed that when compared with Authoritative parenting, Permissive and Uninvolved parenting significantly increased the likelihood of substance use within the delinquent sample. Second, consistent with previous studies, (Brown & Iyengar, 2008; Cohen & Rice, 1997; Dornbusch et al., 1987; Ginsburg & Bronstein, 1993; Lamborn et al., 1991), findings revealed that when compared with Authoritative parenting, Permissive parenting significantly increased the likelihood of poor academic achievement within the delinquent sample.

These findings are particularly important as they display differences between the general population and a delinquent population in parenting styles that predict substance use and academic achievement. Previous studies that have explained that warmth is a key element of parenting styles that predicts substance use and academic achievement within the general population. However, these findings elude that for delinquent youth, warmth is not a predictor of substance use and poor academic achievement, but rather control is. This indicates that for delinquent youth, control is more influential than warmth is.

Contrary to expectations, Uninvolved parenting showed no effect on poor academic achievement. One reason may be truancy. If a parent is Uninvolved, the child may not be attending school. If a child is truant, there is essentially no academic achievement status to report. Future studies that use similar methods may want to control

for truancy or school attendance. Additionally, Authoritarian parenting was found to have no effect on substance use or poor academic achievement. A possible explanation for this finding may be that Authoritarian parents exercise high control. If a problematic behavior occurs, this type of parent is likely to discipline the child. Discipline, depending on the context, has been found to reduce problematic behavior. Obviously, these explanations are highly speculative and should be carefully examined together with other plausible explanations as a component of future research.

Theoretical Implications

The findings for the effect of parenting styles on substance use among delinquent youth have implications for Baumrind's and Maccoby's theories of parenting styles. Baumrind explains that nontraditional parenting may increase risk-taking behavior by placing few behavioral expectations and demands on the child (Baumrind, 1987). Additionally, a lack of parental assertiveness may worsen risk-taking behavior in adolescence (Baumrind, 1991a, 1991b). This may appropriately explain the higher likelihood of substance use among delinquent youth with Permissive and Uninvolved parenting. Moreover, Maccoby (1992) explains that children look parents to learn which behaviors are acceptable and which are unacceptable. Because Permissive and Uninvolved parents never teach their children what acceptable behavior is, this may explain the higher substance use among children of these parents.

The findings for the effect of parenting styles on academic achievement also have implications for Baumrind's theory of parenting styles. According to Baumrind (1966), theoretically Permissive parents place little emphasis on independence and hard work. These parental behaviors may particularly contribute to their children's poor academic

achievement in school. Additionally, using Baumrind's model of parenting styles, Rohner (2004) added that Permissive parenting may result in children with distorted mental representations of themselves and their environment and problems with authority. Accordingly, that this may be the reason that children of Permissive parents are more prone to poor performance in environments such as school where they are required to take direction from authority figures.

Practical Implications

One of the bases for the founding of interventions within juvenile courts in the United States was to put delinquent youth on the path to desistance. The bases for family interventions was to include parents in these interventions and give families the opportunity to intervene and prevent future negative behaviors. This study found that Permissive and Uninvolved parenting significantly increased the likelihood of substance use among delinquent youth. Additionally, this study found that Permissive parenting significantly increased the likelihood of poor academic achievement among delinquent youth. Lack of parental control appears to be associated with substance use and poor academic achievement among delinquent youth. These findings have fruitful practical implications for selective family interventions that could be initiated for delinquent youth.

Additionally, the efforts to provide selective interventions for delinquent youth must begin with assessing high, moderate, and low risk offenders. Selective family interventions for substance use should be reserved for high-risk youth such as drug offenders and offenders who have documented substance dependencies. Likewise, family interventions for academic achievement should be reserved for high-risk youth such as

offenders failing three or more classes in school. Selective interventions are reserved for the individuals with the highest possible risk, and therefore should only be matched with high-risk youth to avoid iatrogenic effects.

Selective family intervention strategies for delinquent youth that address substance use should consider parent management training programs for children with Permissive and Uninvolved parents that focus on demand. Although current effective family interventions do target parent management and training, they share one certain critical core content. These programs focus primarily on improving parent-child warmth. This includes programs that strive to strengthen communication, attachment techniques, and foster emotional health. However, findings from our study explain that for higher risk youth within the delinquent population, they may need family interventions that focus more on improving parental demand and control. Therefore we recommend that selective interventions for parents include educating parents on healthy ways to monitor and discipline their child. Providing parents with healthy tools to effectively monitor and discipline their child will not only strengthen the relationship between the parent and child, it will provide positive reinforcement that will correct negative behaviors such as substance use. This will likely to impact the progress toward appropriate behavior.

Additionally, selective family interventions for delinquent youth that address poor academic achievement should specifically seek to involve both parents and schools. Currently there are interventions that are catered to the academic success of children. However, within the juvenile justice system child only or school interventions are most popular as they are less expensive and less demanding of the parents. It is important to involve both educators and parents working together because, when children attend

school, they are under the supervision of teachers. Teachers essentially act as a surrogate parent while school is in. Likewise, when children are not in school they are influenced by their parents.

Selective interventions that allow teachers to work with parents to create a plan of academic success for children with poor grades would be most beneficial. Once parents and teachers have agreed on an achievement plan, both parties can begin working together to assist the child. Teachers should seek to closely monitor the students' academic performance in the classroom and build progress reports with recommendations for improvement. A selective intervention program such as this may include frequent phone calls and home visits from teachers. This would allow teachers to build good rapport with the parent and child.

Additionally, parents should begin building academic success at home. Specifically, as Permissive parents display a lack of demand of their child, these parents should be trained to teach their child to become independent. This will allow children to become responsible and stakeholders in their own achievement. Parents and the education system essentially act as the foundation for academic success. If the juvenile justice system will offer guidance, each school district will be able develop its own procedures to assist both teachers and parents in selective intervention for high-risk youth.

Limitations and Implications for Future Research

A limitation to this study was the data set used. Caution should be exercised when attempting to link these data with larger intervention efforts, since data collection was limited solely to material that was contained in the case files. Case file content varied

between youth, and it is possible that relevant insight regarding the youth and his/her case was not reported in the file. This introduces the possibility that the case files depicted an incomplete picture of youths' life circumstances and behavior.

A second limitation to this study was the sample population. This sample was drawn from one jurisdiction, in one state, in the southwestern region of the United States. Future studies may want to include data from multiple jurisdictions or even include data from multiple states. This would allow the study to draw more generalizable implications. Additionally, future studies may also consider increasing the sample size; doing so may allow researchers to draw conclusions with a greater degree of accuracy and to minimize chance variation.

A third limitation was the study design. This study used a cross sectional design. Due to this, it is difficult to determine whether the outcome followed exposure in time or exposure resulted from the outcome. Or in other terms, it is difficult to determine if the parenting style is a result of the youth substance use and poor academic achievement, or if the youth substance use and poor academic achievement is a result of the parenting style.

Finally, future studies on parenting styles and their impact on child substance use and academic achievement should include a variety of measures of parenting behavior. In addition to assessing the traditional dimensions of parenting style — control and warmth — measures of attachment, communication, consistency, and type of discipline would permit more refined classifications of parenting styles. A more sophisticated measurement of parenting styles may help researchers further understand differences between the parenting styles.

Conclusion

Theories of parenting style typologies have contributed to the understanding of child behavioral outcomes by recognizing that certain parenting styles enhance negative behavior while other parenting styles diminish negative behavior. The present study found that Permissive and Uninvolved parenting styles are strong predictors of behaviors associated with recidivism among delinquent youth. Contrary to findings from previous studies that have sampled from the general public, there is no significant difference in the effect of Authoritarian parenting on substance use or poor academic achievement among delinquent youth. Ultimately, interventions are most successful when they are appropriately matched with the correct target population (Dowden & Andrews, 2003; Latimer, 2001; Lipsey, 2009; Lowenkamp & Latessa, 2004), which means implementing different types of interventions for different types of youth. Professionals within the juvenile justice system should incorporate the findings and implications of this study when developing selective interventions for high-risk delinquent youth.

REFERENCES

Adalbjarnardottir, S., & Hafsteinsson, L. G. (2001). Adolescents' perceived parenting styles and their substance use: Concurrent and longitudinal analyses. *Journal of Research on Adolescence, 11*(4), 401-423.

Aunola, K., Stattin, H., & Nurmi, J. E. (2000). Parenting styles and adolescents' achievement strategies. *Journal of Adolescence, 23*(2), 205-222.

Avenevoli, S., Sessa, F. M., & Steinberg, L. (1999). Family structure, parenting practices, and adolescent adjustment: An ecological examination.

Barber, B. K. (1996). Parental psychological control: Revisiting a neglected construct. *Child development, 67*(6), 3296-3319.

Baumrind, D. (1966). Effects of authoritative parental control on child behavior. *Child Development, 37*, 887-907.

Baumrind, D. (1968). Authoritarian vs. authoritative parental control. *Adolescence, 3*, 255-272.

Baumrind, D. (1971). Current patterns of parental authority. *Developmental Psychology, 4*(2), 1.

Baumrind, D. (1978). Parental disciplinary patterns and social competence in children. *Youth & Society, 9*(3), 239-76.

Baumrind, D. (1987). A developmental perspective on adolescent risk taking in contemporary America. *New directions for child and adolescent development, 1987*(37), 93-125.

Baumrind, D. (1989). The permanence of change and the impermanence of stability. *Human Development, 32*(3-4), 187-195.

Baumrind, D. (1991a). The influence of parenting style on adolescent competence and substance use. *The Journal of Early Adolescence*, 11(1), 56-95.

Baumrind, D. (1991b). Effective parenting during the early adolescent transition. *Family Transitions*, 2, 111-163.

Baumrind, D. (2005). Patterns of parental authority and adolescent autonomy. *New directions for child and adolescent development*, 2005(108), 61-69.

Baumrind, D. (2013). Authoritative parenting revisited: History and current status.

Baumrind, D., & Black, A. (1967). Socialization practices associated with dimensions of competence in preschool boys and girls. *Child Development*, 38, 291-327.

Baumrind, D., Larzelere, R. E., & Owens, E. B. (2010). Effects of preschool parents' power assertive patterns and practices on adolescent development. *Parenting: Science and Practice*, 10(3), 157-201.

Beck, J. E., & Shaw, D. S. (2005). The influence of perinatal complications and environmental adversity on boys' antisocial behavior. *Journal of Child Psychology and Psychiatry*, 46(1), 35-46.

Brenner, V., & Fox, R. A. (1999). An empirically derived classification of parenting practices. *The Journal of Genetic Psychology*, 160(3), 343-356.

Brown, L., & Iyengar, S. (2008). Parenting styles: The impact on student achievement. *Marriage & Family Review*, 43(1-2), 14-38.

Cicchetti, D., & Carlson, V. (Eds.). (1989). *Child maltreatment: Theory and research on the causes and consequences of child abuse and neglect*. Cambridge University Press.

Chassin, L. (2008). Juvenile justice and substance use. *The Future of Children*, 18(2), 165-183.

Clark, K. E., & Ladd, G. W. (2000). Connectedness and autonomy support in parent-child relationships: Links to children's socioemotional orientation and peer relationships. *Developmental psychology*, 36(4), 485.

Claussen, A. H., & Crittenden, P. M. (1991). Physical and psychological maltreatment: Relations among types of maltreatment. *Child Abuse & Neglect*, 15(1), 5-18.

Clayton, R. R. (1992). Transitions in drug use: Risk and protective factors.

Clyde, C. R., Mandleco, B., Olsen, S. F., & Craig, H. (1995). Authoritative, authoritarian, and permissive parenting practices: Development of a new measure. *Psychological Reports*, 77(3), 819-830.

Cohen, D. A., & Rice, J. (1997). Parenting styles, adolescent substance use, and academic achievement. *Journal of Drug Education*, 27(2), 199-211.

Collins, W. A., Maccoby, E. E., Steinberg, L., Hetherington, E. M., & Bornstein, M. H. (2000). Contemporary research on parenting: the case for nature and nurture. *American Psychologist*, 55(2), 218.

Cottle, C. C., Lee, R. J., & Heilbrun, K. (2001). The prediction of criminal recidivism in juveniles a meta-analysis. *Criminal Justice and Behavior*, 28(3), 367-394.

Darling, N. (1999). Parenting Style and Its Correlates. ERIC Digest.

Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological bulletin*, 113, 487-487.

Deater-Deckard, K., Dodge, K. A., Bates, J. E., & Pettit, G. S. (1996). Physical discipline among African American and European American mothers: Links to children's externalizing behaviors. *Developmental Psychology*, 32(6), 1065.

DeVore, E. R., & Ginsburg, K. R. (2005). The protective effects of good parenting on adolescents. *Current opinion in pediatrics*, 17(4), 460-465.

- Dornbusch, S. M., Ritter, P. L., Leiderman, P. H., Roberts, D. F., & Fraleigh, M. J. (1987). The relation of parenting style to adolescent school performance. *Child Development*, 1244-1257.
- Dowden, C., & Andrews, D. A. (2003). Does family intervention work for delinquents? Results of a meta-analysis. *Canadian Journal of Criminology and Criminal Justice*, 45(3), 327-342.
- Emery, R. E., Fincham, F. D., & Cummings, E. M. (1992). Parenting in context: systemic thinking about parental conflict and its influence on children.
- Frick, P. J. (2004). Developmental pathways to conduct disorder: Implications for serving youth who show severe aggressive and antisocial behavior. *Psychology in the Schools*, 41(8), 823-834.
- Ginsburg, G. S., & Bronstein, P. (1993). Family factors related to children's intrinsic/extrinsic motivational orientation and academic performance. *Child Development*, 64(5), 1461-1474.
- Glaser, D. (2002). Emotional abuse and neglect (psychological maltreatment): A conceptual framework. *Child Abuse & Neglect*, 26(6), 697-714.
- Gray, M. R., & Steinberg, L. (1999). Unpacking authoritative parenting: Reassessing a multidimensional construct. *Journal of Marriage and the Family*, 574-587.
- Grolnick, W. S., & Ryan, R. M. (1989). Parent styles associated with children's self-regulation and competence in school. *Journal of Educational Psychology*, 81(2), 143.
- Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological bulletin*, 112(1), 64.
- Hawkins, J. D., & Weis, J. G. (1985). The social development model: An integrated approach to delinquency prevention. *Journal of Primary Prevention*, 6(2), 73-97.

Hay, C. (2001). Parenting, self-control, and delinquency: A test of self-control theory. *Criminology*, 39(3), 707-736.

Heilbrun, K., Brock, W., Waite, D., Lanier, A., Schmid, M., Witte, G., ... & Shumate, M. (2000). Risk Factors for Juvenile Criminal Recidivism: The post release community adjustment of juvenile offenders. *Criminal Justice and Behavior*, 27(3), 275-291.

Hein, C., & Lewko, J. H. (1994). Gender differences in factors related to parenting style: A study of high performing science students. *Journal of Adolescent Research*, 9(2), 262-281.

Hess, R. D., & McDevitt, T. M. (1984). Some cognitive consequences of maternal intervention techniques: A longitudinal study. *Child Development*, 2017-2030.

Ho, C., Bluestein, D. N., & Jenkins, J. M. (2008). Cultural differences in the relationship between parenting and children's behavior. *Developmental psychology*, 44(2), 507.

Hulbert, A. (2011). *Raising America: Experts, parents, and a century of advice about children*. Random House LLC.

Johnson, L. E., & Kelley, H. M. (2011). Permissive Parenting Style. In *Encyclopedia of Child Behavior and Development* (pp. 1080-1080). Springer US.

Jung, S., & Rawana, E. P. (1999). Risk and need assessment of juvenile offenders. *Criminal Justice and Behavior*, 26(1), 69-89.

Kaiser, N. M., McBurnett, K., & Pfiffner, L. J. (2011). Child ADHD severity and positive and negative parenting as predictors of child social functioning: Evaluation of three theoretical models. *Journal of attention disorders*, 15(3), 193-203.

Katsiyannis, A., & Archwamety, T. (1997). Factors related to recidivism among delinquent youths in a state correctional facility. *Journal of Child and Family Studies*, 6(1), 43-55.

Katsiyannis, A., & Archwamety, T. (1999). Academic remediation/achievement and other factors related to recidivism rates among delinquent youths. *Behavioral Disorders, 24*(2), 93-101.

Katsiyannis, A., Ryan, J. B., Zhang, D., & Spann, A. (2008). Juvenile delinquency and recidivism: The impact of academic achievement. *Reading & Writing Quarterly, 24*(2), 177-196.

Kerig, P. K., Cowan, P. A., & Cowan, C. P. (1993). Marital quality and gender differences in parent-child interaction. *Developmental Psychology, 29*(6), 931.

Knoll, C., & Sickmund, M. (2012). Delinquency cases in juvenile court, 2009. *Drugs, 17*, 18.

Knutson, J. F., DeGarmo, D., Koepl, G., & Reid, J. B. (2005). Care neglect, supervisory neglect, and harsh parenting in the development of children's aggression: A replication and extension. *Child Maltreatment, 10*(2), 92-107.

Kotchick, B. A., & Forehand, R. (2002). Putting parenting in perspective: A discussion of the contextual factors that shape parenting practices. *Journal of child and family studies, 11*(3), 255-269.

Kurdek, L. A., Fine, M. A., & Sinclair, R. J. (1995). School adjustment in sixth graders: Parenting transitions, family climate, and peer norm effects. *Child Development, 66*(2), 430-445.

Lamborn, S. D., Mounts, N. S., Steinberg, L., & Dornbusch, S. M. (1991). Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Development, 62*(5), 1049-1065.

Latimer, J. (2001). Meta-analytic examination of youth delinquency, family treatment, and recidivism. *Canadian J. Criminology, 43*, 237.

Le, H. N., Ceballo, R., Chao, R., Hill, N. E., Murry, V. M., & Pinderhughes, E. E. (2008). Excavating culture: Disentangling ethnic differences from contextual influences in parenting. *Applied Development Science, 12*(4), 163-175.

Lipsey, M. W. (2009). The primary factors that characterize effective interventions with juvenile offenders: A meta-analytic overview. *Victims and Offenders*, 4(2), 124-147.

Loeber, R., & Farrington, D. P. (2000). Young children who commit crime: Epidemiology, developmental origins, risk factors, early interventions, and policy implications. *Development and Psychopathology*, 12(04), 737-762.

Lowenkamp, C. T., & Latessa, E. J. (2004). Understanding the risk principle: How and why correctional interventions can harm low-risk offenders. *Topics in Community Corrections*, 2004, 3-8.

Maccoby, E. E. (1992). The role of parents in the socialization of children: An historical overview. *Developmental Psychology*, 28(6), 1006.

Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent-child interaction. *Handbook of Child Psychology*, 4, 1-101.

Magnuson, K. (2007). Maternal education and children's academic achievement during middle childhood. *Developmental Psychology*, 43(6), 1497.

Maguin, E., & Loeber, R. (1996). Academic performance and delinquency. *Crime and Justice*, 145-264.

Mandara, J. (2003). The typological approach in child and family psychology: A review of theory, methods, and research. *Clinical Child and Family Psychology Review*, 6(2), 129-146.

Martin, M. J., & Walters, J. (1982). Familial correlates of selected types of child abuse and neglect. *Journal of Marriage and the Family*, 267-276.

McClelland, G. M., Elkington, K. S., Teplin, L. A., & Abram, K. M. (2004). Multiple substance use disorders in juvenile detainees. *Journal of the American Academy of Child & Adolescent Psychiatry*, 43(10), 1215-1224.

McClelland, G. M., Teplin, L. A., & Abram, K. M. (2004). *Detection and prevalence of substance use among juvenile detainees*. US Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention.

Montgomery, C., Fisk, J. E., Craig, L. (2008). The effects of perceived parenting style on the propensity for illicit drug use: the importance of parental warmth and control. *Drug and Alcohol Review*, 27(6), 640-649.

Mrazek, P. J., & Haggerty, R. J. (Eds.). (1994). *Reducing Risks for Mental Disorders: Frontiers for Preventive Intervention Research*. National Academies Press.

Mulder, E., Brand, E., Bullens, R., & Van Marle, H. (2010). A classification of risk factors in serious juvenile offenders and the relation between patterns of risk factors and recidivism. *Criminal Behaviour and Mental Health*, 20(1), 23-38.

Mulvey, E. P. (2011). *Substance use and delinquent behavior among serious adolescent offenders*. DIANE Publishing.

Newman, K., Harrison, L., Dashiff, C., & Davies, S. (2008). Relationships between parenting styles and risk behaviors in adolescent health: an integrative literature review. *Revista Latino-Americana de Enfermagem*, 16(1), 142-150.

O'Brien, R. M. (2007). A caution regarding rules of thumb for variance inflation factors. *Quality & Quantity*, 41(5), 673-690.

O'Connell, M. E., Boat, T., & Warner, K. E. (Eds.). (2009). *Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities*. National Research Council and Institute of Medicine of the National Academies. Washington, D.C.: The National Academies Press.

Onatsu-Arvilommi, T. P., & Nurmi, J. E. (1997). Family background and problems at school and in society: The role of family composition, emotional atmosphere and parental education. *European Journal of Psychology of Education*, 12(3), 315-330.

Patock-Peckham, J. A., Cheong, J., Balhorn, M. E., & Nagoshi, C. T. (2001). A social learning perspective: A model of parenting styles, self-regulation, perceived drinking control, and alcohol Use and problems. *Alcoholism: Clinical and Experimental Research*, 25(9), 1284-1292.

Pelaez, M., Field, T., Pickens, J. N., & Hart, S. (2008). Disengaged and authoritarian parenting behavior of depressed mothers with their toddlers. *Infant Behavior and Development*, 31(1), 145-148.

Piko, B. F., & Balázs, M. Á. (2012). Authoritative parenting style and adolescent smoking and drinking. *Addictive behaviors*, 37(3), 353-356.

Piquero, A. R., Farrington, D. P., Welsh, B. C., Tremblay, R., & Jennings, W. G. (2009). Effects of early family/parent training programs on antisocial behavior and delinquency. *Journal of Experimental Criminology*, 5(2), 83-120.

Pomerantz, E. M., & Eaton, M. M. (2001). Maternal intrusive support in the academic context: transactional socialization processes. *Developmental Psychology*, 37(2), 174.

Pulkkinen, L. (1982). Self-control and continuity from childhood to late adolescence. *Life-span Development and Behavior*.

Reitman, D., Rhode, P. C., Hupp, S. D., & Altobello, C. (2002). Development and validation of the parental authority questionnaire—revised. *Journal of Psychopathology and Behavioral Assessment*, 24(2), 119-127.

Rodriguez, N., Zatz, M., & Beckman, L. (2014). *Disproportionate minority contact assessment*. Arizona's juvenile justice system Arizona Governor's Office for Children, Youth, and Families.

Rohner, R. P. (2004). The parental "acceptance-rejection syndrome": universal correlates of perceived rejection. *American Psychologist*, 59(8), 830.

Rothrauff, T. C., Cooney, T. M., & An, J. S. (2009). Remembered parenting styles and adjustment in middle and late adulthood. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 64(1), 137-146.

Rudy, D., & Grusec, J. E. (2006). Authoritarian parenting in individualist and collectivist groups: Associations with maternal emotion and cognition and children's self-esteem. *Journal of Family Psychology, 20*(1), 68.

Rutter, M., & Sroufe, L. (2000). Developmental psychopathology: Concepts and challenges. *Development and Psychopathology, 12*(03), 265-296.

Santrock, J.W. (2007). *A topical approach to life-span development, third Ed.* New York: McGraw-Hill.

Schaffer, M., Clark, S., & Jeglic, E. L. (2009). The role of empathy and parenting style in the development of antisocial behaviors. *Crime & Delinquency, 55*(4), 586-599.

Shaffer, A., Yates, T. M., & Egeland, B. R. (2009). The relation of emotional maltreatment to early adolescent competence: Developmental processes in a prospective study. *Child Abuse & Neglect, 33*(1), 36-44.

Shucksmith, J., Hendry, L. B., & Glendinning, A. (1995). Models of parenting: Implications for adolescent well-being within different types of family contexts. *Journal of Adolescence, 18*(3), 253-270.

Shumow, L., Vandell, D. L., & Posner, J. K. (1998). Harsh, Firm, and Permissive Parenting in Low-Income Families Relations to Children's Academic Achievement and Behavioral Adjustment. *Journal of Family Issues, 19*(5), 483-507.

Smit, E., Verdurmen, J., Monshouwer, K., & Smit, F. (2008). Family interventions and their effect on adolescent alcohol use in general populations; a meta-analysis of randomized controlled trials. *Drug and alcohol dependence, 97*(3), 195-206.

Simons, L. G., Chen, Y. F., Simons, R. L., Brody, G., & Cutrona, C. (2006). Parenting Practices and Child Adjustment in Different Types of Households A Study of African American Families. *Journal of Family Issues, 27*(6), 803-825.

Simons, L. G., & Conger, R. D. (2007). Linking mother–father differences in parenting to a typology of family parenting styles and adolescent outcomes. *Journal of Family Issues*, 28(2), 212-241.

Simons, R. L., Simons, L. G., Chen, Y. F., Brody, G. H., & Lin, K. H. (2007). Identifying the psychological factors that mediate the association between parenting practices and delinquency. *Criminology*, 45(3), 481-5

Steinberg, L. (2001). We know some things: Parent–adolescent relationships in retrospect and prospect. *Journal of research on adolescence*, 11(1), 1-19.

Steinberg, L., Blatt-Eisengart, I., & Cauffman, E. (2006). Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful homes: A replication in a sample of serious juvenile offenders. *Journal of Research on Adolescence*, 16(1), 47-58.

Steinberg, L., Lamborn, S. D., Darling, N., Mounts, N. S., & Dornbusch, S. M. (1994). Over-time changes in adjustment and competence among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Development*, 65, 754-770.

Steinberg, L., Lamborn, S. D., Dornbusch, S. M., & Darling, N. (1992). Impact of parenting practices on adolescent achievement: Authoritative parenting, school involvement, and encouragement to succeed. *Child Development*, 63(5), 1266-1281.

Steinberg, L., Mounts, N. S., Lamborn, S. D., & Dornbusch, S. M. (2013). Authoritative parenting and adolescent adjustment across varied ecological niches. *Adolescents and Their Families: Structure, Function, and Parent-Youth Relations*, 2(1), 129.

Stice, E., Barrera Jr, M., & Chassin, L. (1998). Prospective differential prediction of adolescent alcohol use and problem use: examining the mechanisms of effect. *Journal of Abnormal Psychology*, 107(4), 616.

Thompson, A., Hollis, C., & Richards, D. (2003). Authoritarian parenting attitudes as a risk for conduct problems. *European Child & Adolescent Psychiatry*, 12(2), 84-91.

Weiss, L. H., & Schwarz, J. C. (1996). The relationship between parenting types and older adolescents' personality, academic achievement, adjustment, and substance use. *Child Development, 67*(5), 2101-2114.

Wilson, J. J., & Howell, J. C. (1993). *Comprehensive strategy for serious, violent, and chronic juvenile offenders*. Washington, DC: Office of Juvenile Justice and Delinquency Prevention.

Zolotor, A. J., & Runyan, D. K. (2006). Social capital, family violence, and neglect. *Pediatrics, 117*(6), e1124-e1131.

APPENDIX A
TOLERANCE LEVELS AND VARIANCE INFLATION FACTORS

Variable	VIF	Tolerance
Authoritarian Parenting (1=yes)	1.18	0.849
Permissive Parenting (1=yes)	1.19	0.842
Uninvolved Parenting (1=yes)	1.13	0.883
Male (1=yes)	1.02	0.981
Age	1.01	0.986
Black (1=yes)	1.28	0.782
Latino (1=yes)	1.28	0.782
Poverty/Economic Strain (1=yes)	1.11	0.903
Mean	1.15	