FAMILY JUSTICE APPRAISALS AND INVOLVEMENT WITH DEVIANT PEERS AMONG ADOLESCENTS

By

JENNIFER STUART

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Jennifer Stuart
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Association with deviant peer groups is one of the strongest proximal correlates to juvenile delinquency and stems from a variety of causes. Parenting skills and parenting styles have been identified as factors related to later association with deviant peer groups. In this study, procedural justice within the family (the way an individual is treated during the process of resolving a conflict) was examined as one aspect of effective parenting that may affect early adolescents’ association with deviant peers. A shortened version of the Family Decision Making Questionnaire was factor analyzed, yielding a one factor solution. A series of regressions then showed that higher scores on the procedural justice measure were related to lower levels of association with deviant peers, and that this relationship was partially mediated by measures of peer conflict. Implications of these findings are discussed.
CHAPTER 1
INTRODUCTION

Juvenile delinquency, defined as any behavior committed by a juvenile that is outside the realm of parental authority and is therefore subject to legal action, has garnered a great deal of attention in recent years. In 2002, 2,261,000 juveniles were arrested. Ninety-two thousand, one hundred sixty of these were for violent crime, such as aggravated assault, rape, and homicide. These figures indicate that juveniles accounted for 17% of all arrests and 15% of violent crime arrests during the year (Snyder, 2004).

Data from the 1997 Longitudinal Youth Survey indicate that 25% of youth ages 14 and 15 had used marijuana in the past month and 52% of youth in this age range had used alcohol. Additionally, 3% of youth ages 12 to 16 had carried a handgun in the previous month. These rates of prevalence were similar for both urban and rural youth. While the juvenile share of crime has been decreasing since the early 1990’s, these numbers still provide cause for concern.

While criminal behavior is not limited to juveniles, it is juvenile delinquency that often seems most alarming to the general public. This is most likely because the majority of criminal offenders are, in fact teenagers. Studies of young boys have shown that the majority of individuals who ever become delinquent first exhibit such behavior during adolescence. However, by age 28, about 85% of former delinquents have stopped offending. This is consistent with data showing that official rates of crime increase rapidly during adolescence and peak sharply around age 17 (Moffitt, 1993).
Patterns of Juvenile Delinquency

Research on juvenile delinquency has resulted in the conceptualization of two main types of delinquency: adolescence-limited and life-course persistent (Moffitt 1993). Life-course persistent delinquency is found in about 5-6% of individuals. People in this category display difficult and sometimes “antisocial” temperaments at three to five years of age or younger (Henry, Caspi, Moffitt, & Silva, 1996). The chronic antisocial childhood behavior of this small group of individuals is a strong predictor of both violent and nonviolent offending, especially for boys (Broidy et al., 2003). Children who fit this sub-type often show characteristics of attention deficit disorder as well as abnormally high levels of aggression during the preschool years (Loeber & Stouthamer-Loeber, 1998). These individuals often begin committing deviant acts at a young age and this activity persists well into adulthood. Research has indicated that this behavior is closely tied to early childhood temperament.

The second sub-type, adolescent-limited delinquency, shows a vastly different pattern of development. Those who engage in adolescent-limited delinquency do not necessarily engage in acting-out behavior at an early age. People in this category usually exhibit fairly normal childhood behavior and begin committing deviant acts around age 11 or 12. The frequency and severity of this behavior peaks around age 16 or 17 and then diminishes by young adulthood. Unlike life-course persistent delinquency, adolescent-limited delinquency is alarmingly common and has sometimes been described as “normal.” Estimates vary, but about one third of adolescent males are thought to engage in some form of delinquent behavior (Moffitt, 1993). Adolescents who exhibit this type of delinquency seem to have some flexibility in their behavior patterns. They can adapt their behavior and act in socially appropriate ways when reinforcement contingencies
dictate. Thus, it is thought that this behavior pattern is a result of social influences rather than biological factors.

Following the rationale that it is the life-course persistent adolescents who commit the most serious offenses, it could be assumed that those who begin offending during adolescence engage in less severe behavior than those who begin offending earlier. In a review of the literature on the development of juvenile aggression, Loeber and Stouthamer-Loeber (1998) concluded that that was not necessarily the case. Instead, later onset offenders may show similar characteristics at the time of arrest but differ only in their past history. Despite the possible appearance of having a less severe problem, individuals who start offending during adolescence equal their life-course persistent peers in both the variety of laws broken and number of appearances in juvenile court by age 15.

**Risk Factors**

A plethora of risk factors have been identified for the development of juvenile delinquency, including residence in low SES neighborhoods (Stouthamer-Loeber, Loeber, Wei, Farrington, & Wikstrom, 2002), low levels of parental monitoring (Griffin, Botvin, Scheier, Diaz, & Miller, 2000), low IQ and residential mobility (Hawkins et al., 2000), gender, family structure (Stouthamer-Loeber et al., 2002), and association with delinquent peer groups (Elliott & Menard, 1996; Moffitt, 1993). A review of the research by Hawkins et al. (2000) shows that association with deviant peer groups is one of the most well-established risk factors across a variety of studies and is the strongest predictor of violent behavior for youth ages 12 to 14. This risk factor is of particular interest both because of the large amount of variance it explains in delinquent behavior and because of the implications it has for intervention and prevention.
Deviant Peer Group Involvement

During adolescence, individuals begin depending less on their families and more on their peer groups for approval and social validation (Fuligni, Eccles, Barber, & Clements, 2001). As they get older, adolescents spend increased amounts of unsupervised time with their peers and profess that they consider their friends’ opinions to be as important or more important than their parents’ opinions on some issues (Fuligni et al). Given this opportunity for social influence, it is not surprising that studies have consistently found association with deviant peer groups to be a strong predictor of delinquent behavior during adolescence (Hawkins et al., 2000). Elliott, Huizinga, and Ageton (1985) found that adolescents who were members of deviant peer groups were more likely to engage in delinquency, regardless of the presence of absence of other risk factors.

The link between deviant peer groups and delinquent behavior is not new. Linden and Hackler (1973) studied adolescents’ attachment to conventional peers, deviant peers, and parents. Those with high levels of bonding to delinquent peers had the highest rates of self-reported delinquency. The impact delinquent friends had on adolescents’ behavior was influenced by the level of bonding to parents and conventional peers. Those adolescents with high levels of bonding to parents and conventional peer groups reported lower levels of delinquent behavior than others. This evidence stresses the importance of both peer group selection and family dynamics in predicting later delinquent behavior.

More recently, Fuligni et al. (2001) examined the relationship between peer orientation, type of peer group, family cohesion, problem behaviors, and academic achievement. They found that youth with more extreme peer group orientations (those who viewed their friends as more valuable sources of information and validation than their parents) reported higher levels of deviant behavior. This effect was largely
determined by the type of peer group involved, with deviant peer groups adding substantially to the levels of deviant behavior. More specifically, the proportion of adolescents’ friends who consumed alcohol, used drugs, and skipped class strongly predicted problem behaviors. In line with that finding, Dishion and Owen (2002) found that the tendency to cluster in peer groups that used substances was the strongest proximal correlate of adolescent substance use.

This relationship between peer group orientation and deviant behavior is crucial because peer groups are in a state of constant fluctuation during adolescence. In general, adolescents move from belonging mainly to prosocial groups early in adolescence to interacting with more deviant peer groups later in adolescence (Elliott & Menard, 1996). This fluctuation typically ends in early adulthood, when individuals begin forming families and the peer group loses some of its influence. The unique contribution of deviant peer group membership during adolescence is supported by a summary of literature by Hawkins et al. (2000), who found that having antisocial peers was a strong predictor of violent behavior for youth ages 12 to 14, but a relatively weak predictor during childhood.

There are a variety of possible explanations for the relationship between deviant peers and deviant behavior. Many assume adolescents who engage in deviant behavior seek out others who engage in similar behavior. The idea that “birds of a feather flock together” fits well with American society’s views of personal control and responsibility and, on the surface, makes a lot of intuitive sense. According to this common sense view, it is the delinquent behavior that precedes and may even cause this association with deviant peers. While this hypothesis has drawn some correlational support, the opposite
interpretation is more likely to be true. Elliott and Menard (1996) found that association with deviant peers precedes the onset of delinquent behavior in most cases. This pattern is especially strong when serious offenses are involved. Index offenses (those serious offenses that would be illegal regardless of the offender’s age) almost never occur before an individual has begun associating with deviant peers.

Once an adolescent begins associating with deviant peer groups, attitudes toward delinquent behavior are strengthened and delinquent behavior is reinforced (Elliott et al., 1985; Patterson, Dishion, & Yoerger, 2000; Patterson, Forgatch, Yoerger, & Stoolmiller, 1998). This phenomenon is known as deviancy training and its effects have been examined from a variety of perspectives. Patterson et al. (2000) found that delinquency training was the mediating factor between early involvement with deviant peers and later delinquent behavior. Of the adolescents who associated with deviant peer groups, those whose peers expressed more positive attitudes toward delinquency and provided more support for such behavior ultimately engaged in higher levels of delinquency. In a comprehensive review of relevant studies, Thornberry and Krohn (1997) concluded that deviant peer group involvement did have a well-established direct influence on deviant behavior. Furthermore, this relationship appears to be bidirectional. Once an adolescent begins associating with deviant peers, deviant behavior is strengthened and the adolescent is more likely to associate with deviant peers in the future. This sets in motion a downward spiral that makes it difficult to intervene without preventing the initial movement toward delinquent peer groups.

Peer Rejection

Since a convincing body of research indicates that deviant peer group involvement is likely a cause and a maintaining factor of delinquent behavior, it is important to
determine the factors that lead to deviant peer group involvement in the first place.

Recent research has targeted early peer rejection as a motivator for later entrance into
deviant peer groups. Longitudinal data from the Oregon Youth Study (Dishion,
Patterson, Stoolmiller, & Skinner, 1991) show that rejection by the conventional peer
group is one of the most salient predictors of association with deviant peers. In the study,
boys who were rejected at age 10 had higher levels of contact with deviant peers at age
12, regardless of whether the boys had previously displayed antisocial behavior.

Similarly, Coie, Lochman, Terry, and Hyman (1992) found that both aggressive behavior
and peer rejection were significant predictors of disorder in adolescence. Subsequent
analysis revealed that peer rejection had a role in predicting adolescent adjustment that
went above and beyond the effects of the aggression that may have caused the rejection
in the first place. The role of peer rejection in the development of delinquency was also
supported by the research of Krueger et al. (1994). In studying the links between
personality and crime in adolescents, the authors found that youth who reported
participating in the widest variety of criminal behavior also reported low levels of social
cohesion and high levels of alienation. They described themselves as being persecuted
by their peers and as lacking interpersonal closeness.

The powerful effects of peer rejection can be explained in part by recent social
psychological research. Baumeister and Leary (1995) hypothesized that humans are
driven by a fundamental need to belong. Research with adolescents has supported this
idea. Brown and Lohr (1987) found that adolescents who were part of an identifiable
social group (even those social groups with relatively low comparative social status) had
higher self-esteem than adolescents who did not identify with any particular social
cluster. Twenge, Baumeister, Tice, & Stucke (2001) found that individuals who believed they were being rejected by their peers were more aggressive in experimental trials than non-rejected participants. This manipulation was unexpectedly powerful and resulted in increased aggression toward “neutral” bystanders, as well. To explain this set of findings, Baumeister, DeWall, Ciarocco, and Twenge (2005) proposed that peer rejection leads to a decrease in self-regulation. In essence, rejected individuals lose motivation to act in prosocial ways.

There are several ways in which peer rejection could fit into the developmental trajectory that leads to association with deviant peers and eventually to delinquent behavior. One possibility is that poor social skills and aggressive and antisocial behavior lead to peer rejection in children and adolescents, and this rejection is what leads children to associate with deviant peer groups. Dishion et al. (1991) hypothesized that individuals will seek out peer groups that maximize social reinforcement for a minimum amount of effort. According to this view, children and adolescents whose skills do not allow them to be successful in conventional peer group will seek out groups in which they are accepted without having to change behaviors. This idea was supported by Cairns, Cairns, Neckerman, Gest, & Gariepy (1988), who used rating scales, interviews, and peer nominations to determine social cluster membership and overall popularity of aggressive and non-aggressive fourth and seventh graders. They found that aggressive subjects were less popular than non-aggressive subjects but were equally likely to be part of an identifiable social cluster. Aggressive subjects also tended to belong to social clusters with one another rather than being mixed in with conventional peer groups. Aggressive behavior acted as a “sorting feature” in the friendship selection process (Dishion &
This suggests that these aggressive subjects were possibly rejected from conventional peer groups and had affiliated with one another as a way to maximize social reinforcement.

**Parenting Practices**

Lack of success in the conventional peer group has been linked to social skills deficits or aggressive behavior. Researchers have proposed a variety of hypotheses about the origins of childhood aggressive behavior. Two of the most frequently cited predictors are the overall level of conflict within the family and ineffective discipline practices. The relationship between family conflict and childhood adjustment and behavior has gained a great deal of support within the literature. Jaycox and Repetti (1993) found that preadolescent children in high conflict families were likely to have poor perceptions of themselves and display externalizing behaviors at home. Further analysis revealed that the level of overall family conflict had an effect on behavior above and beyond the effects of marital discord or aversive parent-child interactions. The potential sources of family conflict are numerous and include life stressors such as poverty, large family size, and ineffective parenting practices.

A growing body of research has linked poor or inconsistent parenting practices with later peer rejection (Dishion, 1990; Patterson, DeBaryshe, & Ramsey, 1989; Vuchinich, Bank, and Patterson, 1992). Families of children described as “antisocial” have been found to use harsh and inconsistent discipline (Patterson et al., 1989), while good discipline has been found to have a positive impact on children’s peer relations (Vuchinich et al., 1992). This relationship is supported by research by Patterson et al. (1998) who found that disrupted parenting practices accounted for unique variance in childhood antisocial behavior and its continuity into adolescence. Vuchinich et al. found
that ineffective parenting and poor peer relations helped maintain one another over time. Correlational evidence suggests that demographic variables and life stressors such as poverty and marital discord are also risk factors for peer rejection, but these have been shown to be mediated by the extent to which parenting practices are affected (Dishion, 1990; Patterson et al., 1989). Patterson et al. (1989) proposed a developmental model of antisocial behavior to explain these relationships. In this model, poor parenting practices lead to conduct problems, these conduct problems lead to peer rejection, and peer rejections leads to commitment to deviant peer groups. This model implies that parent/child interactions may be the starting point for the trajectory that leads to juvenile delinquency.

Research has also shown that parenting practices may influence the development of delinquent behavior at various points along the trajectory. Even in the presence of other risk factors, effective parenting practices have been shown to decrease the likelihood of adolescents engaging in delinquent acts (Walker-Barnes & Mason, 2004). In their longitudinal study of ninth grade students, Walker-Barnes and Mason found that while gang involvement was strongly related to delinquency and substance use, parenting variables such as behavioral control and parental warmth weakened the relationship.

The impact of the home environment in general, and of parenting skills specifically, is particularly interesting in adolescent populations, as parent-child relationships undergo a period of flux at that time (Granic, Hollenstein, Dishion, & Patterson, 2003). These relationships are characterized by an increasing variety of exchanges and a greater flexibility in the “repertoire” of interactions. The amount of flexibility and change peaks around 13 or 14 years of age for boys (Granic et al.).
Research on parenting styles indicates that authoritative parenting (characterized by maintenance of clear boundaries between moral, conventional, and personal issues and the allowance of some degree of autonomy on personal issues) helps alleviate the increased levels of conflict that normally occur during this period (Smetana, 1995). The effect of parenting style on family functioning increases as adolescents get older and the demand for personal autonomy increases.

Consistent with the findings that parenting factors play an important role in adolescent adjustment, a study of sixth grade students recently found that positive parenting practices, such as parental monitoring, frequent checking of homework, and eating family meals together were associated with lower levels of delinquent behavior (Griffin et al., 2000). The authors also found that parenting behaviors affected behavior outcomes differently for boys than for girls. For instance, eating family meals together was associated with lower levels of delinquency in girls but not in boys. Frequent homework checking was also associated with less aggression in girls but not in boys. These findings suggest that gender may play a moderating role in the effect of the family environment on behavior during adolescence.

**Procedural Justice**

One aspect of the home environment that has recently been tied to adolescent behavior is conflict resolution. In particular, procedural justice appraisals have been found to relate to adolescents’ feelings about their families, their psychosocial functioning, and their levels of deviant behavior (Fondacaro, Dunkle, & Pathak, 1998; Jackson & Fondacaro, 1999). Procedural justice refers to the fairness of the procedures used to reach a decision, as opposed to the fairness of the decision’s outcome. Early work in the area has shown that people care as much or more about how they are treated
in the process of making a decision or resolving a conflict than they do about the outcome itself (Thibaut & Walker, 1975; Tyler, 1988). Research in this area has aimed to discover what aspects of conflict resolution influence a person’s subjective assessment of fairness (Fondacaro, Jackson, & Luescher, 2002; Leventhal, 1980; Thibaut & Walker, 1975; Tyler & Lind, 1992). A growing body of literature has evolved in the field, defining various procedural justice constructs as well as establishing their importance in numerous settings (Fondacaro, Jackson, & Luescher, 2002; Leventhal, 1989; Thibaut & Walker, 1975; Tyler & Lind, 1992).

The procedural justice literature is rich with theoretical conceptualizations of procedural justice dimensions, but few of these dimensions have been empirically validated until recently. Early theoretical work was conducted by Thibaut and Walker (1975) and emphasized process control and decision control. Leventhal (1980) identified six different criteria for assessing the fairness of decision-making: consistency, bias suppression, accuracy, correctibility, representation, and ethicality. In 1989, Tyler proposed a conceptually-based four factor model composed of neutrality, standing, control, and trust.

Recently there has been a push toward the development of a more integrated, comprehensive model of procedural justice. Fondacaro and Jackson began developing the Family Decision Making Questionnaire and the Family Justice Inventory. Using a college student population, Jackson and Fondacaro (1999) factor-analyzed items from the Family Decision Making Questionnaire to test the possibility of Tyler’s (1989) four factor model of procedural justice. They instead found three interpretable factors: personal respect, status recognition, and instrumental participation. Personal respect was
defined as the amount of respect a person is treated with throughout the decision-making process. Status recognition refers to the way a person is treated relative to the group. Process control refers to the amount of influence one is able to exert over the decision-making process. In a similar study, Fondacaro et al. (2002) identified five distinct procedural justice factors: personal respect, status recognition, process control, correction, and trust. These factors have been studied in relationship to individual and family functioning in a number of studies (Fondacaro et al., 1998; Fondacaro et al., 2002).

Bronfenbrenner’s (1979) theory offers an explanation regarding the importance of procedural justice in the family context. According to this framework, the ideals and values of the macrosystem (the due process rights of American society) transfer to the microsystem (in this context, the family). People grow to evaluate fairness in their everyday surroundings the same way they would evaluate fairness in the legal system. These ideas make sense in light of behavioral science research. Grusec and Goodnow (1994) discussed several variables that influence the effectiveness of parental discipline. Among the variables thought to influence children’s acceptance of parental discipline techniques were the child’s judgment that the parents’ actions were appropriate based on the child’s misbehavior and the child’s judgment of whether due process had been observed. Acceptance was also influenced by whether the child judged that the parents’ intervention was well-intentioned.

Family functioning has recently been studied in light of procedural justice factors. Fondacaro et al. (2002) found that procedural justice constructs were more important than distributive justice constructs in predicting family functioning. Consistent with
expectations, adolescents cared more about how they were treated in the process of resolving family conflict than they did about the final outcome. Procedural justice appraisals were significantly related to levels of family conflict and cohesion. Specifically, personal respect, status recognition, and trust predicted levels of family conflict. Personal respect, status recognition, correction, and trust predicted levels of family cohesion. More generally, those adolescents from more cohesive families reported being treated as more valued members of the family. This supports the idea that adolescents especially value the way they are treated in dispute resolution when interacting with in-group members such as their parents.

Recent research has focused on the role of procedural justice appraisals in families with adolescents. Diamond-Barroso (2003) studied the relationship between procedural and distributive justice and family functioning in a sample of adolescents between 11 and 18 years of age. Subjecting 54 procedural justice items from the Family Decision Making Questionnaire to principle components factor analysis resulted in five interpretable factors: process control, neutrality, personal respect, status recognition, and correction. Neutrality, personal respect, and status recognition significantly predicted family conflict while all five procedural justice factors significantly predicted family cohesion. Results indicated that adolescents’ appraisals of procedural justice were more important than their appraisals of distributive justice in predicting family functioning.

In addition to its relationship with family functioning, procedural justice has also been linked to deviant behavior (Fondacaro et al., 1998). Fondacaro et al. (1998) studied this relationship within the framework of Tyler’s relational model of procedural justice and found that those adolescents who reported unfair treatment within the family also
reported higher levels of deviant behavior. Deviant behavior was significantly associated with less neutral, trustworthy, and respectful treatment by parents. Those adolescents who reported being treated more fairly by parents engaged in less deviance, even when gender and background variables were controlled for. Jackson and Fondacaro (1999) explained some of this effect by suggesting that when decision-making processes are fair adolescents are taught competent conflict resolution strategies that they can then use outside the family.

**Models of Delinquency Development**

Several models have been proposed to explain the role of parenting and peer variables in the development of delinquent behavior. Moffitt (1993) has put forth a social mimicry interpretation to explain why individuals begin associating with deviant peer groups during adolescence. He proposed the existence of a maturity gap during adolescence, created when individuals reach biological maturity but are still constrained to childhood roles due to elements of the present social structure. Because individuals reach biological maturity by the early teen years but do not have the legal rights of adulthood until years later, adolescents are forced to seek out other ways of asserting their adult status. Because delinquent behavior can be seen as one way of as one way of asserting one’s autonomy, adolescents are attracted to peers and peer groups who are engaging in this seemingly “adult-like” behavior and achieving adult goals. According to this theory, the delinquent behavior is self-reinforcing and tapers off during early adulthood when the costs outweigh the rewards. Along these lines, the attraction of both delinquent peers and delinquent behavior is minimized when adolescents do not experience the maturity gap. This can be accomplished by granting adolescents early access to adult roles.
Another body of research has targeted parent/child interactions and early peer rejection as a mediating variable in the development of delinquent behavior. Dishion, Patterson, and Greisler (1994) proposed a coercion and confluence model to explain the development of deviant behavior. In this model, inconsistent parenting reinforces children for coercive and antisocial behavior. These behaviors then spill over into other settings, such as school and peer relationships. This antisocial behavior inhibits learning and leads to peer rejection. The failing child then selects social settings that maximize reinforcement and new forms of deviant behavior emerge within the context of these new peer relationships. In contrast to the social mimicry interpretation, this model implies that adolescents will be more likely to seek out deviant peer groups if they first experience failure in the conventional peer group. This early peer rejection results in an unfulfilled need for social reinforcement, which adolescents then fill by selecting peer groups that share their aggressive behaviors or social skills deficits.

More broadly, the development of deviant behavior and association with deviant peer groups can be understood within the framework proposed by Bronfenbrenner (1979). According to his theory, individuals interact with a variety of systems in their daily lives. Microsystems, such as the home and the school, are the settings with which children directly interact. Behavior learned in one microsystem is often carried over into another. In this case, behavior learned in the home, in the context of parent-child relationship, is carried over into the school and used in peer relationships. This causes rejection, which leads to deviant peer group association. The effect of the home environment is accentuated in the case of children and adolescents, as they tend to interact with relatively few systems in their daily lives (Jackson & Fondacaro, 1999).
National Middle School Survey

Recently, Miller et al. (2003) developed and administered a comprehensive, scientifically based survey instrument designed to identify individual differences in aggressive behavior and precursors to school violence. Various aspects of adolescents’ experiences were evaluated, including their experiences with important adults in their lives, their experiences with multiple forms of aggression, their perceptions of their school environment, their peer relations, and their personal characteristics. Although the findings of the survey are too numerous to list, several findings were relevant to the topic at hand.

Procedural justice measures were included in the study. The dimension of “personal respect” was found to be a significant predictor of aggressive behavior, with those adolescents reporting that they were treated with the most respect also engaging in the least aggressive behavior (e.g., bullying). Appraisals of procedural justice did not differ significantly by gender, but overall satisfaction with how parents handled family decisions did decrease with age.

Adolescents’ peer relationships were also measured during this study. Consistent with previous findings, those adolescents who reported the highest levels of involvement with deviant peer groups also reported higher levels of bullying, fighting, and delinquency. This characteristic was also correlated with other undesirable outcomes, such as an unwillingness to report a weapon brought to school by a classmate.

Present Study

The present study was designed to assess the use of procedural justice appraisals within the family context as a predictor of deviant peer group involvement. Using data from the school violence survey administered by Miller et al. (2003), this study explored
the relationships between procedural justice, peer conflict, and deviant peer group involvement. The study was built on the notion that the way disputes are resolved in the home environment, as measured by adolescents’ appraisals of procedural justice, has an impact on peer relationships and contributes to association with deviant peer groups.

The specific aims and hypotheses were as follows:

1. This study sought to examine the factor structure of the shortened version of the Family Decision Making Questionnaire in a large and diverse sample of middle school students. Because of the exploratory nature of this analysis, no specific hypotheses could be formed. While it is likely that procedural justice remains a multidimensional construct for individuals across the lifespan, it is also possible that it becomes more differentiated with age.

2. Once a factor structure had been established, we aimed to determine whether procedural justice appraisals in the family context could be used to predict levels of association with deviant peers. We predicted that higher appraisals of procedural justice would be related to lower levels of deviant peer group involvement.

3. The third aim of the study was to determine whether peer conflict mediated the relationship between procedural justice appraisals and deviant peer group involvement. We predicted that this relationship would be mediated by peer conflict, based on the established relationships between parenting and peer conflict and between peer conflict and deviant peer group involvement (Dishion et al., 1991; Vuchinich et al., 1992).

4. The fourth aim of the study was to determine whether the relationship between procedural justice appraisals and deviant peer group involvement was moderated by gender and age. We predicted that this relationship would be moderated by age and gender based on previous literature showing that the impact of specific parenting practices differs based on gender and that family relationships and their effects on adolescent development change with age (Griffin et al., 2000; Smetana, 1995).
CHAPTER 2
METHOD

Participants

Three thousand, two hundred and thirty middle school students completed the original survey measure as part of a national study on personal, school, and family characteristics that underlie individual differences in aggressive behavior (Miller et al., 2003). Participants were recruited from 27 middle schools located in five states: Florida, Texas, California, Connecticut, and New Jersey. Written parental consent and verbal assent were obtained from all participants prior to the beginning of the study. Schools were paid $2 for every completed parental consent form returned.

A subset of the data from this survey was used in all analyses related to this study. For the current study, data from participants were excluded if they were outside the traditional age range of middle school students (younger than 11 or older than 14), if they were missing data related to age, gender, or procedural justice questions, or if they completed fewer than 80% of the items related to deviant peer involvement or peer conflict.

The remaining sample consisted of 1660 students who were demographically similar to the original sample. As compared to the original sample, participants in the selected sample were slightly more likely to be female and white, and slightly less likely to be male, Hispanic, and black. The specific percentages for each demographic category are listed in Table 1. Even with the selectivity, considerable diversity was maintained with respect to age, gender, and ethnicity. Approximately 65% of the selected sample
was non-white. Furthermore, the selected sample did not differ significantly from the nonselected participants on measures of deviant peer group involvement.

**Materials**

The original National Middle School Survey consisted of 228 questions distributed across 14 scales designed to assess experience with aggression, experience with important adults, perceptions of the school environment, peer relations, and personality-oriented psychosocial characteristics. Three of the fourteen scales were used in the present study: the Family Decision Making Questionnaire, the Elliott Deviant Actions by Friends Scale, and the “Friends as Sources of Stress” subscale of the Life Stressors and Social Resources Inventory – Youth (LISRES-Y).

**Family Decision Making Questionnaire**

The Family Decision Making Questionnaire was developed by Mark Fondacaro to assess adolescents’ appraisals of procedural justice during family conflict resolution. The scale used in this study was shortened from the original version and contained sixteen procedural justice items and two distributive justice items. The measure requires participants to write a description of a recent conflict they have had with their parents, and then rate the extent to which procedural justice concepts were applied to the situation. The final section of the questionnaire assesses the participants’ satisfaction with the outcome of the situation. Examples of items related to procedural justice include, “Your parent(s) treated you with respect,” and “Your parent(s) were truthful to you.” Responses range from 1 “strongly disagree,” to 5 “strongly agree.” Cronbach’s alpha for this sample was .945.
Life Stressors and Social Resources Inventory – Youth (LISRES-Y)

The Life Stressors and Social Resources Inventory – Youth (LISRES-Y) was developed by Moos and Moos (1992) and assesses the stressors and resources in an adolescent’s life. The “Friends as Sources of Stress” subscale was used in these analyses (alpha = .82). This subscale assesses how often friends cause stress in a student’s life. Items are rated on a five point Likert scale ranging from 1 “never” to 5 “often.” Five items were taken from this measure to form a measure of peer conflict with which to test the mediational hypothesis.

Elliott Deviant Actions by Friends Scale

This scale assesses the extent to which adolescents’ friends engage in deviant behaviors. The scale consists of 13 items and asks how many of the participants’ friends have engaged in various behaviors within the past year. Examples include cheating on school tests, using drugs, using alcohol, and stealing something worth more than $50. Items are rated from 1 “none of them” to 5 “all of them.” Cronbach’s alpha for this sample was .94.

Procedure

Participants completed the surveys in varying sized groups in their regular schools during regularly scheduled class time. School personnel and research assistants administered the surveys and students had between 45 minutes and one hour to complete them. The measures relevant to this study were interspersed among other measures as part of a larger survey on school violence and individual differences in aggressive behavior. After completing several items of demographic information, respondents answered questions about their schools, weapons reporting, delinquent activity and aggression, and relationships with significant adults. The Family Decision Making
Questionnaire followed these items. Next participants responded to questions related to individual psychosocial functioning. The Elliott Deviant Actions by Friends Scale and the two subscales of the LISRES-Y were placed at the end of the survey.

The first aim of the study was examined using a series of exploratory factor analyses. Further aims were tested using a series of regressions. First, a linear regression was conducted to determine whether there was a relationship between procedural justice and deviant peer group involvement. A series of regressions was conducted to test the mediational hypothesis. Interaction terms were examined to determine whether there was a moderating effect.

Table 2-1. Participant characteristics

<table>
<thead>
<tr>
<th>Demographic Category</th>
<th>% of original sample n=3220</th>
<th>% of selected sample n=1660</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>13.1</td>
<td>11.3</td>
</tr>
<tr>
<td>12</td>
<td>33.1</td>
<td>34.5</td>
</tr>
<tr>
<td>13</td>
<td>32.8</td>
<td>34.4</td>
</tr>
<tr>
<td>14</td>
<td>19.2</td>
<td>19.8</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>39.7</td>
<td>38.1*</td>
</tr>
<tr>
<td>Female</td>
<td>60.3</td>
<td>61.9*</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>3.6</td>
<td>4.1</td>
</tr>
<tr>
<td>Black</td>
<td>19.3</td>
<td>17.3*</td>
</tr>
<tr>
<td>Hispanic</td>
<td>31.9</td>
<td>30.2*</td>
</tr>
<tr>
<td>White</td>
<td>31.4</td>
<td>35.4*</td>
</tr>
<tr>
<td>Native American</td>
<td>2.9</td>
<td>2.4</td>
</tr>
<tr>
<td>Multiracial</td>
<td>4.8</td>
<td>4.8</td>
</tr>
<tr>
<td>Other</td>
<td>6.1</td>
<td>5.9</td>
</tr>
</tbody>
</table>

* - Difference is significant at $p < .05$.
** - In the original sample, 1.8% of participants reported ages outside of this range.
CHAPTER 3
RESULTS

Exploratory Factor Analysis

Before performing the factor analysis, all negatively coded items in the Family Decision Making Questionnaire were recoded to match the rest of the items. (Lower scores meant lower appraisals of procedural justice.) Although principle components analysis was used in previous procedural justice studies, principle components analysis tends to extract one general factor accounting for most of the variance and this study aimed to identify multiple dimensions of the underlying construct. Because of this, the sixteen procedural justice items from the Family Decision Making Questionnaire were first subjected to principle axis factoring without rotation. Before performing the factor analysis, skewness and kurtosis coefficients were obtained for each item of the Family Decision Making Questionnaire. Both skewness and kurtosis were between -2 and 2 for all items. Using Kaiser’s rule, suggesting the extraction of factors with eigenvalues greater than one, two factors were extracted accounting for 61.1% of the variance. The first factor contained the thirteen positively worded items and accounted for 55.7% of the variance. The second factor contained the three negatively worded items and accounted for 5.5% of the variance. Items on this factor showed split loadings with the first factor, producing a factor that was uninterpretable. Because this solution was so unclear, other potential solutions were then explored.

Because of theoretical work hypothesizing four factors of procedural justice (Tyler, 1989), a second factor analysis was conducted, this time with promax rotation. Four
factors were requested. Even using the more lenient criteria of a .4 loading, the fourth factor contained no significant loadings and the third factor contained only one clear (non-split) loading. Furthermore, all factors were moderately to highly correlated. These results did not support the existence of a four factor solution.

All analyses containing sixteen items resulted in the three negatively coded items forming one factor. These three items did not create an interpretable factor. Furthermore, the inclusion of these items resulted in split loadings among several of the positively coded items. Because of the possible method related variance involved with this grouping, another factor analysis was conducted using only the thirteen positively worded items. This time one factor emerged, accounting for 65.5% of the variance in the model. All items loaded highly on the factor, as indicated in Table 2. The factor structure was also examined separately for each of the largest ethnic groups in the sample: Black, White, and Hispanic. The one factor solution held across groups. Thus, a one factor model of procedural justice was deemed the most appropriate for the shortened version of the questionnaire used with a middle school sample. Factor scores were computed using the regression method and used as a predictor variable in the subsequent analyses.

Regression

The obtained factor score from the procedural justice measure was used to predict total scores on the Elliott Deviant Actions by Friends Scale. The resulting regression was significant, $\beta = -.366$, $t(1659) = -16.012, p < .001$. Procedural justice appraisals accounted for 13.4% of the variance in deviant peer group association.
Mediation

Mediation occurs when the relationship between two variables can be accounted for by a third variable. For instance, if Variable A is related to Variable B, but the relationship really exists because of an underlying relationship between Variable A and Variable C and between Variable C and Variable B, Variable C is said to mediate the relationship between Variable A and Variable B. Full mediation occurs when the relationship between Variable A and Variable B no longer exists when Variable C is entered into the model. Partial mediation exists when the strength of the relationship is significantly reduced but not eliminated.

Peer conflict was investigated as a possible mediator between procedural justice appraisals and deviant peer group involvement using four regression analyses as outlined by Baron and Kenny (1986). First, the mediator was regressed on the independent variable. In this case, peer conflict was regressed on procedural justice, resulting in a significant relationship, $\beta = -.266$, $t(1659) = -11.232$, $p < .001$. The negative coefficient indicates that higher appraisals of procedural justice were related to lower levels of peer conflict.

Next, the dependent variable was regressed on the mediator. Peer conflict significantly predicted association with deviant peers, $\beta = .266$, $t(1659) = 11.247$, $p < .001$. Higher levels of peer conflict were related to higher levels of association with deviant peers.

Next, the dependent variable was regressed on the independent variable. In this case, procedural justice appraisals significantly predicted association with deviant peers, $\beta = -.366$, $t(1659) = -16.012$, $p < .001$. Higher levels of procedural justice were related to lower levels of deviant peer group association.
Finally, the dependent variable is regressed on both the independent variable and the mediator to determine whether the effect of the independent variable is reduced when controlling for the mediator and whether the effect of the mediator remains significant when controlling for the independent variable. In this case, the effect of procedural justice on deviant peer group involvement was reduced, $\beta = -.318$, $t(1659) = -13.637$, $p < .001$. Because this relationship is still significantly different from zero, full mediation was not supported.

A follow up comparison of the unmediated regression coefficient and the mediated regression coefficient using the Sobel test was significant, $t = -8.038$, $p < .001$, indicating that the inclusion of peer conflict significantly reduced the relationship between procedural justice appraisals and deviant peer group involvement. To evaluate the significance of the indirect effect, the bootstrap method suggested by Preacher and Hayes (2004) was used. One thousand bootstrap samples were created, yielding a 95% confidence interval of -.7984 to -.3479. This confidence interval does not contain zero, indicating that the indirect effect is indeed significant. The result is consistent with the hypothesis of partial mediation. The relationship between peer conflict and association with deviant peer groups remained significant when controlling for levels of peer conflict, $\beta = .182$, $t(1659) = 7.804$, $p < .001$.

**Moderation**

According to Baron and Kenny (1986), a moderating relationship is found when the relationship between two variables changes based on levels of a third variable. Another way of stating this is that there is an interaction effect between the independent variable and a third variable. The moderation hypotheses for this study were examined by testing the interaction effects of procedural justice with age and procedural justice with gender.
The variables of age, gender, and procedural justice appraisals were first centered using the methodology described by Aiken and West (1991). Interaction terms were then created between the centered procedural justice term and each of the other centered terms.

The possibility of a moderating relationship was first examined with the variable of gender. A simultaneous entry multiple regression was conducted using gender, procedural justice appraisals, and the gender/procedural justice interaction term. There was a significant main effect of gender, in which boys were more likely to associate with deviant peers than were girls. After controlling for the main effects of gender and procedural justice (both significant at $p < .001$), the interaction term did not explain significant additional variance, $\beta = .031, t(1659) = 1.384, p = .167$. Because of this, the hypothesis that gender moderates the relationship between procedural justice appraisals and deviant peer group involvement was not supported.

Age was also examined as a possible moderating variable. A simultaneous entry multiple regression was conducted using age, procedural justice appraisals, and the age/procedural justice interaction term. There was a significant main effect of age, in which older students were more likely to associate with deviant peers than were younger students. After controlling for the main effects of age and procedural justice (both significant at $p < .001$), the interaction term did not explain additional variance, $\beta = -.007, t(1659) = -.326, p = .744$. Therefore, the hypothesis that age would moderate the relationship between procedural justice appraisals and deviant peer group involvement was not supported.
Table 3-1. Factor loadings for positively worded procedural justice items

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your parents handled the situation in a good and proper way</td>
<td>.874</td>
</tr>
<tr>
<td>You trust the way your parents handled the situation</td>
<td>.868</td>
</tr>
<tr>
<td>Your parents listened to you</td>
<td>.868</td>
</tr>
<tr>
<td>Your parents treated you with respect</td>
<td>.852</td>
</tr>
<tr>
<td>Your parents treated you as if you were someone really important</td>
<td>.840</td>
</tr>
<tr>
<td>You were treated as a valued member of your family</td>
<td>.824</td>
</tr>
<tr>
<td>Overall, you were treated fairly</td>
<td>.823</td>
</tr>
<tr>
<td>Your parents were equally fair to everyone involved</td>
<td>.818</td>
</tr>
<tr>
<td>Your parents were truthful to you</td>
<td>.728</td>
</tr>
<tr>
<td>Your parents showed a lot of kindness and understanding</td>
<td>.779</td>
</tr>
<tr>
<td>Your parents cared about you as an individual</td>
<td>.745</td>
</tr>
<tr>
<td>You had the opportunity to present your side of the story</td>
<td>.728</td>
</tr>
<tr>
<td>Any wrong decisions in this situation could be easily corrected</td>
<td>.692</td>
</tr>
</tbody>
</table>

Extraction method: Principle Axis Factoring

Excluded items:
Your parents probably gave you less respect than they would have given to other members of the family
Your parents did not pay attention to what you had to say
Your parents treated you worse than others because of your personal characteristics

Figure 3-1: Peer conflict partially mediated the relationship between procedural justice appraisals and association with deviant peers.
CHAPTER 4
DISCUSSION

The purpose of this study was to determine whether procedural justice appraisals in the family context could predict early adolescents’ association with deviant peer groups, as well as to examine mediating and moderating influences. In order to achieve this goal, a measure of procedural justice appraisals had to be critically analyzed. Because previous studies have concluded that procedural justice is a multidimensional construct, with different dimensions related to different outcomes (Fondacaro et al., 2002; Jackson & Fondacaro, 1999), it was hypothesized that a factor analysis of the current data would also yield multiple factors. Instead, only one interpretable factor was extracted containing the thirteen positively worded items. All items loaded highly on this factor, indicating that it represented a general procedural justice construct.

The fact that only one interpretable factor emerged can have both methodological and conceptual implications for future studies. Methodologically, further research should be done with younger adolescents involving a greater number of procedural justice items. It is possible that the brevity of the current measure could account for the unexpected results. However, since this was the first study to examine a large, diverse sample composed exclusively of younger adolescents, it is also possible that these results represent a true age difference in conceptualizations of procedural justice and views of what constitutes fairness. Researchers have tied ideals with the family to ideals within our larger society, such as the legal system (Bronfenbrenner, 1979; Jackson & Fondacaro, 1999). It is possible that the impact of societal ideals increases as children age and
become more acquainted with systems outside the family. It is also possible that, due to
cognitive development, children’s and adolescents’ perceptions of procedural justice
become more differentiated as they get older and develop more advanced categorization
abilities. Further research on young adolescents should use the previously factor
analyzed measures, and possibly use college students as controls since the largest body of
research has already been done on that population. This would help partition any genuine
age effect from simple method variance.

After examining the factor structure for this measure of procedural justice, factor
scores were used as a predictor in a regression model with deviant peer group
involvement as the dependent variable. As hypothesized, procedural justice appraisals
significantly predicted deviant peer group involvement. As with most social phenomena,
deviant peer group involvement is expected to have multiple determinants. With this in
mind, the 13.4% of the variance explained by procedural justice is substantial. This
result is consistent with the body of research connecting parenting practices with deviant
peer group involvement. The identification of procedural justice as an important aspect
of the family environment is consistent with the recent procedural justice literature
claiming that adolescents place particular importance on the way they are treated during
dispute resolution when interacting with in-group members such as their parents.

The hypothesis that peer conflict would mediate the relationship between
procedural justice appraisals and deviant peer group involvement was supported by the
current study. Peer conflict partially mediated the relationship, meaning that some of the
relationship between procedural justice appraisals and deviant peer group involvement
occurs because procedural justice impacts levels of peer conflict and peer conflict leads
to deviant peer group involvement. In this case, lower appraisals of procedural justice were related to higher levels of peer conflict, which in turn were related to higher levels of deviant peer group involvement. This result is consistent with research by Dishion, et al. (1994) suggesting that parenting practices impact children’s behaviors. Results of the current study support the idea that the way parents resolve conflicts with their adolescents may in fact relate to the way these adolescents behave in other settings. In turn, this behavior may impact peer relationships. These poor peer relationships are shown to be related to deviant peer group involvement and delinquent behavior. It is also important to note that there still remained a significant direct relationship between procedural justice appraisals and association with deviant peers even after including peer conflict in the model. These findings can have important implications for intervention and prevention. They indicate that the relationships among parenting and peer variables are complex and that the development of delinquent behavior may involve more than one potential trajectory. While the data from the current study are not sufficient to determine the specific causal mechanisms involved, future research could further illuminate the way conflict resolution is learned within the family and transferred to outside settings.

Because of research showing that adolescents’ relationships with their parents changed with age and that some parenting practices affected girls and boys differently, it was hypothesized that procedural justice might interact with age and gender in its effect on deviant peer group association. However, moderating effects of age and gender were not supported by the current study. The results of the present study indicate that procedural justice is a more robust construct, affecting early adolescents equally across ages and genders. This is consistent with the conceptualization that adolescents may
learn concepts of justice from outside of the family and apply these expectations to their interactions with their parents.

As with any empirical study, the present research has some limitations. As previously discussed, procedural justice may have been better measured with a more thorough procedural justice questionnaire. Because only one factor of procedural justice was identified and used in regression, fine-tuned distinctions due to the changing emphasis on certain dimensions could not be studied. It is hoped that future research can examine mediating and moderating influences with a more fine-tuned measurement instrument. Future studies with a more thorough measurement of this construct could also use more advanced statistical techniques such as structural equation modeling to explore the relationships between the relevant latent variables.

The sample for this study, while large and diverse, was unrepresentative of the population in a few potentially significant ways. For instance, female participants outnumbered male participants considerably. This difference is not representative of the schools from which the students came, so the difference is apparently the result of a self-selection factor. Namely, parents of girls may have been more willing to consent to the study than parents of boys. The ethnic breakdown of the sample is also slightly unrepresentative of the population. Asian-Americans, in particular, seem to be underrepresented and Hispanic-Americans seem to be overrepresented. Further research would be required to determine whether these ethnic and cultural differences influenced the generalizability of the study.

Finally, the correlational nature of the study makes it impossible to establish a causal relationship between the variables of interest. However, this study significantly
adds to the existing literature by establishing general relationships between the relevant constructs, laying the groundwork for experimental manipulation in the future. This study helps define a theoretical basis for later work in the area.

Even with its limitations, this study fills a gap in previous literature by pinpointing specific facets of the parent/child relationship that may affect the trajectory toward delinquent behavior and by establishing preliminary relationships between parenting and peer variables. This study also strengthens the relationship between two seemingly separate lines of research: delinquency prevention and procedural justice and highlights the importance of future study in the area of family conflict resolution. The results of this study are consistent with the theoretical framework linking parenting behaviors with peer relations and peer relations with delinquent behavior. The results of this study confirm previous findings that adolescents care about the perceived fairness of conflict resolution procedures used in the home. Furthermore, when adolescents report that their parents use unfair conflict resolution procedures, they are more likely to also report conflictual peer relationships. Poor relationships with parents and peers in turn increase the likelihood that adolescents will associate with deviant peer groups and eventually engage in more delinquent behavior.


BIOGRAPHICAL SKETCH

Jennifer Stuart was born August 8, 1982, in Springfield, MA. She grew up in Pinellas County, FL, and graduated from Pinellas County Center for the Arts at Gibbs High School in 2000. She earned her Bachelor of Arts from Florida Southern College in 2004 with majors in psychology and special education. Jennifer plans to continue graduate study at the University of Florida in the areas of counseling psychology and law.